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January 15, 2025

Program Supervisor, MC-205

Texas Register/Rule Development Team – Office of Legal Services

Texas Commission on Environmental Quality (TCEQ)

P.O. Box 13087

Austin, Texas 78711-3087

Re: 2024 OOOOc Rulemaking and State Plan for Existing Crude Oil and Natural Gas Facilities' Stakeholder Comments

To Whom It May Concern -

I am writing to you on behalf of my client, Oilfield Witness, a non-profit organization that uses optical gas imaging (OGI) technology to expose oil and gas emissions and their impact on the environment. Real-time field observations and documentation are used to educate the public and policy makers to strengthen climate movements and to protect public health. Using earned media, advertising, social media, and field tours, Oilfield Witness energizes communities, organizations, frontline residents, and other environmental partners by documenting climate harming pollution in Texas, New Mexico, and Louisiana, along with an increasing footprint involving interested parties in Japan, Mexico, and Canada. Because of its many concerns with methane emissions and its effects on climate change, Oilfield Witness believes that it is prudent to provide relevant technical comments on the TCEQ New Source Performance Standards (NSPS) OOOOc rulemaking and state plan development process for existing crude oil and natural gas facilities, as the organization regularly has interactions with the upstream, midstream, and downstream oil and gas sectors when documenting, both permitted and unpermitted, excess methane emissions that cause and contribute to climate change.

Per Subpart 60.5362c, "if you are the Administrator of an air pollution control agency in a state or United States protectorate with one or more designated facilities that commenced construction, modification, or reconstruction on or before December 6, 2022, you must submit a state or Tribal plan to the U.S. Environmental Protection Agency (EPA) that implements the emission guidelines contained in this subpart." "You must include the ten items described in paragraphs (a)(1) through (10) (Subpart 60.5363c) of this section in your state or Tribal plan.

Those ten things include the following: inventory of designated facilities; inventory of emissions from designated facilities in your state; compliance schedules for each designated facilities in your state or logical grouping of designated facilities; standards of performance for designated facilities that are at least as stringent as the emission guidelines contained in this subpart including those associated with startup, shutdown, and malfunction; performance testing, monitoring, recordkeeping, and reporting requirements; documentation of meaningful engagement on such plan or plan revisions; certification that the required hearing on the state or Tribal plan was held, a list of witnesses and their organizational affiliations, if any, appearing at the hearing, and a brief written summary of each presentation or written submission; provision for state progress reports to EPA; identification of enforceable state mechanisms that you selected for implementing the emission guidelines of this subpart; and demonstration of your state's legal authority to carry out the Clean Air Act section 111(d) state or Tribal plan.

Subpart 60.5364c states that in order to use your state standards as part of the state plan, it must meet equivalency criteria when compared to OOOOc including designated facility, designated pollutant, standard type/format, emission reductions, compliance determination methods, and ongoing compliance assurance requirements (e.g., monitoring, recordkeeping, and reporting requirements). As the Agency knows, the state plan must be submitted to EPA by March 9, 2026, according to Subpart 60.5368c, or if disapproved, the EPA will develop a Federal plan implementing the guidelines as contained in the Model Rule.

Per Subpart 60.5370c, for designated facilities that commenced construction, modification, or reconstruction on or before December 6, 2022, your state plan must include compliance schedules that require designated facilities to achieve final compliance as expeditiously practicable after approval of the state plan. And finally, Subpart 60.5374c states that it does not directly affect designated facility owners and operators in the state, but they must comply with the approved state plan. States may choose to incorporate the Model Rule text directly into their state plans. Per (b), "If you do not submit a plan to implement and enforce the guidelines contained in this subpart by the date 24 months after promulgation of this subpart, or if EPA disapproves your plan, the EPA will implement and enforce a Federal plan."

## **Technical Comments**

Though there are concerns with the practicality of implementing the NSPS OOOOc rules, Oilfield Witness is supportive of Federal actions and subsequent TCEQ regulatory efforts to implement greenhouse gas (GHG) emission reductions for the oil and gas industry. Consistent and enhanced technical standards requiring detailed methane recordkeeping, though insufficient by itself to solve the current climate crises, it has potential to be helpful in reducing methane and in making more accurate emission estimates. For this reason, Oilfield Witness is supportive of the technical standards that are carefully described in the Model Rule and hopes that TCEQ directly uses

and/or enhances the technical standards and expectations contained within. Subpart 60.5376c includes the presumptive standards for designated facilities, as well as associated measures to assure compliance including monitoring, recordkeeping, and reporting. As TCEQ knows, it must develop a state plan that is at least as protective as the Model Rule, or the regulated entity must comply with Subpart 60.5365c. The Model Rule language may be used within the state plan, though alternative language may also be used if it is at least as protective as the Model Rule language, so this narrative is being constructed in that context. And as stated by Subpart 60.5377c, the Model Rule may be used to satisfy the state plan requirements.

According to Subpart 60.5386c in the Model Rule – Increments of Process' section, the facilities that are subject to applicable provisions of the subpart are as follows: (a) each well designated facility, which is a single well drilled for oil or gas, (b) each centrifugal compressor designated facility which is a single centrifugal compressor, (c) each reciprocating compressor designated facility, which is a single reciprocating compressor, (d) each process controller designated facility, which is the collection of natural gas-driven process controllers at a well site, (e) each storage vessel designated facility, which is a tank battery with a potential to emit methane at 20 tons per year (tpy - potential methane emissions are calculated as cumulative emissions within 60 days of approved state plan for each battery not located at a well site or centralized production facility). (f) each process unit equipment designated facility, which is the group of all equipment with a process unit at an onshore natural gas processing plant, (g) each pump designated facility, which is the collection of natural gas-driven diaphragm and piston pumps at a well site, centralized production facility, onshore natural gas processing plant, or a compressor station, and (h) each fugitive emissions components designated facility, which is the collection of fugitive emissions components at a well site, centralized production facility, or a compressor station. With the detailed description of potential oil and gas emission sources in Texas, TCEQ will have much influence in establishing both regulatory structure to hold companies accountable in properly reporting and minimizing methane emissions and in establishing its own new work practices and policies to hold companies accountable for compliance.

As mentioned in Subpart 60.5388c, super-emitter events are defined as any oil and natural gas facility event at an individual well site, centralized production facility, natural gas processing plant or compressor station where an emission is detected by remote detection methods and has a quantified emission rate of 100 kg/hr of methane or greater. This seems like a well-intended emission standard that could be used to identify oil and gas sites that are emitting a tremendous quantity of methane. It seems relevant for TCEQ to determine and clarify how this standard will be implemented and regulated within the construct of existing Planned Maintenance, Startup, and Shutdown (MSS) regulations both for planned and routine maintenance procedures including but not limited to equipment blowdowns and non-functional vapor recovery units.

In addition, presumably many super-emitter events will be identified by third parties, including but not limited to non-profit organizations, who purchase satellites and/or hire those services for the identification of significant methane emission events through real-time data collection and analyzation. TCEQ already pays for multiple OGI helicopter flyovers annually, thus in that context, it would seem prudent to establish an internal Agency satellite program by establishing a contract to hire satellite services to identify super-emitting sites consistent with the Agency mission statement that states that "Our goal is clean air, clean water, and the safe management of waste." Moreover, it would also seem wise for the state plan to use technical language to encourage the use of enhanced technologies and for services that could be hired to identify unexpected emission quantities. Although vendors cannot be specified by TCEQ for competitive advantage, companies such as GHGSAT and SATLANTIS LLC have roles to play in identifying excessive GHG emission sources.

Per Subpart 60.5397c in the Model Rule – Emission and Work Practice Standards' section, a fugitive emissions monitoring plan must be developed, and it should include the following eight elements: frequency of surveys, techniques to be used (Audio, Vido, and Olfactory [AVO], Method 21, or OGI), manufacturer and model of instruments, procedures and timeframes for identifying and repairing components, procedures and timeframes for verifying repairs, determine what records will be kept and establish retention timeframes, Method 21 required elements (if used), and special OGI elements and considerations (if used). Depending on the preferred technique chosen, fugitive monitoring details will be described in associated monitoring plans. Oilfield Witness believes that expansive concepts should be discussed in the state plan. This would include comparing Method 21 inspections versus OGI inspections for those companies who use both survey techniques in conjunction with one another, as some entities tend to do a pre-survey by OGI and the "official" Method 21 inspection with sniffer instruments. Moreover, AVO expectations and surveys need to be closely scrutinized, as it is not unusual for industry field workers to suffer from a loss of olfactory sensation due to years of chemical overexposure and/or highly elevated real-time emission concentrations that saturate olfactory perceptions. Experiencing either one of these scenarios would result in unnecessary excess emissions.

It would also seem prudent for TCEQ to determine its desire for companies to use supporting technologies to make reasonably accurate methane measurements such as the SEMTECH HI-FLOW 2 instrument that can quantitate fugitive leaks up to 30 cubic feet per minute with an accuracy of five percent. This methane-specific instrument could be helpful, if proactively used to quantitate emissions for source characterization and repair. Although not Method 21 compliant, there are other supplemental handheld instruments that could aid in AVO-type surveys such as the GAS TRAC® LZ-30 Laser Methane Gas Detector that uses Dioxide Laser Absorption Spectroscopy (TDLAS) to provide instantaneous methane concentrations at readings up to 100

feet. This information is not being shared because of a preference for this manufacturer but to provide instrumentation examples that can aid in fugitive emission surveys, particularly for those companies that depend upon AVO inspections, as mentioned in Subparts 60.5397c and 60.5400c in the Model Rule – Emission and Work Practice Standards' section. TCEQ would be well served to encourage the use of supplemental handheld methane instrumentation and should add instrumentation technologies and quality specifications to a recommended equipment list within its state plan that will be submitted to EPA for approval.

If OGI will be used for fugitive emission inspections, the plan must include the following elements: verification that the OGI equipment is capable of imaging gases in the spectral range of highest concentration; verification that the OGI equipment is capable of imaging gas that is half methane and half propane at 10,000 ppm at a flow rate of <60 g/hr from a quarter inch diameter; procedure for daily verification check; procedure for determining maximum viewing distance; procedure for determining maximum viewing distance; procedure for determining maximum wind speeds during monitoring; procedure for conducting surveys including ensuring adequate thermal background; procedure for dealing with adverse monitoring conditions, such as wind; procedure for dealing with interferences like steam; training and experience needed prior to performing surveys; and procedures for calibration and maintenance (at a minimum, procedures must comply with those recommended by the manufacturer). Consequently, TCEQ's state plan will need to include these same elements or some others that are more stringent in order to comply with the Model Rule intent. The use of OGI, Method 21, or AVO requirements are extensive within the Model Rule, and thus they are relevant for Subparts 60.5398c and 60.5400c that require compliance for fugitive emission component designed facilities and process unit designed facilities, respectively.

Because initial and continuing compliance must be confirmed within the new rules, TCEQ should allow the use of quantitative OGI to assess facilities, and thus details to that end should be added to the state plan. Obviously, methane leaks could be identified with technologies such as a handheld Teledyne FLIR G620 OGI camera with onboard quantitation capability during initial and continuing surveys to minimize and properly quantitate emissions. Certainly, TCEQ should internally strategize as to how it can encourage the use of the technology by providing internal staff training for its use during possible auditing activities and in hiring OGI contract services for problematic companies and troubling circumstances. Circumstances allowing its use could easily be described in the state plan, keeping in mind that TCEQ could also conduct or hire equivalent OGI technical services to aid in its own regulatory responsibilities. Moreover, a portion of the Agency's current inventory of unmanned aerial vehicles (UAVs) could be outfitted with OGI technology and/or quantitative methane instrumentation. Consequently, these technical details should be added to TCEQ's state plan to comply with NSPS OOOOc rules.

Though not specifically discussed within EPA's Model Plan, TCEQ would be well-served by building a technical OGI framework into its state plan within the confines of Subpart 60.5415c and 60.5416c regarding continual compliance with gas well liquid unloading and closed vent system and cover requirements, respectively during storage tank gauging activities. This would not only reduce methane (and volatile organic compound) emissions but would help minimize hydrocarbon exposure to site workers. More innovative technologies and work practices such as electronic tank gauging or thermography using external-painted fluid level measurement increments on the outside of storage tanks exist and would be used by regulated entities if described and encouraged. It would prevent methane emissions from being released via an open tank lid and would reduce oil and gas worker hydrocarbon exposure both from a real-time and cumulative health perspective. After all, uninsulated storage tanks do not need to be physically opened to gauge fluid levels, as the difference in heat capacities between materials coupled with heat transfer allows thermography cameras to see fluid levels through external storage tank walls.

Per Subpart 60.5416c in the Model Rule – Continuous Compliance Requirements' section, if required to conduct an inspection of a closed vent system and cover, the site must conduct initial and periodic emission inspections using the procedures for conducting OGI inspections or Method 21. Where OGI is used, the closed vent system, cover, or self-contained process controller is determined to operate with no identifiable emissions if no emissions are imaged during the inspection. Emissions imaged by OGI constitute a deviation of the no identifiable emissions standard until an OGI inspection is conducted in accordance with this paragraph (b)(2) of this section determines that the closed vent system, cover, or self-contained process controller, as applicable, operates with no identifiable emissions. This section also provides details on AVO inspections, Method 21 inspections, repairs, delay of repairs, unsafe to inspect requirements, difficult to inspect requirements, and required records and reports. This section needs to be emphasized in TCEQ's proposed state plan, as there are many relevant technical points and procedures that regulated entities need to comply within the NSPS OOOOc rules.

The NSPS OOOOc Model Rule was intended to be used as an example for each individual state while crafting their own state plan frameworks that will eventually need EPA approval, or it can be used in total or in parts if preferred. From a holistic perspective, quality program concepts such as but not limited to initial and continuous performance testing, quality assurance and quality control, and enhanced documentation and recordkeeping are required. These concepts are touched upon in both Subparts 60.5391c and 60.5392c that mention routing associated gas to control devices that have at least 95% combustion efficiency.

This is further elaborated on in Subpart 60.5412c, as the specifications described within are highly important as they include details on enclosed combustion devices including thermal vapor

incinerators, catalytic vapor incinerators, boilers, or process heaters where, amongst other things, the mass content of methane must be reduced by at least 95%. In addition, performance tests must be conducted, unassisted/pressure-assisted/steam-assisted and air-assist standards are provided, catalyst inlet and outlet temperatures and minimum inlet gas flow must be measured, continuous burning pilot flames must be observed and have control room alert capability, visible emission tests must be performed, and vapor recovery devices (carbon adsorption system or condenser) are required.

There are also many other provisions regarding flares, such as gas and inlet pressure measurements at the flare tip and a continuous burning pilot or combustion flame with an alert system activated to the nearest control room requirements, in the technical language. All these technical matters are critical for TCEQ to incorporate into its own state plan to establish industry expectations and to clarify future regional office and Agency procedures and actions. Details could include the use of an instrument like the Providence Photonics Mantis™ that uses the Video Imaging Spectral Radiometry (VISR) method to determine combustion efficiency (within 0.5%), smoke index (measure of visible emission), fractional heat release (process flow rate), flame stability, flame footprint (cross-sectional area), flow rate (estimated from fractional heat release), presence of flame (no latency), and destruction efficiency (correlation). All these technical attributes could be used to ensure initial and/or continuous performance testing — both for companies and the TCEQ itself through the purchase of instrumentation or hiring of contract services.

Subpart 60.5420c is the Model Rule – Recordkeeping and Reporting section that describes notification, reporting, and recordkeeping requirements including but not limited to submitting performance and annual reports technical details on gas well unloading, centrifugal and reciprocating compressors, process controllers, pumps, fugitive components, storage vessels, and combustion devices. Consequently, there are opportunities for TCEQ to include detailed descriptions of what specific records it will require to comply with its state plan by specifically cross-referencing NSPS OOOOc citations, if applicable. These technical specifics are important and should be tied to the approved instrumentation technologies list and its associated minimum technical specifications, coupled with adding and anticipating emerging technologies and those currently not being used or considered by TCEQ now.

Within this section, there are certainly details on reporting requirements for process controller designated facilities, as they are described by facility type and in detail regarding applicable regulation notations. Immediately following, there is a listing of ten different regulations for each storage vessel designated facility including identification; documentation of methane emission rate determination for each tank battery; deviation expectations; control devices; and possible alternative GHG standards, amongst others. Afterwards, there is a detailed listing of reporting

requirements for the fugitive emission components designated facility including reporting details on site specific rules; a listing of the required elements for each fugitive emissions monitoring survey performed during the annual reporting period; well closure activities listed in a status report; declaration to share OGI survey findings during the reporting period including date, monitoring instrument used, and a statement that no fugitives found or if found; a listing of steps taken to eliminate emissions; the date of the resurvey; the results of the resurvey; and the date of the final resurvey which detected no emissions.

Oilfield Witness is supportive of this Model Rule technical language and encourages TCEQ to add relevant technical details to enhance recordkeeping standards to hold regulated entities accountable for site operations and to give wide avenues to itself to gauge industry actions and responses. It appears uncertain at this time how TCEQ will ensure compliance with these recordkeeping requirements within the rules, so adding relevant transparent information and language to the state plan could be useful for future actions by regulators. A decision-tree would be helpful in determining various technical matters such as is EPA expected to review the records on a regular basis or is TCEQ expected to review the records? If TCEQ will be reviewing the records, will permit engineers be doing that work or will it be regional investigators or will TCEQ be hiring additional staff members or will the Agency be adjusting job duties for existing staff or will TCEQ audit the submission of records or will TCEQ annually review the records or will TCEQ never review the records or will it be something else?

There needs to be much more detailed recordkeeping framework language within TCEQ's state plan so that it is clear to both regulated entities and the public of how and when records will be reviewed by regulators during the mandated 5-year (at least) retention schedule that includes but is not limited to initial performance data, continuing data, annual data, 5-year average data, and auditing data. According to Subpart 60.5420c, data generated from completed non-manufacturer performance testing must be submitted within 60 days, while combustion control devices tested by the manufacturer according to regulations must be submitted electronically. "If you had a super-emitter event during the reporting period, the start date of the super-emitter event, the duration of the super-emitter event in hours, and the designated facility associated with the super-emitter event, if applicable" must also be submitted.

Annual reports must also be submitted electronically. Though not mentioned in the Model Rule, it would be helpful to know if TCEQ's state plan will address related data review framework and processes from super-emitter events including those events that occur because of maintenance procedures such as blowdowns, non-functional vapor recovery systems, unscheduled events because of unexpected pressure changes, out-of-specification gas, lack of pipeline capacity, emergency situations, et cetera.

Regarding Subpart 60.5421c, it describes what additional recordkeeping procedures are required for process unit equipment designated facilities to comply with these GHG rules. Records must be maintained for at least five years, and they must be entered into EPA's electronic Compliance and Emissions Reporting Interface (CEDRI). "These records must be made available upon request to a delegated air agency or the EPA as part of an on-site compliance evaluation." If multiple process units are involved, a common recordkeeping system must be used. Monitoring inspections details must include the following: connectors can be grouped; date and start and end times of inspections; inspector name; leak method used (OGI, Method 21, or AVO); monitoring instrumentation identified (OGI or Method 21); type of equipment monitored; process unit identification; records specified in Section 12 of Appendix K to this part for each monitoring inspection conducted with OGI; the records for each inspection conducted by Method 21; visual inspection records of pumps in light liquid service; leak specific information including but not limited to instrument and operator details; date of leak detection; repair method used; information of efforts to repair the leak by Method 21/AVO/OGI (in accordance with Appendix K including confirming repair and maintaining OGI video footage); and details on repairs delayed beyond 15 calendar days after initial leak detection.

Additional information that needs to be retained includes but is not limited to a list of identification of equipment designated for no detectable emissions; a list of identification numbers for unsafe-to-monitor valves, pumps, and connectors; identification numbers for equipment in vacuum service; a list of identification numbers for equipment designated as having potential to emit methane less than 300 hr/yr; and a list of identification numbers for valves where it is infeasible to replace with e-valves or low e-packing technology. These recordkeeping requirements are extensive, and TCEQ needs to include them in detail in its state plan or cross-reference the citation, unless it chooses to add its own additional requirements.

According to Subpart 60.5415c in the Model Rule – Continuous Compliance Requirements' section, each storage vessel facility must demonstrate continuous compliance, as per applicable details including but not limited to maintaining uncontrolled methane emissions at less than 14 tons per year, removing and later returning vessels to service, emptying and degassing vessels, isolating by disconnecting tank battery manifolds, submitting annual reports, and recordkeeping. These details should be included in TCEQ's state plan and/or they should be cross-referenced within the document. Regardless of the details chosen, TCEQ will have technical matters to include in its detailed vessel requirements including but not limited to how to determine and monitor minimum, maximum, and optimal pressure settings on storage tank pressure relief valves from a compliance standpoint in order to minimize methane emissions and determine if/when Agency regional staff and/or permit engineers will use the relevant data to verify regulated entity technical declarations both from a real-time and historical perspective. And of course, these technical considerations would need to include records of an initial demonstration

of compliance and continuing compliance through possible automation and/or real-time continuous monitoring and OGI video.

Though TCEQ is seeking relevant technical information for consideration of inclusion in its NSPS OOOOc-mandated state plan in the Public Interest, Oilfield Witness and the general public have an interest in determining the practicality of implementing rules that require extensive recordkeeping procedures to achieve regulatory compliance. This brings into question whether TCEQ will be hiring additional staffing to review required documentation and/or does it plan to change or add to existing staff job responsibilities? After all, initial and continuing records will be generated and maintained for matters such as but not limited to field investigations, initial and continuing performance data for regulated entity infrastructure and processes, generation of annual reports, et cetera. Does TCEQ itself plan to audit processes or use mobile monitoring data coupled with real-time company field data to generate investigations or inspections? Surprisingly, these policy and technical decisions are relevant now during the crafting of the state plan, as future real-time and ongoing technical matters will arise during individual circumstances where useful information could be generated and/or obtained through effective pre-planning.

Moreover, although not directly applicable to creating the state plan, required regulatory compliance will generate increased expectations as company technical data will exist for proactive regulators seeking to minimize methane emissions and/or holding companies accountable either during problematic situations (such as citizen complaints or shared OGI footage documenting emissions) or for self-declarations made. Consequently, TCEQ needs to conduct strategic planning now during this rulemaking process regarding potential future actions and/or to minimize technical concerns by using an effective pre-planning process that broadly considers future circumstances that could be addressed in the state plan. Does TCEQ plan to hire contract services in the future to handle such things as data review and technical services that TCEQ is not qualified to perform or chooses not to perform due to safety concerns or that it does not have appropriate staffing to perform? These issues are relevant during this state plan development process, as appropriate consideration now can minimize or solve issues later during/after rule implementation.

In addition, there are several other relevant technical matters that have both direct and indirect considerations for TCEQ regarding the finalization and implementation of the state plan after the promulgation of the NSPS OOOOc rule on March 8, 2024. There is relevance for the Agency to give some thought to establishing and/or adding coding for additional relevant inspection-types including but not limited to methane-related investigations, OGI quantitation, flare assessments, combustion efficiency determinations et cetera, as the inclusion of these rules will open-the-door to relevant data and actions that had little practical relevance prior to these rules.

There should also be some Agency consideration to re-develop an Engineering Services Division (or Section) that it had for many years within its organizational structure, as it could have the responsibility to work with regulated entities on the many technical issues and questions that will eventually arise from companies regarding technologies, monitoring – both initial and continuous, technical plans, et cetera that are beyond the technical scope and job responsibilities of permit engineers, regional investigators, Agency managers, mobile monitoring staff, et cetera. This valuable organizational resource from the past will be needed to oversee present day real-time technical issues and questions from the regulated community. And finally, TCEQ 's state plan will need detail on wellhead GHG emissions in relation to the regulatory responsibilities of the Railroad Commission of Texas, as there will certainly be some organizational crossover in relation to the rules and related questions from companies and the general public.

## **Final Thoughts**

Oilfield Witness is supportive of the NSPS OOOOc rules as currently written and encourages TCEQ to actively use the Model Rule as a basis for the technical framework in its state plan because of its enhanced criteria regarding initial and continuing compliance and overall emission reduction potential. Moreover, it also has many relevant requirements for recordkeeping practices including requiring specificity for relevant documents and technical matters. Upon review, many of these details have been described effectively within the Model Rule narrative. However, much additional technical information could be added by TCEQ on how companies can more effectively use various technologies to comply with the NSPS OOOOc regulations to minimize methane emissions and reduce site emissions overall. This could include both handheld and aerial OGI with emission quantification and VISR instruments to measure flare combustion efficiency. Current technologies are not limitless, but their use could be more maximized by effective rules and details within the state plan narrative. Regardless of external politics that includes a changing of United States presidential administrations within days, Oilfield Witness encourages the TCEQ to proceed with rulemaking and internal technical discussions so that Texas-based oil and gas emissions, including but not limited to methane, can be reduced through policy changes and actions that will combat public health concerns, reduced air quality, and ongoing climate change.

## **Technical Background**

TCHD Consulting LLC is located in Driftwood, Texas and provides technical, environmental, safety, and thermography consulting services to a variety of customers in the United States, Canada, South America, and Europe. Mr. Tim Doty worked for TCEQ for +28 years and served as the Agency's mobile air monitoring manager and technical for 17 years. He performed and managed ambient air monitoring and environmental assessments that were conducted both inside and outside of many hundreds of industrial facilities that included EPA interaction and expert witness testimony. He also

## **TCHD Consulting LLC**

managed the TCEQ's Mobile Response Team and the Agency's emergency response assets and has planned/managed/participated on many manmade and natural disaster responses.

Mr. Doty is a certified Infrared Training Center Level III thermographer that provided thermography and OGI instruction to some +150 TCEQ staff members after helping to establish OGI field uses and policies within the TCEQ from 2005 - 2018. He also served as a technical advisor to the TCEQ Director of Compliance and Enforcement. He now provides technical, air monitoring, environmental assessments, and OGI and general thermography consulting services, including instruction, to both students and relevant parties including but not limited to those associated with affected communities, environmental causes, safety, the public interest, and the media.

Sincerely,

Tim Doty

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