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Program Supervisor, MC-205  
Texas Register/Rule Development Team – Office of Legal Services  
Texas Commission on Environmental Quality  
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 you on behalf of my client, Ingleside on the Bay Coastal Watch Association (IOBCWA), regarding the recent notification from the Texas Commission on Environmental Quality (TCEQ) on its 2024 New Source Performance Standards (NSPS) OOOOc existing crude oil and natural gas facilities rulemaking and state plan development process. IOBCWA is a Texas non-profit organization that was founded in 2019 to mitigate negative effects of rapid industrialization, larger and more frequent ship traffic, and rising sea levels in Ingleside on the Bay and nearby surrounding communities of the Coastal Bend. The organization promotes health, safety, and quality of life for the residents of Ingleside on the Bay and nearby communities through research, education, communication, and action. Currently consisting of approximately 180 people, this group’s membership includes scientists, engineers, business owners, and educators that foster strategic partnerships using constructive and diverse opinions to develop positive outcomes for the surrounding community and the environment.**

As stated on TCEQ’s website (<https://www.tceq.texas.gov/permitting/air/rules/2024-oooc-rulemaking-oilgas-stakeholder>), “On March 8, 2024, the United States Environmental Protection Agency (EPA) published emission guidelines for existing crude oil and natural gas facilities and published updated New Source Performance Standards (NSPS) for new and modified crude oil and natural gas facilities. States are required to prepare and submit state plans to implement federal Clean Air Act Section 111(d) emission guidelines adopted by EPA. The purpose of the proposed rulemaking and Section 111(d) State Plan is to implement the emission guidelines for existing oil and gas facilities in 40 CFR Part 60, Subpart OOOOc and ensure that the State of Texas

maintains the authority to regulate these sources. The rule will address applicability, emission standards, monitoring, recordkeeping, testing, and reporting requirements for designated oil and gas facilities. The rules would set emission standards and/or control requirements for emissions of greenhouse gases (primarily methane) from existing facilities in this industry.”

This TCEQ narrative is meaningful to IOBCWA because Upper Coastal Bend residents are surrounded by nearby industrial development, operations, and related activities, and resultingly, citizens are regularly impacted by increasing pollution and its long-lasting negative effects on public health, air quality, and climate change. Several local industries that handle, process, and emit oil and gas pollution include but are not limited to the Enbridge Ingleside Energy Center, Gibson Energy - South Texas Gateway Terminal, Cheniere Corpus Christi Liquefaction, Midstream Texas Operating LLC – Ingleside Terminal, and Plains Pipeline LP – Taft Station. Consequently, these relevant technical comments are being forwarded for consideration of the local Public Interest.

As stated in 40 Code of Regulations, Part 60, Subpart OOOOc § 60.5360c, “This subpart establishes emission guidelines and compliance schedules for the control of greenhouse gas (GHG) emissions from designated facilities in the crude oil and natural gas source category as defined in the Model Rule at § 60.5430c, in accordance with section 111(d) of the Clean Air Act and subpart Ba of this part. The designated facilities, standards section reference and compliance dates are listed in table 1 to this subpart.” And as defined by Subpart 60.5430c, the two specific applicable categories for the Crude Oil and Natural Gas Source Category include “(1) Crude oil production, which includes the well and extends to the point of custody transfer to the crude oil transmission pipeline or any other forms of transportation; and (2) Natural gas production, processing, transmission, and storage, which include the well and extend to, but do not include, the local distribution company custody transfer station.” Several local industries appear to fit under these categories as there is a change in custody with crude oil transportation and transfer within the area, along with natural gas processing, transmission, and storage that extends to distribution points.

### **Technical Comments**

Although it is unknown at this time how TCEQ specifically plans to comply with the new NSPS OOOOc rulemaking and implementation process, IOBCWA is a supporter of the federally mandated rule, as it strives to minimize methane emissions and pollution around Corpus Christi Bay including those emitted by local industries that negatively impact surrounding communities. The detailed rules as promulgated were developed via legislative action and were intended to establish both a federal compliance framework for industry, and an oversight role for regulators through the implementation of EPA-approved state plans that will be submitted by state agencies. To provide detailed federal guidance, EPA described many technical requirements and examples within its Model Rule to share its technical and compliance expectations for both state regulators and

industry. The following relevant comments have been made in that context to provide both technical input and suggestions of relevance for TCEQ regarding the implementation of its required state plan. IOBCWA is supportive of the Model Rule and hopes TCEQ uses its technical language and expectations with increased detail during this rulemaking process.

Per Subpart 60.5376c, the Model Rule includes the presumptive standards for designated facilities as well as associated measures to assure compliance including monitoring, recordkeeping, and reporting. Responsible state environmental regulatory agencies must develop a state plan that is at least as protective as the Model Rule or comply with Subpart 60.5365c. The Model Rule language can be used in state plans, and any alternative language used must be at least as protective as the Model Rule. As described in Subpart 60.5378c, the Model Rule contains nine components including - increments of progress towards compliance; operator training and qualification; emission limits, standards, and operating limits; initial compliance requirements; continuous compliance requirements; performance testing, monitoring, and calibration requirements; recordkeeping and reporting requirements; definitions; and tables. Consequently, these nine components must be included in TCEQ's state plan.

Relevant to IOBCWA, Subpart 60.5386c describes that applicable provisions of the subpart are applicable to: each single well drilled for oil or gas; each single centrifugal and reciprocating compressor; natural gas-driven process controllers at well sites; tank batteries with potential to emit methane at 20 tons or more per year; groups of equipment within a process unit at an onshore natural gas processing plant; natural gas-driven diaphragm and piston pumps at well sites, centralized production facilities, onshore natural gas processing plants; compressor stations; and fugitive emission components at well sites, centralized production facilities, or compressor stations. Several of these provisions appear to be relevant for multiple industries in the Gregory, Portland, and Ingleside, Texas areas.

Subpart 60.5388c in the Model Rule – Emission and Work Practice Standards section mentions that 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 general description has relevance as it provides detail on how to identify individual super-emitter events and the emission sources involved via the quantitation of methane emissions. Big emitters can be identified, and actions can be taken by industry to verify findings and to solve infrastructure, processing, and maintenance issues that lead to excess pollution events. Certainly, these rules appear relevant for the Upper Coastal Bend area, as third parties organizations could be hired for a range of aerial monitoring services off-site that could include but would not be limited to real-time satellite transmissions, unmanned aerial vehicle (UAV) services, and high-resolution methane airplane monitoring using wide-angle Fabry Perot

imaging spectrometers. It would be appropriate for TCEQ to include these wide-ranging technologies within the state plan in an approved technology list or within an explanatory narrative. If TCEQ plans to require a specific quality framework for enhanced technologies, providing details in the state plan would be appropriate, and it would minimize Agency staff time in dealing with public confusion later. Moreover, this subject matter is directly relevant to TCEQ itself, as these technologies currently exist and can be used now or in the future for the Agency to identify big polluters that are emitting both methane and other constituents that impact downwind residents and workers, air quality, and contribute to climate change.

As described in Subpart 60.5396c, storage vessel designated facilities (storage tank batteries) have GHG standards. In the General Requirements, it states that after 12 consecutive months of compliance, the site may continue to reduce methane by 95% or maintain uncontrolled actual methane emissions at less than 14 tons per year (tpy) without considering control. If a control device is used, each vessel must be equipped with a cover, manifolded together with piping, a closed vent system, while vapors can also be routed to a control device or process. For storage vessel designated facilities that do not have flash emissions and that are not located at well sites or centralized production facilities, a floating roof can be used to reduce emissions. If tanks are removed from service, they must be emptied and degassed, and it must be documented in the annual report, along with any vessels that will be returned to service. Initial and continuing compliance must be adhered to, along with recordkeeping requirements. IOBCWA is supportive of these technical requirements in the Model Rule.

Subpart 60.5397c describes that fugitive emission components designated facilities have GHG standards. Per the General Requirements, all fugitive emission components must be monitored and repaired, if necessary. Companies must also demonstrate initial compliance and keep records. A fugitive emissions monitoring plan must be developed and include eight required elements including frequency of surveys, sampling method(s) to be used like Audio Visual Odor Surveys (AVO)/Method 21 (sniffer instruments)/optical gas imaging (OGI), instrument details, component leak identification and repair procedures and timeframes, recordkeeping details and timeframes, and some additional specialized elements based on the sampling methods chosen. The rules also require that an initial monitoring survey be completed, leak repairs are made, an annual report gets submitted, and general recordkeeping requirements get completed.

Fugitive emission components are also relevant to Subpart 60.5398c, as this section provides alternative GHG standards for fugitive emission component designated facilities and alternative continuous inspections and monitoring requirements for covers and closed vent systems. If using an alternative method, a request to do so must be submitted, demonstrated, and screened. Periodic screening events may be replaced by OGI surveys and aggregate detection thresholds. A monitoring plan must be developed using the nine required elements described. If

using OGI, the initial survey must be conducted no later than 12 months after the initial screening and previous OGI assessment. Monitoring surveys of fugitive emissions must be conducted using OGI or Method 21 and visual inspections must be conducted. Methods using spatial resolution to conduct screenings must do so within a 2 to 4 -meter radius pending details, while component-level spatial resolution screening must be conducted within a 0.5 to 1-meter radius pending details. Repairs must be made within 30 days of receiving the results of the periodic screening. Investigative analysis must determine the underlying cause of the emissions by initiating an investigative analysis within 24-hours, while those involving closed vent systems should be finished within five days of completing an inspection. Records must also be maintained, and a report must be submitted.

These particular OGI details are relevant, as explanatory narratives and more detailed language should be added to the state plan for practical field implications as using this well-accepted technology is the best system for emission reduction (BSER) for oil and gas emissions per EPA. There is relevance in clarifying if TCEQ will accept quantified OGI emission estimates from industry and/or third-party contractors. In a separate consideration, will TCEQ be hiring OGI quantitation services to audit companies, internal processes or for investigative matters because now would be the time to consider such matters because these issues have state plan relevance?

Subpart 60.5398c also states that continuous monitoring may be conducted for covers and vent systems using approved technologies and a developed monitoring plan. As defined, methane monitoring systems must be able to record mass emission rates at least once for every 12-hour block at a threshold of at least 0.40 kg/hr (0.88 lb/hr). Continuous monitoring systems must be able to transmit applicable data at least once every 24-hours with minimal downtime and in control. The required monitoring plan must contain at least the 12 required elements. The monitoring systems must be installed within 120 days of the effective date of the state plan. Site-specific baseline emissions must be established through continuous monitoring, and if action levels are exceeded, an investigative analysis must be started within five days of discovery. If the criteria are met, a mass reduction plan must be developed with a 30-day implementation. Records must be kept, and a report must also be submitted.

The previous technical details are important because EPA's Model Rule describes the quality expectations and expected engineering designs of an example continuous monitoring system if applicable sites decide to use this scientific approach. It seems appropriate for TCEQ to use these exact same expectations or add more technical details that may have relevance for Texas' regulations. Will TCEQ allow the use of enhanced technologies such as Bridger Photonics' Gas Mapping LiDAR™ and the GRANDPERSPECTIVE scanfeld® or Spectrum Environmental Solutions' Fourier transfer infrared (FTIR) spectrometers? There are also several other open-path optical sensing technologies that could be useful in obtaining continuous monitoring data, as well as

Picarro, Incorporated instrumentation. TCEQ could certainly add some of these technologies to its approved instrumentation and technologies list so that industry can accurately detect and quantitate GHG emissions.

According to Subpart 60.5410c in the Model Rule – Initial Compliance Requirements section, initial compliance must be established by using the standards for each of the nine designated facilities. This includes gas well liquids unloading, associated gas well, centrifugal compressor, reciprocating compressor, process controller, pump, process unit equipment, storage vessel, and fugitive emission components. To achieve initial compliance with the GHG standards for each storage vessel designated facility, as required by § 60.5396c, each site must determine the vessel design types that will be used. Potential for methane emissions must be established for possible fixed and floating roof tanks.

Per these rules, fixed-roof tank methane emissions must be reduced by at least 95%, and control devices can be used to capture emissions or closed vent systems can be used. Initial inspections must also be conducted, continuous monitoring systems must be installed and operated, records must be maintained, and an initial annual report must be filed. Floating roof tanks must have proper monitoring, inspection, recordkeeping, and reporting requirements. Certainly, it would be helpful for TCEQ to explain how it is going to ensure that emissions will be reduced by 95%, as it cannot be speculative in nature. The state plan needs to include such details to preempt industry questions and to make actual emission reductions that are measurable. To achieve initial compliance with the GHG for fugitive emission components, it requires that a fugitive emission monitoring plan must be developed, an initial monitoring survey must be completed, leak repairs made, an annual report submitted, along with completing general recordkeeping requirements. IOBCWA is supportive of all these requirements, as these rules appear to have relevance for several nearby industries.

With regards to Subpart 60.5412c, the specifications described within are highly important including many of the details on enclosed combustion devices like the thermal vapor incinerator, catalytic vapor incinerator, boiler, or process heater where, amongst other things, the mass content of methane must be reduced by at least 95%; 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 flame must be observed and have control room alert; visible emission tests must be performed; vapor recovery device (carbon adsorption system or condenser) are required; and 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 are in the technical language.

Each carbon adsorption system used as a control device must comply with regulations including replacing all carbon on a regular basis; regenerating, reactivating, or performing spent carbon removal; complying with regulations on stream or volumetric flow; checking mechanical connections monthly for leakage; and measuring and recording the carbon bed temperature. Moreover, flare and enclosed combustion device methane emissions must be reduced by at least 95%, and visible emissions evaluations must be performed. IOBCWA is supportive of all these technical matters, though more specificity in the state plan would be helpful in clarifying industry expectations.

It is unclear how and when TCEQ will ensure carbon adsorption systems are maintained as described so some clarity would help, along with how the Agency will ensure that combustion devices have a 95% reduced combustion efficiency, as using a manufacturer's flare estimate is not sufficient to meet the technical requirements that EPA has set. Will TCEQ or regulated companies be hiring initial or long-term flare monitoring services to measure flare combustion efficiency or will the companies site mount a MANTIS™ Video Imaging Spectral Radiometry (VISR) instrument 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) to comply with the rules? It is important for these scenarios to be considered during the NSPS OOOOc state plan development process, as industry needs guidance on the technologies possibilities to come in compliance, while the public needs transparency.

Also, more technical information is needed to clarify what the technical standards are for conducting visible emission evaluations. It is quite relevant to local communities, including but not limited to Ingleside on the Bay, that TCEQ allows the use of EPA Alternative Method 082 to evaluate visible emission opacity. Per EPA, this digital camera opacity technique can be used in lieu of Method 9 for all subparts of 40 CFR 60, 61, and 63, as it is a high-quality technique that even requires training certification. These are important considerations and details that could effectively be added to the rule language. These procedures would be important for both flares and vapor combustor plumes that are released adjacent and downwind of Texas' citizens.

Subpart 60.5415c of the Model Rule – Continuous Compliance Requirements' section describes how to demonstrate continuous compliance. There are also additional requirements for when operators use condensers as control devices to achieve the percent reduction performance requirements, as compliance must be demonstrated via parameters like performance curves, outlet temperatures, and operational data showing at least a 95% emission reduction. Specifically, in (x), it states that "During each inspection conducted using an OGI camera under § 60.5397c and during each periodic screening event or each inspection conducted using an OGI

camera under § 60.5398c, you must observe each enclosed combustion device and flare to determine if it is operating properly. You must determine whether there is a flame present and whether any uncontrolled emissions from the control device are visible with the OGI camera or the technique used to conduct the periodic screening event. During each inspection conducted under § 60.5397c using AVO, you must observe each enclosed combustion device and flare to determine if it is operating properly. Visually confirm that the pilot or combustion flame is lit and that the pilot or combustion flame is operating properly.”

These are important technical statements made in the Model Rule, and there is relevance to what exactly the Agency plans to do in its state plan. It is undetermined at this time as to what techniques will be acceptable to determine if the combustion device is operating properly – will it include handheld OGI cameras that can be used by a trained operator to determine if combustion is typical or if the pilot is lit? For those certified OGI operators who actively use the span temperature range to determine the apparent temperature of a flare tip or emission plume, will that defensible and scientific data serve as part of the state plan or in Agency process development. It is also not clear as to how an AVO inspection will determine combustion efficiency by just looking at the pilot light and flame – this should be clarified.

Per this same subpart, for each storage vessel designated facility, sites must demonstrate continuous compliance, per specific details including but not limited to maintaining uncontrolled methane emissions at less than 14 tpy; removing and later returning vessels to service; emptying and degassing vessels; isolating by disconnecting tank battery manifolds; submitting annual reports; and recordkeeping. Additional details on how TCEQ is going to verify uncontrolled methane emissions are less than 14 tpy would be helpful. Historical regulatory activities have been based on permitting mathematical equations, yet now there will be real monitoring data to use in a different manner. One such technology is the NevadaNano MethaneTrack™ which allows companies to meet methane emission reductions by quantifying emissions on storage tanks via a real-time basis using data that is electronically transferable. There are many manufacturers that produce technologies that can accurately measure methane emissions, and it would be helpful to have a comprehensive list of them in an appendix to the state plan, as they will all have process and recordkeeping considerations to consider during TCEQ’s rulemaking process.

Within NSPS OOOOc Subchapter 60.5417c, it discusses the continuous monitoring requirements that are required for control devices to demonstrate continuous compliance to meet emission standards for wells, centrifugal compressors, reciprocating compressors, process controllers, pumps, storage vessels, and process unit equipment designated facilities. Per (c), except for continuous monitoring systems that detect the presence of a pilot or combustion flame which should record a reading at least once every five minutes, each continuous parameter monitoring



system must measure data values at least once every hour. A monitoring plan must be developed to include the relevant technical and quality assurance details that are further described in this section. As stated in (d), sites must install, operate, and maintain a device equipped with a continuous recorder to measure the values of operating parameters appropriate for the control device. Companies must install, calibrate, and maintain the monitor according to the manufacturer's specifications and the requirements in Performance Specification 8 or 9. Within this section, there is a listing of technical and quality assurance specifications required for enclosed combustion devices, catalytic vapor incinerators, a boiler or process heater, condensers, regenerative-type carbon adsorption systems, nonregenerative-type carbon adsorption systems, combustion control devices, and an enclosed combustion device.

There are many important technical details described within the (d)(8) section on enclosed combustion devices and air-assisted and steam-assisted flares. Pilot flames and combustion flames must be monitored continuously at least once every five minutes. Inlet gas streams must also be continuously monitored via calorimeters, gas chromatographs, and mass spectrometers within the technical specifications thoroughly described in this section that includes mathematical calculations. A grab sampling system capable of collecting an evacuated canister sample for subsequent compositional analysis at least once every eight hours is also applicable. There is also much detail on the technical requirements of continuously monitoring unassisted or pressure-assisted flares or enclosed combustion devices including but not limited to gas inlets, monitoring frequencies, monitoring durations, accounting for inert gases, and the use of alternative test methods. IOBCWA supports the Model Rule technical language in this area but encourages TCEQ to give some consideration to providing additional technical details on other acceptable technologies that have high quality standards, such as but not limited to Picarro, Incorporated Cavity Ring-Down Spectrometers and laser-based technologies.

Subpart 60.5420c mentions that each storage vessel designed facility has extensive recordkeeping requirements including maintaining records on location, methane emissions determination for each vessel, listing of deviations from compliance requirements, control devices, closed vent system inspections, cover inspections, bypass monitoring, closed vent system assessments, and mobile vessels. Records of each closed system inspection, cover inspections, and bypasses are subject to bypass requirements. Within the Model Rule, it is uncertain as to how TCEQ will view storage tank conservation vents that are in corrosive vapor service – traditional construction versus polypropylene, polyethylene or similar conservation vent construction like those manufactured by Protego USA, Incorporated. Moreover, Enviromech™ Composite Thief Hatches by Encino Environmental Services also need to be considered, as relevant technical language could be called for within the state plan. Again, an approved technologies list within an environmental framework would be a helpful addition to the proposed state plan. And finally, if

companies use an enclosed combustion device or flare using an alternative test method approved under § 60.5412c(d), they are required to keep records of the technical information that can be mentioned in the state plan and accessed by the Agency.

Moreover, this subpart mentions that for applicable control devices tested, details such as purchase order serial numbers, locations used, minimum and maximum gas flow rates, maintenance and repair logs for all inspections/repairs/maintenance activities, manufacture written operating instructions, procedures used, and the maintenance schedule to ensure good air pollution control practices for minimizing emissions are required. For other applicable control devices, technical recordkeeping requirements include but are not limited to the make, model, and date of installation of the control device, deviation reports, monitoring plan, make and model number of the continuous parameter monitoring system, minimum and maximum operating parameter values and data, quality assurance data, and malfunction data. Carbon adsorption system and enclosed combustion devices and flare records must also be maintained. This includes detailed visible emission testing data and video surveillance records. IOBCWA supports the recordkeeping language in the Model Rule, though it would be helpful to better understand how TCEQ will use this information when the Agency details its own state plan.

In addition, Subpart 60.5420c of the Model Rule requires that extensive records for enclosed combustion devices and flares be required including videos of OGI inspections. Additional data such as combustion devices and flare inlet gas data need to be retained, along with backpressure regulator valve information. If alternative test methods were approved for an enclosed combustion device or flare, additional data must be maintained, along with a monitoring plan, quality assurance and control activities, visible emission observations, pilot or combustion flame monitoring and records, and deviation reports. IOBCWA is also supportive of these elements, though more detailed examples of different circumstances would be advantageous concepts to add to the state plan.

### **Conclusion**

IOBCWA appreciates the opportunity to provide comments on the NSPS 0000c rulemaking process. The organization is supportive of the technical expectations in the Model Rule and hopes TCEQ adopts much of the language. IOBCWA hopes TCEQ considers, and vets enhanced monitoring technologies and adapts relevant language within its state plan (or in an appendix) to aid regulated entities in identifying solutions that can aid in minimizing methane emissions. TCEQ needs to add technical language within the state plan beyond that in the Model Rule to guide industry and to provide transparency to the public. Specific manufacturers mentioned in this narrative were used as examples knowing that TCEQ cannot be perceived as giving competitive advantages to companies. With enhanced technical expectations and more readily available monitoring, TCEQ should consider new/revised internal processes for environmental gain.

**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 expert 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, including but not limited to those in the Corpus Christi, Texas area, which included EPA interaction and expert witness testimony. He also 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,



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