

XII. Agency Comments

Provide any additional information needed to gain a preliminary understanding of your agency.

TCEQ appreciates the opportunity to provide comments to the Sunset Commission to highlight areas of interest, agency initiatives, and the impact of the pandemic. Since TCEQ's last Sunset evaluation in 2009, the agency has implemented numerous improvements and undertaken a variety of initiatives designed to keep TCEQ on pace with rapidly changing technology, increase transparency of operations by development of pathways to share information and data with the public and other stakeholders, revamp processes to maximize resources, and strengthen the agency's ability to respond to emergency events. Some of these areas of interest, initiatives, and pandemic impacts are highlighted below.

Items of Interest

Aggregate Production Operations (APOs): A House Interim Committee on APOs submitted a report to the 87th Legislature, including recommendations on various APO-related issues such as water quality, air quality, nuisance issues (relating to dust, noise, and light), reclamation efforts, transportation safety and integrity, disruption of groundwater, and enforcement. TCEQ's rider requires aerial observations of APOs at least twice a year to ensure enforcement of statutes and rules. The rider was amended this past session, 87R, in Article IX, Section 17.39, and requires TCEQ to adopt and make accessible on the commission's website best management practices for APOs regarding nuisance issues relating to dust, noise, and light. TCEQ does not have statutory authority to regulate noise or light.

Response to Comments for Permit Applications: Since launching e-comments, an online method for submitting comments electronically using a link on the Chief Clerk's webpage, there has been a marked increase in the volume of comments received related to permit applications. Developing the response to comments document within the longstanding timeframe set forth in rule is challenging given the large number of comments TCEQ receives. In addition to increase in volume, the level of sophistication and comment detail, along with a higher degree of technical knowledge of the commenters, requires more TCEQ staff time to compile sufficiently detailed responses to address comments.

Turnover and challenges in Houston Region: The Houston Region (R12) is TCEQ's largest regional office, with 183 FTEs. Retention is a significant issue for both investigative and administrative positions. R12's overall turnover rate has averaged 26% over the last four years, significantly outpacing both TCEQ and statewide turnover rates. As previously stated in Sections II and IX, the agency overall faces a challenge in being competitive with salaries offered by both private sector and other public sector employers. As a result, staff turnover within many regional offices and at TCEQ's Austin headquarters remains a significant concern. The impact of frequent staff departures strains management and agency resources, which makes meeting mission-critical commitments more difficult. Agency investigators cover large geographical areas responding to a variety of work requirements, including citizen complaints, emergency/disaster response, and facility investigations. Frequent turnover results in fewer staff becoming tenured in their programs and available to conduct highly complex investigations.

Houston is a highly competitive job market for environmental compliance personnel, and Texas has the second highest employment level in occupations performing similar work in the U.S., with an annual mean wage for similar occupations of \$84,090. The City of Houston and Harris County have directly recruited TCEQ staff for similar environmental compliance positions by offering higher starting salaries with additional compensation for degrees and skill sets.

Information Technologies (IT) - Advances and Need for Further Improvement: TCEQ continues to upgrade critical legacy systems to reduce risks associated with maintaining aging technology, to improve application usability, and to reduce the cost of maintenance. The modern Java framework selected for system upgrades provides improved usability, strengthens information security, and supports a web-based approach that significantly facilitates remote access to agency applications and continuity of operations.

TCEQ has implemented a technology security program with a team focused on improved oversight, efficient and effective processes, enterprise education, and reporting. Full participation in statewide security efforts and the completed transition to the State of Texas Consolidated Data Centers have led to significant advances in TCEQ's cybersecurity.

TCEQ utilizes an enterprise electronic records system to publish agency records on its external website. Digitizing historic hardcopy and microfilm continues to be a priority. Increasing automated availability to agency data will allow for needed data transparency while reducing the amount of staff resources needed to fulfill information requests.

However, IT operations are challenged by funding limitations, continuously emerging and evolving IT needs, and inability to provide compensation competitive with other public and private sector salaries. The agency prioritizes internal application development, implements EPA developed applications whenever possible, leverages data center services, utilizes the Department of Information Resources' Open Data Portal, and participates widely in recruiting events to attract qualified staff. Despite capitalizing on these opportunities, many IT needs of the agency continue to be deferred or go unmet.

Agency Initiatives

Public Participation: Using technology, TCEQ continues to expand its ability to provide information and data to the public. The agency has developed several pathways, including use of external web-based portals for the public to access information stored in its databases. TCEQ continues to innovate regarding management and use of data with the goal of providing information in a timely, understandable, and accessible manner. The following are several ways the agency has expanded public interaction.

- The public can access reports of emissions events submitted by the regulated community, which may include start and end times of each event, the pollutants and quantity emitted, the cause of the emissions, and actions taken to minimize events.
- The public can search the status of complaints, as well as any associated investigations, by date range, program, or geographic location.
- The agency is modernizing its data display and simplifying navigation to make it easier for the public to find and interpret ambient air data collected by the stationary air monitoring network displayed on TCEQ's Texas Air Monitoring Information System (TAMIS) database, or via the Geographical Texas Air Quality Monitoring (GeoTAM) viewer application, which is an interactive map displaying air monitoring stations.
- The agency creates websites for significant emergency response events which include important safety information, contacts, and the latest activities, such as handheld monitoring and public water supply status. The pages also include information on rule suspensions and enforcement discretion, which arise when the governor issues a disaster declaration.

- In collaboration with Texas Department of Information Resources, TCEQ is developing data sets for public access using the Texas Open Data Portal to provide the public with a self-service option for obtaining public information.
- TCEQ's website allows for queries of enforcement actions and compliance history classifications, as well as permits and authorizations for the majority of TCEQ programs.

Streamlining the Air Permit Application Process: In 2018, TCEQ began a comprehensive effort to evaluate the air permitting process and reduce the backlog of New Source Review (NSR) permit applications. This evaluation resulted in creation of new permitting tools and revisions to existing practices and policies. These changes have significantly reduced processing times for air permits.

One of the most significant changes was creation of a new NSR application (PI-1) workbook and the Electronic Modeling Evaluation Workbook (EMEW). These workbooks are interactive, electronic workbooks which guide an applicant through the process of providing information necessary for review of permit applications and presenting information in a concise and consistent format. TCEQ requires applicants to submit both the new PI-1 application and any applicable modeling information (EMEW or prevention of significant deterioration modeling protocols) at the time of submittal. Incomplete applications (including any required modeling) may not be accepted.

Initial modeling review related to NSR case-by-case permits with refined modeling was updated by creating timeline tracking, identifying recurring issues, and updating the EMEW to address identified issues.

Other improvements included elimination of duplicative or unnecessary steps in the review process; immediate application assignment to permit reviewers and modelers for concurrent review; and earlier identification of deficiencies and issuance of notice of deficiencies.

These permit reforms have had a significant impact on production and on reducing the backlog. TCEQ has reduced its NSR backlog by 96% while still maintaining current technical requirements. The percentage of permits exceeding the target also decreased, from 34% to 9%. TCEQ's efforts in permit reform indicates this permit process is more productive and efficient overall. The prior process took an average of 219 days for major permits (non-expedited) and 115 days for minor permits (non-expedited) to get to draft permit stage. Under the new permitting process, an application takes an average of 88 days for major permits and 81 days for minor permits to get to draft permit stage.

Revision of TCEQ's Penalty Policy: The Penalty Policy (Policy) details how TCEQ evaluates violations for the purpose of calculating administrative penalties. The Policy was revised to provide consistency with recent statutory changes and to consider recent incidents having caused substantial public and environmental impacts. The revisions are consistent with TCEQ's existing authority to deter future noncompliance and emphasize proper facility maintenance by using additional tools within the Policy to impact the assessment of administrative penalties for documented violations. A few of the more significant revisions for calculating penalties include:

- Increased penalty assessment for violations with an actual environmental impact;
- Increased penalty assessment for violations meeting "major" threshold;
- Added more flexibility for calculating the number of violation events; and
- Removed the 20% expedited settlement deferral for matters that meet the mandatory civil referral criteria as set out in Texas Water Code.

The revised Policy became effective on January 28, 2021.

Lean Management System: TCEQ is committed to implementing systematic and sustained improvements, with a focus on empowering programs to improve process efficiencies. TCEQ has adopted the U.S. Environmental Protection Agency's (EPA) Lean Management System (ELMS) which involves dissecting inefficient functions using data, visual management, and other tools, with the end goal of creating greater efficiency by eliminating steps that are not adding value. Some successfully completed or ongoing TCEQ Lean projects include:

- Lean process strategies were implemented by the Stationary Air Monitoring Network program to reduce validation process times for continuous air monitoring data. As a result, validation lead time dropped from an average of 92 days in 2019 to 78.5 days in 2020.
- The Field Operations program launched an effort to put in place electronic investigation reports which will include an automated coding system. This Lean project's objective is to improve retention of agency records, accurate recording of agency coding, and to reduce paper.
- The Wastewater Permitting program successfully worked with EPA at a joint Lean workshop to resolve a substantial number of EPA objections on Texas Pollutant Discharge Elimination System draft permits. Following these efforts, a significant reduction in the number of subsequent EPA objections has occurred.
- The Emissions Banking and Trading (EBT) program conducted a Lean project involving the Mass Emissions Cap and Trade (MECT) program's Audit Level Annual Compliance Reports. The project, which began in February 2020, is in its second year. The EBT program has substantially decreased its review time thereby increasing the number of reports able to be reviewed within a certain timeframe. In 2020, only 29% of report reviews were completed within three months of submission, compared to 2021 when 89% of reviews were completed within the same three-month timeframe.
- The Industrial and Hazardous Waste Permits and Municipal Solid Waste Permits programs successfully implemented Lean projects involving application process reviews for hazardous waste and municipal solid waste permit renewals, administrative reviews, and hazardous waste combustion reviews. Results of these projects included up to a 50% reduction in review times as well as better team engagement in the process.

Border Affairs: TCEQ envisions a border region where environmental protection and economic development go hand in hand, and where communities and industry support one another and thrive on both sides of the border. TCEQ aims to develop long-term institutions and policy mechanisms to support air and water quality monitoring, shared access to quality-assured environmental data, binational watershed protection planning, and sustainable materials management through successful partnerships with local stakeholders and its counterparts in Mexico. TCEQ leads and participates in the U.S.-Mexico Border 2025 program, which is a five-year (2021-2025) binational effort designed to address the most significant environmental and public health risks for the well-being of border communities. Its implementation is accomplished within the framework of the respective laws and regulations of the U.S. and Mexico.

TCEQ also manages and is a member of the Joint Air Quality Advisory Committee (JAC) in the Ciudad Juárez-El Paso-Doña Ana County, New Mexico air shed. The JAC, created under Annex V to the U.S.-Mexico La Paz Agreement for the protection of the border environment, develops and implements recommendations to address growing binational air quality problems. On February 11, 2021, with support from the JAC, the Binational Fund Resolution was signed, and the Fund Committee and Administrative

Unit were created. The Resolution will provide a sustainable financing mechanism to strengthen the air quality monitoring capabilities in Ciudad Juárez, Chihuahua, for the improvement of air quality in the binational air basin.

Regional Monitoring Programs: Optical gas imaging cameras (OGICs) have proven highly effective as a screening tool in the detection of volatile organic compounds, particulate matter, and/or thermal differences in ground-based multi-media applications. This technology allows TCEQ staff to visualize emissions that are not detectable to the naked eye, which allows TCEQ to direct resources to investigate or evaluate for compliance with regulations. Identifying these emissions allows TCEQ to notify facility personnel of potential unauthorized emissions so any issues can be quickly addressed. OGICs are used around oil- and natural gas-related sites, chemical and petrochemical plants, landfills, bulk liquid storage tank terminals, in addition to railcar and marine loading and unloading activities. TCEQ continues to explore additional uses of the OGICs at facilities, such as truck loading and unloading activities and other particulate matter sources, like metal recycling. OGICs have also been used effectively during flyovers of areas with potential unauthorized emissions. Since FY 2005, the agency has conducted approximately 16 flyover activities covering 52 counties, with some counties being flown over multiple times.

TCEQ developed internal OGIC Certification and Recertification programs that allow TCEQ investigators to obtain a three-year certification. Rising manufacturer training costs and internal technical expertise were factors in the development of these programs. As of July 2021, the agency has saved approximately \$420,000 in OGIC training costs and has 95 certified OGIC operators. TCEQ certification and recertification courses emphasize OGIC techniques for observing flares and landfills. More specialized OGIC trainings are being developed for technical landfill and flare applications, which encourage multi-media use of the cameras. The instructors for these courses have advanced thermography certifications from an external training vendor and include three Level III thermographers, two Level II thermographers, and two Level I thermographers.

In addition to the OGICs, TCEQ has invested in other handheld monitoring equipment, such as toxic vapor analyzers and photoionization detectors that investigative staff use to screen for possible environmental impacts. These instruments provide instantaneous readings for various compounds that may include the lower explosive limit, volatile organic compounds (VOCs), hydrogen sulfide, carbon monoxide, sulfur dioxide, benzene, 1,3 butadiene, hydrogen cyanide, and oxygen. As monitoring and testing technology continues to advance, TCEQ has implemented and strengthened processes in which innovative technologies are continually examined and existing equipment is reassessed to ensure TCEQ is able to take advantage of technology which better suits the agency's needs and most effectively utilizes resources.

TCEQ partners with public, private, and academic institutions to deploy specialized monitoring during field studies to research ground-level ozone and fine particle formation. These air quality field studies have helped identify the important role of highly reactive volatile organic compounds in ozone formation, leading to the Houston area attaining the 1997 eight-hour ozone standard. Through funding appropriated during the 86R Legislative Session, TCEQ expanded its mobile monitoring fleet and implemented technology upgrades to allow for in-transit monitoring of a broad list of target pollutants. Three monitoring vans housed in Austin are available for deployment anywhere in the state, while additional rapid assessment survey vehicles are being built for permanent assignment to TCEQ's heavily industrialized coastal regions. The three Austin-based vans include an ultraviolet spectrometer used to identify potential emission sources of benzene, toluene, 1,3-butadiene, styrene, and sulfur dioxide, along with nine other compounds that can be qualitatively measured; selected ion flow tube mass spectrometer

(SIFT-MS) to monitor ambient VOC concentrations; a nephelometer that monitors and provides an estimate of PM_{2.5} (particulate matter smaller than 2.5 microns) concentration; a gas concentration analyzer for precise measurement of hydrogen sulfide; and meteorological equipment.

These upgrades vastly improve the agency's ability to conduct air monitoring in support of investigations related to local air quality concerns and during agency responses to emergencies, incidents, and natural disasters. TCEQ's enhanced mobile monitoring assets have been successfully deployed to provide air monitoring surveys in response to air quality concerns in the Permian Basin, the Corpus Christi Tule Lake Channel Fire, Hurricane Laura, Hurricane Delta, Winter Storm Uri, and regional investigations of fugitive emissions.

On-Demand Response/Significant Events: TCEQ has experienced a considerable increase in its "on-demand" workload due to recent extreme weather events and significant environmental disasters. On-demand response tasks are handled not only by staff in the field, but also by technical experts, legal staff, homeland security personnel, and program subject matter experts in the Austin Central Office. During these events, the agency expends tremendous resources outside its normal business hours to respond quickly and effectively to protect public health and the state's natural resources.

Texas has experienced a multitude of extreme weather events over the last decade. The state suffered one of the most persistent and devastating droughts on record from 2009 until 2015. While the state eventually recovered, certain areas of the state continue to be at risk for drought conditions. Often, droughts are followed by flood events triggered by hurricanes or tropical storms, which Texas has also experienced in recent years. The most significant of which was Hurricane Harvey in 2017, followed closely by Laura and Delta in 2020. In February 2021, an unprecedented extreme weather event impacted the entire state when Winter Storm Uri caused unexpected widespread effects.

In addition to the devastation left behind, each extreme weather event strains water and wastewater infrastructure and causes disruptions in industrial processes. TCEQ staff are trained and prepared to respond rapidly to a multitude of resulting environmental issues, including, but not limited to, conducting public water supply and wastewater treatment plant assessments and providing assistance to system owners and local governments; coordinating debris management and authorizing hazardous material spill response and drum collection; and conducting air quality monitoring, toxicological assessments, and dam safety evaluations.

Regulated entities in Texas also occasionally experience significant environmental accidents, such as the Intercontinental Terminal Company (ITC) fire in 2019. These incidents are not limited to industrial facilities, as several public water supplies have also recently experienced conditions of concern triggering issuance of do not use notices or boil water notices to their customers until water supplies could be verified safe to drink. One such incident involved the City of Lake Jackson when, in 2020, a naturally occurring amoeba (*Naegleria fowleri*) was identified in the public water system.

The increased occurrence of both natural and man-made environmental disasters significantly impacts TCEQ's resources. These on-demand events are typically time intensive to resolve, requiring a multitude of agency resources to not only address immediate public safety issues but also to provide appropriate public information. As a result, the agency has focused a great deal of resources over the last decade improving response capabilities and providing the state with excellent emergency response resources.

Pandemic Response and Successes

Beginning March 17, 2020, in response to the COVID-19 Pandemic, all TCEQ employees who could work from home were authorized to begin teleworking. Office access was limited to a small skeleton crew staff to facilitate essential agency functions. TCEQ transitioned to almost 100% telework without significant disruption and seized opportunities to develop and secure previously unrecognized efficiencies born of necessity.

Throughout the pandemic, TCEQ staff maintained essential core functions while implementing several successful process improvements utilizing web-based tools. With respect to workforce, TCEQ tailored services to support virtual agency operations, including a wellness outreach to employees and publicization of employee assistance program services. Online resources and guidance documents helped staff and management facilitate implementation of the newly adopted COVID-19 Telework Policy. Hiring processes shifted to virtual interview methods and more than 300 new employees were onboarded since onset of the pandemic. Agency trainings shifted to well-received virtual platforms.

Many TCEQ programs transitioned from paper-based documents to electronic, often gaining efficiencies with reduced processing times and increased production. This included developing and implementing electronic applications, correspondence, records, and e-signatures. Effective virtual collaboration among staff was enhanced through communications in Microsoft Teams and sharing documents remotely via network drives, SharePoint, and OneDrive.

In response to this virtual work environment, TCEQ significantly increased its computing capabilities, distributing more than 800 laptops, using computer software to operate agency phone lines, and increasing capacity for remote network access from 30-40 employees pre-pandemic to almost 2,800 within one week.

In-person and paper-based interactions between TCEQ and its customers also evolved to allow continuity of operations. Novel approaches yielded solutions such as posting required documents online rather than in public places inaccessible during the pandemic; holding virtual public hearings and meetings; hosting virtual conferences; approving live-online license trainings in place of in-person classes; and allowing new online testing options.

Overall, TCEQ quickly adapted to deliver important government services to all Texans, and many of these efforts are reflected on the agency's [COVID-19 website](#). Agency staff and programs shone brightly during the pandemic, their strong character and resilience helped drive the transition to a complete virtual work environment while maintaining the excellent level of service and expertise expected of TCEQ.