December 2000
Draft RG-056

Air Quality Standard Permit for Concrete Batch Plants

printed on recycledpaper

Air Permits Division

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

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Published and distributed by:
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

TABLE OF CONTENTS

The following Forms are available on the TCEQ Web site at:

Form Pi-1s-cbp - Standard Permit Registration for Concrete Batch Plants

Concrete Batch Plant Standard Permit Checklist

The following detailed Technical Reports and memorandum are available upon request:

Specialty Batch Plants Protectiveness Review

Temporary Batch Plants Technical Review

Permanent Batch Plants Technical Review

Modeling of Temporary and Permanent Plants

Toxicology and Risk Assessment Review

Small Business and Government Assistance Analysis

TNRCC Road Evaluation Memo

CONCRETE BATCH PLANT
AIR QUALITY STANDARD PERMIT SUMMARY DOCUMENT

I. EXECUTIVE SUMMARY

The Texas Commission on Environmental Quality (TCEQ or commission) is issuing a new air quality standard permit for concrete batch plants (CBPs). The new standard permit will be effective September 1, 2000 and is applicable to permanent, temporary, and specialty CBPs. The standard permit is based on statutory requirements of the Texas Health and Safety Code (THSC) Chapter 382 and a comprehensive evaluation of air quality emissions and potential impacts. This standard permit will also implement portions of Senate Bill (SB) 1298 from the 76th Session of the Texas Legislature, 1999.

II. EXPLANATION AND BACKGROUND OF AIR QUALITY STANDARD PERMIT

In 1996, the TNRCC directed the study and evaluation of CBPs which register to operate under Title 30 Texas Administrative Code Chapter 106 §§ 106.201 - 203 (30 TAC Chapter 106 §§ 106.201-203) (previously Standard Exemptions Nos. 71, 93, and 117). The study was to determine whether the conditions of these permits-by-rule would comply with all applicable state and federal air quality standards and be protective of the general health and welfare. Specifically, CBPs were reviewed against property-line standards under 30 TAC § 111.155, the National Ambient Air Quality Standards (NAAQS), and health effects guidelines of the TNRCC. If necessary, revised criteria would be recommended based on the outcome of the evaluation and review. A detailed review began in 1996 and initial recommendations were prepared and presented to the commission. These recommendations were never implemented due to the need to conduct further analysis and standard permit development was proposed. The “protectiveness” evaluation was reactivated in August 1999.

In December 1999, the commission adopted rules implementing SB 766 which authorized the commission to issue standard permits under THSC § 382.05195 and added a new THSC § 382.058 (a)-(-c) to authorize the commission to register CBPs under a permit-by-rule or standard permit if public notice requirements (THSC § 382.056) are followed. Senate Bill 1298, from the 76th Legislative Session, also amended the existing THSC § 382.058 by adding Subsection (d), to prohibit the TNRCC Executive Director from requiring applicants to submit air dispersion modeling for a CBP registration under THSC § 382.057 if modeling was relied upon in the adoption of an exemption. In order to give full effect to the intent of SB 1298, the commission will apply the language, “adoption of exemption under [THSC] § 382.057” to the issuance of the standard permit under THSC § 382.05195 and the procedures codified in 30 TAC Chapter 116, Subchapter F.

III. OVERVIEW OF AIR QUALITY STANDARD PERMIT

The commission is issuing a standard permit for CBPs under 30 TAC Chapter 116, Subchapter F, Control of Air Pollution by Permits for New Construction or Modification, based on the results of the extensive protectiveness review. The commission previously authorized the majority of CBPs under the conditions of 30 TAC Chapter 106. This standard permit would combine requirements for new or relocated CBPs currently in 30 TAC § 106.201 (Permanent and Temporary Concrete Batch Plants), 30 TAC § 106.202 (Temporary Concrete Batch Plants), and 30 TAC § 106.203 (Specialty Batch Plants) into one standard permit issued under 30 TAC § 116.602. This consolidation of requirements is consistent with the desire of the commission to simplify its regulatory structure and recognize the potential significance of some sources by developing standard permits to replace existing permits by rule that provide qualification criteria that are lengthy, complex, widely used, and potentially contentious. The general public often expresses concern with CBP registration applications. These objections often include traffic safety, noise, appearance, and property values. These concerns are beyond the commission's jurisdiction to address. The general public also expresses concerns over nuisance dust, ambient air quality, and potential negative health impacts and are the focus of the CBP protectiveness review and the proposed conditions of the standard permit. In accordance with the Texas Clean Air Act (TCAA) § 382.058, some CBP registrations must undergo public notification and provide opportunity for a contested case hearing. Any contested case hearing will be limited to whether or not a plant meets the conditions of the standard permit. Issues such as noise, traffic, aesthetics, and property values will be outside the scope of the hearing.

The standard permit is designed to allow for registration of a typical CBP. However, it is not intended to provide an authorization mechanism for all possible plant configurations and production rates. Those facilities which cannot meet the standard permit conditions may apply for a case-by-case review air quality permit under 30 TAC § 116.111.

In addition to combining the requirements in the permits by rule, the commission is adding requirements to control dust, based on current best available control technology (BACT) as required by 30 TAC § 116.602(c) and distance limitations or setbacks based on emission estimations, computer dispersion modeling, impacts analysis, and plant observations performed to verify the protectiveness of the standard permit. The detailed technical evaluations and modeling results are available from the Air Permits Division (APD) upon request. The commission has concluded extensive research which shows that the standard permit for CBPs is protective of the public health and welfare and that facilities which operate under the conditions specified will comply with TNRCC rules and regulations.

IV. PERMIT CONDITION ANALYSIS AND JUSTIFICATION

The new standard permit for CBPs creates a new authorization mechanism as of September 1, 2000 for all concrete mixing facilities which previously received authorization under 30 TAC § 106.201-203 (permits by rule). Any concrete facility may continue to apply for a 30 TAC § 116.111 permit for a case-by-case specific review. This standard permit requires concrete plants to comply with certain administrative requirements, including registration, executive director approval, and public notice (when applicable), as well as general provisions and specific requirements for controlling emissions from equipment and activities at a site. The standard permit also requires additional controls depending on the type of plant for which authorization is requested. All background materials to this document are available upon request from the APD.

Applicability and General Conditions

The applicability and general conditions of all standard permits applies to all CBPs seeking registration from the commission. All plants are required to meet 30 TAC 116, Subchapter F rule requirements as well as the specific conditions of this standard permit listed in paragraphs (1)-(3) and the most applicable of paragraphs (4), (5) or (6). The standard permit also specifies that if a facility changes its operation or equipment such that the conditions of the standard permit paragraphs (4), (5), or (6) no longer are met, the owner/operator must re-register for a new standard permit. Facilities may not switch between paragraphs (4), (5) or (6) without re-registering. Permit holders are also reminded that the standard permit registration is location specific so that relocation would require re-registration.

Administrative Requirements

Paragraph (1) of the standard permit outlines the administrative requirements all facilities must meet. Subsection (A) requires registration of the proposed facilities in accordance with the regulatory requirements of 30 TAC § 116.611 along with a Table 20 "Concrete Batch Plants". The commission has also clarified that 30 TAC § 116.610(a)(1) does not apply to CBPs under this standard permit as the extensive protectiveness review addressed emission rates and distance limitations for these facilities.

Title 30 TAC § 116.614 requires a fee of $900 for any standard permit registration unless otherwise specified in a particular standard permit. This standard permit [subsection (1)(B)] has been clarified to require a fee only for each registration which must complete public notification procedures. Even though the commission does not currently charge a fee for the review of CBP permit-by-rule registrations under 30 TAC Chapter 106, public notification and the resulting comments and hearing requests require a great deal of agency resources. This standard permit requires public notification, which is expected to result in a similar amount of staff time spent reviewing and responding to comments and hearings requests, and the fee is

intended to recover staff expenses. Requiring a fee for CBPs affected by this proposal is a departure from current practice and was proposed for every standard permit application. The commission sought specific comments on this aspect of the proposal, especially the effect on temporary and small facilities. After comments were considered, the standard permit requirements were changed to require a fee only when a particular registration must complete public notice requirements.

Subsection (C) states that the facilities cannot be constructed until the executive director sends written approval of the registration. The standard permit condition also establishes the time period for review of applications. Although 30 TAC § 116.611(b) states that all standard permit reviews must be completed within 45 days unless otherwise specified, subsection (C) of this standard permit states that this review period is not applicable for facilities that register under this standard permit. Those facilities which are not required to comply with the public notification requirements of paragraph (2) should receive approval within 45 days after filing an administratively and technically complete registration. It is important to note that written approval must be received in all cases prior to construction of any CBP. In addition, the commission has clarified that facilities which register under this standard permit must commence construction no later than 18 months from permit acceptance. This limitation is consistent with the requirements for a permit under 30 TAC § 116.115 and, due to the potential controversial nature of these facilities, is an appropriate limitation.

Subsection (D) establishes the appropriate authorization mechanism (30 TAC §§ 106.201-203) for registrations granted or applications filed prior to the September 1, 2000 effective date of this standard permit. Subsection (E) eliminates any requirement for applicants to submit modeling and impacts analysis for the review of a standard permit application in accordance with SB 1298 [THSC § 382.058(d)].

Finally, subsection (F) requires production records to be kept at the plant site for compliance demonstrations with the conditions of the standard permit in accordance with 30 TAC § 116.615(8). Hourly records must be maintained to demonstrate compliance with the maximum production rate limits. Since many of these plants are portable in nature, production records are required to be maintained at the plant for the duration of operation at a given site or a rolling 24-month period, whichever is shorter.

Public Notification Requirements

Paragraph (2) of this standard permit requires that concrete plants which are not contiguous to or located in the right-of-way of public works projects must provide public notice and opportunity for a contested case hearing under 30 TAC Chapter 39 procedural rules in accordance with THSC § 382.058. Any contested case hearing will be limited to whether or not a plant meets the conditions of the standard permit. Issues such

as noise, traffic, aesthetics, and property values will be outside the scope of the hearing. Although not specifically required by 30 TAC Chapter 39, or the previous requirements under 30 TAC Chapter 106, sign posting is also required for facilities which must complete public notice to comply with THSC § 382.056(c).

General Technical Requirements

The technical specifications and conditions for CBPs begin with paragraph (3) which outlines the general pollution control requirements for all CBP facilities wishing to obtain authorization under a standard permit. Subsection (A) requires that all cement and flyash storage silos and weigh hoppers be controlled by fabric or cartridge filter systems. Subsection (B) lists both design and performance criteria for the main dust abatement systems at a CBP. The design criteria to be reviewed on a case-by-case basis for each registration is listed in the most common industrial terms, "outlet grain loading" (particulate matter [PM] grains/dry standard cubic foot of air). Applicants may also be 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 conditions in a form easily followed by both plant operators and TNRCC investigators. The exhausts of all filter systems are 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 operators and TNRCC field investigators can clearly understand how to demonstrate compliance.

Subsection (C) requires facilities to convey cement and flyash within enclosed conveying systems and operate with no visible emissions exceeding 30 seconds over a six-minute period following EPA TM 22, except during supply truck connect and disconnect. These requirements are intended to ensure proper operation and prevent nuisance dust. The performance of the conveying system follows the same performance requirements as in (B). Subsection (D) requires that each bulk storage silo must be equipped with a warning device to alert operators before the silo is full to ensure that these facilities are not overloaded and the abatement systems can control emissions during filling. The details in this subsection have been added after review by the TNRCC Office of Compliance and Enforcement, Field Operations Division based on their experience with these types of facilities. The specific requirements detail both preventive measures and compliance documentation for upset conditions.

Per TNRCC guidance, short-term road emissions were not calculated or evaluated by modeling, but best management practices (BMP) are required in the conditions of the standard permit and are similar to the requirements of the current permits by rule. Subsection (E) requires that dust emissions from road and traffic areas directly associated with the operation of the batch plant be minimized by covering or treating them with dust-suppressant materials, chemicals, watering, or paving. Similarly, subsection (F) requires that dust from

stockpiles be controlled by watering, dust-suppressant chemicals, or covering. Finally, subsection (G) requires that spills of batching materials (cement, flyash, sand, aggregate, or additives) must be cleaned up or controlled to minimize dust. Paragraphs (4)-(6) outline specific requirements for different types of CBPs.

Requirements for Speciality Plants

Paragraph (4) covers those requirements applicable to specialty batch concrete, mortar, grout mixing and pre-cast concrete products. Paragraph (4) gives four distinct requirements for specialty concrete plants. The detailed emission estimates, modeling, and impacts analysis supporting these limits are available from the APD upon request and are summarized in the next section of this document. Based on the previous limits of the permit-by-rule, specialty batch plants were modeled and are limited to site limit of 30 yd^3/hr maximum production as listed in subsection (4)(A). Subsection (B) allows the weigh hopper to be vented to, and controlled by the same abatement equipment as the batch mixer. Under subsection (C), specialty plants would have the option of controlling dust emissions at the batch mixer by water spray, a pickup device vented to a fabric filter, enclosing the batch mixer, or conducting the entire mixing operation within an enclosed building.

Finally, subsection (D) limits all industrial traffic to no closer than 25 feet from the nearest property line. While this and other setbacks are not a guarantee against a CBP ever being a nuisance, these buffer distances are based on observations of dust dissipation and have been included to minimize the potential for nuisance dust off-site. Based on comments received, as an alternative to meeting distance setbacks for traffic areas, the commission includes an option to block dispersion by fencing or other barrier. These alternatives should complement the required BMP and additionally minimize nuisance dust to an equal or better level than a setback distance. Given the conservative assumptions and the extremely low number of modeled exceedances of 30 TAC Chapter 111 standards, it is not expected that any individual facility, or group of facilities which meet the site-wide production limits, will exceed the standards of 30 TAC § 111.155.

Requirements for Temporary Plants

Paragraph (5) outlines the requirements for temporary batch plants. As with the current permit-by-rule in 30 TAC Chapter 106, temporary batch plants are defined as those that occupy a site for not more than 180 consecutive days or supply concrete for a single project (or for the same contractor for related project segments).

Subsection (A) limits total maximum site production for temporary plants to 300 yd^3/hr. This limit is based on a historic review of exemptions and represents what the commission believes to be the upper limit of what a typical plant can process and load onto trucks within an hour.

In addition to the general requirements, subsection (B) requires larger temporary plants with extended occupancy to capture emissions at the batch drop point by a suction shroud with a minimum flow rate of 4,000 actual cubic feet per minute of air (acfm). This shroud shall be vented to a fabric or cartridge filter system for PM control. Through calculation, the commission staff has determined that the specified flow rate is adequate to draw emissions from an area affected by a typical concrete batch loading point into the filtering system. As an alternative, temporary plants which occupy a site for less than 180 days, and have a production of 200 yd^3/hr or less, may load rotary mix trucks through a water fog ring. Based on comments received and the commitment of the TNRCC to continuously evaluate and improve pollution control, the use of water fog rings was critically evaluated. Currently, water fog ring technology is rarely used in the field, requires constant maintenance, and is not as efficient a control method as suction shroud systems (85% as compared to 99%). However, since the difference in controlled emission releases is negligible (approximately 0.1 tpy PM) and the retrofit cost of suction shroud/baghouse systems can be significant ($25,000 to $50,000), the TNRCC will continue to allow water fog ring use under very limited circumstances. This limited use will still allow all regulatory and health standards to be met.

Subsection (C) specifies distance requirements to property lines and receptors based on dispersion modeling and impacts review (available upon request from APD and summarized in the next section of this document). For those cases where plants are located in the right-of-way or contiguous to a public works project, the distance will be measured to the outer boundaries of the roadway project. In these cases, the public entity (state, city, or county) often specifies a given site which is contiguous to the project and has very limited space. For purposes of compliance with 30 TAC § 111.155, the edge of the public works project is to be considered the property line. This distance measurement technique is protective of the 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, in no circumstance will any facility be allowed to create a nuisance as defined in 30 TAC § 101.4. Therefore, the intent of 30 TAC Chapter 111 is clearly met.

Given the conservative assumptions and the extremely low number of modeled exceedances of 30 TAC Chapter 111 standards, it is not expected that any individual facility, or group of facilities which meet the site-wide production limits, will exceed the standards of 30 TAC § 111.155 if a minimum buffer distance to the property line is included as a condition of the standard permit. The minimum buffer distance should ensure compliance expectations, while not requiring unnecessarily large property allocations to site a plant. This standard permit proposes a buffer distance of 100 feet as measured from the location of the central baghouse stack vent to the nearest property line for temporary plants with a production rate of 300 yd^3/hr or less. For those facilities equipped with a water fog ring at the truck drop point, a minimum of 100 feet to the nearest property line is required to ensure compliance with 30 TAC § 111.155 one-hour and three-hour

standards. In addition, for this particular plant type, the plant would be set back from any non-industrial receptor by at least 300 feet to allow dispersion of any dust generated by the truck drop point to reduce the possibility of nuisance dust. This setback is retained from the current permit-by-rule and is based on field experience and observation on the dissipation of dust plumes. For those facilities which are temporary, but use a suction shroud and baghouse system at the truck drop point, the 300 foot distance to a receptor is not required as this abatement system provides a much greater capture and control efficiency.

Subsection (C) additionally requires that all stationary equipment, stockpiles, and industrial traffic areas to be at least 25 feet from the property line of a plant to minimize the potential for nuisance conditions. For those facilities with production rates greater than 200 yd^3/hr, but less than or equal to 300 yd^3/hr, this distance requirement is 50 feet. Based on comments received, as an alternative to meeting distance setbacks for traffic areas, the commission includes an option to block dispersion by dust-suppressive fencing or other barrier to a height of at least 12 feet. Based on observations and experience, the size of a dust plume will be about twice the height of the vehicle generating the road dust. To achieve approximately 50% control of the dust plume, the height of the barrier should be at the height of the plume center line. Based on the modeling, this height is about 12 feet. In addition, as an alternative for stockpile setbacks, this subsection allows a stockpile to be contained within a three-walled bunker which is at least two feet higher than the stockpile. These alternatives should complement the required BMP and additionally minimize nuisance dust to an equal or better level than a setback distance.

Requirements for Permanent Plants

Paragraph (6) outlines the requirements for all permanent batch plants which do not meet the criteria of paragraphs (4) and (5). Permanent batch plants using this standard permit are limited to a maximum production rate of 300 yd^3/hr under subsection (A). This limit is based on a historic review of exemptions and represents what the commission believes to be the upper limit of what a typical plant can process and load onto trucks within an hour. The CBP company surveys, permit file research, and Focus Group meetings substantiate that a 200 yd^3/hr production rate is a reasonable worst-case assumption for most plants in Texas with the exception for a central mix style plant that could approach 300 yd^3/hr.

Subsection (B) requires a suction shroud at the batch drop point with a minimum draw of 4,000 acfm of air or equivalent system. As with the temporary plants, this control system has been demonstrated to be efficient for both capture and control of dust emissions. To reduce the potential for nuisance, the commission has included subsection (C) which stipulates that the main in-plant roads be paved and cleaned. All other traffic areas (stockpile areas and incidental traffic routes) at the plant will be watered or otherwise controlled to prevent dust consistent with the general requirements of paragraph (3)(E).

Subsection (D) establishes distances to property lines from the most culpable source based on an extensive impacts analysis (details available upon request from APD and summarized in the next section of this document). These distances were determined by use of air pollutant dispersion modeling which demonstrates that this separation was necessary to meet particulate concentration standards in 30 TAC § 111.155, assuming maximum allowable baghouse exhaust. Permanent concrete plants are required to maintain at least 100 feet from the central baghouse exhaust to the nearest property line. This subsection additionally requires, for a plant producing 200 yd^3/hr or less, that all stationary equipment, stockpiles, and traffic routes be at least 25 feet from the property line of a plant to minimize the potential for nuisance dust conditions. If the plant produces between 200 yd^3/hr and 300 yd^3/hr, this distance is required to be 50 feet from the property line of a plant to minimize the potential for nuisance conditions. Based on comments received, as an alternative to meeting distance setbacks for traffic areas, the commission includes an option to block dispersion by dust-suppressive fencing or other barrier to a height of at least 12 feet. To achieve approximately 50% control of the dust plume, the height of the barrier should be at the height of the plume center line. Based on the modeling, this height is about 12 feet. As an alternative for stockpile setbacks, this subsection allows a stockpile to be contained within a three-walled bunker which is at least two feet higher than the stockpile. These alternatives should complement the required BMP and additionally minimize nuisance dust to an equal or better level than a setback distance.

Compliance Determinations

Compliance determinations and ensuring proper abatement and control are also included in several portions of this standard permit. Since the impacts evaluation for this standard permit relies on compliance with the conditions of the standard permit, there are several requirements for recordkeeping and visible emissions limitations included throughout the permit. Specifically, paragraph (1)(F) requires production records for limited periods of time. The production record requirement is not anticipated to be a burden for companies as they use production to track their plant's receipts and income.

In addition, paragraphs (3)(B), (3)(C), and (5)(B) establish visible emissions limitations and compliance determination methods for filter systems or a water fog ring. Although the commission proposed a simplified method to allow the owners/operators of plants to determine compliance without the assistance of a trained and certified opacity observer, based on comments received from numerous plant representatives, the compliance criteria in this standard permit includes a limitation of no visible emissions exceeding 30 seconds in a six-minute period in accordance with EPA TM 22. These subsections were also proposed with a requirement for illumination of all abatement exhausts (if these facilities operate at night) so that the

operator, or TNRCC regional investigators, can verify visible emission limits are being met. Based on comments received, the standard permit has been modified to include a lighting requirement only for the filling of cement or flyash silos during non-daylight hours.

Finally, subsection (3)(D) requires a warning system to alert operators before a silo will be over-filled in order to avoid a potential upset condition. While the timing of the alarm is a new requirement, over-fill alarms have always been required, and are capable of being set for this purpose. In addition, applicants are reminded that upset conditions and abatement equipment failures must be documented and reported in accordance with 30 TAC § 101.6 and 30 TAC § 101.7.

V. PROTECTIVENESS REVIEW

The technical requirements of the standard permit are the results of the TNRCC protectiveness review. The protectiveness review determined the ability of different types of CBP operations to meet the requirements of the following: 30 TAC § 111.155, off-property concentration limits for total suspended PM (400 Fg/m^3 [micrograms per cubic meter] for a one-hour period and 200 Fg/m^3 for a three-hour period); National Ambient Air Quality Standards (NAAQS) for particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}; 150 Fg/m^3 for a 24-hour period and 50Fg/m^3 annually); and applicable TNRCC toxicology and risk assessment health effects guidelines. Overall, the total emissions from these facilities have been determined to be less than the limits set in 30 TAC § 106.4(a) (25 tons per year [tpy] of PM) and have been quantified to be as much as 1.9 tpy.

For all types of concrete plants considered, emissions were calculated based on reasonable worst-case assumptions of design, layout and operation. Full air dispersion modeling (ISCST3, version 99155) was used to evaluate each plant configuration and its corresponding emissions. The results of these evaluations are summarized below. These results were reviewed by several divisions within the TNRCC to ensure compliance with standards and guidelines of air quality permit reviews. Due to the extensive impacts review performed and its results showing off-property concentrations of PM close to the regulatory standards, all production limits, which are directly proportional to emissions, are based on site-wide limits. The site-wide production is calculated by adding all concrete being produced by all plants at a given property, regardless of their authorization mechanism. This restriction is included as a continuing requirement of this standard permit for a given site and will ensure that any additional CBPs which may occupy a site comply with the regulatory standards for PM. Detailed information on the impacts review is available upon request from APD.

Speciality Concrete Plants

The review of concrete speciality plants focused on two scenarios, both of which reflect the operation of permanent, but very small plants. The plant types included in this category are precast concrete products and specialty manufacturers (including prefabricated building and road materials, cement blocks, concrete pipes, septic tanks, statuary manufacturers, and plants which sell small batches of mixed concrete to the public). The first plant scenario had the weighing, mixing and batching process performed inside a building, with some associated stockpiles and material handling outside of the structure. The second plant scenario accomplished all weighing, mixing, batching, and aggregate handling processes outside, much like a typical, but larger, CBP.

Worst-case emission control situations and hourly production rates were determined from the previous requirements of 30 TAC § 106.203. The operational hours, annual production rates, aggregate information, and the number of silos and material handling points were determined from a review of registration files and industry surveys. Assumptions were chosen to represent the worst-case emissions from a plant which could be authorized by the applicable portions of this standard permit. Regional office investigations of these plant types indicate that facilities in compliance with the criteria reviewed and summarized in the conditions of this standard permit do not generally receive complaints. Plant observations also show that properly operating fabric filters do not normally exhibit visible emissions and these plants do not produce continuous or sustained visible emissions. Regional experience and observations support the conclusion developed by modeling and impacts analysis that these plants can operate and be protective of human health and welfare.

Temporary Concrete Plants

The review of temporary CBPs focused on those plants which frequently relocate. These facilities 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 CBP. The assumed operating parameters incorporated the controls currently found in 30 TAC § 106.202 and maximum production limit criteria. Commonly accepted emission calculation methods were used to establish expected worst-case emissions of PM. This study was developed with reasonable worst-case assumptions and with a goal of attempting to identify operating scenarios with higher than normal production rates. These assumptions include:

- 300 cubic yards per hour (yd^3/hr) and 200 yd^3/hr plants for one-hour evaluations (typical production usually less);
- 270 yd^3/hr and 180 yd^3/hr plants for three-hour evaluations (sustained maximum production is not possible);

- continuous 24-hour operations;
- all emissions sources emitting simultaneously every hour of each day, including the central baghouse even though there are known periods of non-activity during normal operation;
- a central baghouse efficiency of 99% (rather than the expected 99.5-99.8% range for all production rates) or the truck load point controlled by a water fog ring with 85% dust control (for 200 yd^3/hr plant production rate only);
- two silos exhausted to fabric filters;
- washed sand and aggregate;
- stockpile area size (1.5 acres for 300 yd^3/hr plants and 0.42 acres for 200 yd^3/hr plants); and
- use of water to control stockpile and road emissions.

These parameters are typical of currently authorized temporary plants. Furthermore, they were derived from TNRCC permits and exemption/permit-by-rule records for existing temporary CBPs and survey responses from CBP operators. Three CBP companies reporting production rates on a survey indicated an average production rate of 157 yd^3/hr and a survey of 35 in-house applications being processed by permit engineers resulted in an average production rate of 176 yd^3/hr. Additionally, industry representatives participating in Focus Group meetings confirmed that a 200 yd^3/hr production rate is a reasonable worst-case assumption for most plants in Texas with the exception for a central mix style plant that could approach 300 yd^3/hr.

The worst-case expected emissions were calculated and those values were used by the TNRCC APD modelers to predict concentrations of PM (results discussed below). The modeling predictions assume continuous and simultaneous operation of all sources at maximum production. Realistically, this does not occur in the field. First, plants seldom achieve maximum hourly production rates and are even more unlikely to sustain maximum production over three continuous hours. For example, achieving a maximum production of 200 yd^3/hr requires the loading of approximately 20 ready mix trucks per hour. With one truck load point, the sustained positioning and loading of one truck every three minutes is highly improbable, and not typically seen in the field. For this reason, it was further assumed that over a three-hour period a plant could sustain 90% maximum production, or 180 yd^3/hr, which directly affects the expected emission rate from the most culpable emission source, the truck drop point. For a 300 yd^3/hr plant, approximately 30 trucks would need to be filled in an hour, requiring extreme coordination and over a three-hour period it is unlikely that 270 yd^3/hr could be sustained for more than even a short period of time. Based on this information, the more reasonable sustainable production rates were used. Secondly, all modeled emission sources do not emit at the maximum rate continuously. Specifically, the silos only emit at the maximum rate during silo filling.

Filling a silo requires approximately one hour, thus the assumed two silos will not emit at the maximum rate continuously for three hours. Therefore, the modeling scenarios are conservative for the worst-case expected situations.

Permanent Concrete Plants

The review of permanent concrete batch and central mix plants was based upon production rates of 300 yd^3/hr (three-hour sustained production of 270 yd^3/hr) and 200 yd^3/hr (three-hour sustained production of 180 yd^3/hr). Since the emission factor for a ready-mix batch plant using a suction shroud at the truck drop point is less than the central mix plant emission factor, the central mix plant was used as the worst-case scenario. There are a number of concrete plants with the capability to manufacture 300 yd^3/hr, but in practice it is rarely seen and would usually be limited to jobs with very large pours. The most common plant production rates evaluated are less than 200 yd^3/hr and, based on company production data, are not found to be sustained over a three-hour period.

Each plant was assumed to have a suction shroud at the mixer load point which, in addition to the cement weigh hopper, is vented to a central collection baghouse. The 300 yd^3/hr plant was assumed to have three storage silos and the 200 yd^3/hr configuration was assumed to have two storage silos. Each storage silo was equipped with an individual vent-style baghouse. Most CBPs using a suction shroud are vented to a central collection baghouse and have a horizontal release to the atmosphere from the baghouse vent. This study also included an evaluation of a vertical release from the central baghouse providing for an unhindered upward exhaust velocity.

This study was developed with reasonable worst-case assumptions and with a goal of attempting to identify operating scenarios with higher than normal production rates. These assumptions include:

- 200 yd^3/hr and 300 yd^3/hr (central mix) plants for one-hour evaluations (typical production usually less);
- 180 yd^3/hr and 270 yd^3/hr plants for three-hour evaluations (sustained maximum production is not feasible);
- continuous 24-hour operations;
- all emissions sources emitting simultaneously every hour of each day, including the central baghouse even though there are known periods of non-activity during normal operation;
- when used, a central baghouse efficiency of 99% rather than the expected 99.5-99.8% range;
- three silos exhausted to fabric filters;
- washed sand and aggregate;
- stockpile area size (0.42 acres for 200 yd^3/hr plants and 1.5 acres for 300 yd^3/hr plants);

- use of water to control stockpiles; and
- paving and cleaning to control road emissions.

The worst-case expected emissions were calculated and those values were used by the TNRCC APD modelers to predict concentrations of PM (results discussed below). The modeling predictions assume continuous and simultaneous operation of all sources at maximum production. Realistically, this does not occur in the field for the reasons discussed. Therefore, the modeling scenarios are conservative for the worst-case expected situations.

Dispersion Modeling and Distance Limits

The CBP standard permit team developed several representative worst-case operating scenarios to be evaluated by dispersion modeling. These scenarios were run through the EPA's Industrial Source Complex model and the output used as a tool to develop recommendations for the standard permit. This impacts evaluation was performed in accordance with the TNRCC guidance on road emissions evaluation (February 2000 memo available upon request from APD). The team reviewed the model output to determine which sources contributed the largest portion of the overall predicted concentrations from each scenario. For one (1)-hour, three (3)-hour, and 24-hour scenarios, the central baghouse was the culpable source for all but one of the short-term fixed plant scenarios; and the mix truck load point was the culpable source for all the short-term temporary plant scenarios. Therefore, the team decided to use the central baghouse and the mix truck load point as the focal points for the distance requirements.

Since the 24-hour and annual scenarios demonstrated compliance with the NAAQS, the staff chose to determine a preliminary distance limit based on an evaluation of the distribution of exceedances of the one-hour and three-hour state regulatory standards. The team initially set a threshold of five exceedances at any single receptor. The team based this threshold on the assumption that one exceedance per year, or five exceedances over a five-year period, were unlikely to occur based on the numerous conservative assumptions made throughout the evaluation. While there were varying distances identified during this evaluation, the team initially used 100 feet as a potential limit for further analysis. In addition, the following decisions were made: 1) scenarios without downwash were not significant when compared to the downwash scenarios and would not be evaluated further; and, 2) scenarios with vertical releases from the central baghouse would not be evaluated further because the equipment comes from the factory set for a horizontal release and the horizontal releases appeared to be worst-case.

Throughout the modeling process, the CBP team used the most conservative assumptions where appropriate. Resources can be saved if compliance and protectiveness can be demonstrated using worst-case assumptions

that are unlikely or impossible to occur in actual operation of the plants. However, when engineering judgement showed that the conservative assumptions caused the model to predict unrealistic results, more

representative assumptions were developed. The EPA's Industrial Source Complex Short-term (ISCST3) model (version 99155) was used as the primary modeling tool to develop recommendations for the standard permit. This model provides conservative results for fugitive-type releases.

The following are some of the conservative assumptions used in the model for total suspended particulate:

- Model calculations are based on the assumption of continuous release, however, in actual operation, fugitive source releases will not be continuous over the entire evaluation period.

- The model assumes emissions are gases or aerosols (particles less than or equal to about 20 microns in diameter or PM_{20}). All particulate emissions were modeled as if their size were PM_{20} or less. Therefore, concentrations from sources that emit particles larger in size than twenty microns will be over-predicted. Typical examples of sources with large particulate emissions would be road, stockpile, and aggregate handling sources.

- No mass was removed from the plume; that is mass was conserved. The model assumes that for each hour, and at each receptor, no mass is removed from the plume as it moves downwind. Plume depletion and gravitational settling due to particle size cannot be addressed without site-specific emission and meteorological information.

- The model evaluates each hour separately and does not follow the plume as it might move from hour to hour. Thus, downwind plume trajectories remain the same based on a specific wind flow vector for each hour and plume meander is not considered. This assumption is particularly conservative for averaging periods of more than one hour and conditions where wind direction and wind speed are light and variable.

- Wind speed and direction measured at the anemometer height of the surface meteorological station are assumed to be constant in the surface boundary layer (about 30 feet). Therefore, parameters obtained at the top of the layer, which is the usual height where the anemometer is placed, are used to evaluate all releases from the surface to 30 feet without adjustment. Only wind speed is adjusted if the height of release is above 30 feet to reflect the normal increase in wind speed with height through the atmosphere.

- The dispersion coefficients used by the model were developed using data obtained within 10-minute observation periods but are assumed to apply for averaging periods of 60 minutes or longer. Using this assumption for noncontinuous, fugitive-type releases could result in an over prediction of 30% to 40%.

In consideration that the standard permit would apply throughout the state, the team evaluated the effect of terrain through current evaluation tools. Incorporating terrain is generally not a consideration when modeling low-level fugitive releases because these releases are typically neutrally buoyant with minimal-to-no plume rise to consider, and the plumes tend to follow the shape of the terrain and disperse in a manner similar to flow over flat terrain. Low-level is usually considered to be less than about 20-30 feet. Although results from the flat terrain model runs showed that the central baghouse and mix truck load point were the most culpable sources, their emissions would be terrain following. If there were no release heights above 30 feet the team could discount terrain without a modeled prediction. However, since the height of the silos is above this limit, the model was -run to determine the worst-case impact of the silos using a uniform terrain height of 40 feet for a 100foot property line. In nature, even plumes from elevated sources would tend to follow terrain and become deflected or distorted. In addition, the model was run to evaluate the impact from all sources and the silos and central baghouse or mix truck load point, and to demonstrate that this technique does not provide reliable information on which to base compliance or protectiveness decisions.

Some of the reasons why low-level fugitive-type sources should not be evaluated with the ISCST model when considering the effects of terrain include:

- The model will calculate maximum concentrations at the release height of every source. That is, the model chops terrain to the release height of the source. For example, if the source release height is five feet and the terrain height at 100 feet is 40 feet, the model will assume that the plume centerline stays at five feet and report that value for the receptor at 100 feet. The model will follow this process for each source whose release height is lower than the terrain, thus providing a conservative but an unrealistic maximum impact. This is a conservative assumption for sources with plume rise but is an overly conservative assumption for low-level fugitive sources.

- Without knowing the exact terrain, worst-case depictions of what the terrain might be like result in nonrepresentative results. For example, if the terrain is assumed to be at a constant height surrounding the property, 40 feet for instance, then all sources for this case are in a pit. This would be a preferable scenario, however, the model would provide a concentration for each fugitive source below the height of the terrain. This is a worst-case assumption but cannot occur in nature.

- The model does not evaluate the effects of intervening terrain. For example, if a terrain feature, such as a hill, existed between the source location and the receptor location, the model-predicted concentration at the receptor location would not have taken the effect of the hill into account. In reality, the plume may have impacted on the hill and been diluted or had its trajectory changed before proceeding further downwind. In addition, the plume would follow the shape of the underlying terrain as plumes tend to roll across elevated terrain. The EPA suggests in the *User's Guide to the Complex Terrain Dispersion Model Plus Algorithms for Unstable Situations (CTDMPLUS)*, EPA/6008/8-89/041, that in stable air flow the plume splits into a two-layer structure. The lower-layer flow is deflected around a hill, while the upper-layer flow travels over the top of the hill. For this case study, stable conditions would result in the highest predicted concentrations.

- According to a study done for the National Oceanic and Atmospheric Administration (NOAA), lateral plume spread may be enhanced by a factor of two or more as compared with the flat-terrain dispersion coefficients. In addition, elevated plume-centerline concentrations, measured over rough terrain may be overestimated by two to four times. Data used to develop the dispersion coefficients used in the ISCST model were obtained in flat terrain and do not address four factors that affect a plume over terrain. First, as the plume approaches rising terrain, there is a tendency for the plume to be reflected laterally in an attempt to flow out and around the blocking obstacles. Second, there would be enhanced lateral spreading by deflection from the surface. Third, dispersion would be enhanced due to mechanical turbulence from the increased roughness of the terrain. Fourth, the wind would not be constant in speed or direction and would cause the plume to shear with height above the terrain.

After reviewing the results of the modeling and considering the limitations of the model in this regard, the team determined that terrain is not an issue for this study and that the results from the flat terrain modeling would be used to determine appropriate distance limitations.

Attachment B provides a summary of the final compliance analysis. The team tabulated the total number of modeled exceedances over a five-year period that occurred beyond 100 feet from the central baghouse or the mix truck load point for most scenarios. In addition, the team identified the single receptor with the highest number of exceedances. The team concluded that facilities complying with the conditions of the standard permit would also comply with all regulatory and health standards. This compliance prediction is based on an evaluation of the total hours of exceedance divided by the total hours in the applicable review period (43,824 hours for the one-hour standard and 14,608 hours for the three-hour standard); conservativeness of assumptions made in the review; and the distance for the model to predict 100% compliance with the regulatory standards. This distance ranged from 17 to 140 feet for the one-hour standard and 17 to 240 feet for the three hour. In all scenarios considered for developing a buffer distance,

the model predicts compliance 99.9% of the time for distances greater than 100 feet. Given the conservative nature of the modeling, as well as data from the field, the team expects predicted compliance of 99.9% to be 100% compliance in practice. Therefore, this standard permit includes a buffer distance of 100 feet from the central baghouse exhaust or water fog ring for temporary or permanent plants with production equal to or less than 300 yd^3/hr, as measured from the location of the central baghouse stack vent or truck drop point to the nearest property line. No distance limit is proposed or deemed necessary for the specialty plants.

Given the conservative assumptions of the plant layout, operating scenarios, emissions estimates, modeling performed, compliance requirements for no visible emissions, and the extremely low number of modeled exceedances of 30 TAC Chapter 111 standards, it is not expected that any individual facility will exceed the limits of 30 TAC § 111.155 provided that all conditions of the standard permit are met.

VI. TAKINGS IMPACT ASSESSMENT

The commission has prepared a Takings Impact Assessment for this standard permit pursuant to Texas Government Code Annotated, § 2007.043. The following is a summary of that assessment. The specific purpose of this action is to establish a mechanism by which CBPs can request authorization to construct and operate without having to go through a case-by-case permit review. This action would replace the current permits by rule found in 30 TAC §§ 106.201-203. This action is based upon a detailed technical evaluation of reasonable worst-case plants, full-scale dispersion modeling, and impacts review as well as other considerations to prevent nuisance dust situations and to ensure compliance with all TNRCC rules and regulations. Promulgation and enforcement of the standard permit should not burden private real property, therefore, it is not a taking. Although the standard permit requires certain distance offsets for these facilities, it does not limit any other activity on the property. Additionally, this action is taken to prevent nuisance dust situations and to protect the health and safety of the public, and is therefore exempt from Chapter 2007. This action does not make the existing regulations less stringent but actually increases some requirements on these types of facilities.

VII. COASTAL MANAGEMENT PROGRAM ANALYSIS

During this analysis the commission has determined that this standard permit does not relate to an action or actions subject to the Texas Coastal Management Program (CMP) in accordance with the Coastal Coordination Act of 1991, as amended (Texas Natural Resources Code, §§ 33.201 et seq.), and the commission's rules in 30 TAC Chapter 281, Subchapter B, concerning Consistency with Texas Coastal Management Program. As stated in 31 TAC 505.11(b)(2), relating to actions and rules subject to the CMP, only commission rulemaking governing air pollutant emissions must be consistent with the applicable goals and policies of the CMP. Since this action does not constitute a rulemaking, it is not subject to the CMP.

VIII. REGULATORY IMPACT ANALYSIS

A Regulatory Impact Analysis pursuant to Texas Government Code § 2001.0225 is required for certain "major environmental rules". However, because this action does not constitute a rulemaking, this analysis is not required. Although not required, the commission did review the potential impacts of this standard permit. The commission anticipates that the new CBP standard permit will eventually apply to a significant number of facilities statewide. However, the technical requirements of this standard permit are similar to those that operators of batch plants would have met for authorization under an exemption from permitting or permit-by-rule. The requirements of the permits by rule are being duplicated in the standard permit along with new setback distances, a fee, and compliance demonstration criteria.

A standard permit registration fee is $900, and this proposal would result in approximately $45,000 of additional revenue for the agency each year. This fee applies anytime public notification requirements are triggered.

The commission also considered costs incurred by applicants in obtaining properties of sufficient size to meet the distance requirements of the standard permit. Based on information gathered during the protectiveness review, existing typical plant property sizes range from one to five acres. The proposed standard permit can require applicants to obtain properties ranging from less than one acre to 3.8 acres, well within the current range of property sizes seen in the field.

Finally, the commission considered equipment, abatement equipment, dust control, and public notice costs of applicants associated with the proposed standard permit. In this area, the costs to applicants should not be significantly different than those currently incurred by facilities seeking authorization under 30 TAC Chapter 116 (permit) or 30 TAC Chapter 106 (permit-by-rule).

IX. PUBLIC MEETING AND COMMENTERS

In accordance with 30 TAC § 116.603, the TNRCC published notice of the proposed standard permit in the *Texas Register* and newspapers of the largest general circulation in the following metropolitan areas: Amarillo; Austin; Corpus Christi; Dallas; El Paso; Houston; Lower Rio Grande Valley; Lubbock; Permian Basin; San Antonio; and Tyler. The date for these publications was April 28, 2000 and listed a public comment period from April 28, 2000 to May 31, 2000.

X. COMMENTS REQUESTED

The commission solicited, in particular, comments regarding a fee for each standard permit registration. Several commenters raised serious concerns over a proposed fee being imposed for each permit registration request, and the standard permit was revised based on these comments.

XI. COMMENTS

A public meeting on the proposal was held May 16, 2000 in Room 254S of the TNRCC Building E, located at 12100 Park 35 Circle, Austin. Oral comments were provided by several individuals and trade associations, including: Association of General Contractors or Texas (AGC); Site Concrete (Site); Pioneer Concrete (Pioneer); and Westward Environmental (Westward).

The period for written comments on the proposed standard permit closed at 5:00 p.m., May 31, 2000. Written comments were submitted by the following: Chairman, Residents for a Better Community; Association of General Contractors of Texas (AGC); Texas Aggregates and Concrete Association (TACA); Sundt Construction, Inc. (Sundt); Environmental Engineering Department of TXI Operations, LP (TXI); Safety & Environmental Manager, Transit Mix (Transit Mix); Westward Environmental, Inc. (Westward); CSR Pipe & Concrete Products (CSR); and Pioneer South Central, Inc. (Pioneer).

XII. ANALYSIS OF COMMENTS

Notice of Standard Permit

Residents for a Better Community raised concerns over the sufficiency of notice regarding the new standard permit. This standard permit has followed the THSC, § 382.05195 and 30 TAC § 116.602 requirements for notice of the proposed standard permit, including publication in the Texas Register and newspapers across the state in areas which may be affected by this standard permit. The TNRCC provided outreach to several interested persons, provided a comment period of over 30 days, and held the required public meeting regarding this standard permit. All statutory and regulatory requirements for notification have been met by this standard permit.

Applicability of Standard Permit

Residents for a Better Community commented that the new standard permit requirements should not be retroactive to pending registrations. The TNRCC appreciates this comment and has clearly stated that the standard permit for CBPs is effective only for new registrations received after its effective date of September 1, 2000 and will not affect any other registrations received prior to that date.

Consistency of Enforcement

Transit Mix believes that TNRCC inspections might not always be as focused on the "smaller" concrete companies with two or three plants. Transit Mix believes that equal attention should be paid to this group. Small businesses, which are never inspected, not only have a greater potential to pollute the environment, but, also have a financial advantage. Small businesses can add up to a large number of concrete plants in the state.

The TACA expressed concern that TNRCC enforcement activity "has not been meted out in equal shares". They continue to state that it is imperative for the success of the standard permit and the public image of the concrete industry that violators of these requirements be processed with equal enforcement standards. In the past there have been a number of ready mix plants which have begun construction and operation without even applying for the former Standard Exemption No. 71 (currently 30 TAC § 106.201, permit-by-rule). Even though this was an egregious violation of TNRCC rules, these companies were allowed to remain operational as long as they begin application processing. The excuse cited by the TNRCC for not shutting down these operations was that they were traditionally small operators who could not afford a stoppage in business. The TACA strongly disagrees with this rationale and believes that a violator of this kind should be met with a balanced, yet strict, enforcement action.

Pioneer also commented that every plant operator should be treated equally during enforcement considerations and raised concerns over the existing enforcement fine schedule.

The TNRCC is concerned about equal enforcement of the rules across not only a specific regulated entity group, like CBPs, but against all sources subject to its jurisdiction. The agency has an adopted penalty policy that further describes the statutory-based factors that are taken into consideration in enforcement proceedings, and that policy is followed. Each enforcement action has its own unique circumstances, and the ultimate outcome of a given enforcement action is based upon consideration of the circumstances. It is the goal and objective of the TNRCC to implement a fair and equitable application of these laws. Although the commission appreciates these comments, it is important to note that these issues are beyond the scope of this standard permit issuance.

General Conditions

The TACA appreciates the efforts of the TNRCC staff in developing a comprehensive package for CBPs and other related facilities. The TACA and its members realize that it is time to promote responsible environmental standards relating to those facilities associated with the production of ready mix concrete.

They recognize that a few bad operators in the construction materials arena have done undue damage to the reputation of its members and the ready mix industry. They stated that they stand ready to continue working with the TNRCC in establishing a standard permit that "raises the bar" on environmental standards.

Pioneer noted that the public image of ready mix and portable batch plants is not always the best and, in some cases, sites are not maintained, resulting in "quite a bit of dust". Pioneer and their associations throughout the state commended the TNRCC for raising the bar to some degree with this process and are willing to provide any additional information to assist in these goals. In addition, the written comments by Pioneer noted appreciation for the TNRCC efforts in developing a comprehensive proposal and the belief that the end product of the cooperative efforts would be a standard permit that is protective of public health and safety, as well as creating a better public image for the concrete industry as a whole. Toward this end, Pioneer expressed support of heightened environmental standards relating to this highly contentious industry.

The TNRCC appreciates the recognition from the commenters. The commission agrees with these comments and is committed to ensuring that all facilities protect the public health and welfare as well as establishing air emissions control criteria which consists of BACT. This standard permit has been designed to address both of these goals.

Requirement for Registration Fees

The AGC (oral and written comments), Site (oral), and Pioneer (oral) raised concerns over the proposed fee of the standard permit to require each application to submit $900. According to the commenters, this fee requirement would be extremely burdensome on the regulated community, and would place an economic hardship on small businesses. In addition, the fee would be passed on to the public entities and private citizens in increased prices for concrete products. In some instances, portable plants may move as often as every two weeks, creating a significant burden on the company, and subsequently, their customers, as well as potentially creating an unfair advantage to permanent facilities that would only pay a one-time fee. In their oral comments, the AGC pointed out that in the past, different state agencies have refrained from taxing or creating costs when an individual is working for another state agency (TXDOT) and that a change in this practice would be inconsistent with the goals of the State of Texas. The AGC suggested that an annual fee payment would be an acceptable alternative.

The TACA commented that the proposed $900 standard permit fee should not be "too onerous for ready mix companies operating in Texas. Opponents to this permit fee need to understand that this fee should be associated with operating a facility in a responsible manner. TACA and its members understand that small businesses may voice their concerns relating to the amount of the fee, however, TACA represents a number

of smaller concrete companies operating throughout Texas. To date, each of these smaller producers has supported the $900 standard permit fee as necessary to ensure a higher overall standard for the concrete industry."

Pioneer stated that the proposed $900 standard permit fee should not be "too onerous for ready mix companies operating in Texas and complainants should not be bidding jobs with low profit margins or without enough capital to run a property operated facility."

After careful consideration of these comments, the Commission is issuing the standard permit with a $900 fee for each registration which must complete public notice. Even though the commission does not currently charge a fee for the review of CBP permit-by-rule registrations under 30 TAC Chapter 106, the public notification and the resulting comments and hearing requests require a great deal of agency resources. This proposal requires public notifications which are expected to result in a similar amount of staff time spent reviewing and responding to comments and hearings requests, and the fee is intended to recover staff expenses. The fee requirement has no other justification other than recouping resource expenses. Finally, the requirement as issued would exclude entities who are working exclusively on public works projects from having to pay a fee each time they relocate.

Registration Review Times and Approvals

Site verbally discussed concerns over the registration and review process by the TNRCC with regard to the amount of information and details required as well as the amount of time a standard permit registration review process might take. Any review process which needed more information or took longer to review than the current permit-by-rule process would have a significant negative impact on the responsiveness of the industry and product availability.

The AGC (oral and written comments) discussed the development history for the CBP exemption from permitting and their involvement in balancing the need to minimize the public exposure to nuisance dust and ensuring that public works projects could occur in a timely manner and that portable CBPs not be impeded in their movements around the state. The AGC stressed that, due to timing of public works projects, the industry needs certainty in knowing that a plant can be located at a particular site without the threat of public notification or contested case hearing to ensure an accurate bid on the contract with the public entity. This is especially important considering the millions of dollars in bids which have already been let, but facilities have not yet registered or constructed. There was concern raised that the standard permit process would jeopardize this level of certainty, decrease the flexibility to move the plants as often as possible, and

potentially increase time and cost to the industry for these types of contracts. The AGC also raised concerns over the scope of standard permit reviews as compared to the previous level of review for standard exemptions/permits by rule, particularly with respect to review times and flexibility of issues.

Westward commented that, assuming public notice requirements remain, for unopposed standard permit applications, the TNRCC should be required to comply with the 45-day time period in 30 TAC § 116.614(b) and public notice requirements could be standardized to facilitate this process; and for contested applications the total time, including contested case hearings, should be limited to a maximum of 180 days.

Pioneer recommended that the 45-day review period of 30 TAC § 116.116(b) should apply to all CBP standard permit registrations which complete the public notice comment period uncontested.

The commission agrees with the comments with regard to the need for certainty of application contents and review time expectations. The standard permit registration process should be considered as similar to the current permit-by-rule review and will not include subjective case-by-case reviews of BACT or impacts, thus ensuring efficient processing of these applications and establishing certainty with regard to the required information to be submitted by applicants. In addition, to provide understanding, the commission has emphasized the requirements for start of construction [30 TAC § 116.115(2)(A)]. Finally, the commission has committed to a 45-day review period for all CBP standard permit registrations without public notice. However, due to the application-specific nature of the public participation statutes and rules under 30 TAC Chapters 39, 50, 55 and 80, those applications which are subject to public notice cannot be guaranteed to be completed in short periods of time. The TNRCC rules establish notice requirements for applicants and these rules allow applicants up to 70 days (30 days to publish under THSC, § 382.056(a), 15-day comment period under 30 TAC § 55.152, 30 days to submit confirmation of proper newspaper notice, and 10 days to verify the file availability and sign posting) from the day the TNRCC declares the application administratively complete. If notice results in comments or hearing requests, the entire public participation process must be completed and may take several months to complete. The commission is committed to expediting these reviews and completing these projects in the shortest time possible and will continue to work on process streamlining as the standard permit is implemented, therefore the standard permit time lines are separated into two categories -- with and without public notice. When an application is not subject to public notice, the TNRCC is committed to reviewing these registrations within the time periods specified in 30 TAC § 116.611(b), however, no time limits are specified for those applications which must undergo notice requirements. In any case, written approval must be obtained prior to beginning construction.

Recordkeeping Requirements

Pioneer commented (verbally and in writing) that the production record requirements were unclear as to how records should be kept. In particular, the proposal was unclear as to where the records should be made available (on-site or at a central company location) and for what period of time (hourly, daily, monthly, etc.). The commenter proposed that the TNRCC consider production records to be maintained on a monthly basis for two-year period.

Westward recommended that the standard permit be changed to require records on an annual basis in accordance with one of the following periods: to correspond with the operating year used by the operation; by the calendar year; or by the TNRCC emissions inspection year. The commenter noted that a 24-month rolling production period does not mirror operating practices in the real world, not the TNRCC's operating nor budgeting cycle. If the 24-month rolling calendar does not serve a purpose which protects human health and safety or protection of the environment, then it should not be required.

The TACA commented that the language regarding recordkeeping is slightly convoluted and confusing to operators. The TACA questions if these records are to be kept on an hourly basis for a rolling 24-month period, hourly, or month. The TACA supports production records being kept on-site on a monthly basis for a 24-month period.

TXI commented that the specifics for maintenance of on-site production records need to be clarified. It is unclear whether the hourly average is calculated according to the hours of operation and production for that day or on a rolling 60-minute basis for the duration of daily operation. In order to ensure consistency in records inspections and for operators to determine compliance, a clearer understanding is necessary. Additionally, more specific language is needed regarding when these records must be compiled, such as daily or monthly.

The commission agrees that the recordkeeping requirements should specifically identify the agency's expectations for operators to demonstrate compliance. Facilities must be able to keep records which confirm compliance with the standard permit conditions, as required by 30 TAC § 116.615(8), and must be retained for at least two years following the date that the information is obtained. Since hourly production limits are a major component of the CBP standard permit, the standard permit records kept on site must demonstrate continuous compliance with these limitations. To demonstrate compliance with standard permit representations [30 TAC § 116.615(2)], the commission has clarified that production records be compiled on an hourly basis. These records should be kept for each clock hour, however, if the plant is equipped with

computerized production records, permit holders may present information on a rolling 60-minute period. In addition, these records should be maintained on site for a rolling 24-month period or the occupation of a particular site, whichever is less.

Public Notification

Westward commented that the TNRCC should not require public notification and opportunity for a contested case proceeding for standard permits as THSC Chapter 382 requires notice for CBP "exemptions" and does not explicitly require notice for "standard permits". The commenter goes onto say that it may be argued that the standard permit authorization replaces the exemptions/permits-by-rule registration and that the "assumed legislative intent" is to continue this public notice requirement, there is no statutory or regulatory basis for this position. The transfer of this requirement then becomes one of personal preference rather than strict application of law.

The commission disagrees with the comment and believes that the rules of statutory construction require that all CBPs must meet the notice requirements of THSC, § 382.056. Senate Bill 766 of the 76th Legislative amended THSC § 382.058 (a) - (c) which specifically states that any concrete plant under a standard permit must comply with THSC § 382.056 notice requirements and, therefore, paragraph (2) is required by law.

Filter and Conveying Systems Emissions Capture and Control Device Design and Performance Standards

Pioneer (verbally and in writing) and Westward (verbally) commented that the EPA TM 9 and a 5% opacity limitation would be more appropriate than the methods proposed for determining compliance and ensuring control of dust emissions. The proposed visible emission limit is not based on technical or scientific criteria, does not require a trained or certified visible emissions evaluator, and could result in false readings of non-compliance. Further, Pioneer stated a strong belief that a 5% opacity using EPA TM 9 would be more appropriate and realistic.

In lieu of establishing a TM 9, 5% limit, Westward verbally suggested that the 10-second period of time be consecutive and not cumulative over the five-minute period as a properly operating abatement system may have ten one-second incidents of visible emissions and that a cumulative reading would give flawed information on the proper performance status of the equipment and not be representative of an actual air emission concern. In written comments, Westward proposed the following alternatives: 1) As confirmed by a certified visible emissions evaluator with delegation from the TNRCC Executive Director, the visible emissions from a control device shall not result in any single reading of visible emissions for 10 consecutive

seconds or more in a five-minute observation period; or 2) Emissions from a control device shall be limited to 5% opacity which shall be determined using TM 9 by a certified visible emissions evaluator with delegation from the TNRCC Executive Director.

The TACA comments that the visible emission requirements for filter systems, mixer loading, conveying systems, and batch truck loading control exhausts are extremely cumbersome and not based on scientific data. A properly operated plant would be extremely fortunate to comply with no visible emissions over the cumulative ten seconds of a five-minute period. The TACA strongly supports a 5% opacity standard based on EPA TM 9. This method is more widely accepted due to its scientific longevity and is better suited for visible emissions testing.

The TNRCC concurs with the comments that the compliance method specified in the standard permit should be based on an established scientific method. In addition, the TNRCC's goal is to require a method which is feasible for plant operators to use for compliance confirmations. After diligent research and consideration, and in response to the comments, the TNRCC has modified the standard permit to require EPA TM 22 as the compliance determination method in the standard permit. This method does not require annual re-certification, as with EPA TM 9, but only initial training or independent study of available reference materials which is easily achievable by plant operators. The standard permit limits visible emissions of up to 30 seconds in any six-minute period for the performance criteria using this EPA TM. Based on engineering judgement and wide experience with these types of facilities, the TNRCC believes that the 30-second period should allow for normal equipment operation, but ensure proper abatement performance. While the original proposal allowed visible emissions for only ten seconds out of any five-minute period, which is 3.33% of operation time, the issued standard permit allows visible emissions for 8.33% of the time–a more reasonable and flexible limitation. Finally, the TNRCC has not required compliance determinations to be performed by a delegated representative of the TNRCC Executive Director as the THSC, Chapter 382, Subchapter E, Authority of Local Governments, and the Texas Water Code, Chapter 7, Subchapter H, Suits by Others, both provide for local governments to enter properties and enforce air quality standards and, therefore, enforcement proceedings cannot be limited as requested.

Westward submitted written comments concerning the requirement to provide lighting of abatement system exhausts during early morning or night operations. The commenter states that this requirement would create a unique set of problems, including the following: 1) most pollution control device exhausts are elevated above the control device and the plant and lighting of these areas will create illumination problems; 2) these lights would become a nuisance to neighbors and, while light pollution is not under the purview of the TNRCC, it would cause complications and affect public opinion and opposition to these facilities; and 3) for

temporarily located plants on public works projects, the problems are further compounded as road-dust emissions generated from construction activities during the early morning (when ground level air movement is low) could easily be mistaken for emissions from abatement devices as the dust rises through the beam of light, resulting in inappropriate violations.

The TACA also raised strong concerns relating to the proposed requirements for sufficient illumination during non-daylight hours. Many ready mix facilities are located in residential areas and it is imperative that the proposed standard permit be amended to make certain that the neighboring public is not adversely affected by excessive lighting during the early morning hours.

The TXI commented that the illumination requirements appears to exacerbate the common citizen complaint that lighting in and around a concrete plant property is a nuisance. Currently, many batch plant operators are currently challenged to reduce the effects of lighting on their current neighbors. Any additional illumination requirements are likely to increase neighbor complaints and may conflict with local zoning ordinances that limit such lighting.

The TNRCC concurs with the concern that the standard permit performance requirements should not adversely affect neighbors to CBPs. However, based on the controversial nature of these facilities, the concern that continuous compliance be demonstrable, and historical problems with certain activities at the plants, the TNRCC has included a modified compliance requirement for lighting of abatement systems when facilities operate during non-daylight hours. This illumination requirement is limited to the exhaust of the abatement device vents on the cement and flyash storage silos only when being filled during non-daylight hours. This activity occurs infrequently, and therefore lighting should minimize any disturbance to neighbors.

Temporary Plant Truck Drop Point/Mixer Dust Controls

The AGC (oral and written comments) raised concerns over requiring filtration systems for temporary plants which would supply concrete for a single project and occupy a site for greater than 180 consecutive days and suggested that this requirement be phased in over a five-year period.

Transit Mix commented that they agree that water fog rings should be an acceptable control mechanism for temporary batch plants and that facilities which are temporary should not be burdened with a high expense ($40,000) to equip these plants with suction shrouds.

Pioneer (verbally and written) and Westward (orally) commented in an opposite manner, noting a desire to "outlaw" water fog rings as a method of controlling dust at these plants. It was noted that water fog rings historically create a mess, do not give adequate control of dust during operation, and transfer air emissions to water runoff issues. Pioneer orally remarked that there is some room for improvement throughout the industry with regard to additional control of dust from facilities around the state and commended the TNRCC for "raising the bar to some degree". In writing, Pioneer also stated that the use of fog rings at temporary facilities is bothersome to the neighboring public and the general image of the ready mix industry.

The TACA states that a suction shroud which meets BACT should be in place on all temporary batch plants. They state that water fog rings do not work and the allowance of water fog rings of any kind at a temporary plant is bothersome to the neighboring public and the public image of the industry.

The TNRCC concurs with a majority of commenters to "raise the bar" and establish tighter control measures on the most culpable source (per the modeled impacts review) at these plants. After an extensive and critical review of the dust control technologies, the TNRCC has concluded that water fog rings should be allowed only in limited circumstances. Currently, water fog ring technology is used rarely in the field and has a control efficiency of 85%, as compared to 99% for a properly operated suction shroud/baghouse system. However, since the difference in controlled emission releases is negligible (approximately 0.1 tpy PM) and the retrofit cost of suction shroud/baghouse systems can be significant ($25,000 to $50,000), the TNRCC will continue to allow water fog ring use only for temporary plants occupying a site less than 180 days and if the production is equal to or less than 200 yd^3/hr. Given these limited circumstances, the TNRCC believes that the water fog ring provides sufficient emission control to meet particulate regulations and health impacts review. However, the TNRCC will continue to monitor the industry and may determine to amend the standard permit at a later time to remove the option of control by a water fog ring. The standard permit requirements do not allow for a phase-in period for the use of suction shroud/baghouse controls for most plants as the TNRCC is actively committed to establishing greater control requirements with consideration given both to technical feasibility and economic reasonableness.

Temporary Plant Production Limits

The AGC (oral and written comments) raised concerns over limiting production for temporary plants as this limitation would result in prolonging projects and lengthening the time batch plants would be located at a given site, thus exposing the public to the potential nuisance emissions for a greater length of time. Larger production plants that are capable of operating in an environmentally more efficient manner would be

excluded due to this production limitation. Plants in this category would be forced to obtain a regular permit and lose the opportunity to be free of public comment that is afforded to temporary plant on public works projects under the standard permit. The AGC recommends that the production limit for temporary plants be increased to 400 yd^3/hr.

Transit Mix commented that the 200 yd^3/hr limit is unrealistic for plants which support state highway projects as plants need to be capable of 300 yd^3/hr. TxDOT highway projects include a specified number of days to complete the project and if not completed, the contractor will be fined daily. With these constraints, plants must pour a certain number of yards per hour. A more realistic limit for temporary plants should be the same as for permanent plants and be 300 yd^3/hr .

Sundt operates temporary CBPs in Texas, most recently at Austin-Bergstrom International Airport from 1996 to 1998. The plants used on these projects batched in excess of 450 yd^3/hr. These higher production rates enable plants to overcome bad weather delays and ensured the opening of the Austin airport on its scheduled opening date. Hourly batching restrictions would have required multiple plants operated and maintained to meet the schedule, this would have resulted in substantial additional cost to the owner, with no significant improvement to the environment. Sundt requests that the proposal be amended to allow for maximum utilization of sophisticated plant equipment. The public is ultimately better served with substantially faster completion of civil projects at a much lower cost. Hourly production rates for large, sophisticated CBPs should not be the sole consideration in determining a best course of action for air quality standards.

The TNRCC concurs with the comments that the common, larger facilities should be able to meet the conditions of the standard permit. The TNRCC has developed the standard permit to allow typical CBP facilities to register via an abbreviated method, instead of obtaining a permit under 30 TAC Chapter 116. The standard permit is not intended to cover all possible equipment scenarios, plant layouts, or production rates, but only the majority of facilities. Since PM emission rates are directly proportional to the amount of material handled, production rates were chosen as the most reasonable tracking mechanism to confirm air emission estimates. Based on an extensive review of historical applications, a survey of the industry, and input at Focus Group meetings, the TNRCC has determined that the most common production rates for CBPs range from 100 to 300 yd^3/hr. Three CBP companies reporting production rates on a survey indicated an average production rate of 157 yd^3/hr and a survey of 35 in-house applications being processed by permit engineers resulted in an average production rate of 176 yd^3/hr. Additionally, industry representatives participating in Focus Group meetings confirmed that a 200 yd^3/hr production rate is a reasonable worst-case assumption for most plants in Texas with the exception for a central mix style plant that could approach

300 yd^3/hr. The standard permit was therefore developed to cover the most common plant type, and includes production limits up to 300 yd^3/hr for both temporary and permanent plants. The limited number of larger concrete plants are encouraged to obtain a case-by-case review permit under 30 TAC Chapter 116.

Traffic Area Best Management Practice Requirements

The TACA and Pioneer submitted written comments which strongly contend that all roads and traffic areas for every plant in Texas, temporary or permanent, should be required to be paved with a cohesive hard surface that is maintained intact and clean.

Transit Mix concurs with the TNRCC proposal to not require paving of traffic areas at temporary batch plants and believes that the dust controls provided by watering, dust-suppressant chemicals, or tire chips should adequately suppress road dust. In addition, temporary plants are frequently located on leased property and property owners are not fond of having an area of that land paved. To further justify this position, Transit Mix notes that the cost of paving is an unnecessary burden ($30,000 to pave, $20,000 for removal) when other mitigation techniques are available.

Observations and technical evaluation of available documentation show that, if properly maintained, the BMP proposed by the TNRCC adequately control dust from traffic areas. The BMP includes watering, dust-suppressant chemicals, cleaning, or paving. Requiring all facilities to pave, regardless of the duration of time at a particular site would be an unnecessary financial burden on plant operators, and ultimately result in more waste to be disposed in either landfills or by concrete recycling operations, especially for temporary plants.

The CSR raised concerns over the requirement to pave traffic areas at previously grandfathered permanent batch plants with a cohesive hard surface to meet dust control requirements. The sites discussed have ten or more acres, with the batch plants located in the center of a property with traffic areas hundred of yards long, resulting in an excessive economic burden to plant owners and operators and, in fact, punishes those who place plants well away from property lines. This requirement would affect new plants as well, as the plant owner/operators may be motivated to keep their plants closer to off-site roads to minimize paving costs. The CSR suggests that these requirements be subject to a case-by-case review and, if a facility can demonstrate undue hardship, exemptions or alternative control limitations be granted.

The TNRCC would like to clarify that the THSC does not mandate that grandfathered facilities obtain authorization by a standard permit. Additionally, paragraph (1)(D) clearly states that this standard permit applies to new registrations received after the effective date of the standard permit. If a previously

grandfathered facility is modified and requires authorization to obtain a permit, but cannot meet the conditions of this standard permit, the owner/operators are encouraged to apply for a permit under 30 TAC Chapter 116. A regular permit allows for a case-by-case review of BMP for control of traffic and road dust which, depending on circumstances, will or will not require paving of the traffic areas.

Equipment, Traffic and Stockpile Distance Setbacks and Alternatives

The TXI comments that the distance limitations apply to "stationary equipment and stockpiles". However, there may be stationary equipment associated with plant operations that is not associated with any health or environmental risk or nuisance conditions. Such equipment may include ice block machines, water tanks, etc. The standard permit should be modified to exempt these types of equipment from the distance limitations.

The TNRCC concurs with some of these comments and has modified the standard permit to specify that the distance limitations are applicable only to equipment directly associated with the operation of the CBP.

The AGC (oral and written comments) raised concerns over requiring at least 25-foot buffer distance for industrial traffic due to the operation of a CBP as proposed. This limitation would severely limit availability of acceptable sites, especially in urban areas. The AGC states their belief that application of dust control on facilities and roads adequately addresses any concerns over location of temporary plants and alleviates the need for distance limitations.

The CSR suggests that the distance requirements be subject to a case-by-case review and, if a facility can demonstrate undue hardship, exemptions or alternative control limitations be granted.

Pioneer and Westward (orally and in writing) commented that engineering standards should be used instead of buffer distances required by the standard permit conditions. While the buffer distances were recognized to provide additional protection against dust nuisance, the benefit to a 25 to 50 foot distance was considered to be minor. Instead options on alternative controls were recommended to facilitate a variety of circumstances such as when facilities are required to place plants in sites which are confined by size. The conditions of the standard permit should allow for a plant to apply additional controls (high walls, shrubs, etc.) in lieu of meeting distance requirements when these situations occur. In the commenters experience, these controls would be better dust deterrent than a short buffer distance.

Westward suggested modifications to the standard permit, including: "If an owner/operator wishes to have traffic, stockpiles, or other activities within the specified distance limitations, then the following approved

alternatives may be used in lieu of the meeting the distances: Stockpiles must be contained within a three-walled bunker which extends at least two feet above the top of the stockpile" (this will provide an additional 50% control of stockpile emissions and provide more active control than distance buffers); and "Roads and other activities must be bordered by decorative screening in the form of sound suppressive fencing or dense vegetative strips along all traffic routes or work areas within the 25-50 foot specified buffer areas. These borders shall be constructed to either Texas Department of Transportation (TxDOT) standards for this type of structure or to a height of two feet greater than the activity or traffic in the area" (TxDOT has design standards for noise and dust-uppression systems associated with various road traffic situations and these systems can greatly mitigate noise - 40 to 80% - and dust-minimizing air movement reduces the potential for transporting dust). Other options include establishing a speed limit for truck traffic, which has a much greater impact on the potential for emissions than a minor buffer distance." According to the commenter, the addition of bunkers, fencing or dense vegetation provides visual screening, plant beautification, as well as providing superior control of air pollution - all long term benefits to the plant and the community.

The TXI noted that property availability and zoning cause many batch plants to be located on tracts of land that are space prohibitive. Though an ideal property may afford the room for the proposed distance limitations, it may not always be possible to procure such a property for a particular project. TXI feels that alternatives to a buffer zone should be addressed to give operators the flexibility in setting up plant layout, while still protecting public health and the environment and avoiding nuisance situations. Such alternatives may include concrete-walled bunkers that are higher than aggregate stockpiles, vegetated buffer zones, or other engineered controls. With appropriate design, nuisance conditions should be averted with virtually no buffer zone to the property line.

The TACA agrees with distance limitations as proposed by the TNRCC, however, they also believe that engineering standards should also be included in the standard permit conditions. Examples of alternative controls could include a concrete wall or continuous shrubbery which is two feet higher than the stationary equipment and/or stockpiles, eliminating the need for a 25-foot buffer.

The TNRCC concurs with most of the comments and has included alternatives for roads and stockpiles for nuisance dust control similar to those proposed by commenters in all applicable paragraphs of the standard permit. However, no alternatives to setbacks for stationary equipment directly associated with the operation of the CBP has been included since these emission sources are culpable for the off-roperty impacts which were analyzed by the TNRCC. These sources (silos, conveyors, material bins, etc.) were calculated to have a greater quantity of emissions than those from the stockpile areas, and thus contributed to a greater extent

to the PM concentrations. If these sources and facilities were located closer to property lines, they could cause or contribute to a condition of air pollution. Owners and operators are reminded that any facility may apply for a permit under 30 TAC Chapter 116 and provide a case-by-case impacts analysis to demonstrate any other facility site layout meets all rules and regulations.

Based on the comments, the standard permit has been modified to specify alternatives for traffic areas and stockpiles. Although the commenters proposed that the fencing meet TxDOT noise suppression standards, after additional research, no clear written criteria for this proposal could be found for inclusion in the standard permit. In addition, the TNRCC considered the option of vegetation as an alternative, but it was determined that vegetation would not necessarily grow fast enough or be sufficiently dense to completely cover the desired area from the ground to a height above the dust sources. However, if some vegetative buffer is represented which meets the conditions of the standard permit it may be used. Unfortunately, due to the nature of the standard permit registration process, an open-ended alternative to be reviewed case-by-case is not appropriate. Facilities which cannot meet either the distance setbacks or provide a barrier may apply for a permit under 30 TAC § 116.111, which allows for case-by-case reviews and dust control determinations. Therefore, the TNRCC has instead included an option for fencing or other barriers of at least 12 feet in height in lieu of the setback distances for roads and traffic areas. Based on observations and experience, the size of a dust plume will be about twice the height of the vehicle generating the road dust. To achieve approximately 50% control of the dust plume, the height of the barrier should be at the height of the plume center line. Based on the modeling, this height is about 12 feet. The TNRCC has also included the proposed alternative for stockpiles to have a three-walled bunker with a height of at least two feet higher than the stockpiles. These options should provide equal or better abatement of traffic dust.

XIII. STATUTORY AUTHORITY

The new standard permit is issued under THSC § 382.05195, which authorizes the commission to issue standard permits; THSC § 382.058(d), to prohibit submittal of air dispersion modeling by applicants when applying for a registration which has been based on a comprehensive modeling and impacts review; THSC § 382.011, which authorizes the commission to administer the requirements of the THSC; THSC § 382.023, which authorizes the commission to issue orders necessary to carry out the policy and purposes of the THSC; THSC § 382.051, which authorizes the commission to issue a permit for numerous similar sources.

Effective Date September 1, 2000

This air quality standard permit authorizes concrete batch plant facilities which meet all of the conditions listed in paragraphs (1) through (3) and one of paragraphs (4), (5) or (6). If a standard permit registration is based on paragraphs (4), (5), or (6) and changes are proposed which change the paragraph under which the facility will be constructed and operate, the concrete batch plant must reapply for a new standard permit.

(1) Administrative Requirements

(A) The facilities shall be registered in accordance with 30 TAC § 116.611 "Registration Requirements," (including a current PI-1S-CBP and Table 20). Facilities which meet the conditions of this standard permit do not have to meet the emissions and distance limitations listed in 30 TAC § 116.610(a)(1).

(B) Registration applications shall also comply with 30 TAC § 116.614 "Standard Permit Fees" when the registration is required to complete public notification under paragraph two of this standard permit.

(C) No owner or operator of a concrete batch plant shall begin construction and/or operation without obtaining written approval from the executive director. The time period in 30 TAC § 116.611(b) (45 days) does not apply to facilities registering under this permit. Those facilities which are not required to comply with the public notification requirements of paragraph two should receive approval within 45 days after receipt of the registration request by the executive director. Start of construction of any facility registered under this standard permit shall comply with 30 TAC § 116.115 (b)(2)(A) and commence within 18 months of written approval from the TNRCC.

(D) Any concrete batch plant which has registered but not constructed or filed a registration request for a permit-by-rule filed under 30 TAC §§ 106.201, 106.202, or 106.203 (relating to Permanent and Temporary Concrete Batch Plants [Previously SE 71]; Temporary Concrete Batch Plants [Previously SE 93]; and Specialty Batch Plants [Previously SE 117]) prior to the effective date of this permit will be processed under those rules.

(E) Applicants are not required to submit air dispersion modeling as a part of any concrete batch plant standard permit application.

(F) Records shall be maintained on-site for the following:

(i) production rates for each hour of operation which demonstrate compliance with the

most applicable of paragraphs (4)(A), (5)(B) and (C), or (6)(C) and (D); and

(ii) production and other records as required by 30 TAC §§ 101.6-101.7 and by (1)(F)(i) of this standard permit shall be kept for lesser of either the most recent rolling 24-month period or the duration of operation at a given site.

(2) Public Notice

Unless the facility is to be a temporary concrete plant, as defined in paragraph five of this permit, which is located in, or contiguous to, the right-of-way of a public works project, public notice must be conducted. Notification must follow the requirements in 30 TAC Chapter 39, Subchapters H & K. In addition, sign posting must be performed following the requirements of 30 TAC § 39.604. The signs shall be headed by the words "PROPOSED AIR QUALITY STANDARD PERMIT".

(3) General Requirements

(A) All cement/flyash storage silos and weigh hoppers shall be equipped with a fabric or cartridge filter or vented to a fabric or cartridge filter system.

(B) Fabric filters and collection systems shall meet all of the following:

(i) any fabric or cartridge filter, any fabric or cartridge filter system, and any suction shroud shall be maintained and operated properly with no tears or leaks;

(ii) all filter systems (including any central filter system) shall be designed to meet at least 0.01 outlet grain loading (grains/dry standard cubic foot);

(iii) all filter systems, mixer loading, and batch truck loading emissions control devices shall meet a performance standard of no visible emissions exceeding 30 seconds in any six-minute period as determined using U.S. Environmental Protection Agency (EPA) Test Method (TM) 22; and

(iv) when cement or flyash silos are filled during non-daylight hours, the silo filter system exhaust shall be sufficiently illuminated to enable a determination of compliance with the visible emissions requirement in (3)(B)(iii) of this permit.

(C) Conveying systems for the transfer of cement/flyash shall meet all of the following:

(i) conveying systems to and from the storage silos shall be totally enclosed, operated properly, and maintained with no tears or leaks; and

(ii) these systems, except during cement/flyash tanker connect and disconnect, shall meet a performance standard of no visible emissions exceeding 30 seconds in any six-minute period as determined using EPA TM 22.

(D) A warning device shall be installed on each bulk storage silo. This device shall alert operators in sufficient time prior to the silo reaching capacity during loading operations, so that the

loading operation can be stopped prior to filling to such a level as to potentially adversely impact the pollution abatement equipment. Any filling of the silo resulting in failure of the abatement system , or visible emissions in excess of paragraph (3)(B)(iii) of this standard permit, must be documented and reported following the requirements of 30 TAC § 101.6 or 30 TAC § 101.7, as appropriate.

(E) Dust emissions from all in-plant roads and traffic areas associated with the operation of the concrete batch plant must be minimized at all times by at least one of the following methods:

(A) covered with a material such as, but not limited to, roofing shingles or tire chips (when used in combination with (ii) or (iii) of this subsection);

(ii) treated with dust-suppressant chemicals;

(iii) watered; or

(iv) paved with a cohesive hard surface that is maintained intact and cleaned.

(F) All stockpiles shall be sprinkled with water, dust-suppressant chemicals, or covered, as necessary, to minimize dust emissions.

(G) Spillage of materials used in the batch shall be immediately cleaned up and contained or dampened so that dust emissions are minimized.

(4) Additional Requirements for Concrete Batch and Specialty Batch Concrete, Mortar, Grout Mixing, or Pre-cast Concrete Products Plants

(A) Site production shall not exceed 30 cubic yards per hour.

(B) As an alternative to the requirement in paragraph (3)(A) of this section, the cement/flyash weigh hopper may be vented inside the batch mixer.

(C) Dust emissions at the batch mixer feed shall be controlled by one of the following:

(i) a spray device which eliminates visible emissions;

(ii) a pickup device delivering air to a fabric or cartridge filter;

(iii) an enclosed batch mixer feed such that no visible emissions occur; or

(iv) conducting the entire mixing operation inside the enclosed process building such that no visible emissions from the building occur during mixing activities.

(D) Except for incidental traffic, vehicles used for the operation of the concrete batch plant may not be operated within 25 feet of any property line, except for entrance and exit to the site.

In lieu of meeting this distance requirement, roads and other traffic areas must be bordered by dust preventive fencing or other barrier along all traffic routes or work areas within the 25-foot specified buffer area. These borders shall be constructed to a height of at least 12 feet.

(5) Additional Requirements for Temporary Concrete Plants

For the purposes of this section, a temporary concrete plant is one that occupies a designated site for not more than 180 consecutive days or supplies concrete for a single project (single contract or same contractor for related project segments), but not other unrelated projects.

(A) Site production shall be limited to no more than 300 cubic yards per hour.

(B) Dust control at the truck drop or mixing point shall comply with one of the following:

(i) Facilities which occupy a site for less than 180 consecutive days and have production rates less than 200 cy/hr may load rotary mix trucks through a discharge spout equipped with a water fog ring having low-velocity fog nozzles spaced to create a continuous fog curtain that minimizes dust emissions. If a water fog ring is used at the truck drop point, the visible emissions limitations (and associated compliance determination methods) of subsection (3)(B)(3) and (4) must be met.

(ii) All other facilities must use a suction shroud and fabric filter /cartridge filter system. The suction shroud or other pickup device shall be installed at the batch drop point (drum feed for central mix plants) and vented to a fabric or cartridge filter system with a minimum of 4,000 actual cubic feet per minute of air and must meet subsection (3)(B).

(C) All of the following applicable distance limitations must be met. For concrete batch plants which supply concrete for a single public works project, the "property line" measurements for purposes of compliance with this standard permit and 30 TAC § 111.155 shall be made to the outer boundaries of the designated public property, roadway project and associated rights-of-way.

(i) The suction shroud baghouse exhaust or truck drop point shall be located at least 100 feet from any property line.

(ii) For those facilities with a water fog ring, the truck drop point shall be a minimum of 300 feet from the nearest non-industrial receptor.

(iii) Stationary equipment, stockpiles, or vehicles used for the operation of the concrete batch plant (except for incidental traffic and the entrance and exit to the site) may not

be located or operated, respectively, within the following specified distances from any property line:

(iv) for those facilities with production rates less than or equal to 200 cubic yards per hour, at least 25 feet; and

(v) for those facilities with production rates more than 200 and less than or equal to 300 cubic yards per hour, at least 50 feet.

(D) In lieu of meeting the distance requirements for roads and stockpiles of (5)(C)(iii), the following may be followed:

(i) roads and other traffic areas within the buffer distance must be bordered by dust suppressing fencing or other barrier along all traffic routes or work areas. These borders shall be constructed to a height of at least twelve (12) feet; and

(ii) stockpiles within this buffer distance must be contained within a three-walled bunker which extends at least two (2) feet above the top of the stockpile.

(6) Additional Requirements for Other Concrete Plants

(A) Site production shall be limited to no more than 300 cubic yard per hour.

(B) A suction shroud or other pickup device shall be installed at the batch drop point (drum feed for central mix plants) and vented to a fabric or cartridge filter system with a minimum of 4,000 actual cubic feet per minute of air.

(C) All entry and exit roads and main traffic routes associated with the operation of the concrete batch plant (including batch truck and material delivery truck roads) shall be paved with a cohesive hard surface that can be maintained intact and shall be cleaned. All batch trucks and material delivery trucks shall remain on paved surface when entering, conducting primary function, and leaving the property. Other traffic areas must comply with the control requirements of paragraph (3)(E).

(D) The following distance limitations must be met:

(i) the suction shroud baghouse exhaust shall be at least 100 feet from any property line;

(ii) stationary equipment, stockpiles, or vehicles used for the operation of the concrete batch plant (except for incidental traffic and the entrance and exit to the site) may not be located or operated, respectively, within the following specified distances from any property line:

(iii) for those facilities with production rates less than or equal to 200 cubic yards per hour, at least 25 feet; and

(iv) for those facilities with production rates more than 200 and less than or equal to 300 cubic yards per hour, at least 50 feet.

(E) In lieu of meeting the distance requirements for roads and stockpiles of (5)(C)(ii), the following may be followed:

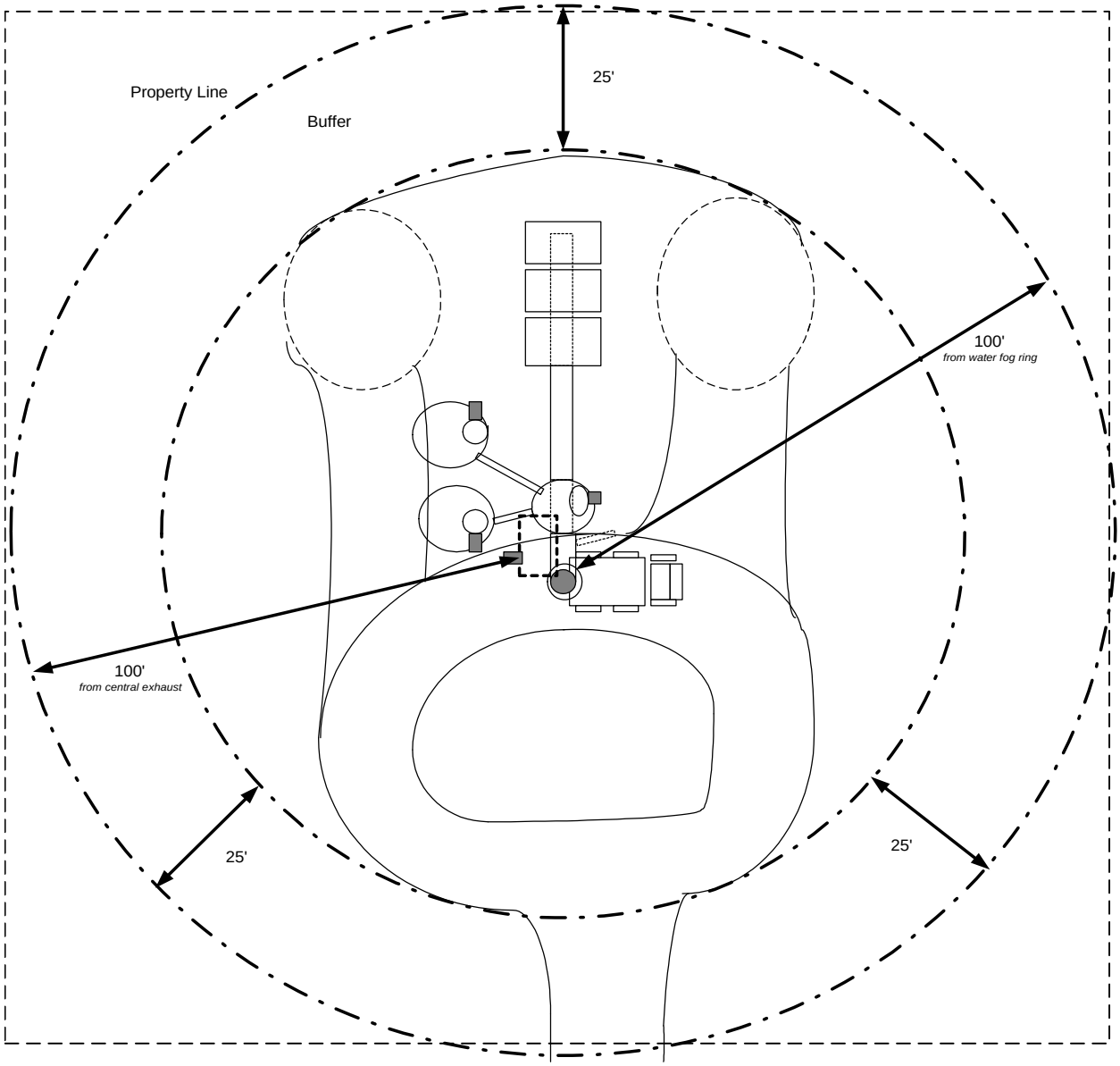
(i) roads and other traffic areas within the buffer distance must be bordered by dust suppressing fencing or other barrier along all traffic routes or work areas. These borders shall be constructed to a height of at least 12 feet; and

(ii) stockpiles within this buffer distance must be contained within a three-walled bunker which extends at least two feet above the top of the stockpile.

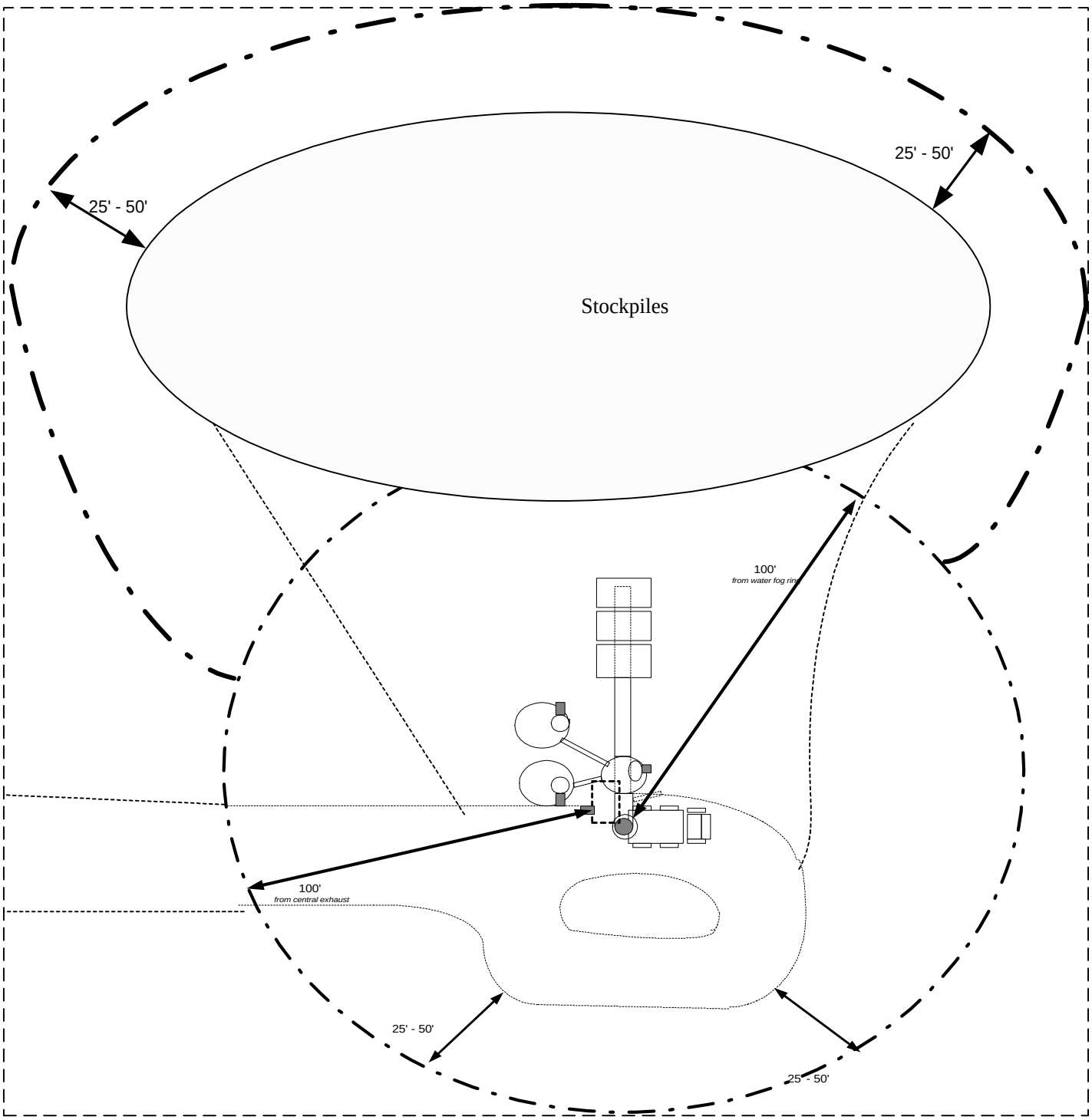
ATTACHMENT A

Concrete Batch Plant Example Plant Layouts

CONCRETE BATCH PLANT EXAMPLE PLANT LAYOUTS
For Illustrative Purposes Only



Minimum Property Size = <1.0 acre (40,000 sq feet for 200' x 200')



Average Expected Property Size for Typical Plant Reviewed = 1.6 acres to 3.8 acres

ATTACHMENT B
Compliance Analysis

Compliance Analysis

Scenario	1-Hour			3-Hour		
	Highest Number of Exceedances at 100' [A]	**Distance to Model 100% Compliance [B]**	**Expected Compliance at 100' [C]**	**Highest Number of Exceedances at 100' [A]**	**Distance to Model 100% Compliance [B]**	**Expected Compliance at 100' [C]**
Specialty Building	0	17'	100% [E]	0	17'	100% [E]
Specialty Outdoor	1	70'	100% [E]	0	70'	100% [E]
200 yd^3 Temporary	60	140'	100%	20 [D]	240'	100% [D]
200 yd^3 Permanent	0	70'	100%	0	90'	100%
300 yd^3 Permanent [F]	1	130'	100%	9 [D]	160'	100% [D]

Footnotes:

[A] Exceedances of the standard are based on years of meteorological data (43,824 individual hours or 14,608 three-hour blocks) and are at a single receptor.

[B] This column represents the point where the model predicts no exceedances. Distances were rounded up. Distance measured from the central baghouse or the mix truck loading point.

[C] The receptor that had the highest number of exceedances was used for the analysis. These values include the modeled frequency (99.9% to 100%) plus additional analysis of the conservative assumptions used in the protectiveness evaluation (100%). In all cases, facilities and associated sources are expected to comply with all rules and regulations.

[D] Analysis based on an adjusted maximum hourly rate which represents 90% sustained production. This rate would be the maximum rate for a 180 yd^3 temporary plant and a 270 yd^3 fixed plant.

[E] Specialty plant compliance assumes no (0 feet) distance to property lines from the mixing point.

[F] This scenario also applies to temporary plants equipped with central baghouses.

ATTACHMENT C
Takings Impact Assessment Checklist

TAKINGS IMPACT ASSESSMENT (TIA) CHECKLIST

Short Title: Concrete Batch Plant (CBP) Standard Permit (SB 766 and SB 1298)

Legal Services Contact Person: Kerri Rowland

Program Contact Person: Anne Inman

Type of TIA Performed: SHORT TIA

Preparation of a Takings Impact Assessment is not a representation that a "taking" under the Constitution or under Chapter 2007 of the Texas Government Code has occurred.

I. Stated Purpose [Program Area]

The standard permit will replace the permit-by-rule for authorizing certain CBPs. The commission has conducted extensive research to ensure that the standard permit for CBPs will be protective. Prior to the granting of the standard permit, certain CBPs will be required to provide public notice and may be subject to a contested case hearing. The issuance of the CBP standard permit will be based on air dispersion modeling and an impacts analysis to ensure compliance with all TNRCC rules, regulations, and guidelines. Senate Bill 1298 creates a prohibition on the TNRCC requiring applicants to submit additional modeling when registering for a standard permit when a standard permit considering modeling and impacts review has been issued by the commission.

II. Applicability and Exemptions

A. Affect on Private Real Property

Does this action create a burden on private real property that is the subject of the regulation?

9 YES **X** NO

This standard permit does not place any requirements on the use of private real property. Although the standard permit requires certain facilities and sources which may emit air contaminants to be located a certain distance away from a property line and possible receptors, it does not limit any other activity in these areas or how this land may otherwise be used, and therefore does not create a restriction on the use of private real property. Additionally, CBPs can avoid distance limitations by seeking a permit or, in some cases, providing dust-suppressing barriers.

B. Exemptions

1. Is this action reasonably taken to fulfill an obligation mandated by federal law?

9 YES **X** NO

2. Is this action taken to prevent a public or private nuisance?

X YES **9** NO

The controls and performance standards specified in the proposed standard permit are based on investigations, history of violations and complaints, and dispersion modeling/impacts reviews. If facilities do not properly control dust, there is a high potential for nuisance from the operation of these plant types.

3. Is there a good faith belief that the action is necessary to prevent a grave and immediate threat to life or property?

9 YES **X** NO

4. Check "YES" if all parts of this item (II. B. 4.) are answered yes.

X YES **9** NO

(1) Is this action taken in response to a real and substantial threat to public health and safety?

X YES **9** NO *see below*

(2) Does the action significantly advance the health and safety purpose?

X YES **9** NO *see below*

(3) Does the action impose no greater burden than is necessary to achieve the health and safety purpose stated in B. above?

X YES **9** NO **9** NOT APPLICABLE

Facilities of this type can pose a threat to the health and safety of the general public if not properly controlled and operated. The controls and performance standards specified in the proposed standard permit are based on investigations, history of violations and complaints, and dispersion modeling/impacts reviews. If facilities do not properly control dust, there is a high potential for nuisance from the operation of these plant types. The protectiveness review performed by the agency identified those sources of emissions which have the greatest potential to affect ambient air quality and the conditions of the standard permit reflect this technical evaluation.

5. Does this action make existing rules less stringent?

9 YES **X** NO

The current permits-by-rule for CBPs (30 TAC §§ 106.201-203) contain some, but not all of the requirements included in the proposed standard permit. The comprehensive protectiveness review has required additional restrictions (mainly distances) to be added onto existing requirements. In addition, the prohibition of submitting modeling as a part of the registration application will not make the existing rule less stringent as these demonstrations are not currently required for a permit-by-rule registration.

6. Does any other exemption in Senate Bill 14 specifically apply?

9 YES **X** NO