

TEMPORARY AND PERMANENT POLYPHOSPHATE BLENDERS AIR QUALITY STANDARD PERMIT SUMMARY DOCUMENT

I. EXECUTIVE SUMMARY

The Texas Commission on Environmental Quality (TCEQ or commission) issues a new air quality standard permit for temporary and permanent polyphosphate blenders. These facilities are also referred to as pipe reactors. The new standard permit can be used to authorize polyphosphate blenders on or after the effective date of the standard permit.

II. EXPLANATION AND BACKGROUND OF AIR QUALITY STANDARD PERMIT

The New Source Review (NSR) Program under Title 30 Texas Administrative Code (30 TAC) Chapter 116, Control of Air Pollution by Permits for New Construction or Modification, requires any person who plans to construct any new facility or to engage in the modification of any existing facility which may emit air contaminants into the air of the state to obtain a permit pursuant to 30 TAC §116.111, General Application, or satisfy the conditions of a standard permit, a flexible permit, a permit by rule, or the criteria for a de minimis facility or source before any actual work begins on the facility. A standard permit authorizes the construction or modification of new or existing facilities which are similar in terms of operations, processes, and emissions. A standard permit provides an efficient mechanism for qualifying facilities to obtain authorization as an alternative to a case-specific air quality permit.

The standard permit provides a streamlined preconstruction authorization process that can be used for any temporary or permanent polyphosphate blender complying with the standard permit requirements and that is not prohibited by some other state or federal permitting statute or regulation. Additionally, the executive director authorizes portable (temporary) and permanent polyphosphate blenders through 30 TAC Chapter 116, Control of Air Pollution by Permits for New Construction or Modification. This standard permit replaces the permit by rule (PBR) under 30 TAC §106.302, Portable Pipe Reactor for portable (temporary) polyphosphate blenders.

The commission has included requirements to minimize emissions and establish property line distance limitations. These requirements are based on air dispersion modeling and an impacts analysis performed to verify the protectiveness of the standard permit. Additionally, the standard permit contains requirements that implement best available control technology (BACT), which is required under Texas Health and Safety Code (THSC), §382.0518(b), Preconstruction Permit and §382.05195(a), Standard Permit. The standard permit also contains provisions to ensure that any facility authorized by the standard permit does not cause an exceedance of the effects screening levels (ESLs) for fluorides and phosphoric acid and the National Ambient Air Quality Standards (NAAQS) for particulate matter less than or equal to ten microns in diameter (PM₁₀). The site-wide ammonia emission rate will determine the setback distance that is necessary to ensure that current health effects guidelines for ammonia are met. The standard permit also includes control provisions. The commission has concluded an evaluation that shows

that the standard permit for temporary and permanent polyphosphate blenders is protective of the public health and welfare.

Modeling was conducted for a polyphosphate blender operating alone at a site, as well as for a polyphosphate blender operating with anhydrous ammonia storage and distribution facilities. The modeling results demonstrated that a polyphosphate blender with site-wide emissions of anhydrous ammonia less than or equal to those emission rates indicated in Table 3 (located in the Protectiveness Review portion of this technical summary) does not require a setback distance from the property line. For site-wide emissions greater than those emission rates listed in Table 3, graphs have been developed depicting the required minimum facility setback distance from the nearest property line required to ensure that the total site-wide allowable anhydrous ammonia emissions meet current health effects guidelines. For a polyphosphate blender operating at a site with anhydrous ammonia storage and distribution facilities, the total fugitive emissions of anhydrous ammonia from the storage and distribution facilities must be no greater than 0.65 pound per hour (lb/hr).

Modeling was conducted using an emission rate of one lb/hr for phosphoric acid, hydrogen fluoride, and PM₁₀. In order for the maximum predicted concentrations of these pollutants to be less than the ESLs and NAAQS for all distances, maximum hourly emission rates were established based on scaled versions of the maximum predicted concentrations. The maximum hourly phosphoric acid emission rate was established to be 0.0018 lb/hr. The maximum hourly fluoride and PM₁₀ emission rates from the polyphosphate blender stack were established as follows in Tables 1 and 2 and are dependent on the stack parameters shown:

Table 1. Temporary Polyphosphate Blenders - PM₁₀ and Fluoride Emissions

Minimum polyphosphate blender stack exit flow rate	50 actual cubic feet per minute (acfm)	15,080 acfm	15,080 acfm	28,000 acfm
Maximum polyphosphate blender exit stack diameter	8 inches	4 feet	4 feet	9 feet
Minimum polyphosphate blender stack height	12 feet	12 feet	20 feet	12 feet
Maximum PM ₁₀ emissions from the site	1.46 lb/hr	4.50 lb/hr	12.80 lb/hr	6.90 lb/hr
Maximum PM ₁₀ emissions from the polyphosphate blender stack	0.30 lb/hr	N/A	N/A	N/A
Maximum Fluoride emissions from the site	0.007 lb/hr	0.09 lb/hr	0.18 lb/hr	0.10 lb/hr

Table 2. Permanent Polyphosphate Blenders - PM₁₀ and Fluoride Emissions

Minimum polyphosphate blender stack exit flow rate	50 acfm	15,080 acfm
Maximum polyphosphate blender exit stack diameter	8 inches	4 feet
Minimum polyphosphate blender stack height	12 feet	20 feet
Maximum PM ₁₀ emissions from the site	1.46 lb/hr	12.80 lb/hr
Maximum PM ₁₀ emissions from the polyphosphate blender stack	0.30 lb/hr	N/A
Maximum Fluoride emissions from the site	0.007 lb/hr	0.18 lb/hr

Facilities located at sites where the site-wide emissions of phosphoric acid, fluorides, and PM₁₀ exceed these values do not qualify for authorization under this standard permit.

III. OVERVIEW OF AIR QUALITY STANDARD PERMIT

The commission issues this air quality standard permit authorizing temporary and permanent polyphosphate blenders under authority of the Texas Clean Air Act (TCAA) in THSC, §382.05195, Standard Permit and 30 TAC Chapter 116, Subchapter F, Standard Permits.

The standard permit authorizes temporary and permanent polyphosphate blenders, including associated anhydrous ammonia tank connections, phosphoric acid tank connections, anhydrous ammonia railcar connections, phosphoric acid railcar connections, and engines. However, the standard permit is not intended to cover all possible facility configurations or operating scenarios. Owners or operators of facilities that cannot meet the standard permit conditions may apply for a case-by-case air quality permit under 30 TAC §116.111, General Application, or other applicable authorization mechanism.

IV. PERMIT CONDITION ANALYSIS AND JUSTIFICATION

This standard permit requires owners or operators of temporary and permanent polyphosphate blenders to comply with certain administrative requirements, including registration, regional notification, and recordkeeping, as well as general requirements, including sampling and testing, housekeeping procedures, best management practices, planned maintenance, start-up, and shutdown (MSS) limitations, and specific operating procedures to minimize off-property impacts from the facility. Since ammonia is the pollutant of concern, facilities are also required to meet distance requirements and specified stack parameters to be within acceptable off-property concentrations of ammonia. Facilities are also required to meet site-wide emission limitations for PM₁₀, fluorides, and phosphoric acid to ensure protectiveness of human health and welfare. The limitation on fluoride emissions will also serve to protect surrounding vegetation. Based on past sampling data from the Tennessee Valley Authority, information received from industry representatives, and reviews of existing air quality permits and PBR registrations, most facilities will be able to operate within established maximum emission limitations for PM₁₀, fluorides, and phosphoric acid.

This standard permit authorizes the air emissions (including fugitive emissions) associated with temporary and permanent polyphosphate blenders (including associated anhydrous ammonia tank connections, phosphoric acid tank connections, anhydrous ammonia railcar connections, phosphoric acid railcar connections, and engines) that meet the applicable conditions of the standard permit.

Applicability

Section (1) outlines the applicability of the standard permit (what can and cannot be authorized under the standard permit). Subsection (A) specifies that this standard permit authorizes air emissions from temporary and permanent polyphosphate blenders, including associated anhydrous ammonia tank connections, phosphoric acid tank connections, anhydrous ammonia railcar connections, phosphoric acid railcar connections, engines, and any fugitive emissions associated with the polyphosphate

blender. This condition is intended to specify the scope of the standard permit authorization.

Subsection (B) prohibits the use of this standard permit to authorize any polyphosphate blender used to manufacture a product on site other than liquid fertilizer made up of ammonia, superphosphoric acid, and water. This restriction specifies the scope of the standard permit authorization by limiting the types of products these facilities manufacture since only ammonia, particulate matter, phosphoric acid, and fluorides were evaluated to determine protectiveness of human health and welfare and vegetation. These contaminants result from the exothermic reactions created during the manufacturing process. Emissions from any other products or blends of fertilizer have not been evaluated for protectiveness.

Subsection (C) states that any individual engine (or combination of engines) used must not be rated greater than 525 horsepower (hp). This power limitation applies collectively to all engines used at the polyphosphate blender operation. This limitation is included to ensure that nitrogen oxide (NO_x) emissions will not exceed the NAAQS and to ensure that all BACT requirements applicable to NO_x emissions from engines will be met. Based on discussions with industry representatives and the review of existing permit and PBR files, the typical size for these engines is 525 hp or smaller; therefore, this limitation should still allow most polyphosphate blenders to use this standard permit provided all other applicable requirements of the standard permit can be met. Based on industry comments, the engine horsepower (hp) limitation was increased from 345 to 525. All emission rate increases from the larger engine were evaluated through modeling, and it was determined that the increase in site-wide emissions from products of combustion will not result in an exceedance of applicable NAAQS. The additional horsepower will also result in a change to Tables 1 and 2 of the standard permit to reflect the change in site-wide allowable PM₁₀ emissions from 1.06 pounds per hour (lb/hr) to 1.46 lb/hr.

Subsection (D) prohibits the use of this standard permit for any facility that constitutes a new major stationary source or major modification as defined by 30 TAC Chapter 116. This standard permit also cannot be used for authorization of facilities located at a major stationary source. These restrictions regarding use of the standard permit are based on concerns associated with large facility throughputs and emission rates, and the potential to result in a facility's non-compliance with the NAAQS. Additionally, 30 TAC Chapter 116 does not allow facilities defined as major with regard to federal NSR to be authorized by a standard permit.

Subsection (E) specifies that sampling must demonstrate that the emission rates of ammonia, PM₁₀, and fluorides do not exceed the emission rate limitations in this standard permit for temporary and permanent polyphosphate blenders. This condition is included in the first section of the standard permit as a notice to owners and operators to take action to comply with the sampling and testing requirements in subsection (5)(A) of this standard permit and to reinforce the emission rate limitations in sections (6) and (7) of this standard permit.

Subsection (F) prohibits the use of this standard permit to authorize any increase of an air contaminant specifically prohibited by a 30 TAC Chapter 116 air quality permit that exists at the site.

Subsection (G) specifies that this standard permit cannot be used in conjunction with any other Chapter 116 air quality permit, standard permit, or PBR, with the exception of standard permits and PBRs used to authorize planned maintenance activities and facilities. The polyphosphate blender and all associated facilities and operations (with the exception of on-site anhydrous ammonia storage and distribution operations) must be authorized under this standard permit. If other authorizations for the polyphosphate blender operation exist, these authorizations must be voided if authorization under this standard permit is to occur. This requirement does not preclude the use of permits, standard permits, and PBRs to authorize other facilities, located at the site, that are not associated with the polyphosphate blender operation. However, all site-wide emission limitations in this standard permit must be met. Subsection (G) also states that associated anhydrous ammonia storage and distribution operations are not prohibited, although any on-site anhydrous ammonia storage and distribution operations must have authorization through a 30 TAC Chapter 116 air quality permit or other applicable mechanism. The restrictions in subsections (F) and (G) are included to limit the cumulative effects of specific contaminants and to ensure the protection of health and human welfare. Subsection (G) does allow standard permits and PBRs to be used in conjunction with this standard permit if the standard permits and PBRs are used to authorize emissions from planned maintenance activities and facilities as specified in section (8) of this standard permit. Additional information regarding the authorization of planned maintenance, start-up, and shutdown emissions can be found in the Planned Maintenance, Start-up, and Shutdown (MSS) Activities portion of this technical summary.

Subsection (H) specifies that this standard permit cannot be used if the total site-wide emissions do not meet the emission rate requirements specified in sections (6), (7), and (8) of this standard permit. This includes ammonia, PM₁₀, fluoride, and phosphoric acid emissions from all facilities at the site, even facilities that are not associated with the polyphosphate blender operation. This condition limits cumulative emissions and reinforces the site-wide emission rate requirements in sections (6), (7), and (8) to maintain the protectiveness of this standard permit.

Subsection (I) prohibits the use of this standard permit to authorize on-site anhydrous ammonia storage and distribution operations. Any on-site anhydrous ammonia storage and distribution operations (even when used to supply product to the polyphosphate blender authorized by this standard permit) must be authorized by a 30 TAC Chapter 116 air quality permit or other applicable authorization mechanism. This condition specifies and limits the scope of this standard permit.

Definitions

Section (2) contains definitions of anhydrous ammonia, anhydrous ammonia storage and distribution operation, off-site receptor, polyphosphate blender, site, and temporary in subsections (A) through (F). These definitions are intended to specify and, where

necessary, limit the scope of the standard permit's authorization. Permitting is based on the concepts of facility, facilities, related facilities, and related increases, which may involve equipment throughout a given site. Many aspects of permitting are evaluated on a site basis to account for all sources of pollutants that may impact surrounding areas.

General Administrative Requirements

Section (3) addresses the administrative requirements associated with this standard permit. Subsection (3)(A) refers owners and operators to sections (6) and (7) of this standard permit, which contains specific registration and notification requirements for temporary and permanent polyphosphate blenders. This subsection was included in one of the first sections of the standard permit as a notice to owners and operators that action is necessary on their part to comply with the administrative requirements.

Subsection (3)(A) also exempts the relocation of temporary polyphosphate blenders meeting the applicable requirements of this standard permit from registration, fee, and start-up notification requirements in 30 TAC §§116.611(a) and (b), Registration to Use a Standard Permit; 116.614, Standard Permit Fees; and 116.615(5), Start-up Notification (General Conditions). The exemption from the registration requirements in 30 TAC §116.611 only addresses §116.611(a) and (b) and does not exempt a source owner or operator from the requirement to submit a certified registration under §116.611(c), which is required to avoid the applicability of 30 TAC Chapter 122, Federal Operating Permits Program. Through the protectiveness review, the commission has determined that temporary polyphosphate blenders meeting all of the applicable requirements of this standard permit will be protective of health and human welfare, and individual review of registrations by TCEQ staff is not necessary.

All standard permits must meet the requirements in 30 TAC Chapter 116, Subchapter F (including §§116.604 through 116.615). However, the TCEQ can waive or modify some of these requirements and has elected to do so for this standard permit. Section 116.610(a)(1), Applicability, requires that a standard permit project resulting in a net emission increase must meet the emission limitations of 30 TAC §106.261, Facilities (Emission Limitations), unless otherwise specified in the standard permit. The contaminant of concern from polyphosphate blenders is ammonia, and polyphosphate blenders do not emit significant amounts of the kinds of contaminants that 30 TAC §106.261 addresses. In addition, the commission has determined that the industry specific emission rate limitations and distance requirements in this standard permit justify this exemption from 30 TAC §106.261. Therefore, in subsection (3)(B) the TCEQ exempts polyphosphate blenders authorized under this standard permit from the requirements of 30 TAC §116.610(a)(1).

Subsection (3)(B) also exempts facilities meeting the applicable requirements of this standard permit from start-up notification requirements in 30 TAC §116.615(5), Start-up Notification (General Conditions). Through the protectiveness review, the commission has determined that facilities meeting all of the applicable requirements of this standard permit will be protective of health and human welfare, and individual notification of start-up as specified in 30 TAC §116.615(5) is not necessary. Owners or operators must

still comply with the specific notification requirements for temporary polyphosphate blenders in section (6) of this standard permit.

General Operating Requirements

Section (4) contains the general operating requirements that must be met by all polyphosphate blenders seeking authorization under this standard permit. Subsection (A) outlines those state and federal regulations that are most likely to apply to facilities authorized by this standard permit. This list is not meant to be all inclusive, and other state and federal regulations may still apply. Subsection (A) specifies that facilities located in counties subject to emissions banking and trading requirements and to nitrogen compound limitations and requirements must comply with all applicable requirements of 30 TAC Chapter 101, Subchapter H, Division 3, Mass Emissions Cap and Trade Program and 30 TAC Chapter 117, Control of Air Pollution from Nitrogen Compounds. Subsection (A) also requires compliance with federal New Source Performance Standards under 40 CFR Part 60 for engines that may also be applicable to facilities authorized by this standard permit. Authorization under this standard permit does not exempt facilities from any of the regulations outlined in subsection (A) or any other applicable regulations.

Subsection (B) limits the number of polyphosphate blenders at a site to one. In order to have the off-site ammonia concentrations for more than one blender at an acceptable level, operators would need to incorporate additional abatement practices and operating parameters, which, for these types of operations, would not be technically feasible or economically reasonable, or would require a case-by-case review.

To ensure that off-property concentrations of all contaminants (anhydrous ammonia, PM₁₀, and fluorides) emitted from the polyphosphate blender are within acceptable levels of health effects guidelines, subsection (C) requires that the polyphosphate blender stack be a minimum height of 12 feet above ground level. To ensure that off-property concentrations of products of combustion emitted from any engine authorized by this standard permit are in compliance with the NAAQS, subsection (C) also requires that any engine stack be a minimum height of ten feet above ground level. Additional information regarding the modeling used to determine these stack parameters can be found in the Protectiveness Review portion of this technical summary.

Visible emissions are addressed in subsection (D). Opacity of emissions from the polyphosphate blender stack authorized by this standard permit shall not exceed five percent averaged over a six-minute period.

To reduce the potential for nuisance odors and to ensure proper handling of anhydrous ammonia and phosphoric acid, subsection (E) requires that all valves, connectors, flanges, and hoses associated with any polyphosphate blender authorized by this standard permit be properly maintained in leak-proof condition at all times.

Subsection (F) requires that any polyphosphate blender authorized by this standard permit be equipped in such a manner to prevent unauthorized access. This subsection does not specify methods for preventing unauthorized access in order to allow individual

operators the flexibility to make their own assessment of their facilities; however, these methods may include locks, alarms, or other similar devices.

Many polyphosphate blender operators applying for this standard permit may need to implement abatement equipment to reduce ammonia emissions so that the off-property ammonia concentrations are within acceptable levels of current health effects guidelines. Based on information received from industry representatives, scrubber systems using either an acid wash or a scrubbing wash made up of process water have been shown (through testing) to significantly reduce ammonia emissions from temporary and permanent polyphosphate blenders. The control efficiencies for these scrubber systems have been shown to be 90 to 95 percent. Subsection (G) requires that polyphosphate blender operations authorized by this standard permit and using a scrubber system use one of the two described procedures. A wash made up of either process water or process water and phosphoric acid diverted from the polyphosphate blender could be used in the scrubber system. In each system, the washes must be introduced to the demister pad, and the washes and product circulation system must be in operation prior to the start of the reaction to ensure maximum removal efficiency.

Subsection (H) specifies the fuel requirements for any engine authorized by this standard permit. Fuel shall be limited to gas fuel, liquid diesel fuel, or biodiesel and biodiesel fuel blends meeting the requirements of this subsection. Gas fuel shall be limited to pipeline quality sweet natural gas, liquid petroleum gas, or fuel gas containing no more than ten grains total sulfur per 100 dry standard cubic feet. Liquid diesel fuel shall be petroleum distillate oil that is not a blend, does not contain waste oils or solvents, and contains 0.05 percent or less weight sulfur. Biodiesel fuel and biodiesel used in biodiesel fuel blends must meet the specifications of American Society for Testing and Materials (ASTM) D6751 and must comply with the applicable requirements of 30 TAC Chapter 114, Control of Air Pollution from Motor Vehicles, Subchapter H, Division 2, Low Emission Diesel. Based on comments received from the Biodiesel Coalition of Texas, the use of biodiesel fuel and biodiesel fuel blends was added to the standard permit. Emission rates associated with the biodiesel and biodiesel fuel blends were also evaluated through modeling, and it was determined that the site-wide emissions from products of combustion will not result in an exceedance of applicable NAAQS.

Subsection (I) addresses NO_x emission limitations for any engine authorized by this standard permit. It specifies that NO_x emissions for any engine authorized by this standard permit shall not exceed 2.0 grams per horsepower-hour (g/hp-hr) for gas fuel or 11.0 g/hp-hr for liquid diesel or biodiesel-based fuel. The age and efficiency of some engines may not be documented, making it difficult for operators to estimate NO_x emissions. Therefore, to allow additional flexibility to facility operators, this subsection also includes an option to limit the number of hours per year that an engine can operate at a site. The limitation on the engine size as specified in subsection (1)(C) of this standard permit and the limitation on operating hours as specified in paragraph (4)(I)(iii) will provide sufficient NO_x reductions to meet BACT requirements. The operating hours in paragraph (4)(I)(iii) are based on engines operating 24 hours per day for a four-month period at each site and shall be applied over a 12-month period. For engines associated

with temporary polyphosphate blenders that leave a site and then return, all of the hours the unit has operated at the site in any 12-month period must be counted. To remain in compliance with the standard permit, the cumulative hours for the 12-month period cannot exceed 2,880. Based on information received from industry representatives, this operating schedule is considered conservative and most polyphosphate blenders (temporary and permanent) should not exceed this operating schedule.

Subsection (J) specifies that the total site-wide phosphoric acid emissions from associated fugitive components must be less than or equal to 0.0018 lb/hr. This requirement is applicable to all polyphosphate blenders (temporary or permanent) for authorization under this standard permit. The prediction for the off-property concentration of phosphoric acid was scaled and the scaled version was used to calculate the maximum hourly emission rate in order for the maximum predicted concentration to be less than the ESL for all distances. The emission rate was determined through current modeling techniques and is discussed further in the Protectiveness Review portion of this technical summary.

Subsection (K) specifies that if an anhydrous ammonia storage and distribution operation is located on the same site with the polyphosphate blender, total ammonia emissions from the anhydrous ammonia storage and distribution operation cannot exceed 0.65 lb/hr. This emission rate limitation was included to limit the cumulative effects of ammonia, ensure current health effects guidelines for ammonia will be met, and ensure the protection of health and human welfare. Additional information regarding the modeling used to determine this limitation can be found in the Protectiveness Review portion of this technical summary. This standard permit is not intended to authorize any anhydrous ammonia storage and distribution operations on site. These operations must meet the requirements in an applicable standard permit or PBR or acquire authorization through a case-by-case Chapter 116 air quality permit.

Subsection (L) requires that the polyphosphate blender and all air pollution abatement equipment be checked a minimum of once at each new site and no less than every 30 days (unless more frequent checks are otherwise specified in this standard permit) and abatement equipment must be properly maintained and operated, which includes scheduled cleaning and maintenance as recommended by the manufacturer and as necessary to adequately maintain equipment efficiency. This subsection was revised in response to a comment received from the Environmental Protection Agency (EPA) stating that the standard permit must specify a representative monitoring frequency to ensure compliance with the opacity limits. The opacity limits apply to the polyphosphate blender and all abatement equipment used to control emissions from the operation.

The requirements in subsections (C) through (L) represent BACT and will reduce emissions to minimize nuisance odor potential and protect human health and welfare. The TCAA and 30 TAC Chapter 116 require that standard permits apply BACT. Subsections (C) through (L) were obtained from existing case-by-case NSR permits for polyphosphate blender operations, are based on engineering judgment, and represent BACT for this industry.

Subsection (M) requires that all facilities and associated equipment authorized by this standard permit, including any transfer equipment, be maintained in good working order and operated properly. This requirement is included to ensure that all processing equipment is properly operated and maintained to minimize nuisance potential.

Subsection (N) addresses all recordkeeping requirements for facilities authorized by this standard permit. All records must be kept for a rolling 24-month period and be made available at the request of personnel from the TCEQ or any other air pollution control agency or program having jurisdiction. Paragraph (N)(i) requires recordkeeping of all repairs and replacements made to equipment associated with the polyphosphate blender operation. Paragraph (N)(ii) requires recordkeeping of hours of operation for each engine if the owner or operator is limiting hours of operation (used to limit NO_x emissions) to maintain compliance with paragraph (4)(I)(iii) of this standard permit. Paragraph (N)(iii) requires documentation of the quantity of valves, seals, flanges, and open-ended lines associated with phosphoric acid handling to demonstrate compliance with subsection (4)(J) of this standard permit. Paragraph (N)(iv) requires the owner or operator to maintain all records sufficient to demonstrate that the polyphosphate blender operation is meeting all applicable emission rate and property line minimum setback distance limitations determined by using Figures 1 through 8 (whichever is applicable) of this standard permit. The figures show maximum short-term emission rates allowed for a specific setback distance of facility emission points to the nearest point on the nearest property line. A specific setback and emission rate correlate to a point on the graph that will either fall in the “acceptable” area of the graph or on the dividing line. To ensure compliance with this standard permit, owners and operators must demonstrate that emission rates and setbacks are inside the “acceptable” area of the graph or on the dividing line. Should the point for an emission rate and setback fall in the “unacceptable” area of the graph, the setback must be increased or the emission rate reduced. The production capacities, in conjunction with previously determined emission factors, sampling parameters, and sampling data are used to determine the maximum allowable short-term emission rates. Additional information regarding the modeling used to develop Figures 1 through 8 can be found in the Protectiveness Review portion of this technical summary. Paragraph (N)(v) specifies that records for permanent units shall be located at the plant site while records for temporary units shall remain with the primary blender equipment. Paragraph (N)(vi) requires that records of periodic monitoring and scheduled cleaning and maintenance of the polyphosphate blender and abatement equipment be kept. These records must be maintained to demonstrate compliance with subsection (L) of this standard permit. The periodic monitoring reference was included to link recordkeeping requirements and the 30-day monitoring frequency added to subsection (L) of this standard permit. Paragraph (N)(vii) requires recordkeeping regarding planned MSS facilities and activities to demonstrate compliance with the operational requirements (material usage rates and emission rate limitations) in paragraphs (8)(C)(i) through (8)(C)(iv) of this standard permit.

Demonstration of Compliance

Due to the specific emission rates, minimum distance requirements, and stack parameters needed for these facilities to meet current health effects guidelines, subsection (5)(A) of this standard permit specifies the initial testing requirements to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere from a polyphosphate blender. All temporary and permanent polyphosphate blenders seeking authorization under this standard permit must comply with these sampling and testing requirements at the site specified in the initial registration request. Within 24 hours of the start of operation of the polyphosphate blender at the registered site, the owner or operator must complete stack testing at maximum production capacity. The stack testing must include, but is not limited to, ammonia, PM₁₀, and fluorides.

Subsection (B) specifies requirements for polyphosphate blenders while the sampling results are being evaluated by the TCEQ and provides the steps owners and operators may take should the sampling results demonstrate non-compliance with the applicable emission rate requirements of this standard permit. A polyphosphate blender that has met all of the sampling requirements in subsection (5)(A) of this standard permit may continue to operate under the standard permit while the TCEQ determines initial compliance. If the sampling results demonstrate that the polyphosphate blender is not in compliance with all applicable emission rate requirements of this standard permit, the TCEQ Air Permits Division in Austin will notify the owner or operator. At that point, the owner or operator would not be able to continue to claim authorization under this standard permit and would need to cease all operations immediately. For authorization of the polyphosphate blender to occur, it must then occur through another applicable mechanism, or the owner or operator may request a new registration as specified in subsections (5)(H) and (5)(I) of this standard permit.

Subsection (C) limits the number of registration requests to two. If, after the second registration and after conducting any required sampling and/or testing associated with the second registration, the polyphosphate blender's compliance with all applicable emission rate requirements of this standard permit still could not be demonstrated, additional registration requests may not be made. At this point, authorization of the polyphosphate blender must occur through another applicable mechanism. This subsection was included to keep facilities from circumventing the intent of the standard permit by continuing to operate while out of compliance.

Subsection (D) outlines the information/test data that must be submitted to the TCEQ regional office where the facility was sampled or tested, any local air pollution control agencies or programs having jurisdiction, and the TCEQ Office of Permitting and Registration, Air Permits Division in Austin for a determination of compliance. This information must be submitted within 30 days from the date the sampling is complete, and must comply with the provisions of Chapter 14 of the TCEQ document entitled "Sampling Procedures Manual." A copy of the information must be maintained at the site for permanent polyphosphate blenders and with the primary blender equipment for temporary polyphosphate blenders. All information must also be made available at the request of personnel from the TCEQ or any other air pollution control agency or program having jurisdiction. The information/test data must include:

- i) a process description, including any control devices, the polyphosphate blender manufacturer, model, design, maximum design capacity, and the control device manufacturer and model;
- ii) a serial number (permanently affixed to the unit and readable under all conditions) to track the tested polyphosphate blender;
- iii) information as to whether the test is a first or second attempt at demonstration of compliance under this standard permit; and
- iv) a detailed sampling report with final results and specific plant and operational data recorded during testing.

Subsection (E) specifies that sampling reports that do not contain the required information will not be accepted. If a sampling report is not accepted by the TCEQ, the owner or operator would not be able to continue to claim authorization under this standard permit and would need to cease all operations immediately upon notification by the TCEQ. Authorization of the polyphosphate blender must then occur through another applicable mechanism, or the owner or operator may request a new registration under this standard permit as specified in subsections (5)(H) and (5)(I) of this standard permit.

Subsection (F) states that emission rates of ammonia, PM₁₀, and fluorides resulting from testing shall be used to demonstrate compliance with the emission rate limitations as specified in sections (6) and (7) (whichever is applicable) of this standard permit.

Subsection (G) outlines the procedures to follow if it is determined by the TCEQ Air Permits Division in Austin that the initial sampling results demonstrate that the ammonia, PM₁₀, or fluoride emission rates exceed the emission rate limitations in sections (6) or (7) (whichever is applicable) of this standard permit. This subsection emphasizes that the owner or operator cannot continue to claim authorization under the standard permit and that all operations must cease immediately upon notification by the TCEQ. Authorization of the polyphosphate blender must then occur through another applicable mechanism, or the owner or operator may request a new registration under this standard permit as specified in subsections (5)(H) and (5)(I) of this standard permit.

Subsection (H) allows owners or operators to submit a second registration request if the TCEQ Air Permits Division in Austin determines that the polyphosphate blender is not in compliance with the emission rate requirements of this standard permit based on initial sampling results. This second registration must include substantial technical information, such as specific process changes being considered, to demonstrate that the sampling, which must be conducted at the site specified in the second registration request, will show compliance with the emission rate limitations in sections (6) or (7) (whichever is applicable) of this standard permit.

Subsection (I) states that all sampling and testing requirements in subsection (5)(A) also apply to a second registration under this standard permit if the second request is due to a demonstration of non-compliance during initial sampling. Subsection (I) also requires that, once any required sampling at the specific site is complete, all operations must cease immediately until the owner or operator is notified by the TCEQ that the polyphosphate blender's compliance with all applicable emission rate requirements of this standard permit has been demonstrated. This subsection was included to keep facilities from circumventing the intent of the standard permit by continuing to operate while out of compliance.

Requirements Specific to Temporary Polyphosphate Blenders

Section (6) of this standard permit addresses the use and relocation of temporary polyphosphate blenders. Paragraph (A)(i) requires that sampling as specified in subsection (5)(A) of this standard permit must have occurred and the last sampling report must have been deemed acceptable by the TCEQ. Paragraph (A)(i) also allows additional flexibility to operators of temporary polyphosphate blenders authorized under this standard permit. Testing is not required for those facilities that relocate as long as they have complied with the initial sampling and testing requirements and have demonstrated compliance with all applicable emission rate and minimum setback distance requirements in section (6) of this standard permit. This would apply only if no modifications (other than relocation) are made to the facility.

Paragraph (A)(ii) specifies that testing for initial authorization under this standard permit will not be necessary for temporary polyphosphate blenders that have been tested at another site located in Texas, have an acceptable sampling report that demonstrates the polyphosphate blender's compliance with all applicable emission rate and minimum setback distance requirements in section (6) of this standard permit, and have not been modified (other than relocation) since the last acceptable sampling. The last acceptable sampling report must be included with the initial registration request.

Paragraph (A)(iii) specifies that, at each location, the polyphosphate blender shall operate within the primary operating parameters recorded during the sampling. The operating parameters must be recorded at four-hour intervals while the polyphosphate blender is in operation, and records must be maintained with the primary blender equipment. These operating parameters include raw materials, production rate, and no more than ten percent variation from each of the following operating parameters recorded during the sampling:

- 1) air flow rate (which shall also be in compliance with the flow rate specified in Figures 1 through 6 (whichever is applicable) of this standard permit);
- 2) pH;
- 3) specific gravity; and
- 4) pressure drop across the demister pad and packed bed.

The polyphosphate blender is expected to be in compliance with the emission rates recorded during sampling, which must also be in compliance with any emission rate requirements specified in this standard permit, if the unit operates within these primary operating parameters.

Paragraph (A)(iv) specifies that the polyphosphate blender shall be in compliance with the ammonia emission rates, minimum setback distance requirements, air flow rates, and polyphosphate blender stack parameters as determined by using Figures 1 through 6 (whichever is applicable) of this standard permit. Unless otherwise specified in any of the figures, ammonia emission rates are site-wide and all facility emission points, including facilities and activities as specified in section (8) of this standard permit, emitting ammonia at the site must meet the specified minimum setback distance to the property line, which is required to meet current health effects guidelines for ammonia as determined by using Figures 1 through 6 (whichever is applicable). The emission rates and setback distance requirements in Figures 1 through 6 were determined through current modeling techniques and will be discussed further in the Protectiveness Review portion of this technical summary. Paragraph (A)(iv) also includes a clarification that the minimum setback distance to the property line shall be measured from each facility emission point or maintenance activity emission point to the nearest property line using the shortest distance to that property line (i.e., the nearest corresponding property line). All facility emission points and maintenance activity emission points must meet the minimum setback distance requirements determined by using Figures 1 through 6 (whichever is applicable) of this standard permit.

Paragraph (A)(v), which references Table 1, specifies the total allowable PM₁₀ and total allowable fluoride emissions from the site and the polyphosphate blender stack. To demonstrate compliance with maximum allowable PM₁₀ and fluoride emissions specified in this standard permit, a temporary polyphosphate blender shall meet one of the scenarios in Table 1 of this standard permit.

Table 1. Temporary Polyphosphate Blenders - PM₁₀ and Fluoride Emissions

Minimum polyphosphate blender stack exit flow rate	50 acfm	15,080 acfm	15,080 acfm	28,000 acfm
Maximum polyphosphate blender exit stack diameter	8 inches	4 feet	4 feet	9 feet
Minimum polyphosphate blender stack height	12 feet	12 feet	20 feet	12 feet
Maximum PM ₁₀ emissions from the site	1.46 lb/hr	4.50 lb/hr	12.80 lb/hr	6.90 lb/hr
Maximum PM ₁₀ emissions from the polyphosphate blender stack	0.30 lb/hr	N/A	N/A	N/A
Maximum Fluoride emissions from the site	0.007 lb/hr	0.09 lb/hr	0.18 lb/hr	0.10 lb/hr

The predictions for the off-property concentrations of PM₁₀ and fluorides were scaled and the scaled versions were used to calculate maximum hourly emission rates in order for the maximum predicted concentrations to be less than the NAAQS and ESL for all distances. The emission rates and stack parameters in Table 1 of this standard permit were determined through current modeling techniques and are discussed further in the Protectiveness Review portion of this technical summary.

Subsection (B) requires written notification be submitted to the TCEQ regional office with jurisdiction over the relocation site prior to the relocation and/or operation of any temporary polyphosphate blender that is authorized by this standard permit. A response by the regional office is not required prior to the operation of the polyphosphate blender at the new site. Subsection (B) was included to aid TCEQ regional staff by notifying them as early as possible regarding the movement of facilities in and out of their respective regions.

Subsection (C) specifies that registration is not required for the relocation of temporary polyphosphate blenders. To streamline the permitting process and allocate resources to more complex and controversial permitting projects, these facilities were evaluated to determine whether temporary polyphosphate blenders meeting all of the applicable requirements of this standard permit could be exempt from the registration process each time the unit relocated. Based on the review of existing permits and PBRs, discussions within affected areas of the TCEQ, and the emission rate limitations and distance requirements determined to be protective through the modeling, the commission determined that registration each time the polyphosphate blender relocates is not required. This subsection also states that any modification (other than relocation) to a temporary polyphosphate blender authorized by this standard permit requires a new registration and may require additional sampling and testing.

Requirements Specific to Permanent Polyphosphate Blenders (New, Modified, or Existing)

Section (7) of this standard permit addresses new, modified, or existing permanent polyphosphate blenders. Paragraph (A)(i) requires that sampling as specified in subsection (5)(A) of this standard permit must have occurred and the last sampling report must have been deemed acceptable by the TCEQ.

Paragraph (A)(ii) specifies that the polyphosphate blender shall operate within the primary operating parameters recorded during the sampling. The operating parameters must be recorded at four-hour intervals while the polyphosphate blender is in operation. These operating parameters include raw materials, production rate, and no more than ten percent variation from each of the following operating parameters recorded during the sampling:

- 1) air flow rate (which shall also be in compliance with the flow rate specified in Figures 5 through 8 (whichever is applicable) of this standard permit);
- 2) pH;
- 3) specific gravity; and
- 4) pressure drop across the demister pad and packed bed.

The polyphosphate blender is expected to be in compliance with the emission rates recorded during sampling, which must also be in compliance with any emission rate

requirements specified in this standard permit, if the unit operates within these primary operating parameters.

Paragraph (A)(iii) specifies that the polyphosphate blender shall be in compliance with the ammonia emission rates, minimum setback distance requirements, air flow rates, and polyphosphate blender stack parameters as determined by using Figures 5 through 8 (whichever is applicable) of this standard permit. Unless otherwise specified in any of the figures, ammonia emission rates are site-wide and all facility emission points, including facilities and activities as specified in section (8) of this standard permit, emitting ammonia at the site must meet the specified minimum setback distance to the property line and the respective emission rate required to meet current health effects guidelines for ammonia as determined by using Figures 5 through 8 (whichever is applicable). The emission rates and setback distance requirements in Figures 5 through 8 were determined through current modeling techniques and will be discussed further in the Protectiveness Review portion of this technical summary. Paragraph (A)(iii) also includes a clarification that the minimum setback distance to the property line shall be measured from each facility emission point or maintenance activity emission point to the nearest property line using the shortest distance to that property line (i.e., the nearest corresponding property line). All facility emission points and maintenance activity emission points must meet the minimum setback distance requirements determined by using Figures 5 through 8 (whichever is applicable) of this standard permit.

Paragraph (A)(iv), which references Table 2, specifies the total allowable PM₁₀ and total allowable fluoride emissions from the site and the polyphosphate blender stack. To demonstrate compliance with maximum allowable PM₁₀ and fluoride emissions specified in this standard permit, a permanent polyphosphate blender shall meet one of the scenarios in Table 2 of this standard permit:

Table 2. Permanent Polyphosphate Blenders - PM₁₀ and Fluoride Emissions

Minimum polyphosphate blender stack exit flow rate	50 acfm	15,080 acfm
Maximum polyphosphate blender exit stack diameter	8 inches	4 feet
Minimum polyphosphate blender stack height	12 feet	20 feet
Maximum PM ₁₀ emissions from the site	1.46 lb/hr	12.80 lb/hr
Maximum PM ₁₀ emissions from the polyphosphate blender stack	0.30 lb/hr	N/A
Maximum Fluoride emissions from the site	0.007 lb/hr	0.18 lb/hr

The predictions for the off-property concentrations of PM₁₀ and fluorides were scaled and the scaled versions were used to calculate maximum hourly emission rates in order for the maximum predicted concentrations to be less than the NAAQS and ESL for all distances. The emission rates and stack parameters in Table 2 of this standard permit were determined through current modeling techniques and are discussed further in the Protectiveness Review portion of this technical summary.

Subsection (B) states that any modification to a permanent polyphosphate blender authorized by this standard permit requires a new registration and may require additional sampling and testing.

Planned Maintenance, Start-up, and Shutdown (MSS) Activities

Section (8) of this standard permit addresses emissions from planned MSS activities from those facilities authorized by this standard permit. Subsection (A) specifies that emissions from planned start-up and shutdown activities are authorized by this standard permit. Based on information received from industry representatives, any increase in ammonia emissions from start-up activities is negligible, and no increase in PM₁₀ or fluoride emissions is expected. Ammonia emissions during start-up activities have the potential to be different than emissions from production operations for an insignificant amount of time because the ammonia stream has the potential to be at a pH level undesirable for the type of fertilizer being produced. The fan would also remain off until the designated temperature is reached; therefore, ammonia emissions (which must be routed through any control device that may be present) are not expected to travel off-property during start-up. No increase in emissions is expected from shutdown activities. In addition, emissions from planned start-up and shutdown of combustion units should not result in any quantifiable hourly emissions change of products of combustion. Although there may be transitional and incidental spikes before units stabilize during start-ups (5 to 15 minutes), overall products of combustion are expected to be within hourly range limits for normal loads during production operations. Start-up and shutdown emissions for temporary and permanent polyphosphate blender operations were evaluated through air dispersion modeling and when combined with emissions from production, all emissions were determined to be protective provided that the operation is in compliance with all requirements of this standard permit.

Emissions from specific planned maintenance activities are authorized by this standard permit, and these activities are listed in subsection (B). The planned maintenance activities and facilities listed in this subsection apply to those polyphosphate blender operations authorized by this standard permit. After discussions with industry representatives, a list of common maintenance activities and facilities was developed, and the frequency and timing of the maintenance activities was also determined. Common maintenance activities and facilities authorized by this standard permit include abrasive blasting, surface preparation, surface coating, facilities used for testing and repair of engines, compressors/pumps/engines, hand-held or manually operated equipment, vacuum cleaning systems, hydraulic oil filtering, lubrication, and brazing/soldering/welding/metal cutting equipment. Emissions from the activities listed in subsection (B) are expected to be protective due to the operational requirements and site-wide emission rate limitations specified in subsection (8)(C) of this standard permit.

The operational requirements in subsection (C) consist of site-wide material usage rate limitations for abrasives, solvents, lubricants, coatings, dyes, bleaches, fragrances, and water-based surfactants and detergents; restrictions on planned maintenance activities occurring simultaneously with each other and with production operations; and site-wide emission rate limitations for lead and all other contaminants associated with planned maintenance activities. The material usage limitations have been previously evaluated and are considered de minimis, and the emission limitations for lead (0.6 tons per year) and all other contaminants (25 tons per year or less for any one contaminant) are

considered insignificant and consistent with emission rate limitations in current PBRs. The material usage and emission rate limitations are also site-wide limitations to minimize cumulative emissions from planned maintenance activities that may be associated with other facilities (not authorized by this standard permit) located at the site. Planned maintenance activities, associated with the facilities or groups of facilities authorized by this standard permit, are not expected to result in adverse cumulative effects due to the restriction of simultaneous maintenance activities and the restriction of those maintenance activities occurring with production operations.

Subsection (D) allows some flexibility to the facility operator regarding planned maintenance activities. Subsection (D) guides the applicant toward alternate methods of authorization for planned maintenance that cannot meet the requirements of subsections (8)(B) and (8)(C) of this standard permit. Forms of authorization are listed as any applicable PBR, any other applicable standard permit, or a combination of these mechanisms. Even with these options, protectiveness is maintained since planned maintenance activities still cannot occur simultaneously with each other, and cannot occur simultaneously with production operations. Any maintenance, start-up, and shutdown emissions that are not authorized are subject to the applicable requirements of 30 TAC Chapter 101, Subchapter F, Emissions Events and Scheduled Maintenance, Startup, and Shutdown Activities.

V. PROTECTIVENESS REVIEW

Unless otherwise specified, a polyphosphate blender in this section will refer to both permanent and temporary polyphosphate blenders. Anhydrous ammonia is the principal pollutant emitted from a polyphosphate blender. Fluorides, particulate matter, and phosphoric acid are also emitted from the polyphosphate blender and other associated facilities, and minor products of combustion are emitted from the engine(s) used to power the polyphosphate blender. The predicted concentrations allowed for a facility authorized under this standard permit were compared to the TCEQ ESLs for the one-hour average and the annual average for anhydrous ammonia, phosphoric acid, and fluorides (as hydrogen fluoride) as part of the protectiveness review. Hydrogen fluoride was also evaluated and compared to the 24-hour average and monthly average ESLs. Predicted 24-hour and annual average concentrations of PM₁₀ were evaluated for comparison to the PM₁₀ NAAQS as part of the protectiveness review. Predicted concentrations for carbon monoxide (CO), sulfur dioxide (SO₂), and nitrogen dioxide (NO₂) (associated with products of combustion) were also evaluated for comparison to the NAAQS as part of the protectiveness review. In accordance with EPA's PM_{2.5} surrogate policy, the TCEQ uses the PM₁₀ program as a surrogate for the PM_{2.5} program until the EPA fully implements and integrates PM_{2.5} into the new source review program. PM₁₀ controls and emissions were modeled and predicted PM₁₀ concentrations were compared to the PM₁₀ NAAQS. Under the surrogate policy, compliance with the PM₁₀ NAAQS was used as the surrogate for compliance with the PM_{2.5} NAAQS.

The ESLs are pollutant-specific guideline concentrations used in TCEQ's effects evaluation of pollutant concentrations in air. These guidelines are developed by the Toxicology Section of the TCEQ Chief Engineer's Office and are based on a pollutant's

potential to cause adverse health effects, odor nuisances, and effects on vegetation. Health-based screening levels are set lower than levels reported to produce adverse health effects, and, as such, are set to protect the general public, including sensitive subgroups such as children, the elderly, or people with existing respiratory conditions. Adverse health or welfare effects are not expected to occur if the air concentration of a pollutant is below its ESL. If an air concentration of a pollutant is above the screening level, it is not necessarily indicative that an adverse effect will occur, but rather that further evaluation is warranted. The ESL for anhydrous ammonia is 170 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) for the one-hour average and $17 \mu\text{g}/\text{m}^3$ for the annual average. The ESL for phosphoric acid is ten $\mu\text{g}/\text{m}^3$ for the one-hour average and one $\mu\text{g}/\text{m}^3$ for the annual average. The ESL for hydrogen fluoride is $25 \mu\text{g}/\text{m}^3$ for the one-hour average, three $\mu\text{g}/\text{m}^3$ for the 24-hour average, $0.5 \mu\text{g}/\text{m}^3$ for the monthly average, and $2.5 \mu\text{g}/\text{m}^3$ for the annual average.

The primary NAAQS define a level of air quality that the EPA administrator determined is necessary, with an adequate margin of safety, to protect the public health. The secondary NAAQS define a level of air quality that the administrator determined necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant. Such standards are subject to revision, and additional primary and secondary standards may be promulgated as the administrator deems necessary to protect the public health and welfare. The primary and secondary NAAQS for a 24-hour average for PM_{10} is $150 \mu\text{g}/\text{m}^3$ while the primary and secondary NAAQS for the long-term average PM_{10} standard is $50 \mu\text{g}/\text{m}^3$.

The protectiveness review examined worst-case predicted concentrations from polyphosphate blender operations. The commission used the following modeling assumptions, selections, and techniques:

(1) air dispersion modeling was performed using ISCST3 (version 02035) and SCREEN3 (version 96043);

(2) scenarios for temporary polyphosphate blender operations, permanent polyphosphate blender operations, and products of combustion were evaluated. The temporary and permanent polyphosphate blender operations scenarios included anhydrous ammonia, hydrogen fluoride, phosphoric acid, and PM_{10} emissions from the polyphosphate blender, railcar, and anhydrous ammonia storage and distribution facilities. The products of combustion scenario included emissions of SO_2 , NO_2 , CO , and PM_{10} from the engine used to power the polyphosphate blender facilities;

(3) multiple cases were evaluated for both the temporary and permanent polyphosphate blender operations scenarios. The cases are defined by combinations of the stack diameter, stack flow rate, and stack exit temperature associated with the polyphosphate blender;

(4) for the temporary and permanent polyphosphate blender operations, the anhydrous ammonia emission rates modeled were based on maximum hourly emissions. Modeling

was conducted for the polyphosphate blender operating alone at a site, as well as the polyphosphate blender operating with anhydrous ammonia storage and distribution facilities. For the polyphosphate blender operating with anhydrous ammonia storage and distribution facilities evaluations, the anhydrous ammonia storage and distribution facilities were modeled with an anhydrous ammonia emission rate of 0.65 lb/hr. This emission rate was determined by modeling the anhydrous ammonia storage and distribution facilities with an emission rate of one lb/hr, and calculating an emission rate such that all predictions are less than the anhydrous ammonia ESL. For the remaining pollutants, modeling was conducted using an emission rate of one lb/hr. For phosphoric acid, hydrogen fluoride, and PM₁₀, the predictions were scaled to calculate maximum hourly emission rates in order for the maximum predicted concentrations to be less than the ESLs and NAAQS for all distances. For SO₂, NO₂, and CO, the predictions were multiplied by maximum hourly emission rates;

(5) daytime and nighttime hours were modeled;

(6) all facilities and equipment at the site were assumed to be within a 59-foot circular area for a conservative estimate of predicted concentrations. The polyphosphate blender and associated facilities have emissions from stacks and emissions that are fugitive in nature. The stacks were modeled as point sources and the fugitive emissions were modeled as area and volume sources. The area sources were modeled as circular area sources in order to eliminate any bias associated with source configuration and/or wind direction;

(7) all sources were co-located at the center of the property. By doing so, there is no bias based on source configuration and/or wind direction. This technique will also provide conservative results, since the cumulative impact of all sources is maximized;

(8) a fugitive adjustment factor of 0.6 was applied to the source emission rates of applicable sources in the modeling analysis to account for plume meander at low wind speeds and high atmospheric stability;

(9) a 0.75 factor was multiplied with the emission rate of NO₂. This is the EPA national default value, as referenced in Appendix W to 40 CFR Part 51, Requirements for Preparation, Adoption, and Submittal of Implementation Plans to account for limited conversion of NO_x to NO₂;

(10) rural dispersion coefficients and flat terrain were used in the modeling analyses. The selection of rural dispersion coefficients for the ISCST3 modeling analysis is conservative because the final results are given in distance required to fall below 2xESL for anhydrous ammonia and predicted frequencies of the ESL are less than 45 hours over the five-year period modeled. The distance to the maximum concentration for rural dispersion is farther than the distance with urban dispersion. The selection of rural dispersion coefficients for the SCREEN3 modeling analyses is conservative because predicted concentrations using rural dispersion coefficients are greater than predicted concentrations using urban dispersion coefficients. Flat terrain is consistent with typical site locations for these facilities;

(11) there were no downwash structures present for the modeling analysis since there are no structures located nearby that would impact dispersion of the emissions from the stacks, and downwash is not applicable for area and volume sources;

(12) the ISCST3 modeling analysis used surface data from Austin and upper air data from Victoria for the years 1983, 1984, 1986, 1987, and 1988. Since the analysis is primarily for short-term concentrations, this five-year data set includes worst-case short-term meteorological conditions that could occur anywhere in the state. The wind directions were used at ten-degree intervals to be coincident with the receptor radials. This would provide predictions along the plume centerline, which is a conservative result. The full meteorology option was selected in the SCREEN3 modeling analysis; and

(13) a polar receptor grid extending from the edge of the property to 8,150 feet with 100-foot spacing and from 8,150 feet out to 13,350 feet with 200-foot spacing along each ten-degree radial was used in the ISCST3 modeling analysis. For the products of combustion scenario, a polar receptor grid extending from the edge of the property to 1,800 feet with 50-foot spacing along each ten-degree radial was used in the modeling analysis. This was done to determine the plume centerline concentration. Receptors in the SCREEN3 modeling analysis were generated using the automated distance option out to 50 kilometers.

To ensure that there are no adverse health effects, the commission performed air quality modeling to determine an appropriate setback distance from the site property line for polyphosphate blender operations. The air quality modeling used in these analyses is typically conservative. Combined with conservative emission rate estimates, the modeling tends to over-predict maximum ground-level concentrations compared to actual monitored concentrations. The commission found that the anhydrous ammonia one-hour ESL is the limiting threshold for polyphosphate blender operations. Based on modeling anhydrous ammonia, the emissions from a polyphosphate blender operation were used to establish certain limitations with respect to distances between facilities and the property line as a function of the anhydrous ammonia emission rate and stack parameters. Modeling was conducted for a polyphosphate blender operating alone at a site, as well as a polyphosphate blender operating with anhydrous ammonia storage and distribution facilities. The modeling results demonstrated that the polyphosphate blender operating with emissions of anhydrous ammonia less than or equal to those indicated in Table 3 do not require a setback distance from the nearest property line to meet current health effects guidelines. For a polyphosphate blender operating at a site with anhydrous ammonia storage and distribution facilities, the total fugitive emissions of anhydrous ammonia from the storage and distribution facilities must be no greater than 0.65 lb/hr. For operations with anhydrous ammonia emission rates greater than those listed in Table 3, graphs have been developed depicting the required minimum facility setback distance from the nearest property line versus the polyphosphate blender anhydrous ammonia emissions to meet current health effects guidelines.

Modeling was conducted using an emission rate of one lb/hr for phosphoric acid, hydrogen fluoride, and PM₁₀. In order for the maximum predicted concentrations of these pollutants to not exceed the ESLs and meet standards (NAAQS) for all distances, maximum hourly emission rates were established based on scaled versions of the predicted concentrations. The maximum hourly phosphoric acid emission rate was established to be 0.0018 lb/hr. For temporary or permanent polyphosphate blender facilities with a minimum stack flow rate of 50 acfm, the maximum hourly hydrogen fluoride and PM₁₀ emission rates were calculated to be 0.007 and 0.30 lb/hr, respectively. For temporary polyphosphate blender facilities with a minimum stack flow rate of 15,080 acfm and stack height of 12 feet, the maximum hourly hydrogen fluoride and PM₁₀ emission rates were calculated to be 0.09 and 4.50 lb/hr, respectively. For temporary polyphosphate blender facilities with a minimum stack flow rate of 15,080 acfm and stack height of 20 feet, the maximum hourly hydrogen fluoride and PM₁₀ emission rates were calculated to be 0.18 and 12.80 lb/hr, respectively. For temporary polyphosphate blender facilities with a minimum stack flow rate of 28,000 acfm, the maximum hourly hydrogen fluoride and PM₁₀ emission rates were calculated to be 0.10 and 6.90 lb/hr, respectively. For the permanent polyphosphate blender facilities with a minimum stack flow rate of 15,080 acfm, the maximum hourly hydrogen fluoride and PM₁₀ emission rates were calculated to be 0.18 and 12.80 lb/hr, respectively. The modeling report is available upon request.

Table 3. Maximum Anhydrous Ammonia Emission Rates for Zero Setback Distance				
Operation	Minimum Stack Height (feet)	Minimum Stack Flow (actual cubic feet per minute)	Maximum Stack Exit Diameter (feet)	Emission Rate (lb/hr)
Temporary Polyphosphate Blender	12	15,080	4	4.40
	12	28,000	9	6.00
	20	15,080	4	7.50
	24	15,080	4	9.50
	30	15,080	4	12.30
	30	28,000	9	10.00
Temporary Polyphosphate Blender with Anhydrous Ammonia Storage and Distribution Facilities	12	15,080	4	3.70
	12	28,000	9	5.20
	20	15,080	4	6.70
	24	15,080	4	8.40
	30	15,080	4	11.30
	30	28,000	9	9.20
Permanent Polyphosphate Blender	20	15,080	4	6.20
	24	15,080	4	7.70
	30	15,080	4	10.30
Permanent Polyphosphate Blender with Anhydrous Ammonia Storage and Distribution Facilities	20	15,080	4	5.50
	24	15,080	4	6.80
	30	15,080	4	9.40
Temporary or Permanent Polyphosphate Blender	12	50	0.67	0.21
Temporary or Permanent Polyphosphate Blender with Anhydrous Ammonia Storage and Distribution Facilities	12	50	0.67	0.016

VI. PUBLIC NOTICE AND COMMENT PERIOD

In accordance with 30 TAC §116.603, Public Participation in Issuance of Standard Permits, the TCEQ published notice of the proposed standard permit in the *Texas Register* and newspapers of the largest general circulation in the following metropolitan

areas: Austin, Corpus Christi, Dallas, Houston, Lubbock, and Midland. The date for these publications was November 6, 2009. The public comment period ran from the date of publication until December 15, 2009. Comments on the proposed standard permit were received from the Texas Cotton Ginners' Association (TCGA), Biodiesel Coalition of Texas (BCOT), Texas Liquid Fertilizer (TLF), Equalizer, Poole Chemical Co. (Poole), Justin Seed Company, and the U.S. Environmental Protection Agency (EPA).

VII. PUBLIC MEETING

The TCEQ held a public meeting on the proposed Air Quality Standard Permit for Temporary and Permanent Polyphosphate Blenders on December 10, 2009, at 9:30 a.m., at the TCEQ, Building B, Room 201A, 12100 Park 35 Circle, Austin, Texas. There were no formal comments submitted at the public meeting.

VIII. ANALYSIS OF COMMENTS

TCGA indicated support for the proposed standard permit.

The commission appreciates the support.

TCGA commented that the facilities covered by the proposed standard permit have a minor impact, and supported the concept of using a sliding scale for distance limitations based on emission rate.

The standard permit was designed with conditions and requirements that are intended to ensure that the facilities and operations covered by the standard permit will not have a detrimental effect on human health or the environment. The variable distance requirements in the standard permit will allow operational flexibility for owners and operators of authorized facilities while still establishing enforceable emission rates and ensuring that the standard permit is protective.

TCGA commented that the operations covered by the standard permit have many common features, and use standard control methods. TCGA commented that the proposed standard permit has requirements that are similar to case-by-case permits issued for these facilities, and therefore would be protective.

TCGA is correct that many of the facilities and operations covered by the standard permit have similar features and use common control methods. The terms and conditions of the standard permit are intentionally similar to the terms and conditions in case-by-case permits, as standard permits are required by statute to implement BACT and must be protective of human health and the environment.

TCGA commented that the proposed standard permit would substantially reduce the amount of time that TCEQ staff spends reviewing individual permit applications, and streamline the process for the applicants.

The commission agrees that the standard permit will reduce the time and resources that are currently expended to perform case-by-case permit reviews for these types of facilities. The standard permit will provide a streamlined authorization method for the regulated community and will allow the commission to focus resources on reviews of projects that are more environmentally significant.

BCOT commented that the proposed standard permit should allow for the use of biodiesel fuel. BCOT stated that agricultural and biodiesel development go hand-in-hand. BCOT noted that the 2005 amendments to the Electric Generating Unit Standard Permit provided for the use of renewable fuels such as biodiesel.

The commission has added language to allow for the use of biodiesel and biodiesel-diesel blends as an authorized fuel under this standard permit. However, all biodiesel used as a fuel (or in a fuel blend) must meet ASTM D6751 specifications. In addition, many areas of Texas are subject to the Low Emission Diesel requirements of 30 TAC Chapter 114, Subchapter H, Division 2, and owners or operators seeking to use biodiesel in affected areas must ensure that the fuel complies with those requirements.

TLF, TAIA, and Poole commented that TCEQ should allow individual engines, or combinations of engines, rated greater than the 345 horsepower limit in the proposed standard permit. TLF noted that some of the other proposed standard permits allowed a combined power rating of 525 hp, and stated that some operators have a combination of engines that exceed the proposed 345 hp limit. TLF stated that larger engines (525 hp) would still comply with NO_x emission limits and the NAAQS.

The commission has revised the standard permit to increase the engine horsepower limitation from the proposed 345 hp to 525 hp. All emission rate increases from the larger engine have been evaluated through modeling, and it has been determined that the increase in site-wide emissions from products of combustion will not result in an exceedance of applicable NAAQS. The additional horsepower will also result in a change in site-wide allowable PM₁₀ emissions specified in the standard permit from 1.06 pounds per hour (lb/hr) to 1.46 lb/hr.

TLF, Equalizer, TAIA, and Poole recommended that TCEQ provide additional guidance regarding the acceptable protocols for compliance testing. TLF also requested that TCEQ provide a list of companies considered capable to perform the required testing.

The commission has not changed the standard permit in response to this comment. The commission has considered specifying definitive test methods in the standard permit, but this could unnecessarily limit flexibility, as different source characteristics and advances in sampling technology may influence the selection of the most appropriate method. There are multiple possible methods for the required testing, so the acceptable protocols can vary. Because of this, it is critical that the owner or operator comply with the standard permit requirements concerning advance notice of sampling and scheduling of a pretest meeting, so that appropriate

methods can be identified and agreed upon in advance. Certain sampling methods may require the testing firm to be accredited under the National Environmental Laboratory Accreditation Conference program. A list of most of the environmental testing firms in the U.S. that conduct emission testing can be found at the Source Evaluation Society (SES) website, <http://www.sesnews.org/>. The list of "Stack Testing Companies" is under the "Primary links" heading on the left side of the SES website. The inclusion of this link does not imply official TCEQ endorsement of these testing firms, but is meant to serve as an initial tool for owners or operators that are having difficulty finding testing contacts. It should be noted that in order for a polyphosphate blender to be approved for the standard permit, the testing must occur in Texas.

Equalizer commented that the TCEQ should allow the minimum setback distance to be measured to the nearest property line of an "off site receptor" as defined in section (2)(C) of the standard permit, instead of being measured to the nearest property line of the polyphosphate blending facility. Equalizer explained that in many cases the nearest property line is defined by the railroad siding where railcars with raw materials are placed, and this would effectively result in a setback distance of zero at those locations.

The commission has not changed the standard permit in response to this comment. Zero distance to the property line is acceptable if a polyphosphate blender can meet the designated emission rates specified in the standard permit figures. A standard permit does not allow for detailed site-specific considerations, so the impacts evaluation must be conservative. Distance to the property line is the more conservative consideration, especially since the general public has access to the ambient air/atmosphere just beyond the property line.

Justin Seed expressed concern that the proposed standard permits covering dry bulk fertilizer handling operations; grain elevators/grain handling operations and portable grain augers; and feedmills, portable augers, and hay grinders are being forwarded with little input from the industries that they affect, and with little knowledge of the impact. Justin Seed suggested that the impact on agriculture could be much larger than stated in the technical summary documents.

The commission has not changed the standard permit in response to this comment. Before these agricultural standard permits were proposed, the commission formed an advisory group comprised of stakeholders from the agricultural industry, and held two stakeholder meetings on draft versions of the standard permits to solicit input from interested parties. A variety of trade associations, organizations, and companies had representatives attending these stakeholder meetings, including but not limited to the Texas Cotton Ginners' Association, United States Department of Agriculture, Texas Ag Industries Association, Texas Cattle Feeders' Association, and companies involved in the production or sale of grain, peanuts, and fertilizer. Following these stakeholder meetings, TCEQ revised the draft permits partially based on input from these groups, and formally proposed the agricultural standard permits on November 6, 2009. Notices of the proposals were published in the Texas

Register and in six major newspapers in Texas. An announcement of the proposals was also posted on the commission's web site, and a press release on the proposed standard permits was issued for distribution to the media. Notice of the proposed standard permits was also sent to a representative of the Texas Department of Agriculture. In addition, notice of the proposed standard permits was provided electronically to persons subscribed to a mailing list for air permitting issues. The commission believes that in combination, these stakeholder meetings and notices provided sufficient opportunity for the relevant industries to offer input on the proposed standard permits.

As to the impact of the standard permits on these industries, in many cases the impact will be minimal, with some exceptions noted further below. Generally, any facility that produces air contaminants is required to obtain some type of authorization for those emissions. That authorization is typically a permit by rule under 30 TAC Chapter 106, a standard permit, or a case-by-case permit under 30 TAC Chapter 116. The proposed standard permits would offer a new, streamlined method of authorization for those facilities that do not wish to use a permit by rule or case-by-case permit. Existing facilities that are already authorized could continue to operate under those authorizations and would not be affected by the proposed standard permits. Facilities that are most likely to be directly affected by the proposed standard permits are portable pipe reactors (polyphosphate blenders), and commercial grain handling facilities. The commission is considering the repeal of permit by rule 30 TAC §106.302 for portable pipe reactors, and considering revisions to permit by rule 30 TAC §106.283 for grain handling, storage, and drying facilities. If the portable pipe reactor permit by rule is repealed, portable pipe reactors will be required to comply with the standard permit for polyphosphate blending operations, or meet another authorization mechanism such as another applicable PBR or a case-by-case permit. Similarly, if the planned changes to the permit by rule for grain handling, storage and drying are adopted, new or modified commercial grain handling operations will be required to comply with the standard permit for grain handling operations, or meet another authorization mechanism such as another applicable PBR or a case-by-case permit.

Justin Seed expressed concern that they (a) don't fully understand the purpose for the new standards, (b) are not able to identify what is being changed relative to current requirements, and (c) are unable to support or disagree to references made on the impact to industry stakeholders.

The commission has not changed the standard permit in response to this comment. The purpose of the agricultural standard permits is to provide a new, streamlined method of authorization for these types of facilities and operations, as an alternative to the use of a permit by rule or case-by-case permit. Except as noted below, owners or operators of agricultural facilities would still be able to use an applicable permit by rule, case-by-case permit, or other applicable authorization mechanism if they elect to do so, but the commission expects that in many cases the new standard permits will be a more attractive option for a variety of reasons. The issuance of the

new standard permits does not directly affect or change existing requirements. Facilities that are already authorized would continue to hold that authorization and are not required to comply with a standard permit. However, as noted above, the commission is considering the repeal of the permit by rule for portable pipe reactors (polyphosphate blenders) and considering revisions to the permit by rule for grain handling, storage, and drying facilities. If those changes are adopted, then new or relocated portable pipe reactor (polyphosphate blending) facilities will need to comply with the applicable standard permit, a case-by-case permit, or other applicable authorization mechanism. Similarly, new or modified commercial grain handling facilities would be required to comply with the applicable standard permit, a case-by-case permit, or other applicable authorization mechanism. The repeal of 30 TAC §106.302 and the revisions to 30 TAC §106.283 are being proposed in a separate action.

EPA stated that the standard permit must contain additional language compelling the facility to ensure that the entire site's emissions do not exceed major source threshold levels.

The commission has not changed the standard permit in response to this comment. The standard permit contains a provision that specifies that the standard permit cannot be used to authorize any facility or project that would constitute a new major stationary source or a major modification. The provision further states that the standard permit cannot be used at a major source. This provision is similar to the language in 30 TAC §116.610(b), which EPA approved as a State Implementation Plan (SIP) revision on November 14, 2003 (68 FR 64543). The second part of this provision, which prohibits the standard permit from being used at a major source, is more conservative than is typical of TCEQ practice for standard permits. This provision was added to ensure protectiveness and further minimize concerns about federal applicability, but it is not an express requirement of the SIP or federal regulations concerning federal new source review. Finally, under 30 TAC §116.615(8), owners or operators are required to maintain records sufficient to demonstrate compliance with the applicable standard permit, which includes records to demonstrate that the site is not a major source. The commission believes the restrictions as written in the standard permit combined with the general conditions of 30 TAC §116.615 will be sufficient to allow TCEQ to enforce the condition relating to major source threshold levels.

EPA stated that the permit must contain short term emission limits (pounds per hour) or an annual emission limit to ensure compliance with all emissions including startup, shutdown, and maintenance emissions. EPA commented that a permit condition must also state that any excess emissions exceeding the short term hourly rate are in violation of the permit to ensure operations do not result in high emission peaks. EPA requested that the permit contain annual limits to ensure the facility does not become a major source.

Although the standard permit emission limits are presented in a manner that is different from most other TCEQ permits, the standard permit does contain enforceable hourly emission limits. The standard permit contains several graphs that represent the relationship between the allowable hourly ammonia emission rate and the available setback distance to the nearest property line. In addition, the standard permit specifies hourly emission limits for PM₁₀ and fluorides in table form. Emissions from planned startup, shutdown, and maintenance activities are covered by and are subject to these emission limits.

Although subsection (1)(H) of the standard permit already stipulates that site-wide emissions must meet the applicable emission rate requirements, the commission has added a provision to emphasize that emissions exceeding permitted levels are a violation of the standard permit. Any facility with emissions exceeding the applicable hourly emission rate and not meeting an associated setback distance would not be authorized under the standard permit. The commission believes that the standard permit conditions and emission limitations as proposed are sufficient to deny the use of the standard permit for a major source, without stating specific annual emission limitations in the permit.

EPA stated that the permit must specify a representative monitoring frequency to ensure compliance with the opacity limit, and a recordkeeping requirement to ensure enforceability of the opacity limit.

The commission agrees with the EPA's comment and a monitoring frequency has been added to the standard permit to aid in the demonstration of compliance with specified opacity limitations. However, as it is not feasible for these operations to keep a certified opacity reader on site, the TCEQ has addressed this through a regular control device inspection program instead of direct measurements of opacity. The standard permit now includes a requirement that the polyphosphate blender and all air pollution abatement equipment must be checked for proper operation every 30 days (unless more frequent checks/inspections are otherwise specified in the standard permit). The recordkeeping requirements of the standard permit have also been changed to clarify that records are required to demonstrate compliance with this monitoring frequency. In addition to the monitoring now included in the standard permit, the commission will also continue to rely on periodic inspections to enforce opacity limits and control nuisances. The TCEQ investigators will use EPA Test Method 9 to determine compliance with the opacity limitation(s).

EPA stated that the permit must specify that all equipment within the stationary source should be considered in the emissions determination.

The commission has not changed the standard permit in response to this comment. The Applicability section of the standard permit includes a condition that states that the standard permit cannot be used if the total site-wide emissions do not meet the applicable emission rate requirements. Although this condition does not explicitly

refer to “all equipment,” it would not be possible to determine total site-wide emissions unless all sources of air pollution were included. Section IV of the permit technical summary, Permit Condition Analysis and Justification, notes that the determination of site-wide emissions includes emissions from all facilities at the site, including facilities that are not associated with the operation being authorized under the standard permit. The terminology used may be slightly different than suggested in EPA’s comment, but the language used in the standard permit and technical summary will accomplish the same goal. Note that the term “site” is potentially even broader than the term “stationary source” as a site can include multiple stationary sources.

EPA stated that to ensure enforceability, the permit must contain recordkeeping requirements for the PM and opacity emission limitations.

The standard permit as proposed requires that the owner or operator maintain records to demonstrate that the operation meets the applicable emission rate and setback distance requirements. With respect to opacity, it is not feasible for these small operations to keep a certified opacity reader on site, therefore the commission will enforce the opacity requirements through periodic monitoring of equipment performance and periodic TCEQ inspections. The owner or operator is required to maintain records of the periodic equipment/control device monitoring.

EPA requested that TCEQ consider a five-year records retention period (instead of the proposed two-year period) to facilitate enforcement of other SIP requirements.

The commission has not changed the standard permit in response to this comment. TCEQ typically uses a two-year (24-month rolling) recordkeeping timeframe in association for non-major forms of authorization such as PBRs and standard permits, unless some other factor justifies a longer retention period. A five-year recordkeeping requirement would be more typical for records associated with federal regulations or a Title V permit. TCEQ is uncertain what other SIP requirements EPA is referring to in this comment. In the absence of more specific rationale to justify a five-year record retention period, TCEQ is electing to maintain the proposed 24-month retention period. However, standard permit holders should be aware that a five-year record retention period would apply if the standard permit operation is located at a site that is subject to Title V.

EPA requested that TCEQ include a provision stating any noncompliance with the permit constitutes a violation of the SIP and state law and is grounds for an enforcement action, for permit suspension, revocation, or revision, or for denial of a permit renewal application. In addition, EPA stated that the permit must contain reporting requirements for noncompliance with permit terms.

Although the commission’s authority to enforce, revoke, revise, or deny a permit is already expressed in other commission rules and Texas statutes, the commission concurs that the permit should contain a provision to clearly state that emissions

that exceed the limitations of the permit are a violation of the permit, and has added such a statement to the standard permit. With respect to reporting requirements for noncompliance with permit terms, TCEQ does not typically include such a condition in standard permits except in particular cases (for example, boilers equipped with a continuous emission monitoring system). Operations authorized under this standard permit are subject to all the rules of the commission including the recordkeeping and reporting requirements of 30 TAC Chapter 101, Subchapter F, Emissions Events and Scheduled Maintenance, Startup, and Shutdown Activities. Additional reporting requirements may apply if the standard permit facility is covered by a Title V permit.

EPA stated that the draft permit must provide a rationale to support the use of PM₁₀ as a surrogate for PM_{2.5}. EPA cited the recent Louisville Gas and Electric Petition Response, No. IV-2002-3, from the EPA Administrator Jackson, dated August 12, 2009.

Because little to no information is available on the amount of PM_{2.5} emitted from pipe reactors (polyphosphate blenders), the TCEQ will continue to use PM₁₀ standards as a surrogate for PM_{2.5}. As more information becomes available, the TCEQ may amend the polyphosphate blending standard permit if it appears that compliance with the PM_{2.5} NAAQS is in question.

EPA stated that they did not have access to the modeling used to make the determination for the lack of emission limits or operational limitations in the permit. EPA asked if TCEQ made the modeling data readily available, and if so, how was it made available.

The modeling data was made readily available; as stated in each standard permit proposal technical summary document, the modeling data for each standard permit was and is available upon request.

IX. STATUTORY AUTHORITY

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

AIR QUALITY STANDARD PERMIT FOR TEMPORARY AND PERMANENT POLYPHOSPHATE BLENDERS

Effective Date: April 7, 2010

This air quality standard permit authorizes the air emissions associated with temporary and permanent polyphosphate blenders that meet all of the applicable conditions listed in sections (1) through (8) of this standard permit.

This standard permit does not relieve the owner or operator from complying with any other applicable provision of the Texas Health and Safety Code, Texas Water Code, rules of the Texas Commission on Environmental Quality (TCEQ), or any additional state or federal regulations. Emissions that exceed the limits in this standard permit are not authorized and are violations of the standard permit.

(1) Applicability

- (A) This standard permit may be used to authorize air emissions from temporary and permanent polyphosphate blenders (including associated anhydrous ammonia tank connections, phosphoric acid tank connections, anhydrous ammonia railcar connections, phosphoric acid railcar connections, and engines) on or after the effective date of this standard permit. This standard permit also authorizes any fugitive emissions associated with a polyphosphate blender authorized by this standard permit.
- (B) A polyphosphate blender does not qualify for authorization under this standard permit if it is used to manufacture a product on site other than liquid fertilizer made up of those constituents specified in subsection (2)(D) of this standard permit.
- (C) A polyphosphate blender does not qualify for authorization under this standard permit if any individual engine (or combination of engines) rated greater than 525 horsepower is used.
- (D) A polyphosphate blender does not qualify for authorization under this standard permit if it constitutes a new major stationary source or major modification as defined by Title 30 Texas Administrative Code (30 TAC) §116.12, Nonattainment and Prevention of Significant Deterioration Review Definitions, or is located at a major stationary source.
- (E) Sampling, as specified in subsection (5)(A) of this standard permit, shall demonstrate that the emission rates of ammonia, particulate matter less than or equal to ten microns in diameter (PM₁₀), and fluorides do not exceed the emission rate limitations in sections (6) or (7) (whichever is applicable) of this standard permit.

- (F) This standard permit cannot authorize any emission increase of an air contaminant that is specifically prohibited by a condition in any permit issued under 30 TAC Chapter 116, Control of Air Pollution by Permits for New Construction or Modification, at the site.
- (G) This standard permit cannot be used in conjunction with any permit or standard permit issued under 30 TAC Chapter 116 or in conjunction with any permit by rule (PBR) under 30 TAC Chapter 106, Permits by Rule, except that PBRs and standard permits may be used, as specified in section (8) of this standard permit, to authorize planned maintenance activities and facilities. This requirement does not preclude the use of permits, standard permits, and PBRs to authorize other facilities (that are not associated with the polyphosphate blender) at the site provided the polyphosphate blender remains in compliance with all requirements of this standard permit. On-site anhydrous ammonia storage and distribution operations, authorized through another applicable mechanism, may be used in association with a polyphosphate blender.
- (H) This standard permit cannot be used if the total site-wide emissions do not meet the emission rate requirements specified in sections (6), (7), and (8) of this standard permit.
- (I) This standard permit does not authorize emissions from on-site anhydrous ammonia storage and distribution operations.

(2) Definitions

- (A) Anhydrous ammonia - ammonia without water, which is a colorless gas or liquid depending upon its method of storage.
- (B) Anhydrous ammonia storage and distribution operation - a facility, or group of facilities, that receives, stores, and handles anhydrous ammonia.
- (C) Off-site receptor - any recreational area or residence or other structure that is in use at the time the standard permit registration is filed with the commission and that is not occupied or used solely by the owner or operator of the facilities or the owner of the property upon which the facilities are located.
- (D) Polyphosphate blender - a facility, or group of facilities, that receives, mixes, reacts, and blends ammonia, superphosphoric acid, and water to manufacture liquid fertilizer.
- (E) Site - a site as defined in 30 TAC §122.10, General Definitions.

- (F) Temporary - operating at a site no more than 180 calendar days during any 12-month period.

(3) General Administrative Requirements

- (A) Specific registration and notification requirements for this standard permit are located in sections (6) and (7) of this standard permit. The relocation of temporary polyphosphate blenders authorized by, and meeting the requirements of, this standard permit is not subject to the requirements of 30 TAC §116.610(a)(1), Applicability; §116.611(a) and (b), Registration to Use a Standard Permit; §116.614, Standard Permit Fees; and §116.615(5), Start-up Notification (General Conditions).
- (B) Any claim under this standard permit must comply with applicable conditions of 30 TAC Chapter 116, Subchapter F, Standard Permits, except 30 TAC §116.610(a)(1), Applicability and §116.615(5), Start-up Notification (General Conditions).

(4) General Operating Requirements

- (A) Facilities authorized by this standard permit must comply with all applicable state and federal regulations, including, but not limited to, the following:
 - (i) facilities located in counties subject to 30 TAC Chapter 101, Subchapter H, Division 3, Mass Emissions Cap and Trade Program, and 30 TAC Chapter 117, Control of Air Pollution from Nitrogen Compounds, shall comply with all applicable requirements in 30 TAC Chapter 101, Subchapter H, Division 3, and 30 TAC Chapter 117;
 - (ii) Title 40 Code of Federal Regulations (40 CFR) Part 60, Subpart III, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines; and
 - (iii) 40 CFR Part 60, Subpart JJJJ, Standards of Performance for Stationary Spark Ignition Internal Combustion Engines.
- (B) Any operation authorized under this standard permit shall be limited to one temporary polyphosphate blender or one permanent polyphosphate blender at a site.
- (C) Any polyphosphate blender and engine authorized by this standard permit shall be equipped with a stack with a minimum height of 12 feet above ground level for the polyphosphate blender and a minimum height of ten feet above ground level for the engine.

- (D) In accordance with U.S. Environmental Protection Agency (EPA) Test Method 9, opacity of emissions from the polyphosphate blender stack authorized by this standard permit shall not exceed five percent averaged over a six-minute period.
- (E) All valves, connectors, flanges, and hoses associated with a polyphosphate blender authorized by this standard permit shall be properly maintained in leak-proof condition at all times.
- (F) Any polyphosphate blender authorized by this standard permit shall be equipped in such a manner that will prevent unauthorized access.
- (G) For polyphosphate blenders authorized by this standard permit and using a scrubber system to reduce ammonia emissions, one of the following procedures shall be used:
 - (i) an acid wash made up of process water and phosphoric acid diverted from the polyphosphate blender shall be introduced to the demister pad. The demister wash and product circulation system shall be in operation prior to the start of the reaction; or
 - (ii) a wash made up of process water diverted from the polyphosphate blender shall be introduced to the demister pad. The demister wash and product circulation system shall be in operation prior to the start of the reaction.
- (H) Fuel for any engine authorized by this standard permit shall be gas fuel, liquid diesel fuel, or biodiesel and biodiesel fuel blends meeting the requirements of this subsection. Gas fuel shall be limited to pipeline quality sweet natural gas, liquid petroleum gas, or fuel gas containing no more than ten grains total sulfur per 100 dry standard cubic feet. Liquid diesel fuel shall be petroleum distillate oil that is not a blend, does not contain waste oils or solvents, and contains 0.05 percent or less sulfur by weight. Biodiesel fuel and biodiesel used in biodiesel fuel blends shall meet the specifications of American Society for Testing and Materials (ASTM) D6751 and shall comply with the applicable requirements of 30 TAC Chapter 114, Control of Air Pollution from Motor Vehicles, Subchapter H, Division 2, Low Emission Diesel.
- (I) For any engine authorized by this standard permit, emissions of nitrogen oxides (NO_x) or operating hours shall not exceed the following limits at each site:
 - (i) 2.0 grams per horsepower-hour (g/hp-hr) for gas fuel;

- (ii) 11.0 g/hp-hr for liquid diesel or biodiesel-based fuel; or
 - (iii) 2,880 hours during any 12-month period.
- (J) Total phosphoric acid emissions from associated fugitive components at the site shall be less than or equal to 0.0018 lb/hr.
- (K) If an anhydrous ammonia and distribution operation is located on site, total ammonia emissions from the anhydrous ammonia storage and distribution operation shall be less than or equal to 0.65 lb/hr.
- (L) The polyphosphate blender and all air pollution abatement equipment shall be checked a minimum of once at each new site and no less than every 30 days (unless more frequent checks are otherwise specified in this standard permit) and abatement equipment shall be properly maintained and operated during the operation of the facilities authorized by this standard permit. Scheduled cleaning and maintenance of the polyphosphate blender and abatement equipment shall be performed as recommended by the manufacturer and as necessary so that the equipment efficiency is adequately maintained.
- (M) All facilities and associated equipment authorized by this standard permit, including any transfer equipment, must be maintained in good working order and operated properly.
- (N) For all polyphosphate blenders and planned maintenance, start-up, and shutdown (MSS) facilities and activities authorized by this standard permit, the following records shall be maintained at the site for a rolling 24-month period and be made available at the request of personnel from the TCEQ or any other air pollution control agency or program having jurisdiction:
- (i) records of all repairs and replacements made to equipment associated with the polyphosphate blender;
 - (ii) if limiting hours of operation, as specified in paragraph (4)(I)(iii) of this standard permit, records of hours of operation for each engine;
 - (iii) documentation accurately reflecting the quantity of valves, seals, flanges, and open-ended lines associated with phosphoric acid handling to demonstrate compliance with subsection (4)(J) of this standard permit;
 - (iv) all records to demonstrate that the polyphosphate blender meets the applicable emission rate and minimum setback distance limitations

determined by using Figures 1 through 8 (whichever is applicable) of this standard permit;

- (v) records for permanent polyphosphate blenders shall be located at the site, and records for temporary polyphosphate blenders shall remain with the primary blender equipment;
- (vi) records of periodic monitoring and scheduled cleaning and maintenance of the polyphosphate blender and abatement equipment to demonstrate compliance subsection (4)(L) of this standard permit; and
- (vii) records containing sufficient information to demonstrate compliance with paragraphs (8)(C)(i) through (8)(C)(iv) of this standard permit that include:
 - (a) the type and reason for the activity or facility;
 - (b) the processes and equipment involved;
 - (c) the date, time, and duration of the activity or facility operation; and
 - (d) the amount of material usage and emission rates.

(5) Demonstration of Compliance

- (A) For the polyphosphate blender for which authorization is being requested, the owner or operator shall comply with the following sampling and testing requirements at the site specified in the initial registration request:
 - (i) The owner or operator shall perform stack sampling and/or other testing to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere from the polyphosphate blender. The owner or operator is responsible for providing sampling and testing facilities and conducting the sampling and testing operations at their own expense.
 - (ii) The appropriate TCEQ regional office and any local air pollution control agencies or programs having jurisdiction shall be notified as soon as sampling is scheduled but not less than 45 days prior to sampling to schedule a pretest meeting. The notice shall include:
 - (a) the proposed date for the pretest meeting for which the purpose is to review the necessary sampling and testing procedures, to provide the proper data forms for recording

pertinent data, and to review the format procedures for submitting the sampling reports;

- (b) the date sampling will occur to afford regional office staff the opportunity to observe all such sampling;
 - (c) the points or facilities to be sampled;
 - (d) the name of the firm conducting sampling;
 - (e) the type of sampling equipment to be used; and
 - (f) the method or procedure to be used in sampling.
- (iii) A written proposed description of any deviation from sampling procedures specified in standard permit conditions or the TCEQ or EPA sampling procedures shall be submitted to the appropriate TCEQ regional office, and a copy shall be submitted to the TCEQ Office of Permitting and Registration (OPR), Air Permits Division prior to the pretest meeting. The appropriate TCEQ regional director shall approve or disapprove of any deviation from specified sampling procedures. Any deviation from sampling procedures specified in this standard permit shall also be included in the final sampling report.
- (iv) The polyphosphate blender shall operate at maximum capacity during stack emission testing. If the polyphosphate blender is unable to operate at maximum rates during testing, then future production rates may be limited to the rates established during testing. Additional stack testing may be required when higher production rates are achieved.
- (v) Air contaminants to be tested include, but are not limited to, ammonia, PM₁₀, and fluorides. Requests to waive testing for any pollutant specified in this condition shall be submitted in writing prior to the pretest meeting to the TCEQ OPR, Air Permits Division in Austin.
- (vi) Sampling procedures shall begin within 24 hours of start of operation of the polyphosphate blender.
- (vii) Primary operating parameters, including, but not limited to, the raw materials used during the testing, production rate, air flow rate, pH, specific gravity, and the pressure drop across the demister pad and packed bed shall be monitored and recorded during the stack test. These parameters are to be determined at the pretest meeting.

- (B) A polyphosphate blender that has met all of the sampling requirements in subsection (5)(A) of this standard permit may continue to operate under this standard permit while the TCEQ is determining initial compliance. Upon notification by the TCEQ OPR, Air Permits Division in Austin that the sampling results demonstrate that the polyphosphate blender is not in compliance with all applicable emission rate requirements of this standard permit, the owner or operator cannot continue to claim authorization under this standard permit and must cease all operations immediately. Authorization of the polyphosphate blender must occur through another applicable mechanism, or the owner or operator may request a new registration under this standard permit as specified in subsections (5)(H) and (5)(I) of this standard permit.
- (C) If, after the second registration, it cannot be demonstrated through sampling and/or testing that the polyphosphate blender is in compliance with all applicable emission rate requirements of this standard permit, the owner or operator may not request additional registration for the polyphosphate blender under this standard permit. Authorization of the polyphosphate blender must occur through another applicable mechanism.
- (D) For a determination of compliance with this standard permit, the owner or operator of a polyphosphate blender that has met all testing requirements as specified in subsection (5)(A) of this standard permit shall submit copies of the final sampling report within 30 days from the date the sampling is completed to the TCEQ regional office where the facility was sampled or tested, any local air pollution control agencies or programs having jurisdiction, and the TCEQ OPR, Air Permits Division in Austin. Sampling reports shall comply with the provisions of Chapter 14 of the TCEQ document entitled "Sampling Procedures Manual," and a copy of the following shall be maintained at the site for permanent polyphosphate blenders and with the primary blender equipment for temporary polyphosphate blenders and shall be made available at the request of personnel from the TCEQ or any other air pollution control agency or program having jurisdiction. The information/test data shall include the following:
- (i) a process description, including any control devices, the polyphosphate blender manufacturer, model, design, maximum design capacity, and the control device manufacturer and model;
 - (ii) a serial number (permanently affixed to the unit and readable under all conditions) that will be used to track the tested polyphosphate blender;

- (iii) information as to whether the test is a first or second attempt at demonstration of compliance under this standard permit; and
 - (iv) a detailed sampling report with final results and specific plant and operational data recorded during testing.
- (E) Sampling reports that do not contain the required information will not be accepted, and the owner or operator cannot continue to claim authorization under this standard permit and must cease all operations immediately upon notification by the TCEQ. Authorization of the polyphosphate blender must occur through another applicable mechanism, or the owner or operator may request a new registration under this standard permit as specified in subsections (5)(H) and (5)(I) of this standard permit.
- (F) Emission rates of ammonia, PM₁₀, and fluorides resulting from testing shall be used to demonstrate compliance with the emission rate limitations as specified in paragraphs (6)(A)(iv) and (6)(A)(v) of this standard permit for temporary polyphosphate blenders or the emission rate limitations as specified in paragraph (7)(A)(iii) and (7)(A)(iv) of this standard permit for permanent polyphosphate blenders.
- (G) If it is determined by the TCEQ OPR, Air Permits Division in Austin that the initial sampling results demonstrate that the emission rates of ammonia, PM₁₀, or fluorides exceed the emission rate limitations in sections (6) or (7) (whichever is applicable) of this standard permit, the owner or operator cannot continue to claim authorization for the polyphosphate blender under this standard permit and must cease all operations immediately upon notification by the TCEQ. Authorization of the polyphosphate blender must occur through another applicable mechanism, or the owner or operator may request a new registration under this standard permit as specified in subsections (5)(H) and (5)(I) of this standard permit.
- (H) Once the owner or operator is notified by the TCEQ OPR, Air Permits Division in Austin that the polyphosphate blender is not in compliance with the emission rate requirements of this standard permit, the owner or operator may submit a second registration request. This second registration must include substantial technical information to demonstrate that the polyphosphate blender will show compliance with the emission rate limitations in sections (6) or (7) (whichever is applicable) of this standard permit.
- (I) Any owner or operator of a polyphosphate blender seeking authorization with a second registration under this standard permit, due to a demonstration of non-compliance during initial sampling, must meet all sampling and testing requirements as specified in subsection (5)(A) of this

standard permit at the site specified in the second registration request. Once any required sampling at the specified site is complete, the owner or operator must cease all operations immediately until notified by the TCEQ that the sampling report has demonstrated the polyphosphate blender's compliance with all applicable emission rate requirements of this standard permit.

(6) Requirements Specific to Temporary Polyphosphate Blenders

(A) In addition to section (4) of this standard permit, temporary polyphosphate blenders shall also meet the following requirements:

(i) sampling as specified in subsection (5)(A) of this standard permit must have occurred and the last sampling report must have been deemed acceptable by the TCEQ. Once the owner or operator of a temporary polyphosphate blender has complied with the sampling requirements in subsection (5)(A) of this standard permit and has demonstrated compliance with all applicable emission rate and minimum setback distance requirements specified in section (6) of this standard permit, testing is not required when the facility relocates to another site, provided no modifications other than relocation are made to the facility;

(ii) for a temporary polyphosphate blender that has been tested at another site located in Texas, testing for initial authorization under this standard permit is not necessary, provided the last sampling report was deemed acceptable by the TCEQ, the last sampling report demonstrates the polyphosphate blender's compliance with all applicable emission rate and minimum setback distance requirements specified in section (6) of this standard permit, and no modifications other than relocation have been made since the last acceptable sampling. The last acceptable sampling report must be included with the initial registration request;

(iii) at each location, the polyphosphate blender shall operate within the primary operating parameters recorded during the sampling as specified in subsection (5)(A) of this standard permit. The operating parameters shall be recorded at four-hour intervals while the polyphosphate blender is in operation, and records shall be maintained with the primary blender equipment. These operating parameters include the following:

(a) raw materials;

(b) production rate; and

- (c) no more than ten percent variation from each of the following primary operating parameters recorded during the sampling:
 - (1) air flow rate (which shall also be in compliance with the flow rate specified in Figures 1 through 6 (whichever is applicable) of this standard permit);
 - (2) pH;
 - (3) specific gravity; and
 - (4) pressure drop across the demister pad and packed bed;
- (iv) the polyphosphate blender shall be in compliance with the ammonia emission rates, minimum setback distance requirements, air flow rates, and polyphosphate blender stack parameters as determined by using Figures 1 through 6 (whichever is applicable) of this standard permit. The minimum setback distance shall be measured from each facility emission point or maintenance activity emission point to the nearest property line using the shortest distance to that property line. All facility emission points and maintenance activity emission points must meet the minimum setback distance requirements determined by using Figures 1 through 6 (whichever is applicable) of this standard permit; and
- (v) to demonstrate compliance with maximum allowable PM₁₀ and fluoride emissions, a temporary polyphosphate blender shall meet one of the scenarios in Table 1 of this standard permit.

Table 1. Temporary Polyphosphate Blenders – PM₁₀ and Fluoride Emissions

Minimum polyphosphate blender stack exit flow rate	50 actual cubic feet per minute (acfm)	15,080 acfm	15,080 acfm	28,000 acfm
Maximum polyphosphate blender exit stack diameter	8 inches	4 feet	4 feet	9 feet
Minimum polyphosphate blender stack height	12 feet	12 feet	20 feet	12 feet
Maximum PM ₁₀ emissions from the site	1.46 pound per hour (lb/hr)	4.50 lb/hr	12.80 lb/hr	6.90 lb/hr
Maximum PM ₁₀ emissions from the polyphosphate blender stack	0.30 lb/hr	N/A	N/A	N/A
Maximum Fluoride emissions from the site	0.007 lb/hr	0.09 lb/hr	0.18 lb/hr	0.10 lb/hr

- (B) Written notification shall be submitted to the TCEQ regional office with jurisdiction over the relocation site prior to the relocation and/or operation of any temporary polyphosphate blender authorized by this standard permit.
- (C) Registration is not required for the relocation of temporary polyphosphate blenders authorized by this standard permit. Any modification (other than relocation) to a temporary polyphosphate blender authorized by this

standard permit requires a new registration and may require additional sampling and testing.

(7) Requirements Specific to Permanent Polyphosphate Blenders (New, Modified, or Existing)

(A) In addition to section (4) of this standard permit, permanent polyphosphate blenders shall also meet the following requirements:

(i) sampling as specified in subsection (5)(A) of this standard permit must have occurred and the last sampling report must have been deemed acceptable by the TCEQ;

(ii) the polyphosphate blender shall operate within the primary operating parameters recorded during the sampling as specified in subsection (5)(A) of this standard permit. The operating parameters shall be recorded at four-hour intervals while the polyphosphate blender is in operation. These operating parameters include the following:

(a) raw materials;

(b) production rate; and

(c) no more than ten percent variation from each of the following primary operating parameters recorded during the sampling:

(1) air flow rate (which shall also be in compliance with the flow rate specified in Figures 5 through 8 (whichever is applicable) of this standard permit);

(2) pH;

(3) specific gravity; and

(4) pressure drop across the demister pad and packed bed;

(iii) the polyphosphate blender shall be in compliance with the ammonia emission rates, minimum setback distance requirements, air flow rates, and polyphosphate blender stack parameters as determined by using Figures 5 through 8 (whichever is applicable) of this standard permit. The minimum setback distance shall be measured from each facility emission point or maintenance activity emission point to the nearest property line using the shortest distance to that property line. All facility emission points and maintenance activity emission points must meet the minimum

setback distance requirements determined by using Figures 5 through 8 (whichever is applicable) of this standard permit; and

- (iv) to demonstrate compliance with maximum allowable PM₁₀ and fluoride emissions, a permanent polyphosphate blender shall meet one of the scenarios in Table 2 of this standard permit.

Table 2. Permanent Polyphosphate Blenders – PM₁₀ and Fluoride Emissions

Minimum polyphosphate blender stack exit flow rate	50 acfm	15,080 acfm
Maximum polyphosphate blender exit stack diameter	8 inches	4 feet
Minimum polyphosphate blender stack height	12 feet	20 feet
Maximum PM ₁₀ emissions from the site	1.46 lb/hr	12.80 lb/hr
Maximum PM ₁₀ emissions from the polyphosphate blender stack	0.30 lb/hr	N/A
Maximum Fluoride emissions from the site	0.007 lb/hr	0.18 lb/hr

- (B) Any modification to a permanent polyphosphate blender authorized by this standard permit requires a new registration and may require additional sampling and testing.

(8) Planned Maintenance, Start-up, and Shutdown (MSS) Activities

- (A) This standard permit authorizes all emissions from planned start-up and shutdown activities associated with facilities or groups of facilities that are authorized by this standard permit.
- (B) This standard permit authorizes emissions from the following planned maintenance activities and facilities associated with polyphosphate blenders that are authorized by this standard permit:
 - (i) abrasive blasting (wet blast and dry abrasive cleaning);
 - (ii) surface preparation;
 - (iii) surface coating;
 - (iv) facilities used for testing and repair of engines;
 - (v) compressors, pumps, or engines, and associated pipes, valves, flanges, and connections;
 - (vi) hand-held or manually operated equipment used for buffing, polishing, carving, cutting, drilling, machining, routing, sanding, sawing, surface grinding, or turning of ceramic precision parts, leather, metals, plastics, fiber board, masonry, carbon, glass, graphite, or wood;
 - (vii) vacuum cleaning systems;

- (viii) hydraulic oil filtering;
 - (ix) lubrication; and
 - (x) brazing, soldering, welding, or metal cutting equipment.
- (C) Planned maintenance activities and facilities shall meet the following requirements.
- (i) The following materials are authorized and shall not be used at the site at more than the rates prescribed below:
 - (a) abrasives - 150 tons per year, 15 tons per month, and one ton per day;
 - (b) cleaning and stripping solvents and lubricants - 50 gallons per year;
 - (c) coatings (excluding plating materials) - 100 gallons per year;
 - (d) dyes - 1,000 pounds per year;
 - (e) bleaches - 1,000 gallons per year;
 - (f) fragrances (excluding odorants) - 250 gallons per year; and
 - (g) water-based surfactants and detergents - 2,500 gallons per year.
 - (ii) Planned maintenance activities associated with facilities or groups of facilities authorized by this standard permit shall not occur simultaneously (no two or more processes can occur at the same time), and these planned maintenance activities shall not occur simultaneously with production operations;
 - (iii) Planned maintenance activities and facilities at the site shall not emit more than 25 tons per year of any one air contaminant; and
 - (iv) Lead emissions from planned maintenance activities or facilities at the site shall be less than 0.6 tons per year.
- (D) Planned maintenance that cannot meet the requirements of sections (8)(B) and (8)(C) of this standard permit may be authorized by one or by a combination of the following mechanisms, provided the planned maintenance activities do not occur simultaneously (no two or more

processes can occur at the same time), and the planned maintenance activities do not occur simultaneously with production operations:

- (i) any applicable PBR under 30 TAC Chapter 106; or
- (ii) any other applicable standard permit.

Temporary Polyphosphate Blenders

Required Minimum Setback Distance

Minimum Exit Flow Rate: 15,080 acfm

Maximum Exit Stack Diameter: 4 feet

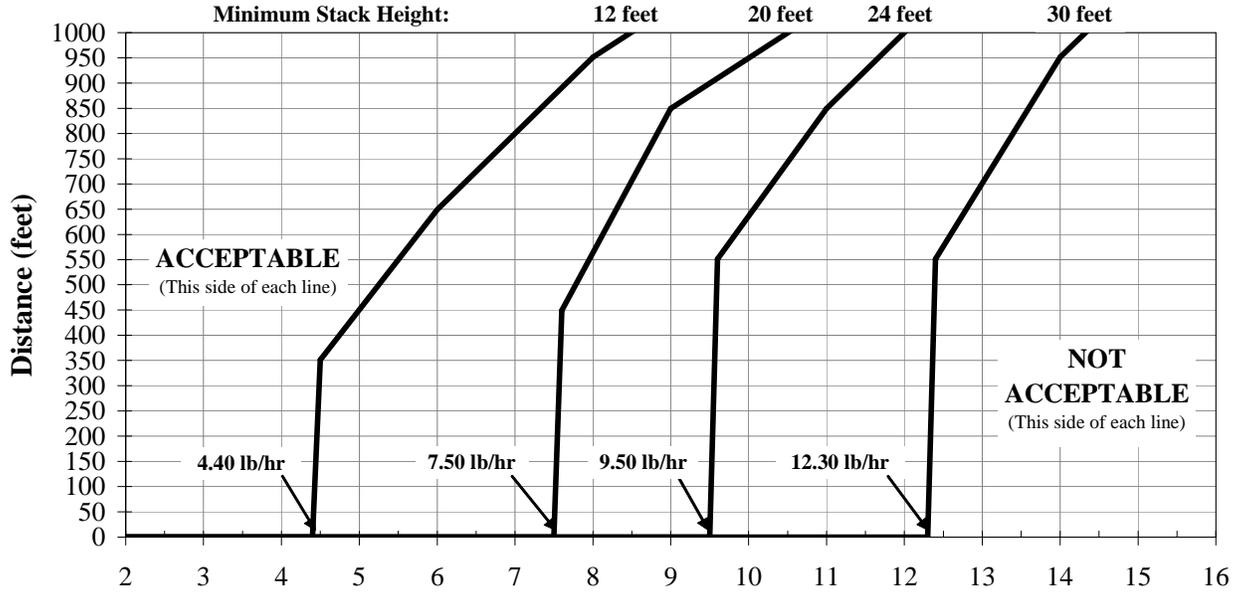


Figure 1: Site-wide Ammonia Emissions (lb/hr)

Temporary Polyphosphate Blenders

Required Minimum Setback Distance

Minimum Exit Flow Rate: 28,000 acfm

Maximum Exit Stack Diameter: 9 feet

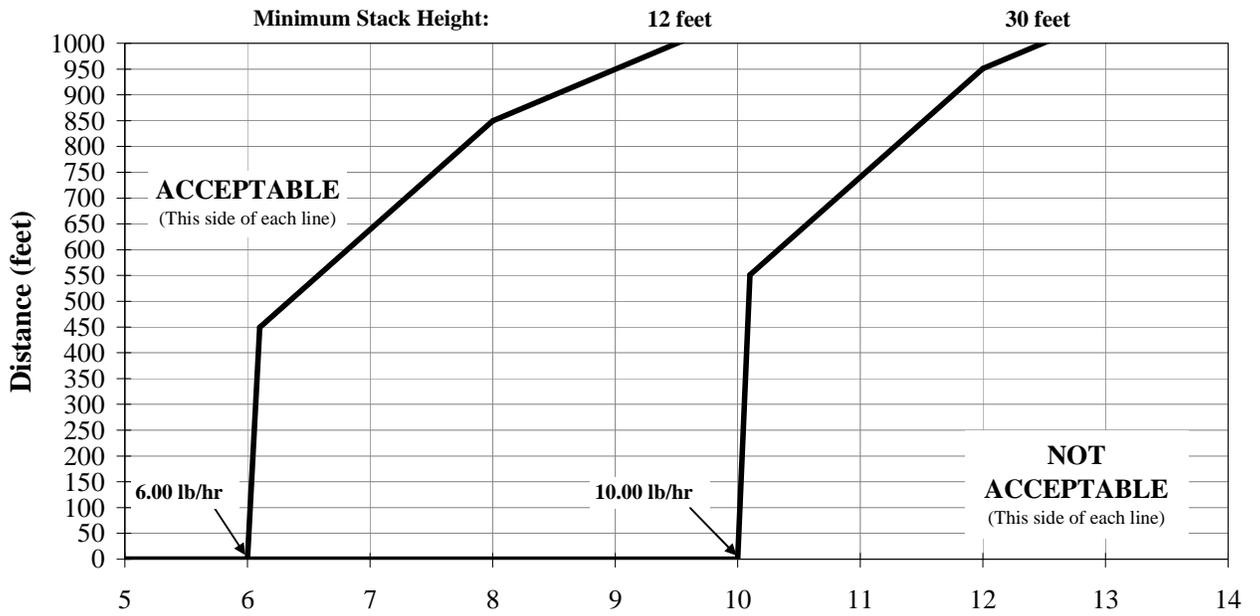


Figure 2: Site-wide Ammonia Emissions (lb/hr)

Combined Temporary Polyphosphate Blenders and Anhydrous Ammonia Storage and Distribution Operations

Required Minimum Setback Distance

Minimum Exit Flow Rate: 15,080 acfm

Maximum Exit Stack Diameter: 4 feet

Emission rates indicated on graph are for the polyphosphate blender stack.

Maximum allowable ammonia emissions from storage and distribution fugitives = 0.65 lb/hr

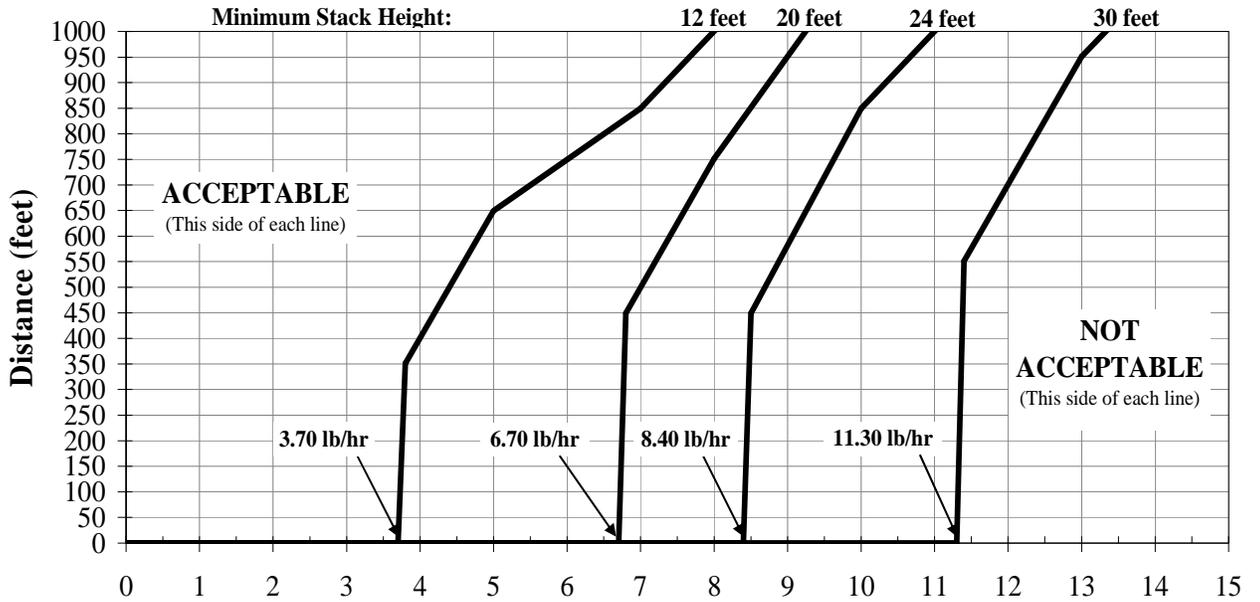
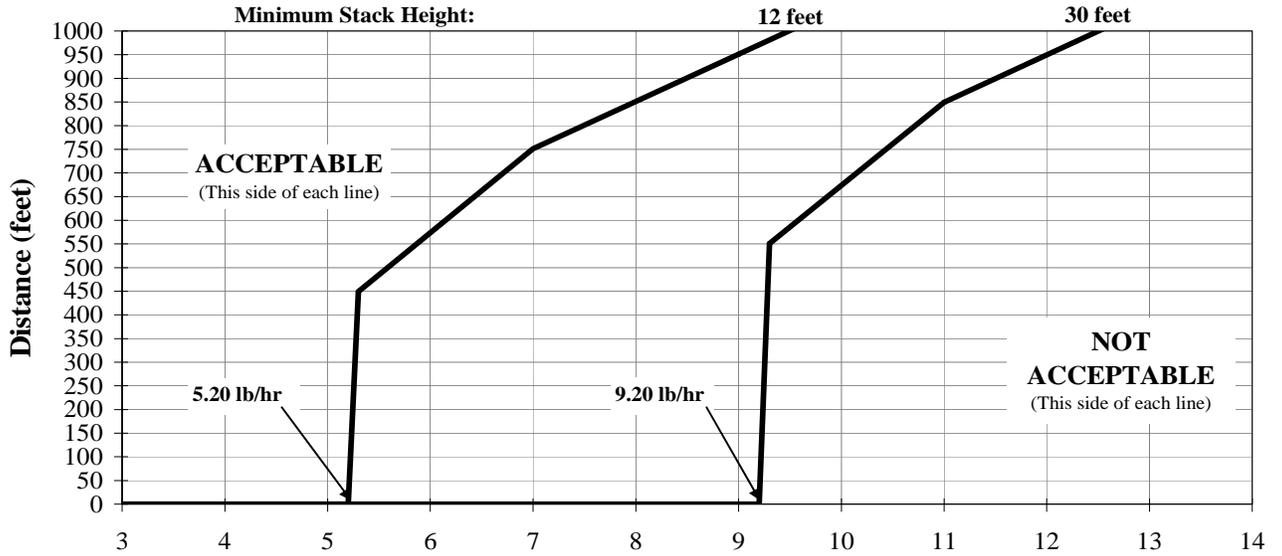


Figure 3: Polyphosphate Blender Stack Ammonia Emissions (lb/hr)

Combined Temporary Polyphosphate Blenders and Anhydrous Ammonia Storage and Distribution Operations

Required Minimum Setback Distance
Minimum Exit Flow Rate: 28,000 acfm
Maximum Exit Stack Diameter: 9 feet

Emission rates indicated on graph are for the polyphosphate blender stack.
 Maximum allowable ammonia emissions from storage and distribution fugitives = 0.65 lb/hr



Temporary or Permanent Polyphosphate Blenders

Required Minimum Setback Distance

Minimum Exit Flow Rate: 50 acfm

Maximum Exit Stack Diameter: 8 inches

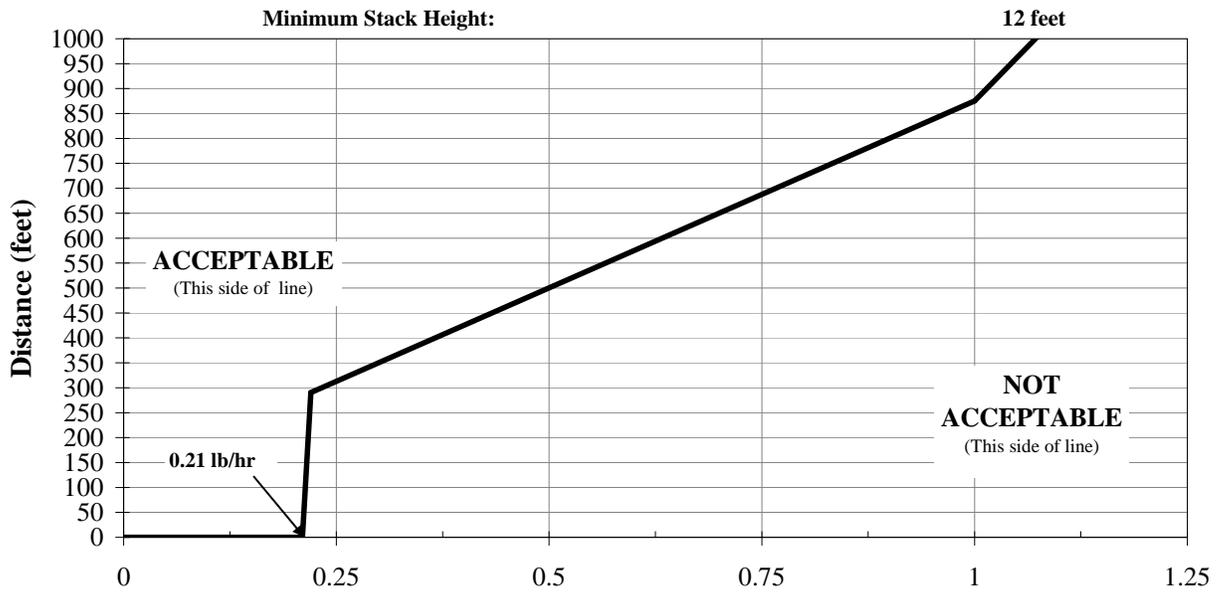


Figure 5: Site-wide Ammonia Emissions (lb/hr)

Combined Temporary or Permanent Polyphosphate Blenders and Anhydrous Ammonia Storage and Distribution Operations

Required Minimum Setback Distance

Minimum Exit Flow Rate: 50 acfm

Maximum Exit Stack Diameter: 8 inches

Emission rates indicated on graph are for the polyphosphate stack.

Maximum allowable ammonia emissions from storage and distribution fugitives = 0.65 lb/hr

Minimum Stack Height:

12 feet

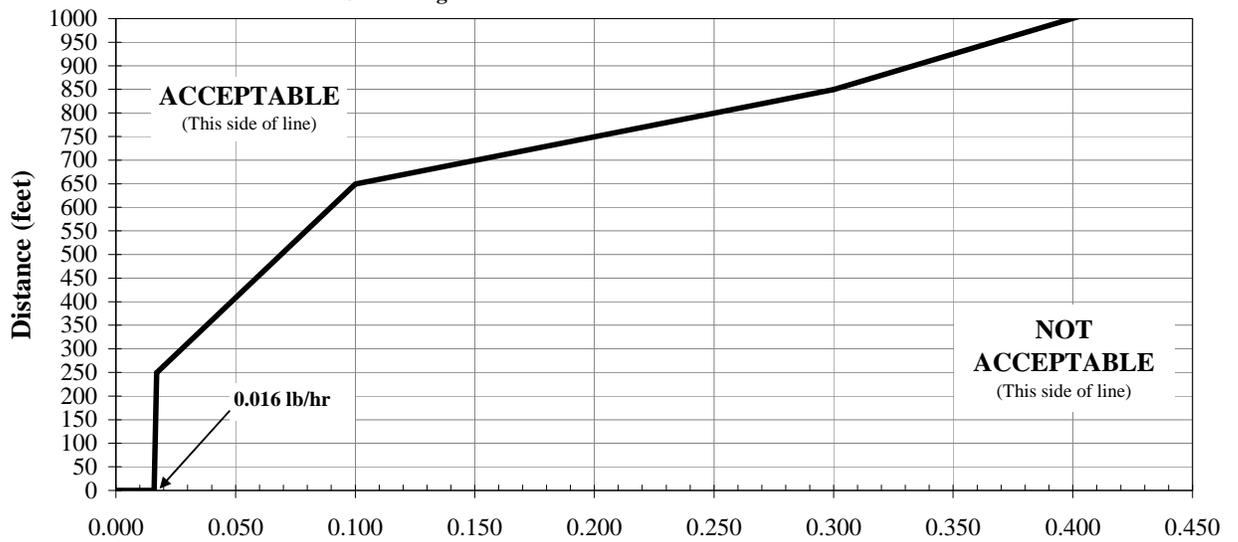


Figure 6: Polyphosphate Blender Stack Ammonia Emissions (lb/hr)

Permanent Polyphosphate Blenders

Required Minimum Setback Distance

Minimum Exit Flow Rate: 15,080 acfm

Maximum Exit Stack Diameter: 4 feet

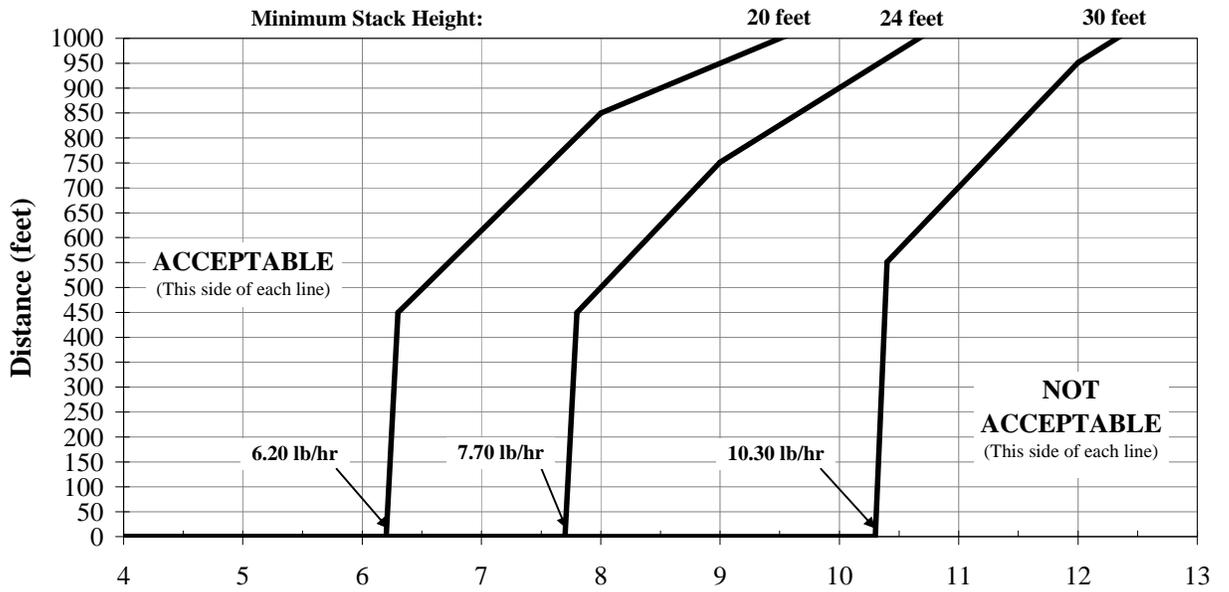


Figure 7: Site-wide Ammonia Emissions (lb/hr)

