TEXAS CHEMICAL COUNCIL
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April 30, 2008

Ms. Ashley Forbes
Texas Commission on Environmental Quality
12100 Park 35 Circle
MC 206
PO Box 13087
Austin, Texas 78753

Dear Ms. Forbes:

Texas Chemical Council (TCC) submits these comments in response to the Texas Commission on Environmental Quality's (TCEQ) request for public comments on the preliminary "Houston-Galveston-Brazoria (HGB) Eight-Hour Ozone Nonattainment Area Stationary Source Control Strategy Planning Draft Initial Concept List".

TCC is a statewide trade association representing approximately 85 chemical manufacturers at over 200 Texas facilities. Our industry has invested more than $50 billion in physical assets in the State and pays over $1 billion annually in state and local taxes. TCC's members provide approximately 70,000 direct jobs and over 500,000 indirect jobs to Texans across the State.

TCC appreciates the opportunity to comment on the preliminary control strategy catalog and urges the TCEQ to conduct additional stakeholder meetings prior to future rule proposals on any of these measures related to stationary sources.

If you have any additional questions or need further information, please feel free to contact me.

Sincerely,

Mike McMullen
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General Comments on Nitrogen Oxide (NOx) Programmatic Measures

- The Clean Air Act (CAA) allows states to consider the cost of controls, availability of practical technology, and the effect on local economies during the State Implementation Plan (SIP) development process. Therefore, TCC suggests that each potential NOx control measure be evaluated individually in order to determine at least the following:

    - Although TCC is concentrating these comments on point source emissions, it should be noted that after implementation of 1-hour controls by industry, point sources only comprise approximately 35% of the total NOx inventory in HGB. Mobile sources, both on and off-road, area sources, and ships constitute the remaining NOx inventory and, therefore, these sources must be addressed in any NOx control strategy.

    - TCEQ should evaluate the measures in terms of cost to implement these options in terms of $/ton of NOx reduced and $/ppbv of ozone (8-Hr average value) reduced. These values should then be compared to other NOx and volatile organic compounds (VOC) control strategy costs that are included on the point, mobile, and area source control lists in order to determine the most effective control strategies. TCEQ should then pursue the most effective control strategies, regardless of sector, for the SIP.

    - Impact on the Particulate Matter (PM) National Ambient Air Quality Standards (NAAQS), due to increased PM from the increase in ammonia, should be evaluated. The requirements for additional selective catalytic reductions (SCR) will lead to additional ammonia emissions, which in turn, will increase PM. In addition, process safety concerns associated with storage and handling of ammonia should be considered.

- TCC suggests a review of the following items as part of the HGB Master Control Strategy list. These measures should be individually justified by a cost-benefit analysis (i.e., the cost per ton of pollutants reduced).

    - Emission reductions from either point or mobile sources that are expected to occur between years 2008 and 2019 as a result of federal rules and programs already on-the-books should be captured in the SIP process and full credit should be given for these reductions.

    - Measures to promote flexibility of trading between point and non-point sources should be considered as part of the control strategy catalog.

General Comments on VOC/ (Highly Reactive Volatile Organic Compounds (HRVOC) Programmatic Measures

- The CAA allows states to consider the cost of controls, availability of practical technology, and the effect on local economies during the SIP development process. The Master Control Strategy list contains a number of measures that potentially could improve air quality in the HGB area. TCC suggests that each of these be evaluated individually to determine at least the following:

  - TCEQ should evaluate the measures in terms of cost to implement these options in terms of $/ton of VOC or HRVOC reduced and $/ppbv of ozone (8-Hr average value) reduced. These values should then be compared to other VOC control strategy costs that are included on the mobile source and area source control lists in order to determine the most effective control strategies. The agency should then pursue the most effective control strategies, regardless of sector, for the SIP.

  - HRVOC emission reductions that have already been achieved by industry or that will be achieved by the 8-hour attainment deadline should be included as SIP credit.

  - For those subject to the HRVOC Emission Cap and Trade (HECT) program, TCEQ should consider inter-pollutant trading between VOCs, HRVOCs, and/or NOx to provide maximum flexibility while, at the same time, reducing overall ozone formation.

  - Any rules that impose new controls or monitoring of previously unregulated emission sources or new requirements to control or monitor pollutants that were not previously monitored or controlled should begin with a built-in monitoring period to document the effectiveness prior to implementing the new measures. In other words, the process should be to (1) increase monitoring instrumentation; (2) operate monitoring instrumentation for at least 6 months; and (3) if appropriate, impose new controls.

  - Chemical plants were required to submit permit amendment applications or to register for other forms of authorization for scheduled maintenance, startup, and shutdown (MSS) emissions by January 5, 2008. Emission reduction credits obtained as a result of authorizing all scheduled MSS emissions in the 2008 to 2010 timeframe should be included in the SIP.

  - The SIP should also include credit for continued emission reductions due to the on-going emphasis and improvement in performance on emissions events from sources in the HGB.

  - Emission reductions gained from the use of emerging technologies such as the infrared camera should be included as SIP credit.

- TCEQ should consider quantifying the emission reductions gained through global settlements and consent orders for inclusion as SIP credit. The Lake Michigan Air Directors Consortium (LADCO) states have successfully taken this approach.

- TCEQ should consider simplifying the existing Alternate Means of Control option to promote flexibility for emission reduction options.

Specific comments on the Initial Concept List

TCEQ Concept:
Additional nitrogen oxides (NOx) reductions through Chapter 117 and the Chapter 101 Mass Emission Cap & Trade (MECT) Program by revising emission specifications, revoking exemptions, expanding applicability, and resetting baseline activity years.

TCC Comment:
Any expansion of the NOx Cap and Trade program must be justified through a cost benefit analysis. Any such programs must be feasible to implement with respect to testing, monitoring, and emission reduction projects prior to the attainment deadline.

Resetting baseline activity years should be carefully evaluated in terms of cost, benefit, and effectiveness to ensure that these measures do not unduly penalize industrial sources that have already made substantial NOx reductions as compared to other source categories.

TCEQ Concept:
Expand the definition of highly reactive volatile organic compounds (HRVOC) in §115.10 to include additional volatile organic compound (VOC) species under the requirements of Chapter 115 HRVOC rules and Chapter 101 Highly Reactive Volatile Organic Compound Emissions Cap and Trade (HECT) Program.

TCC Comment:
Based on our current understanding of the science, it is TCC's position that the definition of HRVOCs does not need to be expanded at this time. In order to expand the definition, TCEQ must justify any expansion of the HRVOC list to "other VOCs" based on $/ton of VOC reduced. TCEQ should consider the following with respect to applying the HRVOC regulatory monitoring provisions to "other VOCs":

1) Existing Gas Chromatographs (GC) that were retrofit for the HRVOC rules would likely require replacement, resulting in increased instrumentation and monitoring costs

2) Technical issues must be considered. For cooling tower monitoring, some chemicals on an expanded HRVOC list could have a boiling point in excess of 140° F, which is a limit in the existing Appendix P method. For direct and

continuous measurement of an expanded HRVOC list, multiple GCs/columns are likely necessary to meet cycle time requirements for both cooling towers and flares.

TCEQ Concept:
In lieu of expanding the definition of HRVOC, create separate rules to address other VOC emissions from vents, flares, and cooling towers.

TCC Comment:
Our comments on a potential expansion of the definition of HRVOC also apply to changes that expand the existing HRVOC monitoring requirements to other VOCs.

TCEQ Concept:
Reduce HECT cap for Harris County in §101.394(a)(1) and/or revoke exemptions from site-wide caps in HRVOC rules for 7-surrounding counties and reduce HECT program cap in §101.394(a)(2).

TCC Comment:
As noted in our general comments on the VOC/HRVOC items, any reduction in the HRVOC/VOC Cap and Trade program must be based on sound modeling and technical analysis and be justified in terms of $/ton HRVOC/VOC reduced, $/ppbv ozone benefit, and ability to implement controls by the deadline. In addition, any programs must demonstrate a significant improvement with respect to 8-hour ozone average concentrations.

TCEQ Concept:
Revise general VOC fugitive rules in Chapter 115 Subchapter D, Division 3 and apply more stringent leak detection and repair (LDAR) requirements from HRVOC rules.

TCC Comment:
First, TCC strongly supports the use of the infrared camera technology to find and repair leaks of both HRVOC and VOC materials. However, TCC objects to expansion of the HRVOC fugitive monitoring program to other VOCs. TCC submitted robust comments on the general fugitive rules (30 TAC Chapter 115, Division 3) during the HRVOC rule promulgation process in 2004. Those earlier comments provided by TCC remain applicable.

TCC believes that insufficient evidence exists to support increasing the stringency of existing HRVOC/VOC fugitive rules. There is no proof that modifying existing fugitive regulations actually results in a significant reduction in *actual* emissions. Extension of the HRVOC requirements to the general fugitive rules increases the cost of monitoring and repair at affected facilities by several million dollars per year without known cost-benefit.

In addition, TCC objects to any efforts to establish "equipment standards" in the fugitive rule. Numerous technical concerns arise when design constraints are placed on pumps, compressors, or other rotating equipment. For example, sealing systems on reciprocating compressors typically involve sealing very high discharge pressures (up to 3000 psig at some plants) around a sliding piston rod. To seal the process gas fugitive emissions, it may be necessary to pressurize the distance piece of the compressor. The typical distance pieces on an older reciprocating compressor is not designed for pressure and may have vents sized to prevent pressure buildup. To ensure positive capture of fugitive emissions from the piston packing, it may be necessary to pressurize the distance piece with nitrogen and sweep to a control device. There are significant engineering concerns with rerating these large castings to handle pressures from the nitrogen and/or flare header. Furthermore, systems designed for atmospheric pressure operation such as blowers, screw compressors, and some agitators are designed to eliminate process emissions beyond the sealing system to atmosphere under most, if not all circumstances.

TCEQ Concept:
Require sources to develop and implement flare minimization plans.

TCC Comment:
Clarification is needed regarding the term "flare minimization plan" so that TCC can provide appropriate comments.

TCEQ Concept:
Require monitoring of steam/air assist rates on assisted flares to help ensure proper operation and prevent decreased efficiency from improper operation such as over-steaming.

TCC Comment:
The agency conducted a flare survey for accounts in HGB during 2006. Of 375 responses, 141 indicated they are currently performing flare air/steam assist monitoring. The overwhelming majority indicated that they currently maintain their air/steam assist rates within the manufacturer's specifications or documented operating requirements. There is already a business driver for companies to be efficient with steam use.

TCEQ should document that over-steaming has a significant impact on ozone attainment in HGB prior to instituting requirements for additional monitoring. Over-steaming is usually greatest during emission events rather than during normal operation. The agency should evaluate the need to address over-steaming during emission events before expanding measures that might impact normal operations. Furthermore, monitoring requirements should be based on sound technical analysis and be justified in terms of $/ton HRVOC/VOC reduced and $/ppbv ozone benefit.

TCEQ Concept:
General VOC monitoring rules with enhanced monitoring for flares, cooling towers, process vents, and pressure relief valves (PRVs).

TCC Comment:
Many of these sources are already adequately monitored via existing New Source Review (NSR) air permits or other regulatory requirements. Across the board rules regarding general VOC monitoring is likely to be a low-value activity. In addition, any control strategies designed to implement HRVOC program-type monitoring requirements for other VOC emissions from flares, cooling towers, and/or process vents would require a new monitoring and emissions control strategy tailored to the significance of the emissions and the lower rate of reaction and ozone production. In addition, scientific and technical analysis must be performed to justify any such expansion.

TCEQ Concept:
Additional VOC controls for wastewater systems.

TCC Comment:
Other sources of VOC, such as wastewater systems, must be a significant contributor to ozone formation to justify any additional regulatory measures. TCEQ must evaluate what role these other sources play in terms of significance and whether or not these sources can be reasonably measured and quantified. For example, in the case of wastewater tanks and basins, there is not a reliable method of direct emission measurement. The Environmental Protection Agency (EPA), TCEQ and industry currently rely on Water 9 Modeling for quantification.

TCEQ Concept:
Energy efficiency measures associated or in conjunction with MECT revisions.

TCC Comment:
The agency should encourage participation in existing energy efficiency programs, such as EPA's Energy Star program, rather than create additional measures specifically related to the MECT revisions.

TCEQ Concept:
Eliminate certain storage tank exemptions in Chapter 115 rules.

TCC Comment:
New control requirements on storage tanks must be justified to ensure the measures are beneficial in terms of $/ton HRVOC/VOC reduced and $/ppbv ozone benefit.

We encourage TCEQ's continued use of the infrared camera to ensure proper sealing and operation for floating roof tanks in lieu of additional controls on VOC storage tanks

TCEQ Concept:
Storage tank design improvements such as hanging roof in lieu of roof supported by legs.

TCC Comment:

TCC has numerous concerns/comments on the suggestion for hanging roof in lieu of a roof supported by legs. While this approach might eliminate emissions from deck legs, it could increase emissions from other points. Here are some observations and concerns:

1) "Cable-suspended" is not an option for external floating roof tanks because there needs to be a fixed roof at the top of the tank to attach the cables.

2) "Cable-suspended" has been utilized predominantly with lightweight aluminum internal floating roof (IFR) tanks. The weight of a steel floating roof would cause design concerns for the fixed roof (in that the weight of the floating roof would be hung from the fixed roof when the tank is empty). Existing tanks would not be designed for this additional load.

3) Lightweight aluminum IFRs typically have other emission points that are not present with steel floating roofs. The increase in emissions due to these emission points will offset the reduction achieved by eliminating deck legs. These additional emission points are:

a) Stub drains. The aluminum IFRs typically have numerous deck drains (stub drains), in that API allows a 60% reduction in the design load when the deck is equipped with these drains. The inclusion of these drains, then, allows the weight of the deck to be kept to a minimum, but they introduce numerous additional points for emissions to occur.

b) Bolted deck seams. Aluminum decks are typically assembled in the field by means of bolting or other mechanical means of attaching adjacent sheets or panels. Emissions escape along the length of these mechanically joined (bolted) seams (whereas the welded seams of steel decks do not have these emissions).

4) A requirement that floating roofs be "cable suspended" is overly restrictive. The selection of which type of floating roof to use in a tank is based on a number of factors, including operational and safety issues in addition to environmental considerations. For example, the National Fire Protection Association (NFPA) recognizes steel pontoon type floating roofs as effectively preventing a fire in the tank from involving the entire liquid surface, whereas they do not extend that recognition to an aluminum skin-and-pontoon floating roof. If fire-fighting foam is to be available to the tank, the delivery system needs to be designed only to supply enough foam to cover the rim seal area if the floating roof is the steel pontoon type, but it must supply enough foam to cover the entire liquid surface if the floating roof is the aluminum skin-and-pontoon type (the assumption is that the steel pontoon roof would survive the fire, whereas the aluminum skin-and-pontoon deck would not). There are multiple issues of this type which may lead to the conclusion that lightweight aluminum decks are not suitable for certain situations.

TCEQ Concept:
Increase control efficiency requirements in Chapter 115 rules such as vent gas control, loading, and storage.

TCC Comment:
In general, any expansion of the HRVOC/VOC control efficiency requirements must be based on sound modeling and technical analysis and justified as beneficial in terms of $/ton HRVOC/VOC reduced, $/ppbv ozone benefit, and ability to implement controls by the deadline.

The increased control efficiency stringency should be of significant benefit to justify any additional regulatory measures.

TCEQ Concept:
Implement Best Management Practices via agreed orders or other mechanisms.

TCC Comment:
The agency should clarify what best management practices (BMP) are being considered such that TCC can provide appropriate comments. The suggestion that BMPs might be implemented via "agreed orders" implies regulation by enforcement, which TCC does not support.

TCEQ Concept:
VOC controls for salt dome storage facilities for brine handling/degassing and fugitive LDAR.

TCC Comment:
Other potential sources of VOC must be a significant contributor to ozone formation to justify any additional regulatory measures. The agency should evaluate the role these sources play in terms of significance and whether or not these sources can be reasonably measured and quantified. For example, in the case of brine storage basins, there is not a reliable method of direct emission measurement. The EPA, TCEQ, and industry currently rely on Water 9 Modeling for quantification.

TCEQ Concept:
Transport Controls (Outside HGB)

TCC Comment:
The agency should make available a preliminary draft "area source" and "mobile source" control strategy list for areas both inside and outside of HGB.

All sources of VOCs (not just point sources) should be considered in the emissions reduction strategy.

TCEQ Concept:
NOX controls on *major* or *minor* sources for selected source categories within 200 kilometer (km) range that impact the HGB area and related HRVOC, NOx, and/or General VOC controls for various sources within 100 km or 200 km range that impact the HGB area.

TCC Comment:
Expansion of the NOx, HRVOC, and/or VOC emission control regulations to sources outside of the HGB must provide significant improvement with respect to 8-hour ozone average concentrations.

Some emission sources located within 200 km of HGB are in attainment areas with respect to the 1997 and 2008 8-hour ozone standards.

In addition, the agency should clarify why the 100 km range (versus 200 km range or other) has been designated as the area to evaluate for impact to HGB.

TCEQ Concept:
Engine registration program for stationary and/or portable engines to help ensure better enforcement of applicable requirements, improve rule effectiveness, and proper accounting in EI.

TCC Comment:
It is not clear how an engine registration program would reduce emissions. Stationary engines and turbines can be authorized by a permit by rule (PBR) if certain conditions are met. Current 106.512 requires registration for large engines greater than 240 horsepower (hp).

Existing PBR 106.511 authorizes certain portable, emergency, and/or standby engines and turbines provided that the maximum annual operating hours do not exceed 10% of the normal annual operating schedule. However, the PBR does not require registration for these sources.