Summary Document for Proposed Air Quality Standard Permit for Temporary Public Works Projects Texas Commission on Environmental Quality

Table of Contents

I. Executive Summary

The Texas Commission on Environmental Quality (TCEQ or commission) is proposing a new air quality standard permit for temporary public works projects in accordance with the Texas Clean Air Act (TCAA), Texas Health and Safety Code (THSC), §382.051985, Standard Permit for Certain Temporary Concrete Batch Plants for Public Works. If issued by the commission, this new standard permit will provide an authorization mechanism for temporary concrete batch plants that support these types of public work projects. The new standard permit would be applicable to temporary concrete batch plants in or contiguous to the right-of-way of a public works project.

II. Explanation and Background of Proposed Air Quality Standard Permit

The commission is proposing an air quality standard permit for certain temporary concrete batch plants for public works under the authority of THSC, §382.051985, and 30 Texas Administrative Code (TAC) Chapter 116, Subchapter F, Standard Permits. THSC, §382.051985 was enacted by Senate Bill 1397, 88th Legislative Session. According to THSC, §382.051985(a), the commission shall issue a standard permit that meets the requirements of THSC, §382.05195 for a temporary concrete plant that performs wet batching, dry batching, or central mixing to support a public works project. A plant operating under the permit: (1) may not support a project that is not related to the public works project; and (2) must be located in or contiguous to the right-of-way of the public works project. Subsection (b) of THSC, §382.051985 specifies that a plant permitted under that section may occupy a designated site for not more than 180 consecutive days or to supply material for a single project, but not other unrelated projects.

This proposed standard permit provides a streamlined preconstruction authorization process that may be used by any owner or operator of a concrete batch plant that is related to a public works project and can comply with the standard permit requirements and all other state or federal permitting statutes or regulations.

III. Overview of Proposed Air Quality Standard Permit

This proposed standard permit will authorize temporary concrete batch plants located in or contiguous to the right-of-way of a public works project. The proposed standard permit includes conditions or limitations to address operational requirements, required emission control equipment, maximum production rates, hours of operations, setback distances, total engine capacity, and relocation requirements. This standard permit includes requirements to control dust that meet current best available control technology (BACT), operational limitations, plant visible emission observations, and minimum setback distances that ensure the protectiveness of this standard permit. The commission has conducted a protectiveness review demonstrating the standard permit for temporary public works projects is protective of human health and welfare and that facilities operating under the conditions specified will comply with TCEQ rules and regulations.

While this standard permit authorizes temporary concrete batch plants in or contiguous to the right-of-way of a public works project, it is not intended to authorize all possible operating scenarios. Those facilities that cannot meet this standard permit may apply for a different standard permit, if the conditions of the applicable standard permit can be met, or apply for a case-by-case new source review air permit.

IV. Permit Condition Analysis and Justification

The proposed standard permit for temporary public works projects creates a new authorization mechanism for temporary concrete plants that perform wet batching, dry batching, or central mixing to support a public works project. The requirements contained in this standard permit reduce the allowed operating hours and annual production rates found in the Air Quality Standard Permit for Concrete Batch Plants

since these types of facilities operate on a temporary basis. To qualify as a temporary concrete batch plant, the plant must operate for no more than 180 consecutive days at the site, or for a duration needed to supply concrete for a single project.

The following discussion demonstrates how each section of this standard permit is enforceable and how the commission can adequately monitor compliance with the permit conditions.

Applicability

Proposed section (1) of the standard permit outlines applicability for use of the standard permit. Subsection (A) summarizes the authorized permit conditions and references relocation requirements in section (8) and the appropriate rule (30 TAC §116.615(2)) if changes to the standard permit registration are proposed. Subsection (B) specifies that a temporary concrete batch plant authorized by this standard permit must be located in or contiguous to the right-of-way of a public works project, which is a requirement under THSC, §382.051985(a)(2). Subsection (C) specifies that emission increases already prohibited by an issued new source review (NSR) permit for the site cannot be authorized by this standard permit. Subsection (D) states that the owner or operator of the authorized temporary concrete batch plant is also subject to all applicable state or federal regulations. Subsection (E) states that facilities that meet the conditions of this standard permit do not have to meet the emissions and distance limitations in 30 TAC §116.601(a)(1).

Definitions

Proposed section (2) of the standard permit contains definitions for use in the standard permit. Subsections (A) through (L) contain the definitions of auxiliary storage tank, concrete batch plant, central mix plant, off-site receptor, related project segments, right-of-way of a public works project, setback distance, site, stationary internal combustion engine, temporary concrete batch plant, traffic areas, and truck mix plant. These definitions ensure that important terms are clearly and consistently understood and that the standard permit will be enforceable.

The definition of auxiliary storage tank is included to clarify that petroleum products and fuel storage tanks are not appliable to the requirements in this standard permit referencing auxiliary storage tanks. The definition of concrete batch plant is included to clarify applicability of this standard permit. The definition of central mix plant is included to state the specific operating requirements for those types of facilities.

The definition of off-site receptor is included to clarify what is considered in the measurement of setback distance. An off-site receptor specifically includes any off-site building that is in use as a single or multi-family residence, school, day-care, hospital, business, or place of worship at the time the temporary concrete batch plant is registered. In addition, this definition clarifies that a residence is a structure primarily used as a permanent dwelling, and a business is a structure that is occupied for at least eight hours a day, five days a week. This term does not include structures occupied or used solely by the owner or operator of the concrete batch plant. Furthermore, the site property extends to the outer boundaries of the designated public property roadway project, and associated right-of-way.

The definition of related project segments is included since it is used in other terms of section (2). The definition of right-of-way of a public works project is included to give examples of right-of-way public works projects. Examples include public highways and roads, water and sewer pipelines, electrical transmission lines, and other similar works. Additionally, the definition clarifies that a facility must be in or contiguous to the right-of-way of the public works project to be exempt from the public notice requirements

specified in THSC, §382.056, Notice of Intent to Obtain Permit or Permit Review; Hearing.

The definition of setback distance is included to define the minimum distance required from the nearest suction shroud fabric/cartridge filter exhaust (truck mix plant), drum feed fabric/cartridge filter exhaust (central mix plant), cement/fly ash storage silos, and/or engine to the nearest off-site receptor. The setback distance for a truck mix plant will be based on the minimum distance from the nearest suction shroud fabric/cartridge filter exhaust to the nearest off-site receptor. Setback distance for a central mix plant will be based on the drum feed fabric/cartridge filter exhaust to the nearest off-site receptor. For any plant type, cement/fly ash storage silos and/or engines must also be considered in the setback distance.

The definition of site in this standard permit restates the definition in 30 TAC Chapter 122, Federal Operating Permits Program. The definition of stationary internal combustion engine is included to help clarify applicability of stationary engine requirements. The definition of temporary concrete batch plant is included to clearly distinguish the type of plant authorized under this standard permit. The definition of traffic areas is included to clarify what is considered a traffic area under this standard permit. The definition of truck mix plant is included to help clarify specific operating requirements for those types of facilities.

Administrative Requirements

Proposed section (3) of this standard permit outlines the administrative requirements all facilities must meet.

Subsection (A) includes the requirement for owners or operators to submit the PI-1S-CBP form when applying to register under this standard permit. Subsection (B) states that the facilities cannot be constructed or operated until the executive director provides written approval of the registration. Subsection (C) states the time period in 30 TAC §116.611(b) (45 days) does not apply to facilities registered under this standard permit, so construction and operation are prohibited until written approval has been obtained, even if the 45-day period is exceeded. However, public notification requirements do not apply to these facilities, so in most cases approval should be received within 45 days after filing an administratively and technically complete registration. Written approval must be received in all cases prior to construction of any concrete batch plant.

Subsection (D) states that owners or operators of temporary concrete batch plants seeking registration under this standard permit are exempt from public notice requirements, per THSC, §382.056, Notice of Intent to Obtain Permit or Permit Review; Hearing. Subsection (E) states that the owner or operator of a plant shall comply with 30 TAC §116.120(a)(1), Voiding of Permits during start of construction and states that facilities that register under this standard permit must commence construction no later than 18 months from written approval of the executive director. Subsection (F) eliminates any requirement for applicants to submit modeling and impact analysis for the review of a standard permit application in accordance with THSC, §382.058(d).

Subsection (G) requires records to be kept on-site for a rolling 24-month period for compliance demonstrations in accordance with this standard permit. Records shall be maintained for paragraphs (i) through (xiii) which includes emissions event reporting and recordkeeping requirements for 30 TAC §101.201; scheduled maintenance, startup, and shutdown reporting and recordkeeping requirements for 30 TAC §101.211; production rates for hourly and annual production; repairs and maintenance of abatement systems and dust suppression controls; Safety Data Sheets for all additives and other chemicals used on site; road cleaning, application of road dust control, or road maintenance for dust control; stockpile dust suppression; monthly silo warning device or shut-off system

tests; quarterly visible emissions observations and any corrective actions required to control excess visible emissions; and demonstration of compliance with subsection (4)(E) which requires owners or operators to control emissions from in-plant roads and traffic areas by watering them, treating them with dust-suppressant chemicals, or covering them. In addition, paragraphs (xi) through (xiii) require the maintenance of records demonstrating the type of fuel used to power engines authorized under the standard permit, a demonstration of compliance with subsection (4)(K) which requires all sand and aggregate to be washed prior to delivery at a site, and records of actual hours of operation.

Subsection (H) requires owners and operators to document and report abatement equipment failure or visible emissions deviations in excess of paragraph (4)(B)(iii) in accordance with 30 TAC Chapter 101, General Air Quality Rules, as appropriate which requires owners or operators to meet a performance standard of no visible emissions exceeding 30 seconds in any six-minute period as determined using United States Environmental Protection Agency (EPA) Test Method (TM) 22 in Appendix A-7 to Part 60 - Test Methods 19 through 25E.

General Requirements

The technical specifications and conditions for the temporary public works standard permit begin with proposed section (4) which outlines the general pollution control requirements for all temporary concrete batch plant facilities seeking to obtain authorization under this standard permit.

Subsection (A) requires all cement/fly ash storage silos, weigh hoppers, and auxiliary storage tanks be controlled by fabric or cartridge filter systems or a central fabric/cartridge filter system. Subsection (B) lists design and performance criteria for the primary dust abatement systems at a temporary concrete batch plant, including a requirement that the filter systems meet a minimum control efficiency of 99.5 percent for particulate matter 2.5 microns or less in diameter ($PM_{2.5}$). The design criteria are reviewed for each registration. Applicants are also required to submit any other relevant information for review. The performance expectations of these abatement systems are listed for compliance demonstrations with the conditions of the standard permit and prevention of nuisance dust conditions in a form easily followed by both plant owners or operators and TCEQ investigators. The exhaust of all filter systems is limited to no visible emissions exceeding 30 seconds over a six-minute period as determined by the U.S. Environmental Protection Agency (EPA) Test Method (TM) 22 so that both owners and operators and TCEQ investigators can clearly understand how to demonstrate compliance. Subsection (C) requires facilities transferring cement/fly ash to use totally enclosed conveying systems to and from storge silos and auxiliary storage tanks, and operate with no visible emissions exceeding 30 seconds over a six-minute period following EPA TM 22, except during cement and fly ash supply truck connect and disconnect.

Subsection (D) requires that each bulk storage silo be equipped with a warning device to alert operators before the silo is full to ensure that these facilities are not overloaded, and to ensure the abatement systems can control emissions during filling. The requirements detail both preventative measures and compliance documentation for upset conditions. Subsection (E) requires that dust emissions from road and traffic areas directly associated with the operation of a temporary concrete batch plant be minimized by covering or treating them with dust-suppressant materials, chemicals or watering. Similarly, subsection (F) requires that dust from stockpiles be controlled by watering, dust-suppressant chemicals, or covering. Subsection (G) requires that spills of batching materials (cement, fly ash, sand, aggregate, or additives) must be cleaned up immediately or controlled to minimize dust. Additionally, owners or operators shall contain, or dampen spilled materials.

Subsection (H) prohibits visible fugitive emissions from leaving the property and requires visible emission observations to be performed quarterly during normal operations. Observations must be made for a minimum of six minutes. If visible emissions are observed, an evaluation must be conducted in accordance with EPA TM 22, using the criteria that visible emissions shall not exceed a cumulative 30 seconds in duration in any six-minute period. If visible emissions exceed the TM 22 criteria, immediate action shall be taken to eliminate the excessive visible emissions. These visible emissions requirements should influence the use of best management practices (BMPs), such as road dust control required in the permit. Including this requirement will also provide a method for determining how well the BMPs are controlling a potential nuisance condition.

Subsection (I) requires a distance of at least 550 feet from a concrete batch plant facility to the nearest rock crusher, concrete crusher, or hot mix asphalt plant to reduce the potential for cumulative effects from both plants operating simultaneously and to be protective of the $PM_{2.5}$ and PM_{10} National Ambient Air Quality Standards (NAAQS) based on the results of the modeling. The distance requirement also helps maintain consistency with other standard permits that include a similar 550-foot distance limitation.

Subsection (J) prohibits concrete additives from emitting volatile organic compounds (VOCs). Subsection (K) requires that all sand and aggregate be washed prior to delivery to the site. The emission calculations used in the development of the standard permit account for washed sand and aggregate; therefore, the requirement for washed material was included in the standard permit to ensure that the emission characteristics of the material being processed are consistent with the protectiveness review. Concrete batch plants that provide concrete for the Texas Department of Transportation and other projects where specific standards must be met on aggregate particle sizes are required to use washed aggregate in concrete mixtures. Washing the aggregate removes most of the smaller particles (fines) of silt and clay. This requirement is also consistent with the authorization for concrete batch plants permitted under a case-by-case permit and other TCEQ standard permits for concrete batch plants.

Subsection (L) provides references to applicable standard permit registration, renewal, and fee requirements. Subsection (M) requires that the owner or operator of any temporary concrete batch plant authorized by this standard permit comply with 30 TAC §101.4, Nuisance. This rule states that no person shall discharge from any source whatsoever one or more air contaminants or combinations thereof, in such concentration and of such duration as are or may tend to be injurious to or to adversely affect human health or welfare, animal life, vegetation, or property, or as to interfere with the normal use and enjoyment of animal life, vegetation, or property. This requirement is a reminder to owners and operators that concrete batch plant operations must not cause a nuisance.

Engines

Proposed section (5) authorizes stationary compression ignition internal combustion engines and cites the potentially applicable Code of Federal Regulations (CFRs) for emission requirements. Subsection (A) authorizes emissions from a stationary compression ignition internal combustion engine (or combination of engines) of no more than 1,000 total horsepower (hp). Subsection (B) requires owners that include one or more stationary compression ignition internal combustion engines to comply with additional applicable engine requirements in 40 CFR Part 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, 40 CFR Part 63, Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, 30 TAC Chapter 117, Control of Air Pollution from Nitrogen Compounds, and any other applicable state or federal

regulation. Subsection (C) requires engine exhaust stacks to be a minimum of eight feet tall to ensure sufficient dispersion of exhaust emissions. Subsection (D) requires fuel for the engine to be liquid fuel with a maximum sulfur content of no more than 0.0015 percent by weight and not consist of a blend containing waste oils or solvents. Subsection (E) requires emissions from any engine(s) on-site not exceed the applicable Tier 4 exhaust standard for NO_x in 40 CFR Part 1039, Control of Emissions from New and In-Use Nonroad Compression-Ignition Engines per manufacturer's specifications and requires a copy of the manufacturer's specifications be kept at the site. This requirement ensures emissions from any engine located on-site would meet the 1-hour nitrogen dioxide (NO_2) NAAQS. Note that engines may be subject to other, more stringent, emission limitations that must also be met, in addition to the Tier 4 standard. All engines must be maintained and operated according to the manufacturer's instructions. Subsection (F) states there are no restrictions to engine operations if the engines will be on-site for less than 12 consecutive months. A portable or transportable engine that remains at a single location for less than or equal to 12 consecutive months, is not considered a stationary source, and does not require authorization under 30 TAC Chapter 106, Permits by Rule, 30 TAC Chapter 116, or 30 TAC Chapter 117, Control of Air Pollution from Nitrogen Compounds.

Planned Maintenance, Startup, and Shutdown (MSS) Activities

Proposed section (6) of this standard permit addresses emissions from planned startup and shutdown activities from those facilities authorized by this standard permit. Startup and shutdown emissions are not distinguishable from production emissions and are authorized by the standard permit. Maintenance activities are not authorized by this standard permit and will need separate authorization unless the activity can meet the conditions of 30 TAC §116.119, De Minimis Facilities or Sources.

Owners or operators are also required to maintain records of planned maintenance activities authorized by a permit by rule or by 30 TAC §116.119 De Minimis Facilities or Sources.

Operational Requirements

Proposed section (7) covers the operational requirements for temporary concrete batch plants authorized under this standard permit. Subsection (A) outlines the maximum hourly production rate for both truck and central mix plants as well as the total annual site production limits. The site production is limited to no more than 200 cubic yards (yd^3) in any one hour for truck mix plants and 300 yd^3 in any one hour for central mix plants. These limits are based on a historic review of registrations and represents what the commission believes to be the upper limit of what a typical plant can process and load onto the truck within an hour. Total site production shall be limited to no more than 350,000 yd^3 in any rolling 12-month period. An annual production cap is required to ensure that temporary concrete batch plants operating under the standard permit do not cause or contribute to an exceedance of the annual $PM_{2.5}$ NAAQS. Subsection (B) limits facilities to a maximum operating schedule of 12 hours, consecutive or non-consecutive, during any 24-hour period.

Subsection (C) requires the owner or operator to install and properly maintain a suction shroud at the truck mix batch drop or a total enclosure of the central mix drum feed exhaust and vent the captured emissions to a fabric/cartridge filter system with a minimum of 5,000 actual cubic feet per minute of air.

Subsection (D) requires truck mix plants to shelter the drop point by an intact three-sided enclosure with a flexible shroud that hangs from above the truck, or equivalent dust collection technology that extends below the mixer truck-receiving funnel. The flexible shroud hanging from above the truck will help to improve capture efficiency.

Subsection (E) specifies setback distances to the nearest off-site receptor based on dispersion modeling and impacts review (available upon request from TCEQ Air Permits Division (APD) and summarized in the Protectiveness Review section of this document). For temporary plants authorized under this standard permit, the standard permit proposes the setback distance to be 100 feet as measured from the location of the suction shroud fabric/cartridge filter (truck mix plant), and the drum feed fabric/cartridge filter exhaust (central mix plant) to the nearest off-site receptor. The 100-foot setback distance would also include cement/fly ash storage silos, and/or engines. The distance measurement technique is protective of public health and welfare since no one from the general public will be exposed for a continuous hour on the roadway undergoing the pavement project. In addition, under no circumstances will any facility be allowed to create a nuisance as defined by 30 TAC §101.4, Nuisance as required in subsection (4)(M) of this standard permit. In addition, all stationary equipment (excluding the suction shroud fabric/cartridge filter exhaust, cement/fly ash storage silos, and engine), stockpiles and vehicles used for the operation of the temporary concrete batch on in-plant roads (except for incidental traffic and the entrance and exit to the site), are required to be located at least 50 feet from the nearest off-site receptor to minimize the potential for nuisance dust. Alternative setback requirements are not available under this standard permit.

Relocation Requirements

Proposed section (8) contains relocation provisions contained in 30 TAC §116.178 for temporary concrete plants. A relocation is the process of gaining approval and moving a facility and associated sources to an approved site in which no public notice is required. Subsection (A) states the TCEQ executive director may approve the relocation of a temporary concrete batch plant that has previously been determined by the commission to be in compliance with the technical requirements of the temporary public works standard permit version adopted at the registration that provides the information listed under subsection (8)(B). The plant must be a registered portable facility. The plant and associated equipment must be moving to a site for support of a public works project in which the proposed site is located in or contiguous to the right-of-way of the public works project. Subsection (8)(B) lists the required information that must be submitted to the executive director at least 12 business days prior to relocation.

V. Protectiveness Review

The review of the temporary batch plants facilities authorized under this standard permit focused on facilities that are limited to occupying a particular location for not more than 180 days or until a single project is completed. A conceptual plant incorporating typical operating parameters was used to evaluate the temporary concrete batch plant emissions. These parameters are typical of currently authorized temporary plants.

TCEQ calculated emission rates for sources at concrete batch plants using emission factors (EF) and historically accepted calculation methodologies. Truck and central mix plants EFs were based on the composition of concrete from EPA AP-42: “Compilation of Air Pollution Emission Factors” (AP-42) Chapter 11.12 Concrete Batching. Material handling emissions were based on AP-42 Chapter 11.12 Table 11.12-2, and the "Uncontrolled" factor was used. The control efficiency percentages were based on washed material. The $PM_{2.5}$ EF was based on the ratio from the drop point emission factors (k values) found in Aggregate Handling and Storage Piles AP-42 Chapter 13.2.4. Particulate emissions from silo loading were based on a control efficiency of at least 99.5% from the silo baghouse.

Emissions from the central baghouse for truck mix and central mix operations are calculated using PM and PM_{10} EFs from AP-42 Chapter 11.12 Table 11.12-2. The EF for $PM_{2.5}$ is in AP-42 Chapter 11.12 Background Document Table 18.6. Nickel emissions calculated for truck mix and central mix operations are based on factors from AP-42

Chapter 11.12 Table 11.12-8. For truck mix operations, particulate emissions from the baghouse stack and fugitive loading emissions are based on a control efficiency of at least 99.5% from the baghouse for $PM_{2.5}$. A 99% capture efficiency was used for the suction shroud. Requirements for the suction shroud in subsection (7)(D) include a three-sided enclosure with a flexible shroud hanging from above the truck. For central mix operations, particulate emissions from the baghouse stack are based on complete capture of emissions and a control efficiency of at least 99.5% from the baghouse for $PM_{2.5}$.

PM and PM_{10} emissions from the weigh hopper vented to a baghouse are from the equation in AP-42 Chapter 13.2.4 with 10 mph wind speed (from Table 11.12-2 footnote) and a moisture content of 0.25% (minimum moisture content). Nickel emission factors are from AP-42 Chapter 11.12 Table 11.12-8.

Stockpile emissions are based on an emission factor obtained from the EPA guidance Development of Emission Factors for Fugitive Dust Sources, 1974, in units of a pound of pollutant per acre per day. PM_{10} is assumed to be 50% of PM. The $PM_{2.5}/PM_{10}$ ratio is from the Background Document for Revisions to Fine Fraction Ratios Used for AP-42 Fugitive Dust Emission Factors (Chapter 13.2).

Crystalline silica emission rates are based on a respirable silica content in cement of 1% and a respirable silica content in fly ash of 7% for an overall percentage of 1.66% using a cement to fly ash ratio of 89 parts of cement to 11 parts of fly ash in concrete. The source of the silica content percentages is from a review of twenty Safety Data Sheets for cement and fly ash.

Engine emissions are based on Tier 4 NO_x and PM emission standards in 40 CFR Part 1039. This is assuming a total maximum of 1,000 hp of combined engines on-site.

TCEQ performed an air quality analysis (AQA) in support of the temporary public works standard permit protectiveness review. The AQA included dispersion modeling of a model concrete batch plant at multiple maximum hourly production rates for truck mix operations: 100 yd^3 per hour, 150 yd^3 per hour, 200 yd^3 per hour, 250 yd^3 per hour, and 300 yd^3 per hour. The AQA also included dispersion modeling for a maximum hourly production rate of 300 yd^3 per hour for central mix operations. The AQA included the following emission generating facilities or activities: material handling operations, truck loading, stockpiles, cement silos, and an internal combustion engine to generate power for equipment at the site. The pollutants evaluated were carbon monoxide (CO), NO_2, sulfur dioxide (SO_2), PM_{10} and $PM_{2.5}$, nickel (Ni) particulate, formaldehyde (CHOH), and silica (SiO_2).

TCEQ performed the modeling using the EPA's ISCST3 (version 02035) model. Modelers have been using the ISC model in permitting for more than 30 years. Developers created the model to be easy to use and to address complex atmospheric processes in a relatively simple way that all users can understand. Developers based the ISCST3 model on the Gaussian distribution equation and it is inherently conservative due to the main simplifying assumptions made in its derivation. These assumptions are:

- Conditions are steady-state (for each hour, emissions, wind speed, and direction are constant) and the dispersion from source to receptor is effectively instantaneous;
- There is no plume history as model calculations in each hour are independent of those in other hours;

- Mass is conserved (no removal due to interaction with terrain, deposition, or chemical transformation) and is reflected at the surface; and

- Plume spread from the centerline follows a normal Gaussian distribution and only vertical and crosswind dispersion occurs. The model ignores dispersion downwind.

TCEQ applied the model in a screening mode to ensure predictions were conservative and applicable for any location in the state. The rationale for using ISCST3 is that the standard permit has statewide applicability. The ISCST3 model handles surface characteristics simplistically, using either rural or urban dispersion coefficients. Using EPA's refined dispersion model, AERMOD, would have required considering site-specific surface characteristics. Rather than the two choices of surface characteristics for ISCST3, AERMOD would have required dozens to capture a sufficient variation across the state. With dozens of choices of surface characteristics, the reasonable worst-case for all concrete batch plants across the state would be unclear. In addition, TCEQ used ISCST3 as a screening technique in the context of this protectiveness review since the purpose of such techniques is to eliminate the need for more detailed modeling when those sources clearly will not cause or contribute to ambient concentrations in excess of the NAAQS.

The modeling used a polar receptor grid with 36 radials spaced every 10 degrees from true north. Each radial includes a receptor every 100 feet out to 1000 feet from the center point. The modeling used surface meteorological data from Austin and upper-air meteorological data from Victoria for the years 1983, 1984, 1986, 1987, and 1988. Since the analysis is primarily for short-term concentrations, this five-year data set would include worst-case, short-term meteorological conditions that could occur anywhere in the state. The wind directions were set at 10-degree intervals to coincide with the receptor radials. This would provide predictions along the plume centerline, which provides a conservative result.

The modeling was conducted using both rural and urban dispersion coefficients. The higher concentration of the two options was used as the maximum predicted concentration. The modeling used the flat terrain option since the majority of the emissions are fugitive emissions that would closely follow the terrain. Downwash structures were not included in the modeling since no significant structures would likely exist at these types of sites that would influence dispersion. In addition, downwash is not applicable to area sources. TCEQ represented emissions from all material handling activities, truck loading, and stockpiles as a series of co-located circular area sources 100 feet in diameter at 5, 10, 15, and 20 feet high. These emissions are well distributed throughout the site; therefore, modeling these emissions as an area source is appropriate. The modeling included emissions from material handling activities, truck loading, and stockpiles that take place from ground level to about 20 feet in height. The circular area minimizes bias of any one wind direction or source orientation. The modeling represented emissions from baghouses as a single point source 40 feet high with no vertical momentum or buoyancy. The modeling represented emissions from engines as a single point source using TCEQ's existing data as specified in the description of section (5) of this proposed standard permit.

With the exception of the internal combustion engine, all other sources were modeled with maximum hourly emission rates for the short-term standards and thresholds and annual average emission rates for the annual standards and thresholds. For the internal combustion engine, maximum hourly emission rates were modeled for both the short-term and annual standards and thresholds. Modeling was initially conducted using an emission rate of one pound per hour (lb/hr) to predict a generic impact for each source.

The generic impact was multiplied by the pollutant-specific emission rates to calculate a maximum predicted concentration for each source. The maximum predicted concentrations for each source were added together to get a total predicted concentration for each pollutant for comparison with applicable standards/thresholds.

Generic modeling was initially conducted (results added independent of time and space) as a conservative first step. If the results pass this first step for a given pollutant, the analysis was complete. The modeling was further refined for the remaining pollutants and to consider time and location of predicted high concentrations. Pollutant-specific modeling was performed for the PM_{10}, 24-hour $PM_{2.5}$, and 1-hour NO_2 NAAQS demonstrations. The pollutant-specific modeling considered the form of the applicable NAAQS. For all production rates associated with truck mix operations, pollutant-specific modeling for PM_{10} and $PM_{2.5}$ was performed for two different scenarios to account for limited operations of 12 hours per day: a 13-hour time span covering the period of 7 am to 8 pm and a second 13-hour time span covering the period of 6 pm to 7 am. These model runs were performed for just PM_{10} and $PM_{2.5}$ since these two pollutants are associated with the minimum setback distances.

TCEQ evaluated NO_2 using a NO_2/NO_x ratio of 0.5. The EPA's March 1, 2011, guidance memo states, "Although well-documented data on in-stack NO_2/NO_x ratios is still limited for many source categories, we also feel that it would be appropriate in the absence of such source-specific in-stack data to adopt a default in-stack ratio of 0.5 as being adequately conservative in most cases and a better alternative to use than the Tier 1 full conversion." Since the maximum concentration location tends to be within 200 feet of the source and travel time of the emissions would be relatively short, there would not be sufficient time for the NO_x to NO_2 conversion to take place. Therefore, an in-stack ratio of 0.5 is reasonable for this analysis.

The predicted concentrations for criteria pollutants were initially compared to de minimis levels. The predicted concentrations for CO and SO_2 were less than the de minimis levels at all distances. For criteria pollutants with predicted concentrations greater than de minimis levels (NO_2, PM_{10}, and 24-hour $PM_{2.5}$), a cumulative analysis of each air pollutant was conducted by adding background concentrations to the model predicted concentrations for comparison with the applicable NAAQS. The results of the cumulative analysis were used to establish minimum setback distances. The predicted concentrations of SO_2 were less than the state property line standard at all distances. The predicted concentrations of Ni, CHOH, and SiO_2 were less than their effects screening levels (ESLs) at all distances. ESLs are values of chemical concentrations in the air that have been determined to be safe by the Toxicology Division of TCEQ. ESLs protect human health in the general public, including children, the elderly, pregnant women, and people with pre-existing health conditions. ESLs also protect against welfare effects, such as strong odors and harmful effects to plants. ESLs are used in the air permit application process to evaluate the protectiveness of emissions of specific chemicals.

A qualitative analysis was performed for annual $PM_{2.5}$. A qualitative analysis for annual $PM_{2.5}$ is appropriate given the temporary nature of the public works projects, as well as the form of the annual $PM_{2.5}$ NAAQS. The form of the annual $PM_{2.5}$ NAAQS is based on a three-year average of the annual average concentrations. Not only are the public works projects temporary, but operations are intermittent as well. Considerable preparation work is performed along the project segments of public works projects before concrete is even mixed and poured. These intermittent operations are common for the duration of public works projects. Additionally, the combination of the proposed operational limit of 12 hours in any 24-hour period and the decreased annual production limit of 350,000 yd^3/yr (instead of 650,000 yd^3/yr in the Standard Permit for Concrete

Batch Plants) ensure the operations are intermittent and should not impact the annual $PM_{2.5}$ concentrations.

The results of the review for all pollutants show that the standard permit is protective. The modeling report is available upon request.

VI. Public Notice and Comment Period

In accordance with 30 TAC §116.603, Public Participation in Issuance of Standard Permits, TCEQ will publish notice of the proposed standard permit in the *Texas Register* and newspapers of the largest general circulation in the following metropolitan areas: Austin, Houston, Dallas, and San Antonio. Notice will be published in both English-language newspapers and Spanish-language newspapers in these areas. The notice and supporting project documents will be posted on the TCEQ website. Selected project documents will be made available in Spanish. The date of these publications will be November 1, 2024. The public comment period will end on December 6, 2024.

After the public comment period, TCEQ may revise the standard permit if appropriate. The final standard permit will be considered by the commission for adoption. Upon adoption of the standard permit by the commission, the final standard permit and a response to all comments received will be available on TCEQ's website.

Written comments may be submitted to Gwen Ricco, MC 205, Office of Legal Services, Texas Commission on Environmental Quality, P.O. Box 13087, Austin, Texas 78711-3087, or faxed to *fax4808@tceq.texas.gov*. Electronic comments may be submitted at: https://tceq.commentinput.com. File size restrictions may apply to comments being submitted via TCEQ's Public Comment system. All comments should reference Non-Rule Project Number (NRPN) 2024-018-OTH-NR. The comment period closes at 11:59 p.m. on December 6, 2024.

Copies of the proposed standard permit can be obtained from the commission's website at https://www.tceq.texas.gov/permitting/air/nav/standard.html. For further information, please contact Mr. Michael Wilhoit, Air Permits Division, at *michael.wilhoit@tceq.texas.gov* or (512) 239-1222.

VII. Public Meeting

The commission will hold a hybrid in-person and virtual public meeting on this proposal in Austin on **Friday, December 6, 2024, at 10:00 a.m.** in Building A, Room 173, at the commission's central office located at 12100 Park 35 Circle. The meeting is structured for the receipt of oral or written comments by interested persons. Individuals may present oral statements when called upon in order of registration. Open discussion will not be permitted during the meeting; however, commission staff members will be available to discuss the proposal 30 minutes prior to the meeting. The meeting will be conducted in English, but language interpretation services will be provided if requested. If you need translation services, please contact TCEQ at 800-687-4040. Si desea información general en español, puede llamar al 800-687-4040.

Individuals who plan to attend the meeting *virtually* and want to provide oral comments, want their attendance on record, or want to participate in the informal question-and-answer period prior to the meeting must register by **Wednesday, December 4, 2024**. Instructions for participating in the meeting will be sent on **Thursday, December 5, 2024**. To register, please email *Rules@tceq.texas.gov* and provide the following information:

1. Subject: Register for NRPN 2024-018-OTH-NR
2. Your Name
3. Title

4. Whom you represent (self or company/client)
5. Mailing Address
6. Phone Number
7. Whether you wish to provide official testimony, want your attendance on the record, or want to participate in the informal question-and-answer period prior to the meeting.

Members of the public who do not wish to participate in the meeting, but would like to view the meeting *virtually* may do so at no cost at: https://teams.microsoft.com/l/meetup-join/19%3ameeting_OTBlNzNlZDUtZGNhNy00YWNiLWI3YmItZDllNTk1Yjk5MzRm%40thread.v2/0?context=%7b%22Tid%22%3a%22871a83a4-a1ce-4b7a-8156-3bcd93a08fba%22%2c%22Oid%22%3a%22e74a40ea-69d4-469d-a8ef-06f2c9ac2a80%22%7d.

Persons who have special communication or other accommodation needs who are planning to participate in the meeting should contact Michael Wilhoit, Air Permits Division at (512) 239-1222 or 1-800-RELAY-TX (TDD). Requests should be made as far in advance as possible in order to allow adequate time to set up accommodations.

VIII. Analysis of Comments

Section VIII (Analysis of Comments) will be completed following the end of the public comment period.

IX. Statutory Authority

This standard permit is proposed under THSC, §382.011, General Powers and Duties, which authorizes the commission to control the quality of the state's air; THSC §382.023, Orders, which authorizes the commission to issue orders necessary to carry out the policy and purposes of the TCAA; THSC §382.051, Permitting Authority of the Commission; Rules, which authorizes the commission to issue permits; THSC §382.0513, Permit Conditions, which authorizes the commission to establish and enforce permit conditions consistent with Subchapter C of the TCAA; THSC §382.05195, Standard Permit, which authorizes the commission to issue and amend standard permits according to the procedures set out in that section; and THSC, §382.051985, which authorizes the commission to issue a standard permit for temporary concrete plants supporting public works projects.