

January 27, 2022



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Submitted via email to sunset@sunset.texas.gov

Sunset Advisory Commission
Attn: TCEQ
P.O. Box 13066
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Mr. Robert Romig
Project Manager of the TCEQ Review

Background

Thank you for the opportunity to provide comments on the mission and performance of the Texas Commission on Environmental Quality (TCEQ) and the sincere hope that they will be seriously considered when improving operations and services. The thoughts and observations within this narrative were derived from a variety of means, including but not limited to Earthworks' experiences associated with many TCEQ dealings involving oil and natural gas emission sources over the last decade. In addition, the statements made within this document also reflect actions and dealings from within the Agency itself from a retired TCEQ staff member who participated in and experienced the Sunset process during two previous review cycles. Statements made within this narrative are not being shared lightly or in jest, as documentation exists both inside and outside the TCEQ that can confirm these comments.

Earthworks is a nonprofit organization dedicated to protecting communities and the environment from the adverse impacts of mineral and energy development while promoting sustainable solutions. We promote clean air, water and land, healthy communities, and corporate accountability. We work for solutions that protect both the Earth's resources and our communities. We fulfill our mission by collaborating with communities and grassroots groups to reform government policies and improve corporate practices. We expose the health, environmental, economic, social, and cultural impacts of mining and energy extraction through work based on sound science.

Earthworks evolved from the work of two organizations – Mineral Policy Center and the Oil and Gas Accountability Project. In 1999, the Oil and Gas Accountability Project was founded to work with people in rural, tribal, and urban communities to protect their homes and environment from the devastating impacts of oil and gas development – bringing together such diverse partners as Native Americans, ranchers, sportsmen, and environmentalists. In 2005, these two founding organizations joined forces for the benefit of both our supporters and the planet.

Toxicology, Risk Assessment, and Research Division

Currently structured in the TCEQ Office of Executive Director, the Toxicology, Risk Assessment, and Research Division conducts toxicological evaluations of air permit applications, develops Effects Screening Levels and Air Monitoring Comparison Values, evaluates environmental data, characterizes and communicates health risk and hazard to citizens and external stakeholders, makes recommendations for the addition or removal of areas to the Air Pollutant Watch List (APWL) based on air

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monitoring data, reviews Baseline Risk Assessments and other remediation-related documents for state and federal Superfund sites, and conducts applied research relevant to the Agency's mission. Several of these job responsibilities have been in existence since the functions originated in the Texas Air Control Board (TACB) in the 1980's.

Though it is obvious that this Division's mission remains critical to the citizens of Texas, its performance and actions are much based on the desires of TCEQ executive management since it is organizationally structured within the Office of the Executive Director. For a longer time than not, Toxicology functions were more closely aligned with permitting and compliance and enforcement activities, and thus its structure represented that. Having it placed in its current location gives the outside appearance of technical decisions that could be/are influenced within the TCEQ's higher management structure – rather than on sound science. This is not a good look for the Agency, especially since history records that the Toxicology Division was going to terminate half of its staff for the restructure before approximately half the section resigned or left for other employment opportunities. Originally organized in a sectional structure, toxicology issues became a Divisional function per the Agency's self-evaluation report in 2009.

There have been times where Toxicology Division actions are not based on sound science but on management desires to not rock the boat and to please elected officials. This would be less likely to happen if the Toxicology Division were structured differently and taken out of the Executive Office. It would seem to be prudent for this Division to make policies and recommendations to protect the Agency's own field staff by advising the use of respiratory protection during emergency response activities, regional investigations, and mobile monitoring activities. If the Agency is unwilling to address its Respiratory Plan deficiencies for itself, how can the public have trust that it will protect surrounding communities in Texas from hydrocarbon emissions? This is especially true for the negative environmental effects from the oil and natural gas plays in the state including but not limited to those in the Haynesville Shale, Barnett Shale, Permian Basin, and the Eagle Ford.

Since the Monitoring Division was reorganized in 2010, there have only been a limited number of TCEQ mobile monitoring activities completed at the Agency, and thus the Toxicology Division has not done many associated data reviews this Sunset cycle. This is striking because from the mid-1980's to 2010, the two working groups had a close working relationship when planning and organizing projects, providing technical resources during field activities, and when assessing and defending findings. As the relationship developed, the Agency attempted to reduce industrial emissions by having a pointed focus where toxicology figured into organizational planning. In fact, this is why the APWL was first developed in 1996 for Port Neches, Texas in consultation with the then Executive Director. From 1996 to 2007, the TCEQ added some 22 locations to the APWL after extensive mobile monitoring activities revealed elevated levels of constituents in multiple geographic locations in Texas. These designations led to increased scrutiny within the TCEQ from both monitoring and permitting perspectives. It was an effective internal TCEQ program that tried to minimize emissions for air quality and public health, and it proved to be very unpopular with the regulated community.

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Thus, as mentioned in the self-evaluation, 2011 Texas House Bill 1981 put regulation in place that restructured the APWL process within the Agency. The result is that 19 of the 23 APWL areas have been removed from the list, including eight since the legislation passed. Though removal of companies from the APWL had historically involved close working technical teams, more recently it has been driven by management desires. Currently, four geographic areas remain on the TCEQ's APWL - hydrogen sulfide in Bowie and Cass Counties (paper mill), hydrogen sulfide in El Paso (wastewater treatment plant around the border), hydrogen sulfide in Evadale (paper mill), and arsenic/cobalt/nickel/vanadium at a waste recycler in Freeport, Texas. It is relevant to note that no geographic areas have been added to the historical APWL list since 2007. One might ask – what has changed during this latest Sunset review cycle that the Agency is no longer proactively minimizing, monitoring, and assessing emissions in and around Texas communities, including those that are located near oil and natural gas development and infrastructure?

In a proactive environmental Agency, this shift during this Sunset cycle would not have been possible, as the programs within would be nimble enough to strategize, monitor, and assess emissions either downwind of specific industries and/or within communities with limited/no state and/or federal continuous air monitoring stations (CAMS). Though the TCEQ represents itself as being an active APWL – participant both in its Sunset self-assessment and on the Agency website – nothing could be further from the truth. Oil and natural gas emissions remain prevalent in Texas and are vastly under monitored. The Agency's regional complaint response mechanisms and mobile monitoring activities remain ineffective in Texas communities, especially in the shale play areas resulting in emissions that exceed permit representations and cause and contribute to odorous conditions, potential public health impacts, and climate change. The Toxicology Division mission should strive to make health and odor-based decisions to protect Agency staff, communities, airsheds, and properties in Texas, and it is difficult to do that as currently structured.

Regional Office Air Complaint Process

In fulfilling our mission to combat climate change and reduce hydrocarbon emissions associated with oil and natural gas production and processing in Texas, Earthworks' field advocates conduct environmental assessments and optical gas imaging (OGI) field investigations throughout the state including but not limited to those in the Barnett Shale, Eagle Ford, Haynesville, and Permian Basin shale plays. After the field assessment, OGI videos are edited, and technical findings are summarized for submission to the TCEQ. Ambient air complaints are made, and technical deliverables are provided to the Agency for follow-up so that emissions that negatively affect Texans can be addressed. Though this tactic is likely not popular within the Agency itself, non-governmental organizations (NGOs) such as Earthworks feel it necessary to perform its own ambient mobile monitoring because of the lack of services provided by the Agency.

Earthworks' field advocates and its hired contractors have had OGI technical training and produce OGI-based deliverables that meet or exceed that of Agency staff. This is possible because we hired the TCEQ's retired OGI instructor and 17-year mobile monitoring manager to contract with the Earthworks organization and devise an OGI monitoring strategy in Texas and to establish OGI standards that meet or exceed those of the TCEQ. Despite using quality standards that meet

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or exceed that of the Agency, regional office investigative responses range from occasionally sufficient to mostly failing.

Earthworks' field activities and follow up actions have been tracked through various Public Information Requests (PIRs). Presumably, the technical information provided by the Agency in PIRs is complete, or it is in non-compliance with the law. By using Agency documentation, it was determined that investigators are very inconsistent with assigning complaint priorities, thus do not seem to be following established protocols. In the 41 TCEQ Region 7 complaints from December 2017 to April 2020, there were nine instances of Priority 0 (respond in some other time frame), one instance of Priority 3, two instances of Priority 4, three instances of Priority 7, one instance of completing within 14 calendar days, two instances of completing within 30 working days, and 23 instances of no priority given. Though there were two instances of adverse health effects that were reported, these were assigned Priority 0, allowing the Agency to respond in some other time frame. In other words, adverse health effects experienced by members of the public were not deemed a high priority for a quicker response.

Though handing out TCEQ Air Site Visit Questionnaires to industry is standard protocol approved by Office of Compliance and Enforcement (OCE) management, it was handed out only 56% during the 41 investigations. PIRs revealed that the TCEQ only received supporting technical data from the company 5% of the time, while companies successfully submitted nonsensical technical data almost 25% of the time without regional investigators either noticing and/or caring to notice issues. Companies failed to comply with the Agency request to submit the Questionnaire some 25% of the time. Of the Questionnaires submitted, 29% led to company maintenance of which Region 7 investigators only confirmed 25% of those.

Of these 41 investigations, companies did not have a required permit/under reported emissions on seven occasions. These instances included six missing permit-by-rules and one missing standard permit. On seven other occasions, it is unknown whether sites were unpermitted, or the Agency was non-compliant with PIRs. Though various emission, maintenance, and permitting issues were documented, there were 37 instances of no enforcement action (90%) and four instances of a notice of violation (NOV) or notice of enforcement (NOE).

Though the Legislature has generously provided funding for OGI cameras and handheld monitoring instruments, there is inconsistent use of those resources within the Agency. Of the 41 Region 7 investigations discussed here, ambient air survey instruments were taken out – not necessarily used – on 27% of the projects (no emissions were detected), required bump tests were performed on only three occasions, OGI cameras were checked out for 22 of the 41 investigations (with findings on four of those), there were zero passivated canister samples collected downwind of these sites, the TCEQ central headquarters followed up at none of these sites, and only one set of investigator field notes were documented.

Though Earthworks submitted 65 total complaints to the TCEQ Region 7 office during the December 2017 to April 2020 time frame, only 41 investigations were performed. Many of them were marred by slow Agency response times; this was evidenced on most of the Region 7 investigations during this time frame. Though

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the OCE's policy is to provide quality customer service, regional office investigations apparently do not fit into this category.

Many regional investigations reflect a state agency that is not responsive to the public in a timely manner, documented by the time it takes from the initial completed investigation until the investigative report is completed and signed by management, and as evidenced by two investigations that took 14+ months and another that took 13+ months to complete. Though relevant PIRs responses for 2021 are still being analyzed by Earthworks at this time, early evidence and knowledge seem to indicate that the TCEQ has recently made a practice of performing paper inspections on multiple occasions, rather than making field visits with state-funded monitoring tools.

Though some TCEQ regions are better than others, documentation shows inconsistency in following established policies and protocols, inconsistency in using (not just taking out) monitoring instruments, inconsistency in operating instruments according to protocols, and incompetence in detecting emissions at sites that have been rechecked by Earthworks for emissions after the TCEQ declares that it detects no emissions at the site. Perhaps the TCEQ's ability to adequately respond to environmental complaints is hampered by ineffective field visits negatively affected by the lack of proper respiratory protection for its employees. How is it possible that NGOs have technical skills that exceed that of TCEQ regional staff members that are purported to be knowledgeable and well trained on technical matters? The TCEQ presented itself as being technically competent in its Sunset self-evaluation, though nothing could be further from the truth.

Unused Regulations

Though Earthworks focuses much effort into characterizing oil and gas hydrocarbon emissions from a climate change perspective, many gas constituents are released during the processing of our natural resources. One can logically conclude that by controlling all emissions – including those associated with sulfur compounds – greenhouse gases and other hydrogen emissions will also be reduced. The ability to effectively address potential emission issues rests on the permitting representations that companies submit, industrial site operations and maintenance, and the reality of how accurate the emission representations were to begin with. To accurately calculate emission volumes for permitting comparisons can be problematic for a regulatory agency at best. When calculating emissions, the physical release point size must be considered, along with the flow rate and chemical profile of the pollutants. Thus, it can be technically challenging to determine actual volumes of emissions when compared to the mathematically calculated emissions that are listed on permits. Regulatory agencies like the TCEQ do not proactively regulate emissions when it is technically feasible to do so with proper resources, authority, and initiative.

Because of the complexity and practicality of such field tests being ordered by the TCEQ, minimization of emissions is problematic around industrial areas including but not limited to those associated with oil and gas sites. Consequently, responsible authorities and the public are highly dependent on new or existing regulations to limit emissions and odorous conditions downwind of these sources that impact adjacent communities and surrounding land use. Thus, this is the reason the TCEQ historically used the sulfur dioxide and hydrogen sulfide-based

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regulations, as described in 30 Texas Administrative Code (30 TAC), Chapter 112. Existing regulations currently on the books include limitations on sulfur dioxide (Subchapter A), hydrogen sulfide (Subchapter B), sulfuric acid (Subchapter C), and total reduced sulfur (Subchapter D). The existence of these regulations allowed the Agency to enforce mobile monitoring field documentation and ambient air measurements to limit the negative effects of sulfur emissions on the environment and Texas' communities in industrial settings, nearby communities, and around adjacent sour oil and gas sites.

Though sulfur emissions do not contribute to climate change, they can have negative impacts on the safety and welfare of Texas citizens including causing and/or contributing to odorous conditions that exist downwind of tens of thousands of oil and gas sites in the state. If these emissions were to be curtailed by a proactive regulatory authority, one could certainly infer that associated climate-changing emissions would also be reduced with focus directed initiatives by energy companies and their operators, thus the lack of current implementation of the existing 30 TAC, Chapter 112 regulations are relevant to Earthworks.

The existing Texas sulfur regulations for 30 TAC, Chapter 112 Subchapter A for sulfur dioxide were adopted to be effective on October 23, 1992, while the Chapter B regulations for hydrogen sulfide concentrations became effective on January 1, 1976, when it superseded Texas Control Board Regulation III that was enacted on February 22, 1968. The existence of these regulations allowed the TACB, the Texas Natural Resource Conservation Commission, and the TCEQ to regulate net sulfur concentrations around industrial sites in the state for decades. Therefore, it is quite curious why the TCEQ has not enforced these regulations since oil and gas shale plays began in Texas more than a decade ago. It is more than a bit troubling that the Agency did not list these existing regulations in the Statutory Authority and Recent Legislation Section of its self-assessment. One could conclude that the omission is based on the fact that the TCEQ no longer enforces these regulations or considers potential impacts in the permitting process, and thus it does not meet its statutory obligations for regulations that have in part existed for more than 50 years.

Mobile Monitoring Shortcomings

The TACB first established its mobile air monitoring program with the deployment of its mobile laboratory and monitoring resources for an extended multi-day field project that focused on industrial emissions in 1985. First formed with staff that were employed full-time as field technicians and chemists, monitoring focused on both inorganic and organic compounds that negatively affected air quality around various industrial areas and nearby communities.

Findings, observations, and federal legislation led to monetary funding for multiple full-time jobs on both the newly formed Organic and Inorganic Teams within the Monitoring Operations Division of the TACB in approximately 1992. These two structured teams conducted environmental monitoring separately for different target compounds, though they did sometimes deploy together on mobile laboratory trips in large industrial settings some 3 to 4 times per year. The Organic and Inorganic Teams were combined into the Mobile Monitoring Team in 2002. The Mobile Monitoring Team remained structurally the same with 15 to 20 staff members through 2009 when there was a change in TCEQ Divisional and upper

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management and increased oil and natural gas exploration and processing in the Barnett Shale.

Monitoring-measured hydrocarbon concentrations and observations in the Barnett Shale, coupled with the Agency combined restructure of the Monitoring Division and the Field Operations' Division, started the downfall of the mobile monitoring program at the TCEQ sometime around 2010. In its Sunset evaluation of 2009 to 2010, the TCEQ stated that during FY 08, the program conducted 12 studies that resulted in the sampling of approximately 235 sites. These studies supported permitting, enforcement, and air quality planning activities by characterizing the ambient air quality in the vicinity of over 200 regulated entities. Although its original intent focused on permitting and enforcement actions, the customer base has expanded significantly to include applications related to public education, technical assistance, and pollution prevention. Moreover, the historical document states that the program's management team seeks input on priorities each fiscal year from a variety of internal and external customers who request mobile-monitoring studies to address specific issues. Scheduling decisions take into account logistical, managerial, and scientific considerations including required wind directions, facility operating schedules, agency priorities, pending permitting actions, citizen complaints, and public interest.

The TCEQ's mobile monitoring program was highly successful in solving problems, and thus it became state and nationally recognized for its performance and the Agency's ability to characterize and minimize emissions around industrial facilities and surrounding communities. This is the reason the Mobile Monitoring Team was deployed for the Agency's initial Barnett Shale assessment using OGI cameras and passivated stainless-steel canisters to collect air samples – that were later analyzed by modified EPA Method TO-15 for some 84 volatile organic compounds (VOCs). The Team remained focused on this oil and natural gas characterization from 2009 to 2010 when the then five-member emergency response Strike Team was melted into the existing Mobile Monitoring Team that would have a mobile monitoring focus, as opposed to an emergency response function with the inclusion of new management and a new philosophy. This new group was eventually known as the Mobile Response Team.

This new management structure and subsequent actions eventually led itself into multiple ethical and fiduciary investigations that were performed by the TCEQ internal auditor and the Legal Division. It involved multiple layers of Agency management up to the Executive Office including subject matters such as misrepresenting and hiding monitoring data to the public, non-compliance with the then TCEQ Respiratory Protection Plan by not allowing the use of respirators because of its public perception, first holding then the unnecessary spending of state monies to meet purchasing deadlines, and so on. Instead of holding managers accountable, the result was retaliatory behavior against the Mobile Response Team that, by that time, had been assigned emergency response tasks instead of doing mobile monitoring because it was deemed too controversial. Mobile Response Team members were never disciplined because investigations were focused on relevant managers and the facts were well documented and spoke for themselves.

Though there are many more details that could be shared that may or may not be relevant to this Sunset review, structural and managerial changes were made

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during this particular Sunset period that have been detrimental to the public interest – including but not limited to NGOs like Earthworks – that are trying to accurately characterize oil, gas, and industrial emissions that are causing and contributing to climate change and negatively affecting air quality in Texas. Mobile Response Team members experienced a variety of retaliatory behaviors for sharing relevant information. This included but was not limited to Strike Team members who were made regional investigators so that the then Executive Director could hire three acquaintances that had no emergency response experience and the shuffling off of Mobile Monitoring staff for other Divisional assignments.

The end result was that the Agency reorganized and restructured both its emergency response and mobile monitoring programs over the last decade. Instead of two highly specialized and trained teams (or one combined group in the case of the Mobile Response Team), the TCEQ decided to decentralize the job responsibilities to regional staff per the summarized description in its self-evaluation. This is something that was opposed by TACB, TNRCC, and TCEQ management during two previous Sunset evaluations because staff had enough technical knowledge and management experience to understand that the move would be detrimental to state services, as the two specialized skills sets took years to finally hone through training and field experiences.

That was then, and this is now.

Currently, the emergency response group that morphed out of the restructure at Austin-based central headquarters maintains the infrastructure and delivers it on site for field deployments. When resource deliveries are made, regional staff sometimes do survey-type monitoring assessments, while much of the time it is done by hiring outside technical parties on established state contracts, accounting for many expenditures during field incidents because Agency technical skills have diminished. Moreover, contractors can use respirators during events along with the EPA, while the TCEQ cannot. As currently structured, this program is not particularly highly thought of by parties outside the TCEQ, as technical skills sets are limited and obvious during deployments.

In reviewing its self-evaluation and having inside knowledge on the restructure process, it is plainly obvious that mobile monitoring services are extremely limited. Though the Mobile Monitoring Team was restructured and conducted four monitoring trips in the 2013 to 2014 timeframe that proved successful at detecting excess emissions at oil and gas sites, a refinery, a metal shredder, and a mineral processor, this meant management had to defend measured emission concentrations.

Since that time, the Mobile Monitoring Team has been reorganized and is not as responsive to internal and external customers. Since the approximate 2014 timeframe, mobile monitoring activities have occurred at two sites that currently remain on the APWL list. A sulfur survey trip to the Permian Basin assisted regional investigators in pinpointing odors and emissions adjacent to Blue Ridge Landfill that had some 5,000 odors complaints at the time. Additionally, in Port Neches, air monitoring surveys in response to the Corpus Christi Tule Lake Channel Fire and Hurricane Laura in Beaumont-Port Arthur, conducted monitoring downwind of the Intercontinental Terminal Corporation fire in the Houston area,

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provided assistance in response to Hurricane Delta (though monitoring was conducted upwind and off-wind much of the time) and Winter Storm Uri, and most recently tried to characterize a benzene (a known carcinogen) source at a company with elevated concentrations in a neighborhood that was discovered and monitored on multiple occasions by the old Mobile Monitoring Team starting in approximately 2005. Moreover, the restructured mobile monitoring group, then known as the Strategic Sampling Work Group, after it was downgraded from a Team designation, did not provide Hurricane Harvey assistance, as the monitoring vans remained parked at TCEQ Austin headquarters and undeployed as documented by outside media.

Though the Mobile Monitoring Team has participated on a couple of long deployments over multiple weeks, it has deployed on a combined total of approximately 11 monitoring, survey, and natural and manmade disaster-associated response trips since 2015 and another four or so since approximately 2013. No wonder the TCEQ did not deem this information important enough to share in its self-assessment document, as it no longer apparently tracks and shares important information such as number of monitoring trips, number of sites sampled, number of real-time samples collected, number of instantaneous and 30-minute passivated canister samples (that can be legally defended), number and descriptions of OGI success stories, number of standard operating procedures created/revised, number of OGI images recorded, regulatory exceedances, etc. It appears the TCEQ feels that none of these things are important to the public any longer and that tracking performance measures are no longer necessary.

Since 2013, the TCEQ has participated on approximately 15 ambient monitoring trips, while it participated on approximately 12 to 18 trips per year between 1999 and 2010. Though the Agency developed a strong OGI program between 2014 and 2018, it is not particularly effective at this time because skilled operators have retired or have moved on. The Mobile Monitoring Team manages an OGI camera but rarely uses it. The program is unimaginative and is reactive, though technologies such as communities-based sensor platform networks, sensor-based drone monitoring, passivated canister sampling, and quantitative OGI-based QL320 tablets are available to better characterize emissions for minimal monetary investment. The big picture does not have to be associated with how many enforcement actions can be processed by the Agency. It is more valuable to be associated with providing environmental services in the public interest and in demonstrating emission minimization. If the TCEQ is proactive and implements and demonstrates innovative technologies, it encourages industry to do the same. After all, the TCEQ has the authority to drop by for a site and emission assessment at any point in time.

Though Texans should be pleased that its legislature provided funding for new monitoring instruments, sampling vehicles, and four new full-time employees, mobile monitoring activities remain unfocused and ineffective, as attractive colored maps depicting emission concentrations collected real-time by a sampling van on the move is not an example of a sound mobile monitoring program that typically documents quantitatively defensible representative samples gathered over hours, days, and weeks that allow the identification of specific emission sources.

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Historically, this philosophy has helped communities and outside parties like Earthworks to participate in the Agency's mobile monitoring program by characterizing environmental needs through communications and requests for ambient air monitoring trips. An annual trip solicitation process no longer exists for inside or outside customers, as all requests are now closely held at the OCE and divisional management level. For all practical reality, an effective APWL program no longer exists because there is limited field monitoring that is being conducted beyond what is associated with manmade and natural disasters, as the process is broken.

Stationary Monitoring Shortcomings

The TCEQ's Monitoring Division has been responsible for the planning, siting, developing, operating, and maintaining of various stationary air monitor sites around the state for decades in compliance with federal air standards described in 40 Code of Federal Regulations, Part 58, Appendix D. In addition, Texas has developed various state-initiative monitors for its own purposes including but not limited to those concepts presented in its self-evaluation like providing information in response to localized air quality concerns, evaluating air pollution trends, and studying air pollution formation and behavior. For years, the Agency developed its stationary air monitoring network not only to comply and justify its federal grant dollars, but also to provide scientific information for the protection of the Texas environment and its citizens.

For years, the Mobile Monitoring Team helped to assist in this process by analyzing air quality and emission concentrations in general geographic locations, communities, and airsheds based on state needs. This led to the siting of air monitoring stations not only in areas of public interest but also in locations that filled in the gaps of data in the monitoring network itself and around specialized monitors that were developed to detect downwind emissions in areas that eventually became part of the APWL. Consequently, both the federal and state-based initiatives led to the development of a dynamic and flexible ambient air monitoring network. However, with a change in Divisional leadership, Agency philosophy, and a limitation of state monies over the last decade, things have certainly regressed in this area.

Though stationary air monitoring may be sufficient in many geographic areas of Texas, it is certainly lacking in areas of increased oil and gas production. This includes but is not limited to the Permian Basin and Eagle Ford shale plays around the Midland/Odessa and Karnes County areas of Texas, where sulfur and hydrocarbon odors and emissions remain prevalent and easy to detect throughout the region. Though the TCEQ has developed three new CAMS, including CAMS 1092 Odessa Westmark Street, CAMS 1093 Goldsmith Street, and CAMS 1095 Midland Avalon Drive in September 2020, November 2020, and September 2021, respectively, the geographic area's ambient air quality characterization remains underdeveloped.

The latest Permian Basin ambient air stationary monitors were developed after the Strategic Sampling Work Group (another name for the Mobile Monitoring Team) conducted the Permian Basin Survey Trip from December 9-13, 2019. As described in the final monitoring report on-line, the trip was focused on sulfur emissions in the area as opposed to VOC measurements or visualization of hydrocarbon via OGI. Elevated hydrogen sulfide concentrations that exceeded

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state regulatory levels were readily detected over multiple days at various geographic locations in the Permian Basin. Though the TCEQ owns resources to accurately measure VOC and to conduct sampling both upwind and downwind for net sulfur concentrations that are enforceable, representative monitoring was not conducted.

Findings from this trip were taken into consideration when adding locations to the still underdeveloped monitoring network in TCEQ Region 7. CAMS 1093 in Goldsmith, Texas is consistently detecting hydrogen sulfide levels that exceed levels in 30 TAC, Chapter 112 including a maximum unvalidated concentration of 197 parts per million by volume measurement on January 22, 2022. Questions remain as to what the TCEQ is going to do to reduce and minimize these emissions. Will the Agency develop a more robust monitoring network, will it send regional investigators out to survey, will it send the Mobile Monitoring Team out to sample, will it add areas to its almost non-existent APWL, will it conduct focused field investigations, et cetera? At this point, the Agency is doing nothing to solve Texas-based problems.

Though not surprising but troubling, Earthworks also finds it interesting that the TCEQ is currently doing nothing to measure oil and gas emissions near its Permian Basin border with New Mexico. Although Texas certainly has hundreds of thousands of its own polluting oil and gas sites, New Mexico has plenty of comparable sites that cause and contribute to negative air quality conditions here in this state. Consequently, Texas' air quality network should be robust and flexible enough to add monitoring in this geographic area to characterize hydrocarbon emissions by measuring VOCs, sulfur, methane, and carbon dioxide.

Again, though Earthworks is mostly focused on stopping hydrocarbon emissions that cause or contribute to climate change, we are also interested in activities that protect the public in communities adjacent to industrial development in Texas. This includes accurately identifying, characterizing, and minimizing sulfur concentrations in the myriad of oil and gas areas of Texas because by doing so, it will minimize the effects of other hydrocarbon concentrations in the atmosphere that negatively affect the citizens of Texas – and our planet.

by James Doty, TCHD Consulting, LLD for Earthworks

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