

Gwen Ricco  
MC 205, Office of Legal Services  
Texas Commission on Environmental Quality  
P.O. Box 13087  
Austin, Texas 78711-3087

**Re: Shared Comments by Community Advocacy Organizations on the TCEQ Concrete Batch Plant Air Quality Standard Permit Amendment Process - Non-Rule Project No. 2022-033-OTH-NR**

Dear Ms. Ricco,

We, the undersigned organizations - Texans for Responsible Aggregate Mining (TRAM), Air Alliance Houston, Public Citizen, Environmental Defense Fund, the Lone Star Chapter Sierra Club, and Environment Texas - submit the following shared technical comments in response to the TCEQ Concrete Batch Plant (CBP) Air Quality Standard Permit Amendment Process (2022-033-OTH-NR). As organizations dedicated to safeguarding the air quality and public health of communities across Texas, we aim to provide valuable input that ensures the protection of our environment while promoting responsible development.

We recognize the importance of CBPs in supporting economic growth and infrastructure development but firmly believe that their operation must not compromise the health and well-being of Texas residents. It is in this spirit of collaboration and shared commitment to the well-being of our communities that we offer our technical comments, providing evidence-based analysis, recommendations, and solutions to address the potential environmental impacts of the proposed amendment.

### **Overall Response to Proposed Amendment**

We believe that the proposed amendments to the CBP Standard Permit process are timely and needed. However, the amendments do not go far enough to protect the public given the massive growth in many areas of Texas and the concentration of Aggregate Production Operations (APOs), including CBPs next to many of these high population growth areas.

Here is a summary of the significant and essential changes we recommend including in the proposed amendment to enhance effectiveness. Each change is described in greater detail below.

- The TCEQ should immediately use AERMOD for dispersion modeling instead of the older ISCST3 (Version 02035) model that was used for the Protectiveness Review.
- The addition of best management practices (BMPs) is good, but again the proposed BMPs do not go far enough. Comprehensive BMPs should be included in model runs to determine if they should be included in permitting. We offer a listing of additional BMPS related to air management in a section below.
- Fenceline monitoring devices should be installed to confirm that model results align with actual air quality once the CBP is operational. The Protectiveness Reviews should also include up-to-date data on PM10 and PM2.5 background levels including new levels

proposed in the updates National Ambient Air Quality Standards (NAAQS) for PM expected later this year. Use of existing and/or part-time operated TCEQ air monitors at large distances from the proposed CBP does not sufficiently represent the background air quality at or near the CBP site.

- It is crucial to resolve the confusion surrounding the standard permit application process for "regular" CBPs under 30 TAC §116.610(a)(1), Texas Clean Air Act §382.05195, and the application for standard permits for "certain concrete plants" under §382.05198. The TCEQ refers to concrete plants under §382.05198 as "CBPs with enhanced controls," despite the absence of this term in the regulations.
- The inclusion of cumulative impacts from PM emissions should be an integral part of Protectiveness Reviews, especially for multiple APOs located in close proximity to populated areas and other sources of PM pollution, such as highways and refineries. It is crucial to consider the impacts of nearby aggregate mines, including the mining and crusher "facilities," as well. In addition, the particulate dispersion modeling should incorporate hot mix asphalt plants and other nearby CBPs, rather than solely focusing on modeling a single CBP and assuming everything is satisfactory.

## **Comments on Section 5 of the Proposed Amendment**

### ***I. Multiple plants on one site (5)(J)***

From the proposed amendment: "When operating multiple concrete batch plants on the same site, the owner or operator shall comply with the appropriate site production and setback limits specified in sections (8), (9), or (10) of this standard permit."

Before a permit is approved for a 2nd or multiple CBPs (where each is permitted at the max individual standard permit operating rate) on the same site, a site specific TCEQ Protectiveness Review, including dispersion modeling, will be conducted to assess the cumulative particulate concentrations in the surrounding areas adjacent to the plant. This updated Protectiveness Review is needed to determine the cumulative emission impacts of multiple CBPs (including existing and proposed) at the same site.

## **Comments on Section 8: Operational Requirements for Permanent and Temporary Concrete Plants**

### ***I. Set uniform setback distances and apply state-wide in (8)(A)***

Tables 1,2, and 3 on page 9 of the Proposed Amendment specifies different setback distances for different counties. Our recommendation is for a ***unified setback distance of 300 feet*** be adopted and applied state-wide. This would allow for a more consistent application of this rule across the state.

In the alternative, we suggest setback distances that are related to PM nonattainment status based on the proposed new NAAQS for PM. The counties singled out for larger setbacks seem to be those that are likely to be designated nonattainment of a lower PM2.5 standard. If this is the logic behind applying larger setbacks to those counties, then the agency should be able to carry that logic forward into the future. We recommend either a period review of nonattainment status to adjust the county-by-county setbacks, or simply applying the setbacks based on PM nonattainment status.

## ***II. Require all dust controls in (8)(G)***

New section (8)(G) of the proposal lists operational requirements that are intended to prevent tracking of dust onto roadways and reduce the generation of dust. Preventing dust tracking on roadways is an important strategy to reduce ambient particulate matter generally. Once dust is on a public road, traffic on that road causes more dust in the air through entrainment.

Each of the strategies listed in this section will limit dust tracking onto roadways. Subsections (i) and (iii) will limit dust accumulation on roadways. Subsections (ii) and (iv) will reduce dust on the wheels and undercarriages of trucks. Rather than allowing any one of these four strategies, we recommend all four of them be required (by simply changing the “or” in subsection (iii) to “and”). At a minimum, we suggest requiring one of either strategy (i) and (iii) (focused on the roads) and one of either strategy (ii) and (iv) (focused on the trucks). This approach will limit dust accumulation on the road more than one single strategy would.

## ***III. Support (8)(J) - paving all traffic and parking areas within a facility***

We support the requirement in section (8)(J) to pave all entry and exit roads and main traffic routes. Unpaved roads and paved roads with accumulated aggregate material lead to particulate matter entering the air through entrainment.

There are additional strategies that could increase the effectiveness of this approach. First is to pave all traffic areas, not simply allow the less effective control strategies in section (5)(E) for certain areas. Another strategy is lower speed limits, such as 5 mph, within the entire facility. Lower speed limits reduce entrainment.

## ***IV. Additional Best Management Practices for Consideration under Section 8***

In addition to the list of proposed BMPs in Section 8(B)-8(J), we recommend that additional BMPs be included:

- Install effective dust removal devices like bag houses on vents from transfer systems, considering oversized dust collectors for proper ventilation.
- Use curtains or socks during truck loading and consider deploying side skirts for better dust enclosure.
- Minimize surface areas of aggregate storage piles and locate them in sheltered areas.
- Implement wind fences in high persistent wind areas.
- Install a metal "barn" cover for mixing hoppers to minimize dust dispersion and enhance dust collector efficiency, orienting it towards prevailing winds.
- Install and maintain tire cleaning grids/cattle guards at plant exits.
- Regularly sweep paved areas to remove accumulated dust.
- Establish and maintain vegetative windbreaks (trees) around the facility perimeter.
- Implement fence line air particulate monitoring for existing facilities within communities.
- Use automated sprinkler systems for dust suppression on stockpiles and other emission sources.
- Cover and/or spray conveyor belts for dust suppression.
- Utilize on-site bulk water trucks or sprinklers to water down flat plant areas and minimize dust.

Considering that the proposed amendments exclusively concern air quality, the list above is specifically tailored to address this particular issue. A more extensive list of BMPs compiled by the TRAM coalition, in collaboration with various stakeholders across the state, will be submitted separately for the public record by TRAM. We endorse these practices as measures which can improve CBP water conservation and management, as well as the mitigation of noise and light disturbances, all aimed at fostering better community relations.

## **Comments on Section 9: Additional Requirements for Specialty Concrete Batch Plants**

We recommend a 300-foot setback from the property line for exhaust from batch mixer feed (9B) and a 100-foot setback from any property line for operating vehicles used for operation on CBPs (9E).

## **Additional Recommendations**

### ***Model Considerations to improve the Protectiveness Review***

As a group, we affirm and endorse the recommendation made by Dr. Christina Schwerdtfeger to expand the Protectiveness Review to include Hexavalent Chromium and ask for an additional comment period following those results.

The TCEQ should adopt AERMOD for dispersion modeling instead of the older ISCST3 (Version 02035) model that was used for the Protectiveness Review. A technical paper published in the Journal of the Air & Waste Management Association conducted an analysis to determine the sensitivity of AERMOD to various inputs and compared the highest downwind concentration to those predicted by the ISCST3 model<sup>1</sup> (*see Attachment 1*). The study found that AERMOD was more sensitive to small changes in wind speed and surface roughness, as well as to changes in albedo, temperature, and cloud cover. The study goes on to conclude that when AERMOD is used to determine property line concentrations, small changes in these variables may affect the distance within which concentration limits are exceeded by several hundred meters. As of December 2006, AERMOD replaced the ISCST3 dispersion model as the EPA preferred regulatory model.

To address the cumulative impacts of multiple PM emitters in proximity to one another, sometimes adjacent to one another, the TCEQ should require regionally appropriate AERMOD air dispersion modeling at the expense of the applicant if their application is for a permit within five miles of another TCEQ permitted source. The modeling must include the identified sources within five miles.

### ***More Explicit Requirements for Opacity Observers***

As a group, we affirm and endorse the recommendation made by Dr. Christina Schwerdtfeger to more explicitly describe the qualifications and training requirements for opacity observers for EPA Test Method 22.

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<sup>1</sup> William B. Faulkner , Bryan W. Shaw & Tom Grosch (2008) Sensitivity of Two Dispersion Models (AERMOD and ISCST3) to Input Parameters for a Rural Ground-Level Area Source, Journal of the Air & Waste Management Association, 58:10, 1288-1296, DOI: 10.3155/1047-3289.58.10.1288

### ***Fenceline Monitoring Requirements***

Fenceline monitoring devices should be installed to confirm that model results align with actual air quality once the CBP is operational. Mid-range PM monitoring equipment such as light scattering monitors provide real-time data, cost only a few thousand dollars, and are easy to operate and maintain without expertise. Monitors should be placed with consideration given to wind direction. It would be prudent to require both upwind and downwind monitors. A requirement for fenceline monitoring could also be met through a contract with a third-party monitoring company.

### ***Requesting Clarification of “Enhanced Controls” Term***

As mentioned earlier, it is crucial to resolve the confusion surrounding the standard permit application process for "regular" CBPs under 30 TAC §116.610(a)(1), Texas Clean Air Act §382.05195, and the application for standard permits for "certain concrete plants" under §382.05198. The TCEQ refers to concrete plants under §382.05198 as "CBPs with enhanced controls," despite the absence of this term in the regulations. This discrepancy needs to be addressed.

We propose that the TCEQ clarify its definition of “enhanced controls” to include a comprehensive list of equipment, processes, and operating procedures that are required. Currently, a permit holder or affected party has to become familiar with both the regulations and TCEQ rules to develop this understanding. We also suggest aligning the amendments to permits for "regular" CBPs with the permit rules for §382.05198 CBPs to ensure consistency. This would include enumeration of specific equipment, processes, operating procedures and a comprehensive list of required BMPs

### ***Cumulative Impacts***

The TCEQ's modeling efforts conducted during their Protectiveness Review for the proposed rule changes lack consideration for cumulative impacts of closely clustered plants or proximity of plants to other sources of air pollution such as highways or refineries. Taking cumulative impacts into account is crucial when conducting protectiveness reviews for densely populated areas where multiple CBPs are being installed.

The Commission argues that its use of data from the highest nearby ambient PM<sub>2.5</sub> monitor makes its modeling approach conservative. This is untrue for the simple reason that ambient PM<sub>2.5</sub> monitors are not located close to concrete batch plants.

Particulate matter emissions from a concrete batch plant are localized. Most particulate matter falls out of the air within 1,000 feet of its emission source. The state legislature recognized this when it set the distance for residences that qualify to request a contested case hearing at 440 yards.

For this reason, an ambient air monitor that is several miles away from a concrete batch plant is not representative of local air quality, even if it does have the highest monitored concentrations in the region. This leads to absurd results in permitting. For example, for several years in Houston the agency has permitted facilities using ambient air monitoring data that puts annual PM<sub>2.5</sub> concentrations in excess of 11 µg/m<sup>3</sup>—very close to the current NAAQS of 12 µg/m<sup>3</sup>. It

wasn't uncommon for the agency to model a newly proposed facility as contributing another 0.8 or 1.0  $\mu\text{g}/\text{m}^3$  of PM<sub>2.5</sub>, leading to a permit that estimates that local concentrations will be just barely under the PM<sub>2.5</sub> NAAQS of 12  $\mu\text{g}/\text{m}^3$ . The problem is that the agency occasionally did this with multiple facilities in a small geographic area. Here is an example, the Aurora Ready Mix facility, which was permitted in Houston's Third Ward (a black community) in 2018:



Notice that there are five other concrete batch plants within about a mile. It simply isn't possible that each of these facilities could contribute 0.8  $\mu\text{g}/\text{m}^3$  or so of PM<sub>2.5</sub> to the region when the ambient concentrations are in excess of 11  $\mu\text{g}/\text{m}^3$  without the cumulative effects of these facilities violating the NAAQS.

Another example of this is in Gunter, Texas, north of the Dallas area. A 2022 study found that the cumulative impact from multiple CBPs in close proximity exceeds the NAAQS limits for PM<sub>2.5</sub>, PM<sub>10</sub>, and NO<sub>x</sub> (see Attachment 2).

Two lawsuits from Houston have also shown with modeling that the cumulative impact of PM<sub>2.5</sub>, PM<sub>10</sub>, and crystalline silica emissions from multiple CBPs in close proximity far exceeds the current NAAQS standards and this will grow greater when the standard is revised later this year (see Attachment 3 and 4).

There is a simple solution: **a concrete batch plant that chooses to locate within a specified distance of other sources of PM should be required to conduct a modeling analysis that includes as inputs the permitted emissions rates of all nearby sources, including non-CBPs, such as recycling facilities, chemical plants, and refineries.** This requirement could be limited to a short list of sources within the aggregate production industry.

In closing, we very much appreciate the opportunity to provide comments on the CBP Air Quality Standard Permit Amendment and we kindly request that our technical comments be given due consideration. We also express our willingness to further engage with the

Commission, should you require additional information, clarification, or collaborative opportunities to address the concerns raised in our comments.

Thank you for your attention to this matter. We look forward to a productive and fruitful collaboration with the Commission and appreciate the opportunity to contribute to the decision-making process.

Sincerely,

**Tsion Amare**  
Project Manager, Texas Political Affairs  
Environmental Defense Fund

**Sydney Beckner**  
Coordinator  
Texans for Responsible Aggregate Mining

**Neil Carman, PhD**  
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**Jennifer Hadayia**  
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Air Alliance Houston

**Luke Metzger**  
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Environment Texas

**Adrian Shelley**  
Texas Director  
Public Citizen

**Attachments uploaded separately include:**

**Attachment 1:** William B. Faulkner , Bryan W. Shaw & Tom Grosch (2008) Sensitivity of Two Dispersion Models (AERMOD and ISCST3) to Input Parameters for a Rural Ground-Level Area Source, Journal of the Air & Waste Management Association, 58:10, 1288-1296, DOI: 10.3155/1047-3289.58.10.1288

**Attachment 2:** Air Quality Dispersion Modeling Report Concrete Batch Plant Cluster – Gunter, Texas. Prepared by Air Resource Specialists. January 2022.

**Attachment 3:** Complaint 05RNO-22-R6 Under Title VI of the Civil Rights Act of 1964, 42 U.S.C. § 2000d, 40 CFR. Part 7 from Redacted Name to USEPA External Civil Rights Compliance Office (ECRCO) (April 4, 2022) accessed at: [https://www.epa.gov/system/files/documents/2022-06/05RNO-22-R6%20Complaint\\_Redacted.pdf](https://www.epa.gov/system/files/documents/2022-06/05RNO-22-R6%20Complaint_Redacted.pdf)

**Attachment 4:** Complaint 06RNO-22-R5 Under Title VI of the Civil Rights Act of 1964, by Impacted Communities Against TCEQ for Actions Related to a Rulemaking Amendment to the CBP Standard Permit from Redacted to USEPA External Civil Rights Compliance Office (ECRCO) (May 17, 2022) accessed at: [https://www.epa.gov/system/files/documents/2022-06/06RNO-22-R6%20Complaint\\_Redacted.pdf](https://www.epa.gov/system/files/documents/2022-06/06RNO-22-R6%20Complaint_Redacted.pdf)