

SCHOOL OF LAW
THE UNIVERSITY OF TEXAS AT AUSTIN

Environmental Clinic • 727 East Dean Keeton Street • Austin, Texas 78705
Phone: (512) 232-2454 • Fax: (512) 232-2311

November 23, 2009

Mr. Stanley Spruiell
Air Permits Section (6PD-r)
U.S. Environmental Protection Agency
1445 Ross Ave., Suite 1200
Dallas, Texas 75202-2733

Re. Docket EPA-R06-OAR-2006-0133

Dear Mr. Spruiell:

Please find attached comments in support of EPA's proposed disapproval of the Texas Revisions to the New Source Review (NSR) State Implementation Plan; Prevention of Significant Deterioration (PSD); Nonattainment NSR (NNSR) for the 1997 8-Hour Ozone Standard, NSR Reform, and Standard Permit Chapter 116.

Please contact, Kelly Haragan, Clinic Director, at (512) 587-9318 should you have any questions regarding this filing.

Sincerely,

A handwritten signature in black ink, appearing to read "Nicholas Andrew".

Nicholas Andrew, Clinic Student

A handwritten signature in black ink, appearing to read "Roberta Borges".

Roberta Borges, Clinic Student

A handwritten signature in black ink, appearing to read "Laura Evans".

Laura Evans, Clinic Student

Comments on EPA's Proposed Disapproval of the Texas Revisions to the New Source Review (NSR) State Implementation Plan (SIP); Prevention of Significant Deterioration (PSD), Nonattainment NSR (NNSR) for the 1997 8-Hour Ozone Standard, NSR Reform, and a Standard Permit Chapter 116
Docket No. EPA-R06-OAR-2006-0133

November 23, 2009

SUBMITTED ON BEHALF OF:

Environmental Integrity Project
Environmental Defense Fund
Galveston-Houston Association for Smog Prevention
Public Citizen
Citizens for Environmental Justice
Sierra Club Lone Star Chapter
Community-In-Power and Development Association
KIDS for Clean Air
Clean Air Institute of Texas
Sustainable Energy and Economic Development Coalition
Robertson County: Our Land, Our Lives
Texas Protecting Our Land, Water and Environment
Citizens for a Clean Environment
Multi-County Coalition
Citizens Opposing Power Plants for Clean Air

I. Introduction

Texas' New Source Review (NSR) permitting rules are inconsistent with and less stringent than federal NSR permitting requirements and should be disapproved. While states have discretion to select the best methods for achieving the specific emission reductions included within their State Implementation Plans (SIPs), they must follow the procedural permitting requirements specified in the Clean Air Act and Environmental Protection Agency (EPA)

regulations. *Alaska Dept. Envt'l Conservation v. EPA*, 540 U.S. 461, 470 (2004). EPA's regulations clearly require states to either adopt the federal regulations verbatim or to submit a demonstration that the state's program is at least as stringent as the federal program. ⁶⁷ Fed.Reg. 80241 (Dec. 31, 2002).

Texas' air permitting rules are inconsistent with federal permitting requirements, and Texas has made no demonstration that the rules are at least as stringent as the federal program. In fact, Texas' failure to adopt adequate permitting requirements results in substandard pollution controls, more pollution, and a permitting program that lacks transparency and is largely unenforceable. In addition, Texas' current permitting rules represent a general weakening of existing SIP requirements, and fail to meet basic SIP enforceability, replicability, and accountability standards. 42 U.S.C. §7515, 57 Fed.Reg. 13498, 13568-- (April 16, 1992). We, therefore, urge the EPA to finalize disapproval.

Because EPA's obligations under the Clean Air Act extend beyond merely ensuring the adequacy of SIP permitting provisions, disapproval of the Texas NSR rules alone is inadequate to create a comprehensive and efficient remedy.¹ To assure protection of National Ambient Air Quality Standards (NAAQS), EPA must ensure that states adequately implement and enforce their SIPs. 42 U.S.C. §§ 7410(a)(2)(E), 7509(a)(4). Texas is neither implementing nor is it enforcing its SIP. Instead, it is implementing and enforcing state rules, and associated guidance, that have not been SIP-approved and that, in many instances, fails to meet Clean Air Act minimum standards. As a result, there are thousands of Texas emission authorizations that are

¹ Ensuring the adequacy of Texas' SIP rules will require EPA to finalize its proposed disapprovals of Texas Qualified Facility and Flexible Permit rules and to take action on the numerous Texas minor NSR emission authorization mechanisms that violate federal law, render the permitting program practicably unenforceable and thwart public participation.

inconsistent with federal law and fail to meet minimum public participation, enforceability, and emission reduction requirements. Further, despite EPA's proposed disapproval – and clear notice that the NSR reform rules are not SIP-approved – TCEQ continues to issue new permits to sources pursuant to its non-SIP approved rules.

For example, approximately 4,000 megawatts of new coal, lignite, and petroleum coke-fired power generation is currently under construction in Texas. Another roughly 5,000 megawatts is being contested in the TCEQ's contested permitting process. Measured against the approximately 22,000 megawatts of existing solid fossil fuel-fired electric generation, which was built mostly in the 1970's and early 1980's, this recent surge of new power plants represents a major increase in emissions of several key pollutants of concern. All of these recently issued permits and draft permits suffer from any number of preconstruction permit deficiencies, due to TCEQ's lax permitting requirements. A few examples include:

- The L.S. Power Sandy Creek power plant (currently under construction) obtained a Flex Permit. The plant has yet to undergo a case-by-case MACT Determination.
- The NRG Limestone Unit 3 permit, and several other new power plant permits, rely blindly on the PM 2.5/PM 10 surrogacy policy, without any case-specific PM 2.5 analysis, over EPA's clear objection.
- The White Stallion Energy Center, just outside the Houston nonattainment area, was issued a draft permit without a meaningful ozone modeling analysis.
- The TCEQ Executive Director continues to support issuance of permits – for example, the NRG Limestone Unit 3, Coletto Creek, and Las Brisas Energy Center – where modeling using the applicant's own inputs shows evidence of existing PSD increment violations. TCEQ may not issue these permits without taking the required steps to corroborate and mitigate ambient air problems.
- All the new power plants have undergone a BACT analysis based on Texas' problematic "3-Tier" BACT guidance.

To fulfill its statutory duty to protect air quality, EPA must require Texas to follow its approved SIP and correct implementation deficiencies. The Clean Air Act includes a SIP call as the remedy for a state's failure to adequately implement and enforce its SIP. 42 U.S.C. §§7410(k)(5), 7509(a)(4). EPA should issue a SIP call to Texas, requiring the state to immediately implement the approved SIP, and putting the state on a timeline to develop a comprehensive fix for its program, considering legal implementation and enforcement deficiencies. In addition, Texas must develop a clear process for addressing its backlog of permits that are inconsistent with the SIP.

II. History of Texas NSR Reform

Texas has been on notice for years regarding the deficiencies with its NSR rules. At the time the state adopted its NSR Reform rules, EPA filed 21-pages of detailed comments identifying specific deficiencies with the draft rules.² These included:

- 1) The failure of the definition of “baseline actual emissions” to include emissions associated with maintenance, startups, and shutdowns up to the source’s allowable limitation;
- 2) The failure to base prevention of significant deterioration (PSD) and NSR applicability determinations on the attainment status of an area on the date of permit issuance;
- 3) The establishment of independent plant-wide applicability limit (PAL) permits and of PALs in flexible permits, rather requiring PALS to be included in federally enforceable permits;
- 4) The failure to require PALs to include all emission units at a source that emit a PAL pollutant;
- 5) The failure to require sources to comply with applicable Federal or State requirements, emission limitations and work practice requirements that were established prior to the effective date of the PAL;

² “Comments on Proposed Revision to Adopt New Source Review (NSR) Reform Rules Project Number 2005-010-116-PR” from David Neleigh, EPA Region 6, Chief Air Permits Section, to Joyce Spencer, TCEQ, Office of Legal Services (Oct. 28, 2005) (Attachment 1).

- 6) The failure to limit emission increases above the PAL limit to situations where the source would not be able to maintain emissions below the PAL level even if you assumed application of BACT equivalent controls on all existing major and significant units;
- 7) The failure to specify adequate requirements for PAL applications;
- 8) The failure to require adequate monitoring, recordkeeping and reporting for the PAL;
- 9) The failure to require adequate public participation for the PAL;
- 10) The general failure to Texas' public participation rules to meet federal standards;
- 11) The failure to mandate adequate public participation, specifically public notice, for emissions increases in PCP standard permits; and
- 12) The failure to trigger enforcement and review of PCPs before construction or installation has begun.³

In addition, EPA stated in its letter:

We cannot approve State regulations that differ from the corresponding Federal regulations if you do not provide an equivalency demonstration. In the equivalency demonstration, the State should demonstrate that the revision will not interfere with attainment of the National Ambient Air Quality Standards (NAAQS), Rate of Progress (ROP), RFP or any other applicable requirement of the CAA.⁴

The TCEQ failed to address many of EPA's comments, which now serve as the basis for EPA's proposed disapproval, and Texas did not submit an equivalency demonstration for its rules.

III. Legal Deficiencies with Texas' NSR Reform SIP Submittal

A. PSD Deficiencies

1. TCEQ illegally deleted the federal definition of Best Available Control Technology (BACT) from its rules.

As EPA stated in its proposal, BACT "constitutes a central requirement of the [Clean Air] Act." TCEQ's deletion from its rules of the federal BACT definition and substitution of a definition that is less rigorous is a relaxation of the current SIP, and is inconsistent with the Act.

As the Environmental Appeals Board recently stated:

³ *Id.*

⁴ *Id.* at p.1.

Not merely an option gathering exercise with casually considered choices, the NSR Manual or any BACT analysis calls for a searching review of industry practices and control options, a careful ranking of alternatives, and a final choice able to stand as first and best. If reviewing authorities let slip their rigorous look at “all” appropriate technologies, if the target ever eases from the “maximum degree of reduction” available to something less or more convenient, the result may be somewhat protective, may be superior to some pollution control elsewhere, but it will not be BACT.⁵

Texas’ failure to utilize an adequate definition of BACT as part of its PSD permitting process means that Texas facilities are allowed to emit more than their counterparts in other states and that air quality is unnecessarily, and illegally, degraded.

a. Federal BACT Requirements:

The Clean Air Act defines BACT as:

[A]n emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under this chapter emitted from or which results from any major emitting facility, which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such facility through application of production processes and available methods, systems, and techniques . . . In no event shall application of 'best available control technology' result in emissions of any pollutants which will exceed the emissions allowed by any applicable standard established pursuant to section 7411 or 7412 of this title [emission standards for new and existing stationary sources].

42 USC § 7479(3). EPA’s regulatory definition of BACT is almost identical to the statutory definition. 40 CFR §52.21(b)(12). EPA BACT guidance highlights five essential steps in a BACT determination:

Step 1: Identify all control technologies . . . Step 2: Eliminate technically infeasible options. A demonstration of technical infeasibility should be clearly documented . . . Step 3: Rank remaining control technologies by control effectiveness . . . Step 4: Evaluate most effective controls and

⁵ *In re. Northern Michigan University Ripley Heating Plant*, 2009 EPA App. LEXIS 5,8 (Feb. 18, 2009); PSD Appeal No. 08-02.

document results . . . if top option is not selected as BACT, evaluate next most effective option control. Step 5: Select BACT.⁶

This approach has come to be known as a “top-down” analysis. The Environmental Appeals Board has repeatedly held that while a state BACT analysis need not exactly follow the top-down approach, it must include consideration of the same factors in the same level of detail.⁷ Texas BACT definition and its application fail to meet these minimum standards.

b. Texas BACT requirements:

Although the current Texas SIP incorporates the federal definition of BACT by reference, Texas has deleted incorporation of the federal definition from its rules and now relies on its own definition of BACT when issuing PSD permits. This is despite the prior EPA determination that Texas BACT was less stringent than federal BACT. 54 Fed.Reg. 52823 (Dec. 22, 1989). The current Texas rules define BACT as follows:

Best available control technology (BACT)--BACT with consideration given to the technical practicability and the economic reasonableness of reducing or eliminating emissions from the facility.

30 TAC § 116.10(3).

Rather than implementing EPA’s top-down approach, the TCEQ has issued a “three-tier” guidance that its employees are to follow in determining BACT.⁸ The first tier in Texas guidance “involves a comparison of the applicant’s BACT proposal to emission reduction

⁶ Environmental Protection Agency, New Source Review Workshop Manual, B.1-B.9 (October 1990)(Attachment 2).

⁷ See, *In re: General Motors, Inc.*, 2002 EPA App. LEXIS 2 (March 6, 2002); PSD Appeal No. 01-30, p. 9 (“... a strict application of the methodology described in the NSR manual is not mandatory. Nevertheless, in evaluating the rationality and defensibility of BACT determinations by permitting authorities, the Board has required an analysis that reflects a level of detail in the BACT analysis comparable to the methodology in the NSR Manual.”

⁸ Texas Commission on Environmental Quality, Evaluating Best Available Control Technology (BACT) in Air Permit Applications, 1, 2 (April 2001) RG-383. (Attachment 3).

performance levels accepted as BACT in recent permit reviews.”⁹ The second tier “involves consideration of controls that have been accepted as BACT in recent permits for similar air emission streams in a different process or industry.”¹⁰ Tier three is a “detailed technical and quantitative economic analysis of all emission reduction options available for the process under review.”¹¹ According to TCEQ, its BACT determination “begins at the first tier and continues sequentially through subsequent tiers only if necessary.”¹² TCEQ Guidance indicates that “Tier III evaluation is rarely necessary,” and that “[o]rdinarily, it is in the best interest of both the applicant and [TCEQ] to avoid the third tier of evaluation.”¹³

The Texas definition and implementation of BACT are insufficient for a number of reasons. First, the Texas definition is circular. Fundamentally, the definition provides that “BACT is BACT.” A circular definition is meaningless; thus BACT determinations in Texas become arbitrary and incomparable to the intent of the federal definition. Second, it does not include the requirement that the emission limitation must be based upon “the maximum degree of reduction” that is “achievable,” a key tenet of the idea of BACT as required by the Clean Air Act. 42 U.S.C. § 7479(3). Third, it does not include the requirement that BACT must be derived through a case-by-case process. Fourth, it does not include the requirement that in determining BACT, there must be a consideration of “production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques.” *Id.* Fifth, it does not include the requirement that energy and environmental impacts be

⁹ *Id.* at 3.

¹⁰ *Id.*

¹¹ *Id.*

¹² *Id.*

¹³ *Id.* at 4.

considered in establishing the emission limit. Sixth, it alters the federal definition by emphasizing consideration of “technical practicability” and “economic reasonableness.” 30 TAC §116.10(3). This departure from application of the federal BACT definition skews the BACT analysis in favor of weaker emission standards that are less burdensome to PSD applicants. As a result, Texas’ implementation of BACT fails to fulfill the technology forcing intent of the Clean Air Act and results in weaker emission limitations – and thus more pollution – that would be achieved through implementation of the federal definition.

The Texas “three-tier” BACT Guidance exacerbates the deficiencies with the Texas BACT definition. Congress created BACT as a technology-forcing measure, to compel the “rapid adoption of improvements in technology as new sources are built.” *Senate Report on Clean Air Act Amendments of 1977*, S. Rep. No. 95-127, 29 (1977). By making the first, and only necessary, step of the three-tiered guidance a review of technologies that are already in existence, the Texas rules thwart the technology-forcing intent of BACT. Texas’ reliance on emission limits established in other permits merely perpetuates what has gone before; emission limits will not keep pace with technological advancement.

Texas’ guidance specifies that conducting only the first step of the three-tiered guidance is appropriate “if no new technical developments have been made that indicate additional reductions are economically or technically reasonable.”¹⁴ In practice, TCEQ interprets this as requiring only a look at known technologies, often only those technologies identified in EPA’s RACT/BACT/LAER Clearinghouse, and not the wide-ranging technologies being developed and implemented all over the country. See Attachment 4 (excerpts from permitting proceedings related to BACT).

¹⁴ TCEQ Guidance, *Evaluating Best Available Control Technology (BACT) in Air Permit Applications* at 3.

Even state administrative law judges have recognized that Texas' implementation of BACT is questionable, but they have felt constrained to follow TCEQ's policies:

"Although the ALJs somewhat agree that the EPA's top-down BACT approach may be better designed to be technology-forcing, the ALJs also conclude that the TCEQ's tiered methodology is the proper method for analyzing BACT in this case. Although there may be legitimate concerns with whether the TCEQ's three tier BACT methodology actually ensures the technology-forcing purposes behind the BACT requirement, the methodology has been approved by the Commission in prior cases. Specifically, this same methodology has been used by the TCEQ in evaluating BACT at least since 2001, when the guidance document was issued."¹⁵

The EPA Environmental Appeals Board has repeatedly held that the failure to consider all potentially applicable control alternatives in a BACT analysis is clear error.¹⁶ TCEQ's removal of the federal definition of BACT from its SIP is a violation of the Clean Air Act's anti-backsliding provision in U.S.C. §7515. Due to the insufficiency of the state definition and implementation of BACT, and the importance of BACT as an integral part of PSD permitting and maintenance of the NAAQS, EPA should issue a final disapproval of the deletion of the federal definition of BACT and should start a sanctions clock. In addition, EPA must take immediate action to ensure that Texas is properly implementing the federal, SIP-approved definition of BACT, including rejecting Texas' use of its current BACT guidance.

2. TCEQ's rules fail to prohibit the relaxation of enforceable limits consistent with 40 CFR §52.21(r)(4).

The federal regulations state that if a project becomes a major stationary source or major modification solely because of a relaxation of an enforceable limitation on the source or modification's capacity to emit a pollutant, then the source or modification is subject to PSD as

¹⁵ Proposal for Decision, NRG Power Texas Power LLC for State Air Quality Permit 79188, PSD Air Quality Permit PSD-TX-1072, and MACT HAP-14 Permit, June 23, 2009, Page 24.

¹⁶ *In re. Prairie State Generating Co.*, 2006 EPA App. LEXIS 38 (Aug. 24, 2006).

if construction had not yet commenced. 40 CFR §52.21(r)(4). The goal of this provision is to prevent sources from using “sham operational limits” to avoid PSD. The currently approved Texas SIP incorporates this federal requirement by reference at 30 TAC §116.160(a). In 2006, Texas revised its rules and eliminated incorporation by reference of 52.21(r)(4). EPA should finalize disapproval of this deletion. Section 52.21(r)(4) provides an extra deterrent to facilities that might take limits they know they cannot achieve in order to avoid federal permitting requirements. Approval of Texas deletion of this provision would violate the anti-backsliding provisions of 42 U.S.C. §7515 and would render the Texas SIP less stringent than federal requirements and inadequate for preventing significant deterioration of air quality.

B. Nonattainment Deficiencies

1. Texas rules limit enforcement of the 1-hour ozone standard in violation of South Coast Air Quality Management District v. EPA.

The D.C. Circuit in *South Coast v. EPA* vacated EPA rules revoking the applicability of requirements under the 1-hour ozone standard. *South Coast Air Quality Management Dist., et al., v. EPA*, 472 F.3d 882 (D.C. Cir. 2006), reh’g denied 489 F.3d 1245 (2007). As a result of the Court’s decision, states were required to immediately comply with the formerly-revoked, 1-hour ozone requirements, including Nonattainment NSR applicability thresholds and emission offset requirements.

Texas’ rules include two provisions that require EPA to conduct rulemaking codifying the *South Coast* decision before TCEQ will begin enforcing the one-hour standard classification for NAAQS in the nonattainment areas of Houston-Galveston-Brazoria, Dallas-Fort Worth, and Beaumont-Port Arthur. 30 TAC §§ 116.12(18), Table I, and 116.150(d). These rules are inconsistent and less stringent than Clean Air Act requirements and should be disapproved.

Further, EPA needs to ensure that Texas is currently implementing the 1-hour ozone requirements consistent with *South Coast*, and that all permits issued since that decision are consistent with its requirements.

2. TCEQ's rules fail to require all NSR applicability determinations to be based on the applicable attainment status of an area on the date of permit issuance.

The Clean Air Act mandates that SIPs require Nonattainment NSR permits for the “construction and operation of new or modified stationary sources anywhere in the nonattainment area.” 42 U.S.C. § 7502(c)(5). See also, 40 CFR § 51.165(a)(2)(i). Longstanding EPA Guidance states that, in an applicability determination for a Major NSR permit, “the area designation in effect on the date of permit issuance by the reviewing agency determines which regulations apply to that permit.”¹⁷ More recent EPA correspondence confirms this interpretation.¹⁸

Texas’ rules authorize certain sources that construct or modify in a nonattainment area to comply with PSD requirements, rather than Nonattainment NSR requirements, as long as the facility’s application is administratively complete prior to the area’s designation as nonattainment. 30 TAC § 116.150(a). While the rules are vague as to the date that constitutes the “effective date of this section,” it is clear that section 116.150(a)(2) is not approvable because it authorizes facilities to base their applicability determination on an area’s attainment status as of the date their applications are administratively complete. EPA should, therefore, finalize its disapproval of section 116.150(a)(2). In addition, EPA should require amendment of any Texas

¹⁷ “Memorandum Re: New Source Review (NSR) Program Transitional Guidance” from John S. Seitz, Office of Air Quality Planning and Standards, (March 11, 1991)(emphasis original)(Attachment 5).

¹⁸ “Letter to Janet McCabe, Indiana Dept. of Environ. Quality, Asst. Commissioner, Office of Air Quality” from Stephen Rothblatt, EPA Region 5, Director of Air and Radiation (Feb. 26, 2004)(Attachment 6) (“The nonattainment NSR requirements apply to newly designated nonattainment areas upon the effective date of the designation. After this effective date, permits issued in these areas must satisfy the part D nonattainment NSR requirements.”)

permits that were issued in nonattainment areas, but failed to comply with Nonattainment NSR requirements.

B. The Texas PAL requirements are inconsistent with and less stringent than federal PAL standards.

Texas' PAL provisions are inconsistent with and less stringent than federal PAL requirements and should be disapproved. In its October 2005 letter regarding the Texas draft PAL rules, EPA submitted extensive comments outlining deficiencies with the rules. See Attachment 1. We hereby incorporate by reference the deficiencies outlined by EPA in those comments and summarize some of those significant deficiencies below.

1. Texas illegally allows PALs for new sources based on allowable emissions.

Federal regulations allow an agency to approve a PAL for “any existing major stationary source.” 40 CFR §51.165(f)(1)(i). PALs are intended to serve as thresholds for determining when emission increases trigger Nonattainment NSR or PSD permitting review. As the DC Circuit found in *New York v. EPA*, “Congress clearly intended to apply NSR to changes that increase actual emissions.” *New York v. EPA*, 413 F.3d 3, 38-40 (D.C. Cir. 2005). Because new sources do not have past actual emissions, they cannot be subject to a PAL. 67 Fed.Reg. 80186, 80285 (December 31, 2002).

TCEQ’s PAL rules, however, do not limit their applicability to existing major sources. For example, two pending draft permits for new proposed power plants – the Las Brisas Energy Center in Corpus Christi, and the White Stallion Energy Center near Bay City – contain PALs based on allowable limits (instead of actual) for these currently nonexistent sources.

2. The Texas PAL rules fail to include adequate reopening provisions.

Federal rules allow the regulating authority to re-open a PAL permit in order to correct errors in calculating the PAL or reduce the PAL limits based on new federal requirements, state requirements, or changing NAAQS levels based on a change in attainment status. 40 CFR §51.165(f)(8). The Texas PAL rules do not provide such reopening authority and are, therefore, less stringent than the federal regulations.

3. Texas illegally allows partial PALS.

To determine where a net emission increase has been proposed for a facility, all emission increases and decreases at the facility during the contemporaneous permit must be considered. Federal rules, therefore, require that all units at a source be subject to the PAL cap. 40 CFR §52.21(aa)(6)(i)-(ii). Texas' PAL rules do not require PALS to include all units at the source that emit the PAL pollutant. 30 TAC §116.182(1). As EPA stated in the federal register proposal, inclusion of all units at the source that emit the PAL pollutant is an “essential feature” of the federal PAL. Texas failure to require the inclusion of all units, justifies disapproval of the Texas PAL rules.

4. Texas fails to prohibit the use of PALS in Ozone Extreme Nonattainment Areas.

Federal rules prohibit the use of PALs in areas designated extreme nonattainment for ozone. 40 CFR §51.165(f)(1)(ii). Texas' PAL rules include no such prohibition and are, therefore, less stringent than the federal regulations, and not protective of air quality.

5. Texas' PAL rules lack adequate public participation.

Texas' PAL rules do not require that PALs be established, renewed, or increased through a procedure that is consistent with 40 CFR §§ 51.160 and 51.161. In particular, the PAL rules are missing the requirement that the reviewing authority provide the public with notice of the proposed approval of a PAL permit and at least a 30-day period for submittal of

public comment on the draft permit, consistent with the federal PAL rules at 40 CFR §§ 51.165(f)(5) and (11) and 51.166(w)(5) and (11). Similarly, the rules do not include provisions for public participation for PAL renewals or emission increases. Additionally, there is no requirement that the state address all material comments before taking final action on the permit. *Id.* This is inconsistent with 40 CFR §§ 51.165(f)(5) and 51.166(w)(5). These deficiencies create public participation rules that are less stringent than the federal rules and require disapproval.

Due to the above deficiencies, Texas PAL rules should be disapproved. EPA has clearly specified the requirements for PALS in its rules, and Texas rules fail to meet – and are less stringent than – those requirements.

D. Texas' NSR definitions

1. Texas use of the term “facility” makes its rules unacceptably vague.

Texas' current definitions and use of the term “facility” are inconsistent and make interpretation of the Texas rules difficult. To begin, there are two definitions of facility in Texas' rules, and it is not clear which definition applies to various portions of the rules.

Texas' general rules define “facility” as “a discrete or identifiable structure, device, item, equipment, or enclosure that constitutes or contains a stationary source, including appurtenances other than emission control equipment.”¹⁹ The general definitions do not define “stationary source.” Texas Nonattainment NSR rules define “stationary source” as “any building, structure, facility, or installation that emits or may emit any air pollutant subject to regulation under 42 United States Code, §§7401 *et seq.*”²⁰ The Nonattainment NSR definitions define “building,

¹⁹ 30 TAC §116.10(6). The Texas rules do not define “existing facility.”

²⁰ 30 TAC §116.12(35).

structure, facility or installation” as “all of the pollutant-emitting activities that belong to the same industrial grouping, are located in one or more contiguous or adjacent properties, and are under the control of the same person.”²¹ Pursuant to this reading of the definitions, the definitions of “facility” in 116.10 and 116.12 are actually quite similar to each other and to the federal definition. This reading assumes, of course, that you can rely on definitions in the Nonattainment NSR rules to interpret provisions of the general definitions.

If on the other hand, it is not acceptable to use the Nonattainment NSR definition of “stationary source” in interpreting the definition of facility in the general definitions, then one must resort to the definition of “source” in the general definitions. “Source” is defined as “a point of origin of air contaminants, whether privately or publicly owned or operated.” Pursuant to this reading, a facility is actually more like a federal “emissions unit.”²² The circular nature of these definitions, and the existence of two different definitions of “facility” without any clear description of their applicability, makes Texas’ rules, including the Qualified Facility rules vague.²³ EPA should require Texas to clarify its definition of “facility” and to ensure that its use of the term throughout the rules is consistent with that definition.

In its Federal Register proposal, EPA suggests that Texas substitution of the term “facility” for the term “emission unit” for purposes of PSD limits the definition of facility to an emission unit. To the contrary, it would appear that by replacing “emissions unit” with “facility,” TCEQ is actually creating a less stringent limitation in the incorporated federal rules. This provision does not equate “facility” with “emissions unit,” but rather strikes “emissions unit”

²¹ 30 TAC §116.12(6). This definition is virtually identical to the Nonattainment NSR rules’ definition of “facility.”

²² 40 CFR §51.165(a)(1)(vii). (“Emissions unit means any part of a stationary source that emits or would have the potential to emit any regulated NSR pollutant”)

²³ The definition of “source” should likewise be clarified in the Texas rules. It is extremely confusing for “source” to mean an emissions point, while “stationary source” means all emissions point at an industrial site.

from an incorporated text so that a broader term as defined in the Texas and federal rules can be used instead. We believe that this provision, rather than being a more stringent limitation to be copied by Texas in its NNSR rules, should be struck from the rules as less stringent than the federal rules.

2. *Texas definition of “Baseline Actual Emissions” is less stringent than the federal definition.*

The federal regulations define “baseline actual emissions” as “the average rate, in tons per year, at which the unit actually emitted the pollutant during any consecutive 24-month period.” 40 CFR § 51.165(a)(1)(xxxv)(A) and (B). The federal rules go on to states that the average rate “shall include emissions associated with startups, shutdowns, and maintenance.” 40 CFR § 51.165(a)(1)(xxxv)(A)(1).

Texas’ rules define “baseline actual emissions” as “the rate, in tons per year, at which the unit actually emitted the pollutant during any consecutive 24 month period.” 30 TAC § 116.12(3)(A). The Texas rules do not require that baseline actual emissions include emissions associated with startups, shutdowns, and maintenance (SSM). Instead, the rules state that SSM events “may be included to the extent that they have been authorized, or are being authorized.” 30 TAC § 116.12(3)(E). Texas’ failure to incorporate the federal definition and the express failure to require incorporation of maintenance, startup and shutdown emissions in the average rate justifies denial of the Texas definition as inconsistent with the federal regulations.

Texas’ failure to include startup, shutdown and maintenance emissions in the definition of “baseline actual emissions” is related to a larger problem with the Texas program. Texas is allowing sources to authorize their startup, shutdown and maintenance emissions separately from their routine emissions. For example, Texas allows sources that have an individual major NSR

or PSD permit to authorize their MSS emissions through a stand alone permit-by-rule. 30 TAC § 106.263. This allows sources to avoid considering their MSS emissions in determining their potential to emit, as well as in determining the magnitude of any emission increases. EPA has repeatedly informed Texas that that its approach for permitting MSS violates the Clean Air Act.²⁴ EPA should take action to assure that Texas follows the Clean Air Act when permitting MSS.

3. *The Texas definition of “Projected Actual Emissions” is less stringent than the federal definition.*

The federal regulations define “projected actual emissions” to include maintenance startup and shutdown emissions. 40 CFR §§ 51.165(a)(1)(xxviii)(b) and 51.166(b)(40)(ii)(b). Texas’ definition of “projected actual emissions” fails to require inclusion of maintenance startup and shutdown emissions. 30 TAC §116.12(29). Even where a source chooses to include maintenance, startup and shutdown emissions in its baseline actual emissions, there is no provision requiring inclusion in projected actual emissions. Facilities in Texas often have extremely large MSS emissions. *See*, Attachment 8 (Facility emission event information). Pursuant to Texas’ definitions, a source that would trigger a major modification under federal rules could avoid a major modification by failing to include MSS emissions in their projected actual emissions. Certainly if a company includes MSS in its baseline emissions, it should be required to include a realistic estimate of such emissions in its projected actuals. Otherwise, facilities will be allowed to illegally avoid federal NSR by including such emissions in their baseline without including them in future projections.

4. *Texas fails to include required monitoring definitions for PALS.*

²⁴ See “Letter to Richard Hyde, TCEQ, Director Air Permits Division” from Jeff Robinson, EPA, Region 6, Chief Air Permits Section (May 21, 2008)(Attachment 7).

Federal regulations define “continuous emissions monitoring system (CEMS),” “continuous emissions rate monitoring system (CERMS),” “continuous parameter monitoring system (CPMS),” and “predictive emissions monitoring system (PEMS).” 40 CFR §§ 50.165(a)(1)(xxxii), (xxxiv), (xxxiii), and (xxxii). The Texas rules omit these definitions. Because these definitions are crucial for enforcing and monitoring PALs, they make the section less stringent than the federal standard and should therefore be disapproved.

E. PCP Standard Permit

The Texas PCP Standard Permit does not meet federal Nonattainment NSR and PSD requirements. *New York v. EPA*, 413 F.3d 3 (D.C. Cir. 2005). Furthermore, the PCP program does not meet federal minimum standards for minor source authorizations. Therefore, we support EPA’s disapproval of the state’s PCP standard permit program.

The Clean Air Act requires SIPs to include a program for “regulation of the modification and construction of any stationary source.” 42 U.S.C. § 7410(a)(2)(c). The program must prohibit any source or emissions activity from emitting pollution in amounts that contribute significantly to nonattainment or maintenance of the NAAQS or interfere with measures included in the State Implementation Plan. 42 U.S.C. § 7410(a)(2)(D).

EPA’s implementing regulations require state SIP to set forth “legally enforceable” procedures that enable the state to determine whether construction or modification of minor sources will result in a violation of the state control strategy or interference with attainment or maintenance of the NAAQS. 40 CFR § 51.160(a). Such procedures must include a means of preventing construction or modification of a source that will cause a violation of the control strategy or interfere with attainment or maintenance of the NAAQs. 40 CFR § 51.160(b). In

addition, minor NSR permits must be subject to a 30-day public comment period, during which the agency's analysis of the effect of the construction or modification on air quality must be available. 40 CFR § 51.161(a) and (b).

Standard permits are a streamlined permitting mechanism that EPA has allowed as part of state minor NSR permitting programs. To be approvable, however, standard permits must: (1) be applicable only to a narrowly defined source category, (2) include specific emission limits, and (3) include compliance timeframes and compliance methods.²⁵ Standard permits cannot be used to make site-specific determinations.²⁶ Because public notice and comment is provided at the time a standard permit is issued, and not when a facility seeks coverage, all detailed permitting requirements as well as the analysis of impacts must be available at the time the standard permit is issued. 40 CFR § 51.161(a) & (b). To the extent a standard permit is not sufficiently narrowly tailored to specify emission limits and compliance requirements, it is insufficient to assure protection of the NAAQS and fails to meet minimum public participation requirements.

Texas' PCP Standard Permit is not limited to a particular source-category and can apply to various pollution control projects at any source-type. 30 TAC § 116.617(a). Further, the permit itself does not include emission limits or monitoring. Instead, a facility is permitting to include site-specific limits and monitoring requirements in its application for coverage pursuant to the PCP standard permit. 30 TAC § 116.617(d)(2). The PCP includes a generic statement that that permit must not be used to authorize changes for which the Executive Director at TCEQ

²⁵ "Memorandum Re: Guidance on Enforceability Requirements for Limiting Potential to Emit Through SIP and Section 112 Rules and General Permits" from Kathie A. Stein, Office of Enforcement and Compliance Assurance, January 25, 1995. (Attachment 9). Letter to Richard Hyde, TCEQ, Director Air Permits, from Jeff Robinson, EPA, Chief, Air Permits Section (May 21, 2008). (Attachment 7).

²⁶ *Id.*

determines whether “there are health effects concerns or the potential to exceed a national ambient air quality standard criteria pollutant or contaminant that results from an increase in emissions of any air contaminant until those concerns are addressed by the registrant.” 30 TAC § 116.617(a)(3)(B). This provision itself, without specific emission limits and monitoring requirements in the PCP, is inadequate to protect the NAAQS, and is, in fact, an acknowledgement that the provisions on the face of the PCP permit are not sufficient to assure protection of the NAAQS and PSD increment.

For these reasons, we believe EPA should take action disapproving the Texas PCP standard permit. EPA also should require facilities that have authorized their emissions through the PCP standard permit to seek a federally valid authorization.

In addition, we ask that EPA take action to halt Texas’ use of permits-by-rule that, like the PCP standard permit, fail to meet minimum standards for minor source permitting and for general permits and exclusionary rules. Texas has adopted and is applying a number of permits-by-rule that are not source specific, do not include specific emission limitations or monitoring, and are inadequate to protect the NAAQS. These include the permits-by-rule in Subchapter K of Chapter 106 of the Texas rules. 30 TAC Chapter 106, Subchapter K. In addition, like the PCP, some of these permits – rather than authorizing specific types of minor emission source categories – can be used to increase authorized emissions from any type of permitted facility.²⁷ EPA has repeatedly stated that Texas’ current use of permits-by-rule violates the Act and Texas’ approved SIP.²⁸ Yet EPA has failed to take action to stop the illegal use of permits-by-rule.

²⁷ For example, 30 TAC §§ 106.261, 106.262, 106.263 and 106.264.

²⁸ See “Letter to Dan Eden, TCEQ, Deputy Director” from Carl Edlund, EPA Region 6, Director Multimedia Planning and Permitting Division (March 12, 2008)(“EPA has consistently expressed concern about PBRs that authorize a category of emissions, such as startup or shutdown emissions, or that modify an existing NSR permit.”)(Attachment 10); “Letter to Richard Hyde, TCEQ, Director, Air Permits Division” from Jeff Robinson,

IV. CONCLUSION

Commenters support EPA's proposed disapproval of TCEQ's NSR Reform rules for the reasons outlined above. We believe this disapproval should trigger a mandatory sanctions clock, particularly in light of Texas deletion of the federal definition of BACT from its SIP. In addition, we believe EPA should issue a Clean Air Act section 179 SIP call for Texas' failure to enforce the approved SIP and require Texas to implement the currently-approved SIP while the state works on changes to bring its program into compliance with federal standards.

EPA Region 6, Chief, Air Permits Section (November 16, 2007)(Attachment 11); "Letter to Steve Hagle, TCEQ, Special Assistant, Air Permits Director" from David Neleigh, EPA Region 6, Chief, Air Permits Section (March 30, 2006)(Attachment 12); "Letter to Lola Brown, TCEQ, Office of Legal Services" from David Neleigh, EPA Region 6, Chief, Air Permits Section (February 3, 2006)(Attachment 13).

ATTACHMENTS

- 1 “Comments on Proposed Revision to Adopt New Source Review (NSR) Reform Rules Project Number 2005-010-116-PR” from David Neleigh, EPA Region 6, Chief Air Permits Section, to Joyce Spencer, TCEQ, Office of Legal Services (Oct. 28, 2005).
- 2 Environmental Protection Agency, New Source Review Workshop Manual, B.1-B.9 (October 1990).
- 3 Texas Commission on Environmental Quality, Evaluating Best Available Control Technology (BACT) in Air Permit Applications, 1, 2 (April 2001).
- 4 Excerpts from permitting proceedings related to BACT.
- 5 “Memorandum Re: New Source Review (NSR) Program Transitional Guidance” from John S. Seitz, Office of Air Quality Planning and Standards, (March 11, 1991).
- 6 “Letter to Janet McCabe, Indiana Dept. of Environ. Quality, Asst. Commissioner, Office of Air Quality” from Stephen Rothblatt, EPA Region 5, Director of Air and Radiation (Feb. 26, 2004).
- 7 “Letter to Richard Hyde, TCEQ, Director Air Permits Division” from Jeff Robinson, EPA, Region 6, Chief Air Permits Section (May 21, 2008).
- 8 Facility emission event information.
- 9 “Memorandum Re: Guidance on Enforceability Requirements for Limiting Potential to Emit Through SIP and Section 112 Rules and General Permits” from Kathie A. Stein, Office of Enforcement and Compliance Assurance (January 25, 1995).
- 10 “Letter to Dan Eden, TCEQ, Deputy Director” from Carl Edlund, EPA Region 6, Director Multimedia Planning and Permitting Division (March 12, 2008).
- 11 “Letter to Richard Hyde, TCEQ, Director, Air Permits Division” from Jeff Robinson, EPA Region 6, Chief, Air Permits Section (November 16, 2007).
- 12 “Letter to Steve Hagle, TCEQ, Special Assistant, Air Permits Director” from David Neleigh, EPA Region 6, Chief, Air Permits Section (March 30, 2006).
- 13 “Letter to Lola Brown, TCEQ, Office of Legal Services” from David Neleigh, EPA Region 6, Chief, Air Permits Section (February 3, 2006).
- 14 PAL permits issued or pending in the state of Texas

ATTACHMENT 1

**"COMMENTS ON PROPOSED REVISION TO ADOPT NEW SOURCE
REVIEW (NSR) REFORM RULES PROJECT NUMBER 2005-010-116-PR"
FROM DAVID NELEIGH, EPA REGION 6, CHIEF AIR PERMITS SECTION,
TO JOYCE SPENCER, TCEQ, OFFICE OF LEGAL SERVICES (OCT. 28, 2005).**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6

1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

OCT 28 2005

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REGULATIONS DEVELOPMENT SECTION

W-18

Ms. Joyce Spencer
MC-205
Texas Register Team
Office of Legal Services
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

Re: Comments on Proposed Revisions to Adopt New Source Review (NSR) Reform
Rule Project Number 2005-010-116-PR

Dear Ms. Spencer

Thank you for the opportunity to review and provide comments on your proposed revisions to adopt NSR Reform. Overall, you have incorporated most of the provisions of the Federal NSR Regulations. We have reviewed your proposed regulations and enclosed our comments which we believe will improve your program and ensure that your final regulations will meet the requirements of the Federal program.

If you prefer to adopt regulations that differ from the Federal regulations, you must include an equivalency demonstration that your program is at least as stringent as, or more stringent than, the Federal regulations. We cannot approve State regulations that differ from the corresponding Federal regulations if you do not provide an equivalency demonstration. Accordingly, we encourage you to discuss your proposed program with us prior to final adoption. We believe that such discussions will be beneficial in facilitating communications and help to ensure that you adopt regulations the we can approve.

We appreciate the opportunity to provide these comments. If you have any questions, please call Mr. Stanley M. Spruill of my staff at (214) 665-7212.

Sincerely yours,



David Neleigh
Chief
Air Permits Section

Enclosure

David Neleigh (6PD-R)
Jeffrey Robinson (6PD-R)
Victoria Johnson (6PC-M)
Stephanie Kordzi (6PD-R)

Comments on Texas Draft Regulations to Implement New Source Review Reform

General Comments.

General Comment relating to equivalency when the State's rule is different from the Federal requirement. The TCEQ has generally proposed to adopt the nonattainment new source review (NNSR) requirements and the prevention of significant deterioration (PSD) requirements from the Federal rules located in 40 CFR 51.165 and 51.166. In many cases, the TCEQ has proposed provisions that differ from the Federal requirements. The TCEQ may adopt regulations that are different from, but equivalent to, the Federal rule. In the following comments, we have identified areas in which the State's proposed regulation differs from the corresponding Federal requirement. In such cases, the State must demonstrate that such provision is at least as stringent as the revised base Federal program. See 67 FR 80241 (December 31, 2002). We cannot approve State regulations that differ from the corresponding Federal regulation if you do not provide an equivalency demonstration. In the equivalency demonstration, the State should demonstrate that the revision will not interfere with attainment of the National Ambient air Quality Standards (NAAQS), Rate of Progress (ROP), RFP or any other applicable requirement of the CAA. EPA cannot approve a SIP revision that fails to meet the requirements of section 110(l) of the CAA. If you desire to adopt provisions that differ from the base Federal program, we encourage you to discuss your proposed program with us before adoption of the final rule. We believe that such discussions will be beneficial in facilitating communications between TCEQ and EPA and help to ensure that TCEQ adopts regulations that EPA can approve.

Comments on Section 116.12 - Federal Permit Definitions.

1. Section 116.12(1) - Definition of *actual emissions*. The revised definitions refers to a "two-year period" whereas the Federal definition refers to a "24-month" period." See 40 CFR 51.165(a)(1)(xii) and 51.166(b)(21). A "two-year period" (which could mean two consecutive calendar years) can mean something different from a "24-month" period" (which means any discrete period of 24 consecutive months). Texas should clarify that its use of a "two-year period" means the same as the "24-month period" in the Federal definition.
2. Section 116.12(3) - Definition of *baseline actual emissions*.
 - A. Section 116.12(3)(E) differs from the requirements in 40 CFR 51.165(a)(1)(xxxv)(A)(1) & (B)(1) and 51.166(b)(47)(i)(a) & (ii)(a).
 - i. The Federal regulations provide that baseline actual emissions means the rate of emissions, in tons per year, and shall include emissions associated with startups, shutdowns, and malfunctions. The average rate also includes fugitive emissions to the extent quantifiable. The Federal rule then requires that average rate to be adjusted downward to exclude non-compliant emissions that occurred while

the source was operating above its legally enforceable emission rate. The Federal rule requires that a unit is considered operational for the purpose of determining compliance with emission limitations not only during periods of normal operation, but also during periods of startup, shutdown, maintenance and malfunction.. The Federal rule requires a determination of actual emissions from the source, but disallows emissions above permit limitations. Therefore, the baseline actual average emission rate under the Federal rule includes startup, shutdown, maintenance, and malfunction emissions up to the source's allowable limitation.

- ii. Texas' proposed rule provides that until March 1, 2016, emissions previously demonstrated as emissions events (startup, shutdown, maintenance and malfunction activities) or historically exempted under Chapter 101, *may* be included to the extent that they have been authorized, or are being authorized, in a permit action under Chapter 116, or Chapter 106 of this title (relating to Control of Air Pollution by Permits for New Construction or Modification and Permits by Rule. Please explain this provision of the rule. Does Texas intend to retrospectively authorize past excess emissions? Is the requirement to include startup, shutdown, maintenance and malfunction emissions in baseline actual emissions voluntary? Please explain how Texas will determine actual baseline emissions for sources whose startup, shutdown, maintenance and malfunction emissions have not previously been authorized prior to a modification, but those types of emissions are reviewed in the new permit. Please explain how Texas will ensure consistency for sources that have or have not included these types of emissions in their permits.
- iii. Please confirm that TCEQ requires all emissions from startup, shutdown, maintenance, and malfunction periods to be included in determining compliance with SIP-approved permits emission limitations. For example, malfunctions are not authorized in NSR permits, but emissions from malfunctions should be included in determining compliance with SIP emission limitations.
- iv. In your equivalency determination, please explain whether a significant emissions increase determination would yield the same result under the Texas and Federal rules.
- v. The Federal regulations provide that baseline actual emissions shall include emissions associated with startups, shutdowns, and malfunctions. Texas' proposed rule provides that until March 1, 2016, emissions previously demonstrated as emissions events, *may* be included to the extent that they have been authorized, or are being authorized, in a permit action under Chapter 116

or Chapter 106 of this title (relating to Control of Air Pollution by Permits for New Construction or Modification and Permits by Rule).

- vi. Texas needs to demonstrate that emissions from the events described in Paragraph (E) include all emissions associated with startups, shutdowns, or malfunctions that are otherwise authorized. This includes all such emissions associated, or any portion thereof, that is not otherwise excluded.¹ Texas may exclude only the following emissions:
 - (a) Emissions that would be excluded under Paragraph (D) (first sentence) as non-compliant emissions that occurred while the source was operating above an emission limitation that was legally enforceable during the consecutive 24-month period used to establish the baseline actual emissions; or
 - B. Emissions that would be excluded under Paragraph (B) (second sentence) because they exceeded an emission limitation that the major source must comply with had such major stationary source been required to comply with such limitations during the consecutive 24-month period used to establish the baseline actual emissions.
- vii. We request that TCEQ discuss how it will make this demonstration with EPA prior to adopting this provision.

B. The proposed definition of "baseline actual emissions" does not include provisions that correspond to 40 CFR 51.165(a)(1)(xxviii)(D) and 51.166(b)(47)(iv). These Federal regulations provide that for a PAL for a major stationary source, the baseline actual emissions shall be calculated as provided in the definition for baseline actual emissions. Texas must either:

- i. Include provisions corresponding to these Federal requirement or demonstrate that Texas' program is as stringent as or more stringent than the Federal program; or
- ii. If the proposed PAL provisions contain requirements equivalent to 40 CFR 51.165(a)(1)(xxviii)(D) and 51.166(b)(47)(iv), Texas should state where such requirement exists.

¹For example, if facility has an allowable emissions level established at 20 pounds per hour and has emissions associated with a startup, shutdown, or malfunction, which results in emissions of 30 pounds per hour, the facility must include all such emissions up to the authorized level of 20 pounds per hour.

3. Section 116.12(15) - Definition of *major stationary source*. This definition references the definition of *major stationary source* as defined in 40 CFR 51.166(b)(1).
 - A. 40 CFR 51.166(b)(1)(i)(a) identifies the source categories that are major for PSD if they emit, or have the potential to emit 100 tons per year of any regulated NSR pollutant. Section 305 of the 1990 Clean Air Act Amendments, Public Law 101-549, amended section 169(1) of the Act by expanding the list of major emitting facilities that are subject to PSD requirements if they emit or have the potential to emit one hundred tons per year or more of any regulated pollutant. This list includes municipal incinerators capable of charging more than fifty tons of refuse per day. Under prior law, only municipal incinerators capable of charging more than two hundred and fifty tons of refuse per day were subject to the 100 tons-per-year major source threshold for PSD applicability.
 - B. TCEQ should clarify that it will continue to consider municipal incinerators capable of charging 50 tons of refuse per day to be major sources under PSD if they emit or have the potential to emit 100 tpy or more of any NSR regulated pollutant. This is consistent with our approval of Texas PSD SIP on June 24, 1992 (57 FR 28096-97).²
4. Section 116.12(16) - Definition of *major modification*. The 6th sentence of section 116.12(16)(A) and section 116.12(16)(B)(viii) differs from 40 CFR 51.165(a)(1)(v)(D) and 51.166(b)(2)(iv). The provisions of 40 CFR 51.165 (f)(2)(viii) and 51.166 (w)(2)(viii) apply instead of the definition of major modification when the major stationary source is complying with a PAL. The TCEQ's proposed provision is confusing. It is not clear what is meant by providing that a change at a facility in a PAL which causes a significant project increase for a pollutant at non-PAL facilities is a major modification. Texas needs to adopt the Federal provisions or revise this paragraph to clearly explain the requirement, and demonstrate that any provision which differs from the Federal requirement is as stringent as, or more stringent than, the corresponding Federal requirement.

²In our approval of Texas' PSD program on June 24, 1994, we stated the following:

Today's final approval allows the TACB to issue PSD permits for a subclass of municipal incinerators (municipal waste combustors). Section 305 of the 1990 Clean Air Act Amendments, Public Law 101-549, amended section 169(1) of the Act by expanding the list of major emitting facilities that are subject to PSD requirements if they emit or have the potential to emit one hundred tons per year or more of any regulated pollutant. This list includes municipal incinerators capable of charging more than fifty tons of refuse per day. Under prior law, only municipal incinerators capable of charging more than two hundred and fifty tons of refuse per day were subject to the 100 tons-per-year major source threshold for PSD applicability. EPA interprets this statutory change as being effective immediately.

5. Section 116.12(18) - Definition of *net emissions increase*.
 - A. In section 116.12(18)(A)(ii) TCEQ proposes to add "federal permit of the same type." TCEQ should clarify what it means when it refers to a "federal permit of the same type."
 - B. There is no provision corresponding to 40 CFR 51.166(b)(3)(iv) which provides that "[a]n increase or decrease in actual emissions of sulfur dioxide, particulate matter, or nitrogen oxides that occurs before the applicable minor source baseline date is creditable only if it is required to be considered in calculating the amount of maximum allowable increases remaining available." Furthermore, we do not find where TCEQ incorporated the provisions of TCEQ 40 CFR 51.166(b)(3)(iv) into its PSD program by reference in section 116.160. TCEQ should either: include this provision, or identify where this provision is included in its PSD program.
 - C. In section 116.12(18)(c)(iii), a decrease is not creditable if relied upon in issuing a PSD, NNSR, or PAL permit. Under 40 CFR 51.165(a)(1)(vi)(E)(3), a decrease is not creditable if it is relied upon in issuing a PSD or NNSR permit. The TCEQ needs to clarify why it is proposing this for PAL permits.
6. Section 116.12(19) - Definition of *offset ratio*. TCEQ proposes that the reduction must not have relied upon a previous PAL permit. This is the same concern as our comment on section 116.12(18)(c)(iii) in item 5.C above.
7. Definitions for PAL. In section 116.12 Texas has proposed some, but not all, definitions applicable to PALs as defined on 40 CFR 51.165(f)(2) and 51.166(w)(2). The PAL definitions not defined are:
 - A. *Allowable emissions* as defined in 40 CFR 51.165(f)(2)(ii) and 51.166(w)(2)(ii).
 - B. *Small emissions unit* as defined in 40 CFR 51.165(f)(2)(iii) and 51.166(w)(2)(iii).
 - C. *Major emissions unit* as defined in 40 CFR 51.165(f)(2)(iv) and 51.166(w)(2)(iv).
 - D. *PAL effective period* as defined in 40 CFR 51.165(f)(2)(vii) and 51.166(w)(2)(vii).
 - E. *Significant emissions unit* as defined in 40 CFR 51.165(f)(2)(xi) and 51.166(w)(2)(xi).The TCEQ either must include these definitions or demonstrate that its program is equivalent to the Federal requirements.
8. Section 116.12(22) - definition of *PAL major modification* - The draft rule lacks the text corresponding to the phrase "notwithstanding [either 40 CFR 51.165 (a)(1)(v) and (vi) or

51.166 (b)(2) and (b)(3) (the definitions for major modification and net emissions increase).” Texas either must include all provisions of 40 CFR 51.165(f)(2)(viii) and 51.166(w)(2)(viii); or demonstrate that its program is equivalent to the Federal requirements.

9. Section 116.12(24) - definition of *PAL pollutant*. This definition does not provide the requirement that the PAL must be established at a major stationary source.
10. Section 116.12(27) - definition of *projected actual emissions*. The proposed rule differs from Federal because it does not require the *projected actual emissions* to include emissions associated with startups, shutdowns, and malfunctions. The TCEQ must demonstrate its proposed provisions are at least as stringent as the Federal provision. One way that TCEQ could make this demonstration is by showing that the emissions associated with startups, shutdowns, and malfunction are not authorized emissions.

Comments on section 116.121 - Actual to Projected Actual Test for Emissions Increases.

1. Section 116.121(e) differs from the Federal rule. The proposed rule only requires the information that documents the projected actual emissions and any emissions excluded from the projected emission increase to be available for review by the Executive Director and the general public. To meet the Federal requirements, TCEQ should provide that all information required to be maintained under section 116.121 must be made available to the Executive Director and the general public, or demonstrate that its program is at least as stringent as the Federal program.

Comments on Section 116.150 - New Major Source or Major Modification in Ozone Nonattainment Areas.

1. Texas rule provides that major sources and major modifications are subject to nonattainment review based upon whether a complete permit application is submitted after the June 15, 2005, effective date for the 8-hour ozone NAAQS. This differs from EPA’s guidance dated March 11, 1991, which states that a major source or major modification is subject to PSD or nonattainment review on the basis of the attainment status of the area in which the source is located on the date of permit issuance.³ Texas should revise Section 116.150 to clarify that the date of permit issuance, not the date the application is administratively complete, determines whether PSD or Nonattainment NSR requirements apply.

³ See 1991 New Source Review (NSR) Program Transitional Guidance, “The area designation on the date of permit issuance by the reviewing agency determines which regulations (Part C or Part D) apply to the permit.” See also proposed 8-hour ozone standard implementation rule 68 FR 32844, June 2, 2003 and amendments to PSD regulations, 45 FR 52676-01, August 7, 1980.

2. Texas revised section 116.150(c)(3). However this provision differs from Federal requirements:
 - A. The Federal requirements provide that a major modification occurs whenever a project results in a significant emissions increase and a significant net emissions increase. See 40 CFR 51.165(a)(2)(A).
 - B. Section 116.150(c)(3) provides that *de minimis* test (netting) will not be required if the project net is less than or equal to zero tpy.
 - C. Under section 116.150(c)(3), a project with a significant emissions increase may also have a project net that is less than or equal to zero tpy. Under Texas' rule, such project will not be subject to the *de minimis* test (netting) and there is no netting calculation to determine if there is a significant net emissions increase. However, such project will be subject to netting to determine if it will result in a significant net emissions increase under 40 CFR 51.165(a)(2)(A).
 - D. This provision relating to project net was proposed by EPA on July 23, 1996 (61 FR 38298-301), as EPA's proposed interpretation of the "de minimis rule" in section 182(c)(6) of the Clean Air Act, which applies only to modifications of major sources of VOC or NO_x in serious and severe ozone nonattainment areas. The EPA previously approved this provision when Texas implemented its NSR program under the one-hour ozone standard that applied the requirements applicable serious and severe ozone nonattainment areas to major stationary sources in moderate, serious, and severe ozone nonattainment areas in Texas.
 - E. Texas should revise section 116.150(c)(3) to limit its applicability only to serious and severe ozone nonattainment areas.
 - F. Texas should further provide that notwithstanding this provision in section 116.150(c)(3), any project that causes an increase of VOC or NO_x that exceeds the major modification threshold in Table I (under the definition of "major modification" in section 116.12 will be subject to the *de minimis* test (netting). Stated another way, the *de minimis* threshold test (netting) must be required for all modifications to existing major stationary sources of VOC or NO_x, unless the proposed emissions increase associated with the project, without consideration decreases, are less than the major modification threshold in Table I (under the definition of "major modification") in section 116.12.

- G. If Texas wants to keep the existing requirements of section 116.150(c)(3), it must demonstrate that such provisions are as stringent as, or more stringent than, the requirements in 40 CFR 51.165(a)(2)(A).

Comments on Section 116.151 - New Major Source or Major Modification in Nonattainment Areas Other Than Ozone.

1. In section 116.151(c)(1), TCEQ proposes to replace "emissions unit" with "facility." Texas defines "facility" in section 116.10(4).
 - A. EPA has not yet approved this definition. However, EPA has proposed to approve this definition of "facility" on October 5, 2005 (70 FR 51846 and 58154).
 - B. Texas must demonstrate that it will treat "replacement units" as existing emissions units and ensure that the emission reductions resulting from the shutdown of a replaced unit will not be used for netting and offsets, as provided in 40 CFR 51.165(a)(1)(xxi).

Comments on section 116.160 - Prevention of Significant Deterioration Requirements.

1. Section 116.160(c)(3) provides that the term "facility" shall replace the words "emissions unit" in the above referenced sections of the CFR. Texas defines "facility" in section 116.10(4).
 - A. EPA has not yet approved this definition. However, EPA has proposed to approve this definition of "facility" on October 5, 2005 (70 FR 51846 and 58154).
 - B. Texas must demonstrate that it will treat "replacement units" as existing emissions units and ensure that the emission reductions resulting from the shutdown of a replaced unit will not be used for netting and offsets, as provided in 40 CFR 51.166(b)(32).
2. Texas proposes to remove Paragraph (d) which provides that the term "Executive Director" shall replace the word "Administrator," except for specific provisions identified therein. If TCEQ removes this provision, it should address how its program will identify the circumstances when the word "Administrator" in 40 CFR 52.21 is to be replaced with the word "Executive Director" or the words "Administrator and Executive Director."

⁴TCEQ defines the term "facility" in section 116.10(4) to mean:

"A discrete or identifiable structure, device, item, equipment, or enclosure that constitutes a stationary source, including appurtenances other than emission control."

Subchapter C: Plant-wide Applicability Limits

General Comments.

1. The Federal regulation requires that the reviewing authority establish a PAL in a federally enforceable permit (for example, a "minor" NSR construction permit, a major NSR permit, or a SIP-approved operating permit program). The Texas rule allows sources to establish a separate "PAL permit" under new Division 1 of Subchapter C which states that the PAL permit may be consolidated with a State or Federal construction or flexible permit at the site. Also, Section 116.186(b)(1) states that the rule "does not authorize any facility to emit air pollutants but established an annual emissions level." Please explain how emissions under a PAL permit are authorized. Please explain how the State's separate permitting process differs from the Federal requirement to establish the PAL in an existing permit.
2. The Texas PAL regulation allows for "Partial PAL" permits which exclude specific units from the PAL emission limitation. See Section 116.182(1). The Federal PAL rule anticipates that the PAL will be established source-wide and apply to all emissions units at the source that emit or have the potential to emit a PAL pollutant. See 67 FR 80216, "You must calculate increases and decreases at individual units in order to arrive at a net figure for the entire source." A net emissions increase has historically been determined after taking into account all contemporaneous emissions increases and decreases at the source. See our 1978 PSD regulation preamble at 42 FR 26380 and Alabama Power at 636 F.2d 402 (check this). Please explain how the Texas Partial PAL will determine NSR applicability, including netting procedures, for non-PAL units at a facility with a PAL.
3. It is not clear that Texas has proposed provisions corresponding to 40 CFR 51.165(f)(1)(iv) and 51.166(w)(1)(iii). These Federal regulations provide that, except for certain provisions which limit the potential to emit or emissions increase, a major stationary source shall continue to comply with all applicable Federal or State requirements, emission limitations, and work practice requirements that were established prior to the effective date of the PAL. Please explain how conditions in individual permits, including emission limitations and work practices to which the source is subject at the time the PAL permit is issued, remain in effect and where those requirements appear after issuance of the PAL permit. Please explain how future SIP requirements at individual units become applicable.

Comments on section 116.182 - Plant-wide Applicability Limit Permit Application.

1. Section 116.182(2) differs from 40 CFR 51.165(f)(3)(ii) and 51.166(w)(3)(ii) because it does not include provisions which require that baseline emissions include emissions associated with startup, shutdown and malfunction. For purposes of determining emissions from an emissions unit, a unit is considered operational not only during periods of normal operation, but also during periods of startup, shutdown, maintenance, and malfunction even if compliance with a non-PAL emission limitation is excused during these latter periods. The definition of baseline actual emissions in section 116.12 states that, until March 1, 2016, emissions previously demonstrated as emissions events or historically exempted under Chapter 101 may be included to the extent they have been authorized, or are being authorized, in a permit action under Chapter 106 (Permit by Rule). Please provide further information on how TCEQ will ensure consistency in baseline calculations and demonstrate how the State's baseline calculations are equivalent to the Federal PAL rule requirements. One way the TCEQ could address this concern is to demonstrate that the inclusion of emission events in relation to the definition of *baseline actual emissions* in section 116.12 is equivalent to the Federal PAL requirements.
2. Section 116.182(4). Sentences 1-2 require the PAL permit application submit information on "use of best available control technology (BACT) at the proposed facility or group of facilities, with consideration given to technical practicability and economic reasonableness of reducing or eliminating emissions . . ." The rule allows sources authorized by a flexible permit to rely on determinations made during the permit review. Note that the rule refers to provisions for Flexible Permits in Chapter 116, Subchapter G. EPA has not yet approved Subchapter G. The approval of Subchapter G may be necessary to support the approval of these regulations. Also see our comment on section 166.188, which appears to provide that the PAL is established on the basis of baseline actual emissions.
3. We conclude that Texas' PAL rule establishes the PAL emission limit by summing baseline actual emissions, but may require additional emission reductions as conditions upon issuance of the PAL permit. The Federal PAL rule allows the permitting authority to consider the application of BACT equivalent controls where the source proposes to add new emissions units or change existing emissions units in a way that would cause an exceedance of the PAL. Such an increase would be authorized only if the source would not be able to maintain emissions below the PAL level even if you assumed application of BACT equivalent controls on all existing major and significant units. Texas' PAL rule does not contain this requirement. Please explain how Texas' requirement to install BACT equivalent controls compare with the Federal PAL rule. Please explain how Texas' requirements to increase the PAL level compare with the Federal PAL rule.

Comments on section 116.186 - General and Special Conditions.

1. It is not clear that section 116.186(a) has provisions which meet the requirements of 40 CFR 51.165(f)(4)(i)(C) and 51.166(w)(4)(i)(c). These Federal requirements provide that each PAL shall contain all the requirements of 40 CFR 51.165(f)(7) or 51.166(w)(7), which specify the contents of a PAL. TCEQ either must include provisions consistent with 40 CFR 51.165(f)(4)(i)(C) and 51.166(w)(4)(i)(c); or demonstrate that its program is equivalent to the Federal requirements.
2. It is not clear that TCEQ has provisions which correspond to 40 CFR 51.165(f)(12)(i)(D) and 51.166(w)(12)(i)(d). These Federal regulations require that failure to use a monitoring system that meets the requirements of 40 CFR 51.165(f) and 51.166(w) renders the PAL invalid. If these provisions are included elsewhere in TCEQ regulations, please identify where these provisions are located.

Comments on section 116.188 - Plantwide Applicability Limit.

1. The introductory paragraph of section 116.188 provides that the PAL is established as the sum of the baseline actual emissions of the PAL pollutant, which meets the requirements of 40 CFR 51.165(f)(6)(i) and 51.166(w)(6)(i). However, it differs from section 116.182(4), which provides that the PAL will be established on the basis of applying BACT to establish a PAL. Texas needs to clearly explain how section 116.182(4) and section 116.188 work together and clearly state whether the PAL is established on the basis of baseline actual emissions or BACT. If the PAL is established on the basis of BACT, Texas must demonstrate that its program is as stringent as, or more stringent than, the requirements of 40 CFR 51.165(f)(6)(i) and 51.166(w)(6)(i).
2. Please explain how the BACT standard (required to increase a PAL) in 40 CFR 51.165(f)(11)(D)(ii) differs from the standard in 116.182(4) which allows consideration of technical practicability and economic reasonableness.
3. The introductory paragraph of section 116.188 differs from 40 CFR 51.165(f)(6)(ii) and 51.166(w)(6)(ii). These Federal provisions require the PAL to include the potential to emit (PTE) of a new unit. Section 116.188 provides that the PAL will include the allowable emissions of a new unit. Texas must provide it will add the PTE of a new unit; or show that adding the allowable emissions from a new unit is at least as stringent as using PTE.

3. Section 116.188(1) provides that the PAL may add an amount equal to the significant level for the PAL pollutant but adds the following provision:

... but that quantity must be added to the result of the project emission increase at non-PAL facilities for any physical change in, or change in the method of operation of a facility in the PAL. It must also be added to the result of the de minimis threshold test for any physical change in, or change in the method of operation of a non-PAL facility.

Unlike the Federal PAL rule, the Texas regulation allows for Partial PALs. The additional provisions are not in the Federal regulations in 40 CFR 51.165(f)(6)(i) and 51.166(w)(6)(i). Texas must demonstrate that its regulation are as stringent as, or more stringent than, the corresponding Federal requirements.

4. It is not clear that Texas regulations contain the provisions corresponding to 40 CFR 51.165(f)(6)(i) and 51.166(w)(6)(i), which provide that emissions associated with units that were permanently shut down after this 24-month period must be subtracted from the PAL level.
5. Section 116.188(3) differs from 40 CFR 51.165(f)(11) and 51.166(w)(11):

A. Section 116.188(3) applies when a PAL is established concurrent with a Federal major modification. Under the proposed rule, the baseline is established prior to start of operation of the new or modified facilities. Upon start of operations, new or modified facilities subject to major NSR will contribute to the PAL. Any baseline emissions associated with the new or modified facilities must be removed from the PAL.

B. These provisions differ from 40 CFR 51.165(f)(11) and 51.166(w)(11), which include the requirements that apply when a PAL is increased:

1. The proposed section 116.188(3) differs from the Federal provisions in 40 CFR 51.165(f)(11) and 51.166(w)(11): (a) The proposed rule has no provisions pertaining to submission of a complete application to request an increase in the PAL; and (b) There is no provision that the application will identify the emissions unit(s) contributing to the increase in emissions so as to cause the major stationary source's emissions to equal or exceed its PAL.
2. The proposed section 116.188(3) lacks the following requirements in 40 CFR 51.165(f)(11)(i)(B) and 51.166(w)(11)(i)(b), that provide that the owner or operator shall demonstrate that the sum of the baseline actual

emissions of the small emissions units, plus the sum of the baseline actual emissions of the significant and major emissions units assuming application of BACT equivalent controls, plus the sum of the allowable emissions of the new or modified emissions unit(s) exceeds the PAL.

3. The proposed section 116.188(3) lacks the following requirements in 40 CFR 51.165(f)(11)(ii) and 51.166(w)(11)(ii): There is no provision that the PAL permit shall be revised to reflect the increased PAL level pursuant to the public notice requirements of 40 CFR 51.165(f)(5) or 51.166(w)(5).
4. The proposed section 116.188(3) differs from the Federal provisions in 40 CFR 51.165(f)(11) and 51.166(w)(11): The last sentence of section 116.188(3) provides that "[a]ny baseline emissions associated with these [new or modified] facilities must be removed from the PAL at that time." We cannot identify any Federal requirement which corresponds to the last sentence of section 116.188(3). If TCEQ is aware of a Federal requirement which corresponds to the last sentence of section 116.188(3), TCEQ should identify the location of the requirement.
5. TCEQ must show that its proposed rule is as stringent as or more stringent than the Federal requirements.

C. If TCEQ addresses these concerns elsewhere in its regulations, TCEQ should specify where its regulations address the concern

6. Section 116.188(4): This provision is not clear. TCEQ discusses regulatory requirements which have a future compliance date but closes the provision by specifying that such requirements that are effective prior to issuance of the PAL permit. It is unclear what this provision means or how it is addressed in the Federal program. Texas needs to clarify this provision and demonstrate how it meets the Federal requirements

Comments on section 116.190 - Federal Nonattainment and Prevention of Significant Deterioration Review

1. It is not clear that there is any provision corresponding to 40 CFR 51.165(f)(1)(iii)(C) and 51.166(w)(1)(ii)(c) that provides that a physical or operational change at a source that maintains its source-wide PAL and complies with a PAL permit is not subject to the provisions in 40 CFR 51.165(a)(5)(ii) or 51.166(r)(2) (restrictions on relaxing enforceable emission limitations that the major stationary source used to avoid applicability of the nonattainment major NSR program).

Comments on section 116.192 - Amendments and Alterations.

1. Sections 116.192(b)-(c) address changes which qualify as permit amendments and alterations. The provisions for permit amendments and alterations are currently approved in the Texas SIP at section 116.116(b) and (c). TCEQ must demonstrate that section 116.192(b) and (c) fully satisfy the SIP-approved provisions of section 116.116(b)-(c).

Comments on section 116.194 - Public Notice and Comment.

1. Our initial review of TCEQ's draft rules indicates public participation for PALs, is addressed as follows: Section 116.194 states the applicant must provide for public notice on the draft PAL permit in accordance with Chapter 39 for all initial applications, amendments and renewals of a PAL permit.
2. The Federal PAL rule at 40 CFR 51.165 (w)(5) requires PALs for existing major stationary sources shall be established, renewed, or increased through a procedure that is consistent with 40 CFR 51.160 and 51.161, including the requirement that the Administrator provide the public with notice of the proposed approval of a PAL permit and at least a 30-day period for submittal of public comment. The Administrator must address all material comments before taking final action on the permit.
3. We conclude that Texas is relying upon Chapter 39 to provide public participation required by the Part 51 revisions. Please confirm that Division 1 of Subchapter C is subject to the requirements in Section 39.419(c) which requires public notice and comment on the State's preliminary analysis and proposal to approve or disapprove the PAL. We interpret Chapter 39 to provide for two public notice and comment periods, one at the time of the permit application and a second on the draft permit and the State's preliminary analysis. However, the second notice is not required for all air permits. The current public participation requirements of Chapter 39 have not been approved into the Texas SIP. Region 6 has raised concerns about whether these rules are fully consistent with the requirements of 40 CFR 51.160 through 51.164 for major and minor sources. In particular, 40 CFR 51.161 (a) states:

The legally enforceable procedures in §51.160 must also require the State or local agency to provide opportunity for public comment on information submitted by owners and operators. The public information must include the agency's analysis of the effect of construction or modification on the ambient air quality, including the agency's proposed approval or disapproval.

Section 39.419(c) requires the State to provide public notice and comment on its preliminary analysis and proposal to approve or disapprove (Notice of Application and Preliminary Analysis) where a the federal preconstruction permit is issued under Chapter 116, Subchapter

- B, Division 5 (Nonattainment Review) or Division 6 (Prevention of Significant Deterioration) or Subchapter C (Hazardous Air Pollutants). However, Section 39.419(c) fails to list PAL permits as applicable permits and PAL permits are not preconstruction permits. Please explain whether the State intends to revise Section 39.419(c) in order to provide public notice and comment on the State's preliminary analysis and proposal to approve or disapprove the PAL. If not, please explain how the State's PAL rule meets the public participation requirements of 40 CFR 51.161.
4. The Federal PAL rule also requires that amendments and renewals of PALs are subject to public participation equivalent to Part 51.161. Please explain the public participation requirements in Chapter 39 for initial, renewed, or increased or reopened PALs.

Comments on section 116.196 - Renewal of a Plant-wide Applicability Limit Permit.

5. Section 116.196(c)(2) provides in a renewal application the source must include an identification of the facilities that are qualified as defined in section 116.10 of this title (relating to General Definitions) with supporting documentation. The provisions of section 116.196(c)(2) are not required in the Federal regulations. TCEQ must demonstrate that including these provisions will result in a program that is as stringent as, or more stringent than, the Federal program.
6. The provision at the end of section 116.196(c)(3) requires submittal of the potential to emit of all facilities under the PAL, as required under 40 CFR 51.165(f)(10)(iii)(C) and 51.166(w)(10)(iii)(C). The State rule further requires submission of the greatest rolling 12-month actual emission rate during the PAL effective period for facilities that are not qualified; a provision that is not required under 40 CFR 51.165(f)(10)(iii)(C) and 51.166(w)(10)(iii)(C). TCEQ must demonstrate that including these additional provisions will result in a program that is as stringent as, or more stringent than, the Federal program.
7. Section 116.196(e) differs from the provisions relating to PAL adjustment in 40 CFR 51.165(f)(10)(iv) and 51.166(w)(10)(iv). TCEQ must demonstrate that its program is as stringent as, or more stringent than, the Federal requirements.
8. Section 116.196(e)(B) would be clearer if TCEQ further provided that the PAL is being set at a higher level in accordance with sections 116.188(3) and 116.192(a).

Comments on section 116.198 - Expiration or Voidance.

1. It is not clear that section 116.198 provides that a PAL which is not renewed shall expire at the end of the PAL effective period as required by 40 CFR 51.165(f)(9)(B) and 51.166(w)(9)(B).

2. Section 116.198(a) differs from the requirements in 40 CFR 51.165(f)(9)(i)(A) and 51.166(w)(9)(i)(a).
 - A. There is no requirement that the application to include of a proposed allowable emission limitation for each emissions unit (or each group of emissions units) within the time frame specified for PAL renewals in 40 CFR 51.165(f)(9)(i)(A) and 51.166(w)(9)(i)(A).
 - B. There is no provision to adjust the emissions as required under 40 CFR 51.165(f)(9)(ii) and 51.166(w)(9)(ii), if the PAL has not yet been adjusted.
 - C. The proposed rule provides that the request shall include documentation demonstrating that all required control technology upgrades have been completed for that pollutant or propose an alternate mechanism for making them enforceable. We do not see any provision in the Federal program that addressed this provision. TCEQ should identify such Federal requirement; otherwise it must demonstrate that its program is as stringent as, or more stringent than, the Federal requirements.

Other Federal provisions of 40 CFR 51.165(f) and 51.166(w) for which we have not found corresponding provisions in Texas' program.

It is not clear that Texas has addressed the following provisions for PALs in 40 CFR 51.165(f) and 51.166(w). TCEQ must address each of these requirements either by:

- Including the requirement in its program; or
- Demonstrating that its program, without these Federal requirement is as stringent as, or more stringent than, the Federal program.

If TCEQ has addressed any of these provisions elsewhere in its regulations, it should specifically describe where the Federal requirement is addressed and how the State provisions meets the Federal requirement.

1. 40 CFR 51.165(f)(7) and 51.166(w)(7). Contents of the PAL permit.
2. 40 CFR 51.165(f)(8) and 51.166(w)(8). Reopening of the PAL permit.
3. 40 CFR 51.165(f)(11) and 51.166(w)(11). Increasing a PAL during the PAL effective period.
4. 40 CFR 51.165(f)(12)(vii) and 51.166(w)(12)(vii). A source owner or operator must record and report maximum potential emissions without considering enforceable emission limitations or

operational restrictions for an emissions unit during any period of time that there is no monitoring data, unless another method for determining emissions during such periods is specified in the PAL permit.

5. 40 CFR 51.165(f)(12)(viii) and 51.166(w)(12)(viii). Notwithstanding the requirements in [either paragraphs (f)(12)(iii) through (vii) of 40 CFR 51.165 or paragraphs (w)(12)(iii) through (vii) of 51.166], where an owner or operator of an emissions unit cannot demonstrate a correlation between the monitored parameter(s) and the PAL pollutant emissions rate at all operating points of the emissions unit, the reviewing authority shall, at the time of permit issuance:
 - (A) Establish default value(s) for determining compliance with the PAL based on the highest potential emissions reasonably estimated at such operating point(s); or
 - (B) Determine that operation of the emissions unit during operating conditions when there is no correlation between monitored parameter(s) and the PAL pollutant emissions is a violation of the PAL.
6. 40 CFR 51.165(f)(12)(ix) and 51.166(w)(12)(ix). Re-validation. All data used to establish the PAL pollutant must be re-validated through performance testing or other scientifically valid means approved by the reviewing authority. Such testing must occur at least once every 5 years after issuance of the PAL.
7. 40 CFR 51.165(f)(13) and 51.166(w)(13). Recordkeeping requirements.

Comments on provisions relating to Standard Permits in Subchapter F.

General Comments and Concerns Relating to Pollution Control Projects.

1. The D.C. Circuit Court of Appeals in *New York v. EPA*, June 24, 2005, vacated the PCP provisions in 40 CFR 51.165(e) and 51.166(v). EPA has not requested reconsideration of the Court's holding except to request clarification that vacatur of the PCP exemption applies prospectively only. We encourage Texas to adopt rules consistent with the Court's holdings.
2. Texas has proposed a PCP rule applicable to minor sources and modifications that do not trigger New Source Review requirements under Part C or D of the Federal Clean Air Act. Therefore, EPA will review the Standard Permit for PCPs for consistency with 40 CFR 51.160 and 51.161 and section 110(l) of the Clean Air Act. Please provide an evaluation of the State's determination of air quality impacts of implementation of the rule and whether emission

- B. If this is the case, then the owner or operator began construction or implantation prior to TCEQ performing the evaluation required under 40 CFR 51.160(a).
 - C. In such case, we have comments that are substantially the same as our comments under Paragraph (d)(1)(A)-(B).
 - D. In such case, TCEQ must clarify that any construction or implementation begun prior to completion of the evaluation under 40 CFR 51.160(a) is solely at the risk of the owner or operator in the event that the TCEQ finds that the project does not meet the requirements of 40 CFR 51.160(a).
 - E. TCEQ should address whether the PCP should begin operation prior to TCEQ completing its evaluation under 40 CFR 51.160(a).
7. Concerning paragraph (f)(D).
- A. TCEQ must demonstrate why any emission increases authorized by this Standard Permit will not be considered for purposes of triggering public notice for amendments and how this satisfies the requirements under 40 CFR 51.161.

General Comments on section 116.617.

1. Section 116.617 has several provisions which appear to require source specific review for each PCP.⁶ TCEQ has not proposed provisions for public participation for each PCP that is proposed to be authorized under section 116.617. TCEQ should address the need to require public participation for PCP which meet the requirements of 40 CFR 51.161.

Comments on proposal to redesignate Subchapter C to Subchapter E.

1. These provisions relate to the implementation of section 112(g) of the Act. In our SIP approval dated September 18, 2002 (67 FR 58697-711) we did not approve Subchapter C and several provisions which refer to Subchapter C. In that action we stated:

⁶ Examples of source specific requirements which apply to PCP include the following paragraphs under section 116.617: Such source specific requirements are included, but not limited to, the following:

- Section 116.617(a)(2) and (3);
- Section 116.617(b)(2), (4) and (5);
- Section 116.617(c)(2) and (3);
- Section 116.617(d); and
- Section 116.617(e).

We are taking no action on Subchapter C of Chapter 116 - Hazardous Air Pollutants: Regulations Governing Constructed or Reconstructed Major Sources (FCAA Section 112(g), 40 CFR part 63) as submitted in 1998. The program for reviewing and permitting constructed and reconstructed major sources of HAP is regulated under section 112 of the Act and under 40 CFR part 63, subpart B. Under these provisions, States establish case-by-case determinations of maximum achievable control technology for new and reconstructed sources of HAP. The process for these provisions is carried out separately from the SIP activities. For the reasons discussed above, we are not approving Subchapter C of [Chapter] 116 as submitted in 1998.

67 FR 58699 (September 18, 2002). This sets forth our rationale for not approving Subchapter C.

2. For the same reasons, we cannot approve the redesignation of Subchapter C to Subchapter E as proposed herein. Accordingly, we request the TCEQ not submit the provisions that implement section 112(g) to EPA as a SIP revision. This includes the proposal to move the provisions of Subchapter C to Subchapter E.

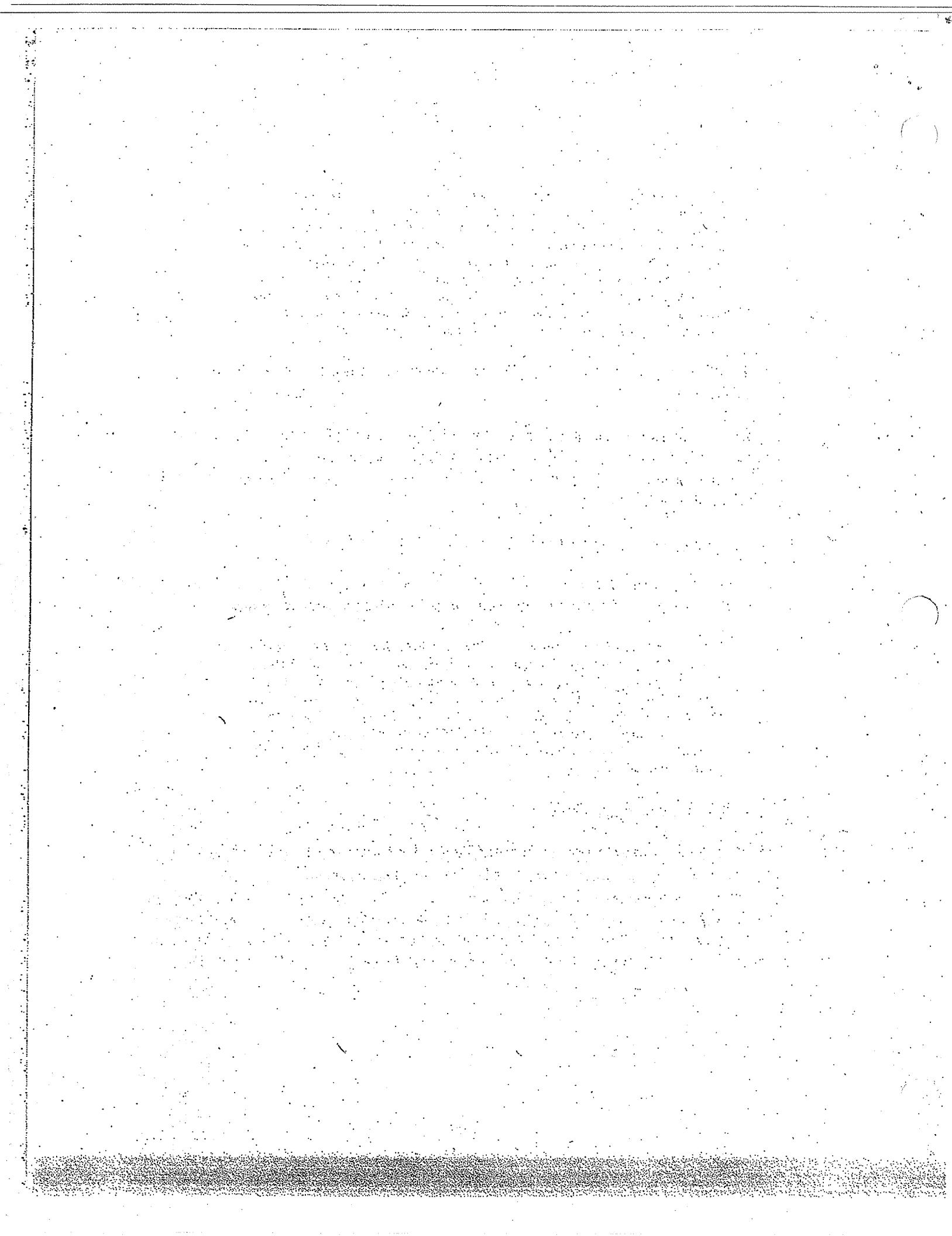
Comments on proposal to redesignate Subchapter E to Subchapter K.

1. These provisions relate to Emergency Orders. In our SIP approval dated September 18, 2002 (67 FR 58697-71) we did not approve Subchapter E. In that action we stated:

In letters to Texas dated August 3, 1999, and September 27, 2000, we identified concerns related to Subchapter E, Submitted August 31, 1993, and with the revisions submitted December 10, 1998. On the basis of subsequent discussions with Texas on August 15, 2000, the EPA and TCEQ have agreed that it is appropriate to take no action on Subchapter E, submitted August 31, 1993, and the SIP revisions submitted December 10, 1998. Our letter to Texas on September 27, 2000, confirmed this understanding. We will act on these provisions in a separate action after TCEQ resolves the outstanding concerns to our satisfaction.

67 FR 58701 (September 18, 2002).

2. To date, TCEQ has not taken steps to address our concerns with emergency orders as described in our September 27, 2000, letter. Consequently, we cannot approve Subchapter E. For the same reasons, we cannot approve on TCEQ's proposal to move the provisions of Subchapter E to Subchapter K. Accordingly, we request the TCEQ make revisions consistent with EPA's August 3, 1999 and September 27, 2000 letters or that the provisions concerning Emergency Orders to EPA are not submitted as a SIP revision.



ATTACHMENT 2

**ENVIRONMENTAL PROTECTION AGENCY, NEW SOURCE REVIEW
WORKSHOP MANUAL, B.1-B.9 (OCTOBER 1990).**

D R A F T
OCTOBER 1990

New Source Review Workshop Manual

**Prevention of Significant Deterioration
and
Nonattainment Area
Permitting**

CHAPTER B
BEST AVAILABLE CONTROL TECHNOLOGY

I. INTRODUCTION

Any major stationary source or major modification subject to PSD must conduct an analysis to ensure the application of best available control technology (BACT). The requirement to conduct a BACT analysis and determination is set forth in section 165(a)(4) of the Clean Air Act (Act), in federal regulations at 40 CFR 52.21(j), in regulations setting forth the requirements for State implementation plan approval of a State PSD program at 40 CFR 51.166(j), and in the SIP's of the various States at 40 CFR Part 52, Subpart A - Subpart FFF. The BACT requirement is defined as:

"an emissions limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under the Clean Air Act which would be emitted from any proposed major stationary source or major modification which the Administrator, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant. In no event shall application of best available control technology result in emissions of any pollutant which would exceed the emissions allowed by any applicable standard under 40 CFR Parts 60 and 61. If the Administrator determines that technological or economic limitations on the application of measurement methodology to a particular emissions unit would make the imposition of an emissions standard infeasible, a design, equipment, work practice, operational standard, or combination thereof, may be prescribed instead to satisfy the requirement for the application of best available control technology. Such standard shall, to the degree possible, set forth the emissions reduction achievable by implementation of such design, equipment, work practice or operation, and shall provide for compliance by means which achieve equivalent results."

During each BACT analysis, which is done on a case-by-case basis, the reviewing authority evaluates the energy, environmental, economic and other

costs associated with each alternative technology, and the benefit of reduced emissions that the technology would bring. The reviewing authority then specifies an emissions limitation for the source that reflects the maximum degree of reduction achievable for each pollutant regulated under the Act. In no event can a technology be recommended which would not meet any applicable standard of performance under 40 CFR Parts 60 (New Source Performance Standards) and 61 (National Emission Standards for Hazardous Air Pollutants).

In addition, if the reviewing authority determines that there is no economically reasonable or technologically feasible way to accurately measure the emissions, and hence to impose an enforceable emissions standard, it may require the source to use design, alternative equipment, work practices or operational standards to reduce emissions of the pollutant to the maximum extent.

On December 1, 1987, the EPA Assistant Administrator for Air and Radiation issued a memorandum that implemented certain program initiatives designed to improve the effectiveness of the NSR programs within the confines of existing regulations and state implementation plans. Among these was the "top-down" method for determining best available control technology (BACT).

In brief, the top-down process provides that all available control technologies be ranked in descending order of control effectiveness. The PSD applicant first examines the most stringent--or "top"--alternative. That alternative is established as BACT unless the applicant demonstrates, and the permitting authority in its informed judgment agrees, that technical considerations, or energy, environmental, or economic impacts justify a conclusion that the most stringent technology is not "achievable" in that case. If the most stringent technology is eliminated in this fashion, then the next most stringent alternative is considered, and so on.

D R A F T
OCTOBER 1990

The purpose of this chapter is to provide a detailed description of the top-down method in order to assist permitting authorities and PSD applicants in conducting BACT analyses.

II. BACT APPLICABILITY

The BACT requirement applies to each individual new or modified affected emissions unit and pollutant emitting activity at which a net emissions increase would occur. Individual BACT determinations are performed for each pollutant subject to a PSD review emitted from the same emission unit. Consequently, the BACT determination must separately address, for each regulated pollutant with a significant emissions increase at the source, air pollution controls for each emissions unit or pollutant emitting activity subject to review.

III. A STEP BY STEP SUMMARY OF THE TOP-DOWN PROCESS

Table B-1 shows the five basic steps of the top-down procedure, including some of the key elements associated with each of the individual steps. A brief description of each step follows.

III.A. STEP 1--IDENTIFY ALL CONTROL TECHNOLOGIES

The first step in a "top-down" analysis is to identify, for the emissions unit in question (the term "emissions unit" should be read to mean emissions unit, process or activity), all "available" control options. Available control options are those air pollution control technologies or techniques with a practical potential for application to the emissions unit and the regulated pollutant under evaluation. Air pollution control technologies and techniques include the application of production process or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of the affected pollutant. This includes technologies employed outside of the United States. As discussed later, in some circumstances inherently lower-polluting processes are appropriate for consideration as available control alternatives. The control alternatives should include not only existing controls for the source category in question, but also (through technology transfer) controls applied to similar source categories and gas streams, and innovative control technologies. Technologies required under lowest achievable emission rate (LAER) determinations are available for BACT purposes and must also be included as control alternatives and usually represent the top alternative.

In the course of the BACT analysis, one or more of the options may be eliminated from consideration because they are demonstrated to be technically infeasible or have unacceptable energy, economic, and environmental impacts on a case-by-case (or site-specific) basis. However, at the outset, applicants

TABLE B-1. - KEY STEPS IN THE "TOP-DOWN" BACT PROCESS

STEP 1: IDENTIFY ALL CONTROL TECHNOLOGIES.

- LIST is comprehensive (LAER included).

STEP 2: ELIMINATE TECHNICALLY INFEASIBLE OPTIONS.

- A demonstration of technical infeasibility should be clearly documented and should show, based on physical, chemical, and engineering principles, that technical difficulties would preclude the successful use of the control option on the emissions unit under review.

STEP 3: RANK REMAINING CONTROL TECHNOLOGIES BY CONTROL EFFECTIVENESS.

Should include:

- control effectiveness (percent pollutant removed);
- expected emission rate (tons per year);
- expected emission reduction (tons per year);
- energy impacts (BTU, kWh);
- environmental impacts (other media and the emissions of toxic and hazardous air emissions); and
- economic impacts (total cost effectiveness, incremental cost effectiveness).

STEP 4: EVALUATE MOST EFFECTIVE CONTROLS AND DOCUMENT RESULTS.

- Case-by-case consideration of energy, environmental, and economic impacts.
- If top option is not selected as BACT, evaluate next most effective control option.

STEP 5: SELECT BACT

- Most effective option not rejected is BACT.

should initially identify all control options with potential application to the emissions unit under review.

III.B. STEP 2--ELIMINATE TECHNICALLY INFEASIBLE OPTIONS

In the second step, the technical feasibility of the control options identified in step one is evaluated with respect to the source-specific (or emissions unit-specific) factors. A demonstration of technical infeasibility should be clearly documented and should show, based on physical, chemical, and engineering principles, that technical difficulties would preclude the successful use of the control option on the emissions unit under review. Technically infeasible control options are then eliminated from further consideration in the BACT analysis.

For example, in cases where the level of control in a permit is not expected to be achieved in practice (e.g., a source has received a permit but the project was cancelled, or every operating source at that permitted level has been physically unable to achieve compliance with the limit), and supporting documentation showing why such limits are not technically feasible is provided, the level of control (but not necessarily the technology) may be eliminated from further consideration. However, a permit requiring the application of a certain technology or emission limit to be achieved for such technology usually is sufficient justification to assume the technical feasibility of that technology or emission limit.

III.C. STEP 3--RANK REMAINING CONTROL TECHNOLOGIES BY CONTROL EFFECTIVENESS

In step 3, all remaining control alternatives not eliminated in step 2 are ranked and then listed in order of over all control effectiveness for the pollutant under review, with the most effective control alternative at the top. A list should be prepared for each pollutant and for each emissions unit (or grouping of similar units) subject to a BACT analysis. The list should present the array of control technology alternatives and should include the following types of information:

- ! control efficiencies (percent pollutant removed);
- ! expected emission rate (tons per year, pounds per hour);
- ! expected emissions reduction (tons per year);
- ! economic impacts (cost effectiveness);
- ! environmental impacts (includes any significant or unusual other media impacts (e.g., water or solid waste), and, at a minimum, the impact of each control alternative on emissions of toxic or hazardous air contaminants);
- ! energy impacts.

However, an applicant proposing the top control alternative need not provide cost and other detailed information in regard to other control options. In such cases the applicant should document that the control option chosen is, indeed, the top, and review for collateral environmental impacts.

III.D. STEP 4--EVALUATE MOST EFFECTIVE CONTROLS AND DOCUMENT RESULTS

After the identification of available and technically feasible control technology options, the energy, environmental, and economic impacts are considered to arrive at the final level of control. At this point the analysis presents the associated impacts of the control option in the listing. For each option the applicant is responsible for presenting an objective evaluation of each impact. Both beneficial and adverse impacts should be discussed and, where possible, quantified. In general, the BACT analysis should focus on the direct impact of the control alternative.

If the applicant accepts the top alternative in the listing as BACT, the applicant proceeds to consider whether impacts of unregulated air pollutants or impacts in other media would justify selection of an alternative control option. If there are no outstanding issues regarding collateral environmental impacts, the analysis is ended and the results proposed as BACT. In the event that the top candidate is shown to be inappropriate, due to energy, environmental, or economic impacts, the rationale for this finding should be

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documented for the public record. Then the next most stringent alternative in the listing becomes the new control candidate and is similarly evaluated. This process continues until the technology under consideration cannot be eliminated by any source-specific environmental, energy, or economic impacts which demonstrate that alternative to be inappropriate as BACT.

III.E. STEP 5--SELECT BACT

The most effective control option not eliminated in step 4 is proposed as BACT for the pollutant and emission unit under review.

ATTACHMENT 3

**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY, EVALUATING
BEST AVAILABLE CONTROL TECHNOLOGY (BACT) IN AIR PERMIT
APPLICATIONS, 1, 2 (APRIL 2001).**



April 2001
Draft RG-383

Evaluating Best Available Control Technology (BACT) in Air Permit Applications

printed on
recycled paper

Air Permits Division

Texas Commission on Environmental Quality

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Introduction

Purpose

This document provides instruction and guidance for preparing and evaluating best available control technology (BACT) proposals submitted in a New Source Review (NSR) air permit application to the Texas Commission on Environmental Quality (TCEQ). Written primarily for permit reviewers, this document establishes the process for determining the scope of the BACT review and defines the process by which the reviewer determines acceptability of a BACT proposal. For the permit applicant, this document describes the approach to a BACT evaluation and discusses technical issues that must be addressed as part of a BACT analysis. The evaluation process is illustrated, explained, and applied to specific situations by way of examples. This document, in conjunction with *Tier III BACT and Cost Analysis Guidance Document*, replaces the previous BACT guidance document.

Content

Following the Introduction Section, the Policy and Regulatory Basis for Bact Section of this document provides the policy and regulatory basis for the BACT analysis application requirement and presents an overview of how the permit reviewer makes a final determination of BACT acceptability. The Bact Evaluation Section of this document defines the approach to a BACT evaluation and provides a diagram showing a step-by-step progression through the evaluation. This section discusses each step of the evaluation, as illustrated by the diagram, and addresses the principles that are vital to a BACT proposal, including emission reduction options and elements of performance for those options. The conclusion of this document concludes and provides references for obtaining additional information about BACT policies, guidelines, and other technical guidance documents. Finally, appendix contain a summary of the minimum required content of a BACT analysis, a discussion of add-on abatement equipment considerations, and a list of frequently asked questions and answers about the BACT evaluation.

Disclaimer: *This document is not intended to prescribe specific emission reduction strategies as BACT for specific processes. References to abatement equipment technologies, emission reduction efficiencies, or resulting emission levels are not meant to represent minimum or maximum accepted levels of BACT.*

Controls beyond BACT may be required to comply with all rules and regulations of the TNRCC and with the intent of the Texas Clean Air Act to protect public health and welfare.

Policy And Regulatory Basis For Bact

The TNRCC's mission and Title 30 Texas Administrative Code, Chapter 116 (30 TAC Chapter 116), are the policy and regulatory basis for BACT. The agency mission is as follows:

"The TNRCC strives to protect our state's precious human and natural resources consistent with sustainable economic development. Our goal is clean air, clean water, and safe management of waste with an emphasis on pollution prevention. We are committed to providing efficient, prompt and courteous service to the people of Texas, ever mindful that our decisions must be based on common sense, good science, and fiscal responsibility."

Consistent with our mission, 30 TAC Section 116.111 establishes that to be granted a permit or a permit amendment to "construct" or "modify" a facility, an applicant must demonstrate that the facility will "utilize best available control technology, with consideration given to the technical practicability and economic reasonableness of reducing or eliminating the emissions from the facility" [30 TAC Section 116.111(2)(C)].

The TNRCC does not specify control technologies or emission limits in 30 TAC Chapter 116 because the extensive diversity of facility types and emission reduction options makes specification an impractical task. Instead, to demonstrate that a facility will use BACT, applicants present an analysis in support of their BACT proposal. The permit reviewer evaluates the analysis and makes a case-by-case determination of whether the facility satisfies 30 TAC Chapter 116 BACT requirements. Engineering principles and agency experience, concerning the practicality and reasonableness of an emission reduction option, are used in this determination.

Bact Evaluation

Approach

Title 30 TAC Chapter 116 defines BACT as "... best available control technology with consideration given to the technical practicability and the economic reasonableness of reducing or eliminating emissions from the facility."

To determine "technical practicability and economic reasonableness" of a BACT proposal, the process involves resolving questions such as: Has the proposal been demonstrated to work based on actual operation? Can the proposal reasonably be expected to work based on technical analysis? Is the project cost acceptable to achieve the emission reduction or elimination?

The TNRCC BACT evaluation is conducted using a “tiered” analysis approach. The evaluation begins at the first tier and continues sequentially through subsequent tiers only if necessary as determined by the evaluation process described in this document. In each tier, BACT is evaluated on a case-by-case basis for technical practicability and economic reasonableness. The three tiers are described in the following paragraphs.

Tier I

Emission reduction performance levels accepted as BACT in recent permit reviews for the same process and/or industry continue to be acceptable – *if no new technical developments have been made that indicate additional reductions are economically or technically reasonable.*

Tier I of the BACT evaluation involves a comparison of the applicant’s BACT proposal to emission reduction performance levels accepted as BACT in recent permit reviews. In some cases, evaluation of new technical developments may also be necessary. New technical developments may offer greater performance levels resulting in greater emission reductions than those accepted in recent permit reviews.

If there are no new technical developments, the evaluation of BACT in this tier is relatively straightforward because technical practicability and economic reasonableness are established based on historical and current practice.

Tier II

Tier II BACT evaluation involves consideration of controls that have been accepted as BACT in recent permits for similar air emission streams in a different process or industry. For example, an applicant may propose to control volatile organic compound (VOC) emissions in one industry using technology already in use in another industry. A Tier II evaluation includes issues relating to stream comparison and possible differences in overall performance of a particular emission reduction option. In addition, the Tier II evaluation considers technical differences between the processes or industries in question. To demonstrate technical practicability, detailed technical analysis may be required to assess the cross-applicability of emission reduction options. In Tier II, economic reasonableness is established by historical and current practice.

Tier III

This provides a brief overview of the third tier. Detailed discussion and examples of evaluating the third tier are provided in a separate document entitled “Tier III BACT and Cost Analysis Guidance Document.” Tier III BACT evaluation is a detailed technical and quantitative economic analysis of all emission reduction options available for the process under review. Technical practicability is established through demonstrated success of

an emission reduction option based on previous use, and/or engineering evaluation of a new technology. Economic reasonableness is determined solely by the *cost-effectiveness of controlling emissions (dollars per ton of pollutant reduced)* and does not consider the effect of emission reduction costs on corporate economics.

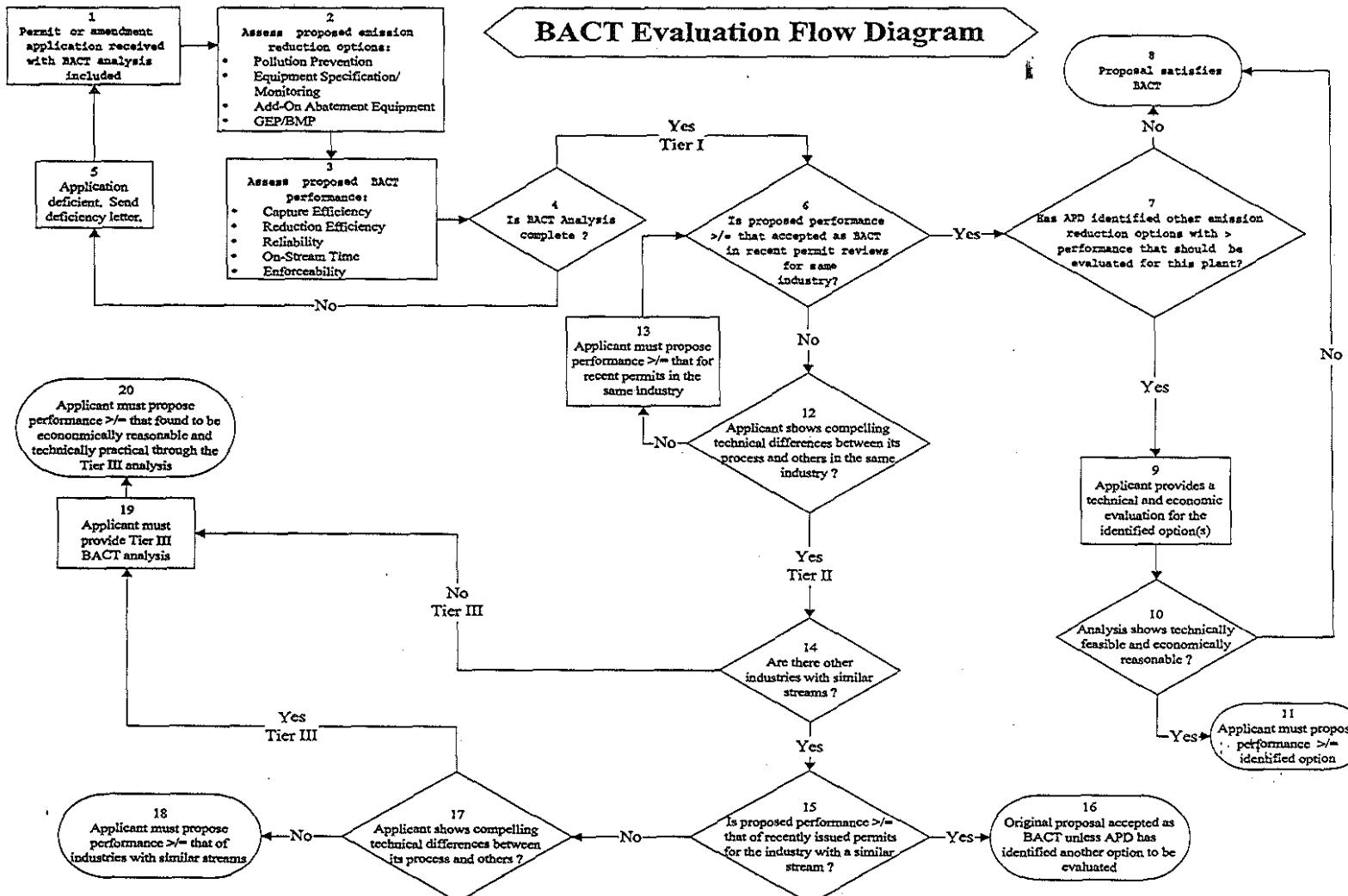
The Tier III evaluation considers all available emission reduction options. For each option, the applicant provides a detailed technical and economic analysis that:

- identifies all emission reduction options,
- eliminates technically infeasible options,
- rank remaining emission reduction options by emissions reduced,
- performs quantitative cost analysis to determine cost-effectiveness (dollars per ton of pollutant reduced), and
- selects BACT based on cost-effectiveness and performance.

The Tier III evaluation is rarely necessary because technical practicability and economic reasonableness have usually been firmly established by industry practice as identified in the first two tiers. Ordinarily, it is in the best interest of both the applicant and the agency to avoid the third tier of evaluation. The Tier III evaluation is: highly complex and quantitative; difficult to agree on because of numerous assumptions required for completion; time and resource intensive which causes permit delays; and not likely to result in substantially different control options than otherwise indicated by the first two tiers.

BACT evaluation flow diagram

To assist in the evaluation process as described by the tiered approach, a flow diagram is provided for tracking the progression of a BACT evaluation. Following the flow diagram, the remainder of this chapter provides a step-by-step explanation of the BACT evaluation process as summarized by the flow diagram.



Step 1: TNRCC receives a permit or amendment application with a BACT analysis included. Title 30 TAC Chapter 116 provides one definition of BACT that is applicable for both new permits and permit amendments. While the final applied method or technique for reducing or eliminating emissions may be different for a new permit versus a permit amendment, the BACT evaluation is conducted in the same manner.

Title 30 TAC Chapter 116 specifies conditions for granting a permit or permit amendment. The applicant is required to demonstrate that the proposed facility will use BACT. To make this demonstration, the PI-1 Form requires submission of a BACT analysis. To prepare an acceptable analysis, the minimum content requirements are provided in Appendix L of the PI-1 Application Instructions. For reference, the minimum content requirements are also included as Appendix A of this document.

To complete a BACT analysis, an applicant must address all air contaminants subject to review from the affected emission unit. For each contaminant, an applicant must identify the emission reduction option(s) proposed to satisfy BACT, describe in detail the technique used for emission reduction, discuss proposed performance of the option(s) chosen, and provide any supporting information as necessary for the proposal. Steps 2 and 3 provide detailed instruction and guidance for evaluation of the required information.

Step 2: Assess the proposed emission reduction options. An applicant first identifies the emission reduction option(s) chosen. Any of the following individual options, or any combination of them, may be proposed for BACT:

- pollution prevention (process controls/changes, source reduction);
- equipment specification/equipment monitoring;
- add-on abatement equipment; and/or
- good engineering practice (GEP)/best management practice (BMP).

The following is a detailed discussion and examples for each of the emission reduction options.

Pollution Prevention. As set forth in the mission statement, the agency's goal is clean air with an emphasis on pollution prevention. Pollution prevention is the *most preferred* option for emission reduction because it can become an integral part of a facility's process. ***Consistent with our emphasis on "pollution prevention" applicants are encouraged to address pollution prevention as an emission reduction option.***

Pollution prevention is best when accomplished with process control methods or process changes that eliminate emissions. However, process controls/changes may be proposed to simply reduce emissions or result in an emission stream that is more amenable to control. Notably, pollution prevention may be used in conjunction with other emission reduction options to satisfy BACT.

Pollution prevention includes, but is not limited to, the following:

- use of alternative materials or catalysts that have a lower potential to emit, and/or
- emission stream recycling.

The following are specific examples of pollution prevention that applicants have proposed:

- use of packed columns to recover and recycle air contaminants for reuse prior to discharge from an atmospheric vent,
- implementation of vapor return,
- air or natural gas stripping of wastewater to remove and recycle VOCs prior to discharge to wastewater ponds,
- use of water-based coatings or less volatile cleaning solvents,
- use of lower styrene resins in fiberglass molding operations,
- elimination or reduction of air or other diluents that cause a final vent stream to be too diluted to reasonably control, and
- use of low sulfur fuels.

Equipment Specification/Equipment Monitoring. An applicant may specify certain equipment that inherently has lower emissions and/or propose equipment monitoring that, when implemented, would minimize emissions, such as:

- installation of internal floating roofs, addition of secondary seals on existing floating roof storage tanks, or storage of compounds in a pressure rated storage tank to eliminate emissions;
- use of robotic spray equipment instead of manual applications for painting large equipment (less paint required due to better transfer efficiencies);
- implementation of a VOC fugitive emission inspection/maintenance program to assist in early identification of leaking components for repair;

- use of staged combustion or other low NO_x burner design to reduce NO_x formation; and
- elimination of fugitive emissions by:
 - ▶ installation of rupture disks under pressure relief valves,
 - ▶ specification of leakless pumps and valves, and
 - ▶ use of welded flanges and other piping connections for elimination of leak paths.

Add-on Abatement Equipment. This option addresses different types of add-on abatement equipment for emissions reduction. Examples of add-on equipment previously proposed by applicants include scrubbers; oxidizers (thermal, regenerative and catalytic); flares; baghouses, cyclones, electrostatic precipitators; vapor recovery units, and carbon adsorption systems.

To approve an add-on abatement device, evaluate proposed devices based on unique stream characteristics, air contaminants of concern, and characteristics of the source type. For assistance, Appendix B, entitled “Technical Considerations for Add-on Abatement Equipment” provides a qualitative discussion of these considerations.

Add-on abatement equipment may pose other concerns, such as the generation of additional emissions or the transfer of air contaminants to water or some other medium. Consider these issues in the final approval of an add-on control device.

Good Engineering Practice (GEP) and/or Best Management Practice (BMP). In some cases, GEP and BMP may contribute to or may be sufficient to assure BACT is applied. GEP is effective design and efficient operation of the equipment to minimize emissions. The BMP is operating practices or procedures that minimize emissions.

The following are specific examples of GEP proposals:

- good combustion for fuel efficiency with natural gas firing, and
- placement of valves and piping connections such that they are reasonably accessible for leak checking.

The following are specific examples of BMP (good housekeeping and clean operating conditions) proposals:

- collection of baghouse dust in enclosed and/or covered containers,

- immediate cleanup of material spills,
- stockpiling of manure in well-drained areas to ensure rapid dewatering, and
- performance of activities that increase odor during periods of favorable wind conditions.

Step 3: Assess the proposed BACT performance elements. The final determination of acceptability of an emission reduction proposal is based on the proposal's overall ability to reduce or eliminate emissions from the facility. To determine overall ability, assess the following elements of performance for the proposed emission reduction options:

- capture efficiency,
- emission reduction efficiency or resulting emission level,
- reliability,
- on-stream time, and
- enforceability

Capture Efficiency. Evaluate the applicant's supporting documentation for the represented capture efficiency. Regardless of a control device efficiency, it cannot reduce emissions unless they are captured and processed through it the control device. The following are examples of varying capture efficiencies and supporting documentation:

- Truck and railcar loading operations can have capture efficiencies ranging from 95% to 100% depending on the method used for loading (such as vapor-balanced or vacuum-assisted loading), as well as the frequency of emission leak testing. In this example, the applicant's supporting documentation may be as simple as describing the method used for loading with a discussion of how often the system is tested for emission leaks.
- Solid product loading using ventilation hoods for capture can have capture efficiencies up to 95% (and possibly greater), depending on hood design. The applicant must demonstrate, through calculations using ventilation guidelines, that the ventilation is sufficient to direct emissions to the proposed add-on abatement device. Refer to the American Conference of Governmental Industrial Hygienists' *Industrial Ventilation - A Manual of Recommended Practice* for guidance on proper hood designs.

If there are concerns about the proposed capture efficiency, require testing to demonstrate actual efficiency.

Emission Reduction Efficiency or Resulting Emission Level. Evaluate the applicant's supporting documentation for the represented emission reduction efficiency or resulting emission level. Emission reduction efficiencies are expressed in terms of percentage. Depending on the industry and/or situation, resulting emission levels are expressed in terms such as pound (lb) pollutant/ton product, lb pollutant/Million British thermal units (MMBtu), or outlet grain loading in units of grain per standard cubic feet (gr/scf).

Ensure that the proposed emission reduction efficiency or resulting emission level is consistent with the following:

- recently approved BACT, and
- a properly designed and operated system.

For example, assume that an acceptable BACT proposal for controlling a particular waste gas stream is a minimum 98 percent. However, there may be an alternative technology that, when properly designed and operated, can achieve 99.9 percent for the same stream. If that alternative technology is proposed, it would be expected to achieve 99.9 percent destruction efficiency instead of only 98 percent.

If there are concerns about the proposed emission reduction efficiency or resulting emission level, at a minimum, require testing to demonstrate actual efficiency.

Reliability. Evaluate the BACT proposal to ensure that reliable emission reductions can be expected to be achieved. Expect a proposal to provide the represented emissions reduction continuously throughout the entire range of the facility's normal operating conditions. The performance of an emission reduction option over this entire range of conditions is dependent on key operating parameters (such as temperature, and flowrate.) being maintained at certain levels. Evaluate operation and maintenance plans and/or parameter monitoring

procedures to ensure these key parameters are maintained at levels that provide ongoing control effectiveness. If there is concern that the represented performance will not be achieved over the entire operating range, or if there are a large number of parameters that may affect performance, continuous emissions monitors or periodic testing may be appropriate.

The following are examples of common reliability problems and possible measures to ensure reliability:

- The ignition system and the combustibility of a waste gas are reliability problems associated with flares. These problems are addressed by monitoring both the integrity of the flame and the heating value of the gas to be flared to ensure proper flare operation.
- Sufficient oxygen, temperature, and proper mixing are key parameters for complete combustion in an incinerator. Proper performance testing will establish that the firebox design provides proper mixing over the entire expected range of operation. Proper performance testing over the entire range of operation will also establish the maximum carbon monoxide and minimum firebox exit temperatures required to obtain the performance level proposed. Ongoing continuous monitoring of carbon monoxide and firebox exit temperature should ensure reliable combustion of air contaminants.
- The carbon in regenerative carbon adsorption systems can experience a loss of adsorption effectiveness over time. Installing a continuous emissions monitoring system (CEMS) to detect breakthrough of the hydrocarbon stream helps to assure reliable operation of the system. For non-regenerative carbon adsorption systems, it is preferable that carbon canisters be placed in series and tested for breakthrough between the first and second canister, allowing some assurance that the emissions will be captured by the second canister (serving as an installed backup) if the first canister becomes saturated. Also, frequent sampling may be proposed during peak loads to check for breakthrough.

On-stream time. Evaluate the onstream time of the BACT proposal. The emission reduction proposal approved as BACT is expected to provide the represented performance at all times during operation of the production facilities. Therefore, the emission reduction proposal must be onstream 100 percent of the time, or a backup emission reduction proposal must be reviewed and approved before the permit is issued. The applicant must address the disposition of emissions during downtime of control systems even if the proposed downtime is low. Backup or installed spare control devices are encouraged, especially if the uncontrolled stream is large. A backup control device must also meet BACT performance levels. If backup control devices are not feasible, methods to minimize downtime and corrective action plans must be proposed.

Listed below are some specific examples of acceptable proposals for ensuring 100% onstream time of an emission reduction proposal at the represented performance level ;

- installation of spare key pieces of equipment (such as circulation pumps for scrubbers, blowers for incinerators, or extra carbon adsorption beds);

- installation of backup power supplies for occurrences of power failure;
- installation of redundant parallel control devices (such as two parallel sulfur recovery trains with tail gas cleanup units);
- monitoring of operating parameters critical to the performance of the control device, with a well-defined corrective action plan if parameters drop below acceptable levels; and
- storage of inventory spares or replacement parts (such as bags for baghouses, tube bundles for heat exchangers, and fresh catalyst for replacement of deactivated or poisoned catalyst) to eliminate delays in implementing corrective action plans.

Please note, it may be necessary for permits to contain special conditions that limit emissions or describe alternative methods for emission reduction during downtime of abatement equipment. However, unless the emissions from the alternative method used for emission reduction are listed in the maximum allowable emission rates table, *those emissions are not authorized and the applicant is not relieved from responsibility to report any upset, startup, shutdown or maintenance emissions under 30 TAC Chapter 106.6 or 101.7.*

The following are examples of permit conditions addressing a facility's operations during downtime of primary abatement equipment.

- Product loading may take place when the vapor recovery unit, vacuum vapor collection system, and/or CEMs are out of service by routing all vapors to the existing vapor combustion unit (VCU). Emissions from the VCU stack must not exceed 10 milligrams of VOC per liter of gasoline loaded. Gasoline loading under these conditions is limited to 96 hours duration per scheduled outage occurrence and a maximum truck-loading rate of 140,000 gallons per hour for the entire facility.
- During periods when the catalytic incinerator system is inoperable, VOC emissions be routed to the backup control device (thermal combustor) with no less than 98.0% efficiency in the destruction of VOCs.

The holder of this permit must, after installation of the backup emission control device is complete, conduct stack testing of the backup device within 60 days to determine the minimum temperature at the

outlet of the combustion chamber necessary to achieve 98% VOC destruction. Baseline emissions of carbon monoxide (CO), expressed as parts per million (ppm), lbs/hr, and lbs/MMBtu, from the backup device will also be determined.

The temperature at the exit of the combustion chamber necessary to achieve 98% destruction efficiency must be maintained when waste gas is diverted to the backup control device. This temperature must be continuously monitored and recorded while the backup unit is in operation.

Records of the waste gas flow to the backup control device must be continuously monitored and recorded while the backup unit is in operation.

The backup emission control device must be used during emergency conditions when the primary emission control device(s) are not in operation and for other situations represented in the operating permit amendment application. Use of the backup emission control device is limited to a cumulative total of six weeks/year (1008 operating hours/year); if use of this device in waste gas service exceeds six weeks/year, the holder of this permit must :

- a) Provide notification to the TNRCC Houston Region and Austin offices.
- b) Schedule a stack test to confirm that the unit continues to attain 98% VOC destruction efficiency.
The CO emissions will also be determined and compared to the initial baseline values.
- c) Install a CEMs for CO and oxygen.

Enforceability. To ensure enforceability of the proposed BACT performance, evaluate the proposed BACT performance demonstration method. Consistent with 30 TAC Sections 116.111(a)(2)(B) and (G), the applicant must propose a performance demonstration to ensure that the emission reduction proposal will perform as represented on an ongoing basis. Without a method to demonstrate that the proposed facility will achieve the performance represented in the BACT proposal, an emission reduction proposal may not be enforceable and may not be acceptable. Include the agreed-upon performance demonstration method in a permit condition to ensure the BACT performance levels will be achieved on an ongoing basis. Performance demonstration methods for this purpose can include recordkeeping, testing, and/or monitoring.

In some cases, maintaining records of key operating parameters may be a sufficient performance demonstration method. Recordkeeping frequency for monitoring and testing data may be continuous, daily, weekly, monthly,

quarterly, annual, or bi-annual . In other cases, recordkeeping alone may not be adequate as a performance demonstration method; testing and/or monitoring may be required.

Testing or monitoring may be:

- a direct emission measurement (such as a NO_x CEM or particulate stack test); or
- a direct measurement of key operating parameters (such as throughput, paint rates, fuel rates, pH, or other parameters that correlate to the emission rate).

Factors affecting performance demonstration method chosen and the frequency of demonstration considered acceptable for a specific emission reduction proposal include, but are not limited to the following:

- compliance margin (how close to the BACT performance level an emission unit is expected to operate);
- number of parameters that affect the emission rate;
- variability, toxicity, and quantity of expected emissions; and/or
- reliability of the emission estimate.

The following paragraphs describe how each of these four factors may affect the final decision on the method and frequency of demonstration required to ensure BACT is being met.

If the *compliance margin* is close, then more frequent direct emission monitoring may be desired to ensure that the BACT performance level is not exceeded. For example, if the chosen emission reduction option is expected to barely meet the proposed BACT performance and the operation is widely variable, then a CEM or daily testing/sampling may be required to assure that BACT is met on an ongoing basis.

If the applicant demonstrates a strong correlation between operating parameters and emission rates, then a parameter measurement to ensure that emission limitations are met would *generally* be acceptable. For cases where emission rates may be affected by several parameters, it may be too difficult to establish and verify a parameter/emission rate correlation. In those cases, a direct emission measurement may be required.

Emission units that have highly variable, toxic, and/or large emission rates would most likely require continuous monitoring. Emission units with constant emission rates may require only stack sampling, provided

critical operating parameters are not expected to change. The frequency of stack sampling requirements may vary depending on the expected operating characteristics of a specific facility. If significant changes in operating parameters that affect emissions are expected to occur over time, additional stack sampling on a regular frequency may be appropriate.

Finally, the reliability of emission rate estimates may affect the compliance demonstration required. Uncertain emission estimates, such as those based on general emission factors or other nonroutine engineering analysis, are likely to need to be confirmed by an initial stack test, at a minimum.

When determining the appropriate performance demonstration method and frequency for a specific facility, consider all four factors together (compliance margin; number of parameters; variability, toxicity, and quantity of emissions; and emission estimate reliability).

Step 4: Is the BACT analysis complete? The permit application requires a BACT analysis with an emission reduction proposal for each pollutant from each facility subject to review. As stated previously, an applicant must include all of the following:

- identification of the emission reduction option(s) ultimately chosen,
- a detailed description of the equipment and/or method used for emissions reduction,
- a discussion of proposed performance (as listed in Step 3) of the option(s) chosen, and
- any supporting information as necessary for the proposal.

If any of these elements are not included, the BACT analysis is incomplete, proceed to Step 5; otherwise, proceed to Step 6.

Step 5: The application is deficient. Without a complete BACT analysis, the application is considered “deficient.” Send a deficiency letter as soon as practicable. To assist the applicant, include a copy of “Required Content of a BACT Analysis” as found in Appendix A. Upon receipt of the requested information, return to Step 1.

Step 6: Is the proposed performance greater than or equal to that accepted as BACT in recent permit reviews for the same industry? Previously (in Step 3) assessed proposed BACT performance elements (capture

efficiency, emission reduction efficiency or resulting emission level, reliability, on-stream time, and enforceability). Now to begin Tier I of the evaluation, determine whether the overall performance proposal is greater than or equivalent to that accepted as BACT in recent permit reviews for the same industry.

With five performance elements, a comparison of overall performance is done in a qualitative and quantitative manner. For individual elements, there will be situations where one or more of the proposed levels of performance vary (higher or lower) from those previously proposed and accepted as BACT. Assess the performance level based on the *overall* ability of the proposal to reduce or eliminate emissions from the facility.

The following is an example of two different proposals achieving the same overall performance:

- Two companies propose add-on abatement devices with different capture efficiencies and different reduction efficiencies. Company A proposes a capture efficiency of 95% with a reduction efficiency of 99.9%. Company B proposes a capture efficiency of 100% with a reduction efficiency of 95%.
- While the proposal for Company B offers a lower reduction efficiency, this lower efficiency is balanced by a greater capture efficiency, which ultimately makes the proposal equivalent to Company A's. Even though the companies have different proposals with varying elements, both are equivalent and provide an overall performance proposal close to a 95% reduction in emissions.

Specific proposals may be different than those accepted as BACT in recent permit reviews. However, proposals must at least be equivalent overall in meeting BACT to be accepted in a current application. If there are questions on whether a proposal is acceptable, survey permit history for similar industries, and consult Air Permits Division (APD) peers and management.

Proposals will be approved on a case-by-case basis. If the company's proposed performance is greater than or equal to recent permits, proceed to Step 7; otherwise, proceed to Step 12.

Step 7: Has APD identified other emission reduction options with greater performance that should be evaluated for this plant? The BACT for any particular industry is not static. Instead, BACT progresses as technology progresses or as process developments occur. Subsequent to the most recent permit reviews for the same industry, it is possible that information has become available to indicate that even better performance can be achieved than that proposed.

In such cases, discuss the situation with an APD team leader and section manager before proceeding. With APD management approval, request that the applicant evaluate the identified emission reduction option(s) and provide the results of that evaluation.

Generally, any emission reduction options that you request an applicant to evaluate should have been successfully demonstrated in Texas and the United States. However, there may be cases when you request an applicant to investigate options that are used outside of Texas or that have not yet been successfully demonstrated. Determination of these cases will depend on factors such as the number of plants in Texas for the same industry, the number of plants in the United States for the same industry, the quantity of emissions, the emission reduction options considered, and the length of time since the last permit review.

The identified emission reduction option(s) may have been demonstrated for the same industry or different industries with similar emission streams. To determine whether a stream is similar, consider the following:

- A stream is considered “similar” if stream characteristics are similar. Stream characteristics may include: air contaminant category (such as VOC, particulate matter [PM]; sulfur dioxide [SO₂]); contaminant concentration; stream temperature; stream flow rate; or percent moisture.
- Stream characteristics do not have to be identical, only similar.
- Only those key stream characteristics need be similar to compare the subject plant with other plants. Stream characteristic are considered key when they directly affect the emission reduction option’s ability to achieve the higher performance.

If APD does not identify other emission reduction options to be evaluated, proceed to Step 8; otherwise, proceed to Step 9.

Step 8: The proposal satisfies BACT. If APD has not identified other emission reduction options to be evaluated, accept the performance proposed by the applicant as BACT for this application. No further BACT evaluation is required for this air contaminant from this emission point.

Step 9: The applicant must provide a technical and economic analysis for the identified option(s). Instruct the applicant to perform a detailed technical and economic analysis of the identified option(s). *This request is to be made only under APD management direction.* Use the same analysis procedures as those described in “Tier III BACT and Cost Analysis Guidance Document.”

Step 10: Does the analysis show that the identified option is technically practicable and economically reasonable? To determine technical practicability and economical reasonableness for an identified option, use the same procedures as those for Tier III BACT analysis. Please see *Tier III BACT and Cost Analysis Guidance Document* for specific instruction and guidance.

If the analysis demonstrates that the identified option is technically practicable and economically reasonable, proceed to Step 11; otherwise proceed to Step 8.

Step 11: The applicant must propose performance greater than or equal to that of the identified option. If the analysis shows the identified option is technically practicable and economically reasonable, the applicant must propose the higher performance of the identified option.

Step 12: Does the applicant show compelling technical differences between its process and others in the same industry? When the proposed performance is not greater than or equal to that accepted as BACT in recent permit reviews for the same industry, the applicant must demonstrate that its facilities cannot achieve that performance because of compelling technical differences. Compelling technical differences are those that may prevent the performance accepted as BACT in recent permit reviews from being achieved. In addition, technical differences may include those that cause the emission reduction option to cost much more than that in recent permit reviews for the same industry. Therefore, further analysis may need to be done through Tier II or III.

Technical differences may include variations in process, product, or physical configuration. Examples of each are given below:

- Process—types of raw materials, operating temperatures, types of catalysts, inherent moisture content, and/or process conditions (such as wet or dry);
- Product—final product specifications, throughput/production rates; and
- Physical configuration—space limitations for retrofit of equipment, collection limitations (such as inability to enclose).

In addition to process, product, and physical configuration technical differences, a modified facility may have even more differences to be considered. To determine whether further analysis is necessary for a modified

facility, in conjunction with the APD team leader and section manager, consider: what other similar modified facilities have done, the existing emissions, the increased emissions, and the proposed emission reduction method and proposed performance level.

Request that the applicant provide a detailed description of any compelling technical differences with supporting documentation. A compelling technical difference may:

- prevent an emission reduction option from being used,
- prevent an emission reduction option from being effective in achieving the higher performance, or
- cause the emission reduction option to cost much more.

Evaluate the discussion of compelling technical differences and determine, on a case-by-case basis, whether those differences justify acceptance of a lower performance level than that accepted in recent permits as BACT.

If the applicant shows compelling technical differences between its process and others in the same industry, proceed to Step 14; otherwise, proceed to Step 13.

Step 13: The applicant must propose performance greater than or equal to that accepted as BACT in recent permits in the same industry. In cases where there are no compelling technical differences as described in Step 12, an applicant must return to Step 6 and propose a performance greater than or equal to that accepted in recent permits for the same industry.

Step 14: Are there other industries with similar streams? Since there are compelling technical differences between this facility's process and others in the same industry, a Tier II evaluation begins and the acceptability of the applicant's BACT proposal is determined by comparison to other industries with similar streams.

Determine whether there are other industries with similar streams and consider the following:

- A stream is considered "similar" if stream characteristics are similar. Stream characteristics may include:
 - air contaminant category (such as VOC, PM, SO₂), contaminant concentration, stream temperature, stream flow rate, or percent moisture.
 - Stream characteristics do not have to be identical, only similar.

- Only those key stream characteristics need be similar to compare the subject plant with other plants. Stream characteristic are considered key when they directly affect the emission reduction option's ability to achieve the higher performance.

If there are other industries with similar streams proceed to Step 15; otherwise, proceed to Step 19.

Step 15: Is the proposed performance greater than or equal to that of recently issued permits for any industry with a similar stream? Examine the proposed performance to determine whether it is greater than or equal to that of similar streams in different industries. Evaluate the elements of performance: capture efficiency, emission reduction efficiency or resulting emission level, reliability, on-stream time, and enforceability. See Step 3 for a detailed discussion of proposed performance criteria.

If the proposed performance is greater than or equal to that of recently issued permits for the industry with a similar stream, proceed to Step 16; otherwise proceed to Step 17.

Step 16: The original proposal is accepted as BACT unless APD has identified another option to be evaluated. If the proposed performance is found to be greater than or equal to that of similar streams in different industries, the BACT proposal will generally be accepted at this point and no further BACT discussion is necessary.

Occasionally, APD may identify an additional option to be considered for a facility before the BACT analysis is completed. If the APD Section Manager and Team Leader request or approve further analysis, request that the applicant proceed through Steps 7–11 of the evaluation process.

Step 17: Does the applicant show compelling technical differences between its their process and others? When the proposed performance is not greater than or equal to that accepted as BACT for recent permit reviews with similar streams, request that the applicant demonstrate its facilities cannot achieve that performance because of compelling technical differences. Compelling technical differences are those that prevent the performance accepted as BACT in recent permit reviews from being achieved or possibly being economically reasonable based on this qualitative assessment for the subject facilities.

Technical differences may include variations in process, product, or physical configuration. Examples of each are given below:

- Process—types of raw materials, operating temperatures, types of catalysts, inherent moisture content, and/or process conditions (such as wet or dry);
- Product—final product specifications, throughput/production rates; and
- Physical configuration—space limitations for retrofit of equipment, collection limitations (such as inability to enclose).

Request that the applicant provide a detailed description of any compelling technical differences with supporting documentation. A compelling technical difference may:

- prevents an emission reduction option from being used;
- prevents an emission reduction option from being effective in achieving the higher performance; or
- may cause the emission reduction option to cost much more.

Evaluate the discussion of compelling technical differences and determine, on a case-by-case basis, whether those differences justify acceptance of a lower performance level than that accepted in recent permits as BACT.

If the applicant shows compelling technical differences, proceed to Step 19; otherwise proceed to Step 18.

Step 18: The applicant must propose performance greater than or equal to that of industries with similar streams. When the analysis fails to demonstrate compelling technical differences, the applicant must propose performance greater than or equal to that in industries with similar streams.

Step 19: The applicant must provide a Tier III BACT analysis. Direct the applicant to “Tier III BACT and Cost Analysis Guidance Document” for specific instruction for the preparation of a Tier III Analysis.

Step 20: The applicant must propose performance greater than or equal to that found to be economically reasonable and technically practicable through the Tier III analysis.

Based on the Tier III BACT analysis, select the emission reduction option that is technically practicable and economically reasonable.

CONCLUSION

It is not possible to discuss every possible BACT scenario proposal. The BACT evaluation process, however, considers each applicant's proposal for reducing or eliminating emissions based on overall performance of the proposal. It is important to thoroughly document all BACT decisions, especially those with unique and compelling considerations. The evaluation process considers both technical practicability and economic reasonableness of each proposal. Each BACT determination is made on a case-by-case basis, keeping in mind the overall goal of achieving a high level of protection of the environment, consistent with sustainable economic development.

Many of the Air Permits Division's current BACT policies and guidelines, including this document, may be viewed, printed, or downloaded from the Division's web pages at the following URL: www.tnrc.state.tx.us clicking on "Index," and looking under "Air Quality" to find "Permits—Help with Applications."

The TNRCC has developed several regulatory guidance documents for various facility types that include information about specific BACT levels for those facilities. Technical guidance documents may be found by going to: www.tnrc.state.tx.us/permitting/airperm/nsr_permits/guidedoc.htm.

Appendix A

Required Content of a BACT Analysis

A BACT analysis is required from the applicant for all new/modified sources or process lines as part of a permit or amendment application. As defined by 30 TAC Chapter 116, BACT is best available control technology with consideration given to the technical practicability and the economic reasonableness of reducing or eliminating emissions from the facility. The BACT Guidance Document provides a process to complete the analysis and includes a step-by-step flowchart to determine the scope of the analysis.

This document summarizes the minimum content required for a BACT analysis for each air pollutant, regardless of which tier of analysis is involved. Include the following information for each new/modified source or, if appropriate, process line. Attach additional pages as necessary to provide complete information.

Emission Reduction Options

Identify the option(s) chosen and describe in detail the method used for emission reduction.

- Pollution prevention (example: use of alternative materials or catalysts which have a lower potential to emit, emission stream recycling)
- Equipment specification/monitoring (example: use of robotic spray equipment, VOC fugitive monitoring, storage tank with floating roof)
- Add-on abatement equipment (example: wet scrubber, thermal oxidizer, flare)
- Good engineering practice/best management practice (example: complete combustion, immediate cleanup of material spills)

Performance

Discuss each of the following five elements of performance for the emission reduction option(s) chosen. Provide supporting documentation (technical information, calculations, previous testing results, and/or manufacturer's guarantees) to demonstrate that the emission reduction option will achieve the expected performance proposed.

- A. Capture efficiency (%) _____
- B. Emission reduction efficiency (%)
or resulting emission level (lb/ton, lb/MMBtu, outlet grain loading) _____
- C. Describe proposed measures to ensure reliability (example: backup power supply, scheduled inspection of equipment, temperature monitors, emissions monitors)
- D. Discuss on-stream time in hours per year. Address the disposition of emissions during potential downtime.
- E. Discuss the method (recordkeeping, testing, monitoring) and frequency proposed to demonstrate initial and ongoing compliance with BACT emission limitations.

BACT Proposal Supporting Information

If the flowchart Figure 1 from Section 3.0 of the BACT Guidance Document is used to make a BACT proposal, provide all supporting information for each decision point of the analysis process.

Appendix B

Technical Considerations for Add-on Abatement Equipment

There are a number of technical issues to consider when selecting add-on abatement equipment. Based on those technical considerations, one type of abatement device may be more appropriate than another. For example, it is more appropriate to use an incinerator as opposed to a flare for a compound containing halogen. This is because the acid gas formed by the burning process may be removed by a scrubber which follows the incinerator, but a flare cannot be equipped with a scrubber to remove acid gas.

The table below provides a qualitative description of different add-on abatement equipment as they apply to varying stream and flow characteristics. The ranking of equipment is from excellent (A) to poor (F). Since this table only provides quick qualitative snapshots of various add-on abatement equipment and conditions, it is recommended that it only be used as a general guideline. When evaluating add-on abatement equipment, ensure all technical aspects have been thoroughly considered.

Stream Characteristics	Baghouse	Cyclone	ESP	Scrubber	Carbon	Flare	Condenser	Incinerator
Low Concentration	A-B	B-C	A-D	B-C	A-C	A	D-F	A
Multi-component	A-B	B-C	B-D	A-F	B-F	A	D-F	A
High Temperature	A-B	A-C	A	B-F	C-F	A	D-F	A
High Volume	A	A	A-D	B-C	B-C	A	D-F	A
High Moisture	B-F	A-B	B-D	A	D-F	C-D	D-F	B
Air Contaminants								
Halogenated ¹				A-F	A-C	F	D-F	B ²
Condensable Particulate	B-F	B-D		B-C			D-F	
Size > 10 microns	A	C-D	B-D	A	F			
Size < 10 microns	A-B	D-F	B-D	A-B	F			
Volatile ³				A-C	B-D	A	D-F	A
Source								
Non-continuous/Batch	A	A	B-D	B-C	C	A	D-F	C
Continuous	A	A	A-C	A-C	A-C	A	D-F	A
Variable Flow	A	A	B-D	B-C	C	A	D-F	B

Most organic halogens do not absorb in water (D - F). Inorganic acids absorb well in water (A - B).

² Only if followed by a scrubber.

³ High vapor pressure.

Appendix C

Frequently Asked Questions

Q: Is location a factor in making a BACT determination?

A: No. A BACT evaluation, as described in the BACT guidance document, is the same for all permits and permit amendments, regardless of where a facility is located. However, there may be additional regulations that may apply to existing and new facilities depending on location. An example of this would be the TNRCC 30 TAC Chapter 115 requirement to use compliant coatings in certain counties of Texas.

Q: If a performance level is established as Reasonably Available Control Technology (RACT), does it automatically become the "floor" for BACT?

A: Yes. BACT is at least as stringent as RACT and may be more stringent. RACT is the minimum required by the U.S. Environmental Protection Agency to meet the specific RACT provisions of the Federal Clean Air Act (FCAA) and it applies to both existing and new sources of emissions regardless of permitting status. However, not everything in the TNRCC State Implementation Plan (SIP) regulations are RACT. Some SIP rules go beyond RACT to achieve attainment of the National Ambient Air Quality Standards as required by the FCAA; however, they do not establish the floor for BACT.

Q: Does an emission reduction option have to be actually demonstrated in practice to be considered as a possible option in BACT analysis?

A: Not necessarily. Generally, emission reduction options considered will have already been demonstrated through performance testing or monitoring to achieve the expected emission level. This is especially true in Tier I and II BACT determinations. However, there may be unusual cases when an applicant may consider other emission reduction options that have not yet been demonstrated in practice. Of course, those emission reduction options would have to be technically feasible based on an engineering evaluation. A case may be considered unusual based on several factors including, but not limited to the following: the number of plants in the same industry, the quantity of emissions, the options being considered, and the length of time since the last permit review.

Certainly in a Tier III BACT evaluation, which requires that all possible emission reduction options be reviewed, a new technology that is not demonstrated in practice is even more likely to be considered.

Q: How many companies have to be using an emission reduction option for it to be considered BACT?

A: There is not an established number of companies that must be using a certain emission reduction option before it is considered BACT under Tier I or Tier II. Generally, an emission reduction option would be considered Tier I or Tier II BACT if a representative portion of companies in the same industry have received permits to use it. To determine whether a representative portion of companies is being considered, the permit reviewer should look at the number of companies in a certain industry using the reduction option compared to the total number of companies in that industry. A representative portion could be one company.

In addition, the reason why an emission reduction option is chosen should be evaluated. Companies may propose to use an emission reduction option considered more stringent than BACT seen in recent permit reviews for reasons other than it being the best available control technology. For example, a company may choose a stricter option for reasons that include: staying below a prevention of significant deterioration (PSD) threshold, improving performance, or reducing health effects. Because these reasons do not demonstrate that the emission reduction option chosen is economically reasonable, the more stringent emission reduction option is not considered BACT for Tier I.

Q: What is considered a “recent” permit review?

A: There is no established time period that is considered “recent.” Proposed BACT levels for the same or similar industries as seen in present-day permitting actions should be evaluated. If there has not been a permitting action done for a certain industry in a number of years, BACT may be the same as in the past unless there has been a technical development in the control of those emissions for the same or a similar industry.

Q: Is there a difference between a BACT evaluation for new permits and permit amendments?

A: No. The BACT evaluation process for both new permits and permit amendments is handled the same. According to 30 TAC Chapter 116.111, the applicant is required to demonstrate that the proposed facility will use BACT. The applicant must identify the emission reduction option(s) chosen, and meet the minimum content required for a BACT proposal (see Appendix A).

Q: With an amendment application, what facilities are evaluated for BACT?

A: To decide what should be evaluated for BACT, determine which facilities are new or modified. The evaluation of the proposed emission reduction options should be limited to the new or modified facilities. For example, if an application proposes to modify or add a piece of equipment, but does not increase throughput, generally only BACT for the proposed piece of equipment is considered. However, if an application proposes a change that includes an increase in throughput or the change affects other upstream or downstream equipment, a BACT evaluation for all equipment affected must be included.

Q: Can delayed implementation be considered in a BACT evaluation?

A: This is done only under extenuating circumstances in the evaluation of modified equipment. Proposals approved for delayed implementation are considered the exception and not the rule. If there are any questions about whether a delayed BACT proposal is appropriate, survey permit history and consult APD peers and supervisors.

Q: Is the BACT evaluation process described in this document any different for the review of Federal PSD permit application?

A. No, if a BACT review is required, the BACT review for state and federal PSD permit applications is conducted using the same process as described in this guidance document. However, for modifications, PSD requires BACT review only for those pollutants that have a significant net emission increase, as discussed in the next question.

Q: A company is proposing to make a modification to a facility that emits PM10, VOC, CO, NO_x and SO₂. The proposed modification will result in an increase in SO₂ emissions only. Does the applicant have to perform a BACT analysis for all other pollutants as well as SO₂?

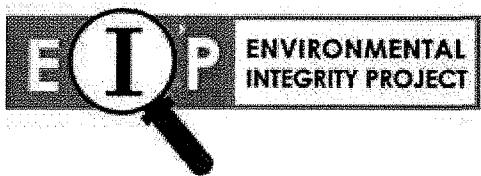
A. For state permitting, yes, all the air contaminants from the modified facility will be subject to a BACT review, regardless of emission increase or not. The state permit requirement applies to facilities not emissions; therefore, we do not do "partial permitting" for only air containments that are new or increased. For PSD, only those pollutants that have a significant net emission increase are subject to PSD control requirements and state BACT analysis satisfies which federal requirements for BACT review.

Appendix D **Acronym List**

APD	Air Permits Division
CEM	Continuous emissions monitor
CEMS	Continuous emissions monitoring system
BACT	Best available control technology
BMP's	Best management practices
GCP	Galveston County Pollution
PSD	Prevention of significant deterioration
MMBtu	Million British thermal units per hour
TAC	Texas Administrative Code
RACT	Reasonably available control technology
SIP	State implementation plan
VOC	Volatile organic compound
VCU	Venturi calibration unit
GEP	Good engineering practice
BMP	Best Management Practice
PM ₁₀	Particulate matter < 10 microns in diameter
SO ₂	Sulfur dioxide
FCAA	Federal Clean Air Act
CO	Carbon monoxide
NO	Nitric oxide

ATTACHMENT 4a

CORRESPONDENCE RE. TEXAS PERMITTING DEFICIENCIES



1303 San Antonio Street, Suite 200
Austin, TX, 78701
p: 512-637-9477 f: 512-584-8019
www.environmentalintegrity.org

July 29, 2009

Larry Starfield
Acting Regional Administrator
Environmental Protection Agency
Region 6
1445 Ross Ave., Ste. 1200
Dallas, TX 75202

Via First Class Mail

Re.: Texas Air Permitting Program and Aspen Power Draft Permit

Dear Mr. Starfield:

Texas routinely issues air permits that fail to meet federal Clean Air Act and State Implementation Plan (SIP) requirements. In many cases, these permits also fail to address deficiencies identified in EPA comment letters. While EPA's recent settlement with industry over outstanding SIP submittals is a step forward, acting pursuant to that settlement alone will not address the numerous implementation deficiencies in the Texas program. While EPA works on the Texas SIP, it cannot ignore its statutory duty to ensure that each federal air permit issued in Texas complies with the Clean Air Act.

Below are examples of recent TCEQ permitting actions that warrant EPA action. General deficiencies with the Aspen Power, NRG Texas Power, and Las Brisas Energy Center draft permits and permitting processes are discussed below, while specifics are detailed in attachments. Most of the deficiencies reflect recurring TCEQ implementation problems.

TCEQ fails to conduct adequate BACT analyses: Texas reliance on its "Three Tier" BACT guidance (RG-383) routinely leads to inadequate BACT analyses that fail to consider all available control options and thwart the technology-forcing provisions of the Act. TCEQ routinely conducts - and allows applicants to conduct - only "Tier I" evaluations, which require only a review of permit limits in recent Texas permitting decisions and the RBLC. TCEQ's guidance notes that a Tier I analysis may not be appropriate where there are new technological developments, but, in practice, TCEQ assumes there are no such developments without requiring any particular analysis or research, unless the applicant or the permitting engineer happens to be aware of them.

While we recognize that EPA has not required states to adopt the top-down BACT analysis process, EPA must hold states to minimum standards to protect the integrity of the NSR program nationwide and to meet the technology forcing provisions of the Act. States should not be allowed to use any BACT process that results in a BACT determination that is clearly not based on the best pollution control technology available for the source. Administrative Law

Judges with the Texas State Office of Administrative Hearings (SOAH), sitting as fact finders for the TCEQ, have plainly expressed concerns that the State's Three Tier BACT process is not technology-forcing. Yet SOAH judges feel obligated to allow applicants to use that process. In the NRG Proposal for Decision, the Judges wrote:

“Although the ALJs somewhat agree that the EPA’s top-down BACT approach may be better designed to be technology-forcing, the ALJs also conclude that the TCEQ’s tiered methodology is the proper method for analyzing BACT in this case. Although there may be legitimate concerns with whether the TCEQ’s three tier BACT methodology actually ensures the technology-forcing purposes behind the BACT requirement, the methodology has been approved by the Commission in prior cases. Specifically, this same methodology has been used by the TCEQ in evaluating BACT at least since 2001, when the guidance document was issued.”¹

Aspen Power provides a glaring example of the inadequacy of TCEQ’s Three Tier process. In the Aspen contested case hearing, the TCEQ Executive Director testified that a Tier I analysis, which looked only to the RBLC and one recent Texas permit, was adequate, despite the fact that superior emission reduction technologies for PM, NOx, VOC and CO were permitted and in use at similarly sized, wood-biomass stoker boilers in the Northeast that happened to not be included in the RBLC. Information regarding the superior technologies and the plants using them was readily available on the web, yet the TCEQ Executive Director found it acceptable that these superior technologies were not even considered in the applicant’s or the agency’s BACT analysis. As a result, Aspen Power’s draft permit includes emission limits that are plainly not BACT. If the TCEQ finally issues the Aspen Power permit, EPA should utilize its enforcement authority to prohibit further construction of the facility until such time as Aspen Power and the TCEQ comply with federal BACT requirements.

Aspen Power is yet one example of TCEQ’s flawed BACT process. Texas has a large percentage of the nation’s major Clean Air Act sources. EPA should not allow permits to be issued under a BACT process that is broken. EPA should take immediate action to inform Texas in writing that a BACT analysis must meet the minimum standards specified in EPA guidance and Environmental Appeals Board decisions. EPA should clarify that an adequate BACT analysis requires a searching review of potentially applicable technologies, and may not rely solely on a review of permitted limits. Further, to the extent a best available technology is not selected as BACT, EPA should make clear that the applicant bears the burden of demonstrating in its BACT analysis the technical or economic infeasibility of the top control technology for its facility.

TCEQ allows inadequate air quality impacts analyses: TCEQ allows applicants to rely on modeling that fails to comply with Appendix W and under-predicts actual air quality impacts. Problems include: (1) the failure to require the modeling of worst-case emissions, (2) routine reliance on *de minimis*, or Significant Impact Level (SIL), culpability analyses to allow permits to be issued for projects in areas with predicted ambient standard exceedences, , (3) the routine

¹ Proposal for Decision, NRG Power Texas Power LLC for State Air Quality Permit 79188, PSD Air Quality Permit PSD-TX-1072, and MACT HAP-14 Permit, June 23, 2009, Page 24.

use of non-representative or low quality air quality data and airport meteorological data for major source permits for which a year of on-site air quality and meteorological data should be required, (4) the routine discounting of low-level fugitive emissions, (5) the failure to model haul road emissions, (6) and the failure to model for the correct averaging period.

In the Aspen Power case, TCEQ supported the applicant's modeling demonstration despite the applicant's admission that it did not model worst-case emissions. Although Aspen's draft permit allows operation 52 weeks per year, Aspen modeled emission for only 50 weeks per year. Further, Aspen's modeling did not compare five years of annual average, high NOx emissions to the SIL. Instead, the applicant compared the average high from five years of data to the SIL. Despite the fact that this five-year average was 0.994 micrograms per cubic meter and the SIL is 1 microgram per cubic meter, TCEQ did not require applicant to conduct the proper modeling, as required by Appendix W and TCEQ guidance, comparing the annual average for each of five years to the SIL.

As with BACT, some of TCEQ's modeling deficiencies are due to non-EPA approved TCEQ practices that SOAH interprets as binding precedent. In the recent NRG Power case, the TCEQ supported the applicant's failure to model haul road emissions based on an unspecified promise to use "best management practices," and supported the discounting of low-level fugitive emissions by forty percent, despite prior EPA objection to such policy in other cases. The NRG Proposal for Decision stated:

"The ALJs defer to the well-established Commission policy. The ED's practice is supported by clear and recent Commission precedent. Moreover, there is no compelling environmental reason for overturning the ED's policy of using a 0.6 modeling factor for fugitive emissions. It is reasonably supported by technical merit. The ALJs are somewhat concerned by the lack of EPA approval of these adjustments, but the EPA was made aware of the adjustments in this case and did not file any objection to them."

The ALJs further recognize the difficulty in enforcing a permit term based upon "best management practice". The road haul emissions are excluded in the modeling with the presumption that NRG will perform road watering, but no watering schedule or other measurable performance is specified. Thus, the ALJs are not certain of the intended management practices that will be used to ensure that road emissions are reduced. Nevertheless, the Commission's adoption of this policy is well-established and the ALJs have no basis for disregarding it." (emphasis added)²

EPA needs to take clear action to require Texas and its permit applicants to conduct reliable modeling consistent with EPA guidance. The modeling currently conducted in Texas is frequently results-based, allowing applicants to tweak modeling inputs - for example by using less than worst-case emissions, discounting certain emissions, or using averaging periods that are not reflective of the air quality standard - until the applicant achieves the desired modeling result.

² Proposal for Decision, NRG Power Texas Power LLC for State Air Quality Permit 79188, PSD Air Quality Permit PSD-TX-1072, and MACT HAP-14 Permit, June 23, 2009, Page 75.

Such modeling does not assure that new sources or modifications will not cause or contribute to exceedances of the NAAQS or PSD Increments.

TCEQ allows major sources of HAPS to ignore federal MACT requirements: TCEQ is failing to implement federal MACT requirements. In the Aspen Power case, the applicant became subject to the case-by-case MACT after the initial PSD application was filed. TCEQ chose not to require the applicant to submit a MACT application. The permitting engineer testified, “I decided just to use their [PSD] application as – also as the case-by-case MACT application.” As a result, at the time of public comment, the application erroneously stated that case-by-case MACT requirements did not apply. Additionally, the applicant was allowed to rely on its cursory Tier I BACT analysis as a MACT analysis, and failed to identify the best performing similar source or to conduct a beyond-the-floor analysis. Nonetheless, the TCEQ Executive Director supports issuance of Aspen’s HAP permit.

Similarly, the TCEQ Executive Director has failed to make a MACT determination by issuing the Las Brisas Energy Center draft permit that expressly excludes MACT limits for four large electric generating units. On January 7, 2009, the TCEQ Executive Director issued draft permits HAP 48, PAL 41, and PSD-TX-1138 to the Las Brisas Energy Center (“Las Brisas”), a 1,200 megawatt, coke-fired power plant in Corpus Christi. The applicant chose not to submit a HAP application, arguing that the units are not subject to a case-by-case MACT determination, because “pet-coke is not coal.”³ Nonetheless, the TCEQ Executive Director issued a public notice , stating: “... LBEC provided a MACT-like analysis... which concludes that if case-by-case MACT review were required, the results would be no more stringent requirements than proposed in the BACT determination.”⁴ This approach does not satisfy the federal application requirement for case-by-case MACT determinations. Moreover, the TCEQ Executive Director’s *post hoc* MACT rationale affords the public no meaningful opportunity to examine, for ourselves, the so-called “MACT-like” analysis, prior to draft permit issuance.

Conclusion:

The problems discussed above are not the only problems with the referenced permits, nor are they the only systematic problems with Texas’ air permits. They do, however, provide examples of why EPA needs to address Texas’ air program deficiencies comprehensively. EPA action on pending SIP proposals, pursuant to its recent settlement with industry, is unlikely to resolve the numerous implementation issues with the program. Further, Texas continues to issue permits to major new sources of air pollution, such as new power plants, under rules and policies that fail to live up to the promises of the Clean Air Act.

We need EPA to increase the number of staff available for Texas permit reviews, to enable EPA to review more permits in more detail, track those permits through the Texas process, and take action where TCEQ issues permits that do not comply with federal requirements. While we are aware that EPA is reluctant to intervene in individual permitting

³ Las Brisas filed a supplemental Appendix to its Application, less than a month before issuance of the Draft Permit, which purports to contain a MACT analysis, concluding that the BACT limits satisfy MACT for all HAPs.

⁴ January 7, 2009, Preliminary Determination Summary, at p. 19.

decisions in SIP-approved states, the illegalities in the Texas program and Texas' failure to implement a SIP-approved program warrant a hands-on approach.

In particular, we ask that EPA take the following specific actions.

1. Ensure that the Aspen Power facility is not constructed (or further constructed) until such time as it obtains valid PSD and MACT permits consistent with the federal Clean Air Act. If the TCEQ finally approves the Aspen Power permits, we request that EPA take action pursuant to 42 U.S.C. §7410(a)(5).
2. Inform Texas in writing that the NRG Limestone permit cannot issue until the state has taken action through its SIP to address the modeled existing PM PSD increment exceedances. If Texas fails to address the increment exceedance, EPA should issue a PM increment "SIP call."
3. Inform Texas in writing that case-by-case MACT requirements are applicable to the Las Brisas petcoke-fired boilers, that a BACT analysis does not satisfy case-by-case MACT requirements, and that Las Brisas must comply with CAA 112(g) application and notice requirements prior to construction.

Thank you for your attention to these matters and for ongoing efforts to address Texas air permitting program deficiencies. For additional information regarding NRG Texas Power, please contact Layla Mansuri with the Environmental Integrity Project (EIP) at 512-637-9478. For information regarding Las Brisas Energy Center, please contact Ilan Levin with EIP at 512-619-7287. Finally, for additional information regarding Aspen Power, please contact me at 512-587-9318.

Sincerely,



Kelly Haragan
by LM

Kelly Haragan
Clinical Professor
Environmental Clinic
University of Texas School of Law
727 E. Dean Keeton
Austin, TX 78705
p: (512) 587-9318
kharagan@law.utexas.edu

L. Layla Mansuri

Ilan Levin
Layla Mansuri
Environmental Integrity Project
1303 San Antonio Street, Suite 200
Austin, TX 78701
p: (512) 637-9477
ilevin@environmentalintegrity.org
lmansuri@environmentalintegrity.org

cc: Adam Kushner (*via Electronic Mail*)
Carl Edlund (*via Electronic Mail*)
John Blevins (*via Electronic Mail*)
Rick Bartley (*via Electronic Mail*)

ATTACHMENT 1

Summary of Aspen Power Permit Deficiencies

Background

Aspen Power is seeking state, PSD and MACT permits for a wood, biomass power plant in Lufkin, Texas. The plant is to be located in a low-income, predominantly minority community and within 600 yards of a daycare. Its VOC emission rate is almost ten times the emission rate of recently permitted coal-fired power plants per unit heat input.

The Aspen Power draft permit was issued in July 2008 and includes the following limits, which apply except during periods of start-up, not to exceed 12 hours per event or 36 hours per year, or shutdown not to exceed 6 hours per event or 18 hours per year:

NOx - 0.15 lb/MMBtu
PM - 0.025 lb/MMBtu
VOC - 14.9 lb/hr
CO - 0.31 lb/MMBtu (rolling 30-day average)

A final permit for the facility was issued in July 2008 and the applicant commenced construction. In a motion for rehearing, protestants alleged that their hearing request withdrawals had been fraudulently filed.¹ As a result, the permit issuance was overturned and the application was referred back to the State Office of Administrative Hearings (SOAH) for a contested case. The TCEQ commissioners instructed SOAH to expedite the permit hearing, and instructed the TCEQ's enforcement division to enter into a compliance agreement that would allow Aspen to continue construction despite the lack of required Clean Air Act (CAA) permits. TCEQ did so, issuing a "compliance agreement" citing Aspen for violating the law by constructing without a permit, but allowing continued construction at the facility's own risk. EPA Region 6 took enforcement action against Aspen for construction without a permit, issuing a stop work order on March 4, 2009.

A contested case was held on the draft permit in April 2009. The TCEQ Executive Director supports issuance of the draft PSD/MACT permit despite the agency's and applicant's failure to comply with federal CAA requirements.

Maximum Achievable Control Technology Deficiencies

The Executive Director and Aspen Power acknowledge that CAA 112(g) is applicable to Aspen's facility. Aspen power, however, never submitted a case-by-case MACT application, in violation of 30 Tex. Admin. Code § 116.404 and 40 CFR § 63.43. At the time Aspen Power submitted its initial PSD application, on April 23, 2007, the industrial boiler MACT rule "Subpart DDDDD" was applicable. That rule, however, was vacated by the D.C. Circuit Court on June 8, 2007. *NRDC v. EPA*, 489 F.3d 1250 (D.C. Cir. 2007). Aspen Power never amended its application to include a case-by-case MACT analysis as required by the CAA. 42 U.S.C. § 7412(g)(2)(B); 40 CFR § 63.40.

¹ The Travis County District Attorney is pursuant felony charges against Aspen Power related to the fraud. http://www.lufkindailynews.com/search/content/news/stories/2009/07/12/logging_council.html.

Aspen Power argues that its purported compliance with the vacated subpart DDDDD rule was sufficient to satisfy MACT's case-by-case requirements. Once the Subpart DDDDD standard was vacated, however, it no longer had any regulatory effect. As an expert in the contested case testified, there have been technological developments since the 2003 proposal of the Subpart DDDDD standard such that the best performing similar source is achieving greater emission reductions than reflected in the vacated federal rule.² Aspen could not simply assume the vacated subpart DDDDD standard was equivalent to the current MACT floor, much less the beyond-the-floor standard.

TCEQ's permitting engineer argued that he could simply treat Aspen's PSD application as a MACT application. Such failure to require a HAP application was inconsistent with legal requirements and with prior TCEQ precedent. See, *So. Alliance for Clean Energy v. Duke Energy Carolinas, LLC*, 2008 U.S. Dist. LEXIS 97485 (D.C. NC, Dec. 2, 2008)(Order Denying motion for Summary Judgment and Motion to Dismiss). See also, *Application of NRG Texas Power LLC for State Air Quality Permit 79188 and Prevention of Significant Deterioration Air Quality Permit PSD-TX-1072* (SOAH Docket No. 582-08-0861, TCEQ Docket No. 2007-1820-AIR), Order No. 9, p. 1 (abating SOAH proceedings to allow time for applicant to file "necessary" case-by-case MACT application).

Further, Aspen's PSD application simply does not comply with the regulatory requirements for MACT applications. 40 CFR § 63.43(e). The resulting inadequate MACT analysis produced emission limits that are not MACT. Flaws include the following, as briefed in detail in the contested case proceedings.

- The PSD application did not identify the best-controlled source, or offer any supporting documentation to justify a MACT floor for the facility's HAP emissions.
- The application included no analysis of possible "beyond-the-floor" emission reductions or of cost and non-air quality health environmental impacts or energy requirements.
- Emission levels were established based solely on permitted limits included in the RBLC and in one Texas permit. There was no examination of the levels "achieved" by the best performing source.
- The HAP emission limits achieved by the best-controlled, similar sources are significantly lower than those included in the Aspen draft permit.
- The permit failed to include any limit for mercury.
- The permit includes illegal exemptions for HAP emissions during startup, shutdown and maintenance.

Best Available Control Technology Deficiencies

² EPA has acknowledged that it must collect new information before it can determine the appropriate standard for industrial boilers in any future NESHAP. 73 Fed.Reg. 27820, 27821 (May 14, 2008); Supporting Statement for Information Collection Effort for Facilities with Combustion Units (Docket ID EPA-HQ-OAR-2002-0058-0752), p. 6.

Aspen Power's BACT analysis is inadequate and led to draft permit limits that are not BACT. Both the applicant and TCEQ conducted only a "Tier I" analysis, which considered only permitted facilities in the RBLC and one additional facility in Texas. Their BACT analyses failed to consider technologies used by and emission limits achieved by numerous similarly-sized, wood-fired, stoker biomass boilers not included in the RBLC. Aspen and TCEQ illegally ignored achieved-in-practice and permitted emission rates for woodwaste-fired stoker units when identifying BACT for Aspen Power.

EPA Region 6 commented on Aspen's draft permit, stating that that TCEQ's BACT analysis: (1) failed to include a "comparison of the proposed control units with other types of control technology for wood waste derived fuel boilers in recent PSD permits issued nationwide;" (2) failed to include an evaluation of the technical and economic feasibility of available control technologies; and (3) failed to explain why BACT limits for NOx, CO, and PM were accepted that were higher than the limits for other facilities in the RACT/BACT/LAER Clearinghouse. EPA also questioned whether the source and TCEQ considered the installation of baghouses as part of its BACT analysis and recommended the use of PM continuous monitoring systems.

Testimony by TCEQ's permitting engineer confirmed the inadequacy of the Aspen BACT analysis, as well as the inadequacies of the TCEQ's policies for conducting BACT reviews.

Q: And do you agree that if a superior control option has been demonstrated in practice – that has been demonstrated in practice is rejected as BACT that the BACT analysis must include detailed documentation regarding the infeasibility of that option?

A: I do not agree with that, and I'll tell you why. We use our engineering judgment and knowledge of other analyses and what other states are doing and what we've done previously to make judgments. If we believe something is economically infeasible, then we will not require somebody to reprove it if we already believe that it is.

Q: Mr. Hughes, as you go through your review, if you had discovered something in your research that affected your opinion about the limits, would you have documented that?

A: I probably would have documented it in the determination – preliminary determination summary. We don't actually have any standards or guidelines for what we do and don't document. ... So it's kind of – some engineers may document more than some others.

The BACT analysis conducted in the Aspen case failed to meet any minimal standards of adequacy. There was no searching review of industry practices and control options, and no consideration of all potentially available control alternatives. *In re: Northern Michigan University Ripley Heating Plant*, 2009 EPA App. LEXIS 5, 8 (Feb. 18, 2009); PSD Appeal No. 08-02. *In re: Prairie State Generating Co.*, 2006 EPA App. LEXIS 38 (Aug. 24, 2006); PSD Appeal No. 05-05 ("An incomplete BACT analysis, including

failure to consider all potentially applicable control alternatives, constitutes clear error and, therefore, is grounds for remand.”)

Further, as documented in the contested case hearing record, there are similar facilities permitted with and achieving emission rates lower than those included as BACT in Aspen’s permit.

Inadequate Air Quality Impact Analysis

TCEQ continued to support the adequacy of Aspen’s modeling despite the testimony of Aspen’s expert that he did not conduct modeling as required by Appendix W. Aspen’s modeling was insufficient to demonstrate that the facility’s emissions will not cause or contribute to an exceedance of the NAAQS or increments. Flaws in Aspen’s modeling include:

- Failing to model worst-case emissions. Aspen modeled operations for only 50 weeks per year. The permit allows operation 52 weeks per year.
- Failing to compare the annual average for each of five years to the NOx de minimus level or SIL for NAAQS and the increments. Instead, Aspen compared a 5-year average to the de minimis level. That 5-year average was 0.994 micrograms per cubic meter. The de minimis level is 1 microgram per cubic meter.

Conclusion

Neither Aspen Power nor TCEQ complied with federal requirements for adequate BACT analysis, MACT analysis or air quality impact analyses. EPA should ensure that Aspen Power does not continue construction until such time as it submits and allows public comment on: a MACT case-by-case application, an adequate BACT analysis and an air quality impacts analysis in compliance with Appendix W.

ATTACHMENT 2

Summary of NRG Texas Power LLC Draft Permit Deficiencies

Background

The application for NRG Texas Power LLC's expansion of the Limestone Power Plant is the next in a line of permits for fossil-fired power plants recently reviewed and approved (or pending final approval) by the TCEQ pursuant to non SIP-approved rules and guidance. Deficiencies with the NRG permitting process include an inadequate BACT analysis, the failure to identify the required MACT control technology, and the failure to address identified PSD increment violations.

The BACT analysis deficiencies identified here were raised in the January 17, 2008 Petition filed with the EPA Administrator on behalf of the Environmental Defense Fund and the Sierra Club. These deficiencies will not be addressed by EPA action on Texas' pending SIP submittals and are common to the numerous coal-fired power plant applications that have been reviewed and recommended for approval by the TCEQ Executive Director and are in various stages of the administrative hearings process: *Application of Las Brisas Energy Center, LLC* for State Quality Permit Nos. 85013, HAP 48, PAL 41 and PSD-TX 1138; *Application of White Stallion Energy Center LLC* for State Air Quality Permit 86088, Prevention of Significant Deterioration Air Quality Permit PSD-TX-1160, Hazardous Air Pollutant Permit HAP-28, and Plantwide Applicability Limit PAL-48; *Application of IPA Coletto Creek LLC* for State Air Quality Permit 83778, Prevention of Significant Deterioration Air Quality Permit PSD-TX-1118 and Hazardous Air Pollutant Permit HAP-18; and *Application of Tenaska Trailblazer Partners, LLC* for TCEQ Proposed Air Quality Permit Nos. 84167, PSD-TX-1123 and HAP-13.

BACT Deficiencies in the Proposed Limestone 3 Permit

TCEQ relies on its own guidance document to conduct BACT reviews, draft RG-383. RG-383 is not specifically SIP-approved, yet the Texas State Office of Administrative Hearings (SOAH) believes it is obligated to apply this guidance, as interpreted by TCEQ, regardless of the resulting failure to comply with minimal BACT standards specified in EPA guidance and Environmental Appeals Board decisions.

This guidance document fails to implement the SIP-approved definition of BACT, and leads to BACT analyses that fail to meet any minimum standard of adequacy. The guidance document, RG-383 does not require emission limits to be set based upon the maximum degree of reduction considering site-specific energy, environmental, and economic impacts. Nor does it ensure that BACT emission limits are based on the best technology that is available. Instead, it accepts as BACT the best technology and emission limitations included in the RBLC and Texas permits, without requiring any analysis of potential technologies not included in the RBLC or Texas permits.

In NRG, the Administrative Law Judge found that the NOX emission limit in NRG's draft permit was not BACT and should be tightened. It is worth providing, in its entirety, the Executive Director's response to the ALJs determination on NOx for BACT.

...The ALJs concluded that the annual limit of 0.05 lb/MMBtu represents BACT; however, the ALJs recommended the short-term BACT limit be adjusted from 0.07 to

0.06 lb/MMBtu. A Tier 1 BACT analysis requires comparison with other like facilities. Mr. Linville reviewed the information regarding NOx and concluded that BACT is the use of low-NOx burners and SCR to achieve 0.07 lb/MMBtu. Mr. Linville determined that this limit was consistent with BACT determinations from other recently permitted PC boilers and appropriately represented BACT for LMS3. Therefore the evidence in the record substantiates the ED's review and concurrence that 0.08 lb/MMBtu constitutes BACT for NOx. (Internal citations omitted). Executive Director's Exceptions to the ALJs' PFD and Order, pp. 4-5.

Despite record evidence of more stringent emission limits achieved in practice by similar sources, TCEQ relies on its Tier I process to justify the acceptance of a less-than-BACT emission limit. Allowing the analysis to consider only those technologies in the RBLC and recent Texas permits is essentially non-technology forcing. The reality is that few Tier I BACT analyses will result in an adequate BACT determination. EPA should act to ensure that Texas BACT analyses include consideration of the full spectrum of potentially applicable control technologies. Without direct action clearly requiring adequate BACT analysis, the status quo of reliance on RG-383 will continue, resulting in emission limitations that are not BACT.

NRG Permit Proceeding Showed Existing PM Increment Exceedance, Yet TCEQ Executive Director Says the Permit Can be Issued and No Action is Required

On June 23, 2009, two Administrative Law Judges, sitting in the fact-finding shoes of the TCEQ Commissioners, issued a proposal for decision, stating:

"[Sierra Club's modeler] Ms. Sears found impacts above the 24-hour average PM₁₀ PSD increment of 30 $\mu\text{g}/\text{m}^3$." Finding of Fact No. 130, Proposal for Decision re NRG Limestone Unit 3, at p. 18, June 23, 2009. Available at:
<http://www.soh.state.tx.us/pfdsearch/pfds/582/08/582-08-0861-pfd1.pdf>

Based on this, the ALJs recommend the Executive Director take steps to substantiate the violation and to correct it through the SIP. *Id.*, at p. 69. While Sierra Club and EIP do not agree that the Clean Air Act allows preconstruction permits to be issued when monitoring or modeling shows that there is no available increment, we acknowledge that applicants routinely conduct culpability analyses in order to show that the proposed new emissions do not contribute to the predicted violation at the exact *time and place* of the predicted increment violation. This occurred in the NRG matter. Nonetheless, EPA has clearly stated that, in such situations, the preconstruction permit may not be issued unless the State takes action to mitigate the violation through the SIP. See, USEPA Memo, from Gerald Emison to Thomas Maslany, re Air Quality Analysis for PSD (July 5, 1988).

The TCEQ Executive Director takes the position, contrary to clear EPA policy, that no action need be taken to correct a predicted increment violation, when that violation is discovered through issuance of a preconstruction permit. Amazingly, the TCEQ Executive Director argued in a recent legal filing that: "Therefore, the second part of the EPA guidance that the ED undertake some action is not applicable." Executive Director's Exceptions to the ALJs' PFD and Order, TCEQ Docket No. 2007-1820-AIR, at p. 8, July 13, 2009.

Because the State refuses to do so, EPA should immediately initiate a PSD increment “SIP Call,” in order to determine whether mitigation is needed to address PM increment violations in the area surrounding the NRG facility. Furthermore, EPA should instruct TCEQ that EPA will be obligated to take enforcement action to bar construction of the NRG new source until such action is taken to address the modeled PM increment violation.

MACT Deficiencies

In the NRG proceeding, a control technology has yet to be identified for the control of mercury emissions. While the Administrative Law Judges did find this to be a deficiency, they also state that the Commission may view this gap in the application as a problem with form over substance.

Texas and Federal MACT regulations require the Applicant to identify, analyze and commit to a control technology in a case-by-case MACT determination.¹ Texas MACT regulations fully and unconditionally adopt the corresponding federal MACT regulations for case-by-case MACT determinations. Therefore, the requirements for a Texas case-by-case MACT determination are the same as those for federal case-by-case MACT determinations. The federal MACT determination requirements are found at 40 C.F.R. § 63.43(e), entitled “Application requirements for a case-by-case MACT determination.” In this regulation, EPA states that:

An application for a MACT determination ... shall specify a control technology selected by the owner or operator that, if properly operated and maintained, will meet the MACT emission limitation...²

Following this, § 63.43(e)(2) then lists, under thirteen subsections, the specific items of information that must be included in the MACT application. The relevant subsections state that:

(2) ... the application for a MACT determination shall contain the following information:

...

(xi) The selected control technology to meet the recommended MACT emission limitation, including technical information on the design, operation, size, estimated control efficiency of the control technology...³

(xii) Supporting documentation including identification of alternative control technologies considered by the applicant to meet the emission limitation, and analysis of cost and non-air quality health environmental impacts or energy requirements for the selected control technology;⁴

Nowhere in NRG’s applications is there any detailed discussion of mercury-specific control technologies. During the hearing, several witnesses for the Applicant reiterated that NRG

¹ 30 Tex. Admin. Code § 116.404; TR at 622: 2-5 (testimony of Applicant’s MACT expert, Mr. Campbell).

² 40 C.F.R. § 63.43(e)(1).

³ 40 C.F.R. § 63.43(e)(2)(xi).

⁴ 40 C.F.R. § 63.43(e)(2)(xii) (emphasis added).

has not yet selected a mercury control, nor even decided if a mercury control is necessary. For example, Mr. Ben Carmine testified as follows:

Q. Would I be correct in stating that you have not identified one specific mercury control technology that you intend to install at Limestone Unit 3?

A. You would be correct.

Q. As director of environmental operations, have you selected a mercury control technology for Unit 3 yet?

A. Mercury control technology has not been selected yet for Unit 3.⁵

In response to the ALJs' conclusion that the application is deficient, the Executive Director is now arguing that the NRG's application for a case-by-case MACT determination is sufficient based on the following suite of controls: a selective catalytic reduction system, a wet flue gas desulfurization system, state-of-the art mercury controls, and a fabric filter. The Executive Director is attempting to equate the black box of "state of the art mercury controls" with as-built information that would be required in a permit application. It is incumbent upon EPA to direct TCEQ to require a complete application that identifies the control technology for mercury, to be subject to public participation requirements.

Conclusion

EPA should immediately inform TCEQ that it must conduct BACT analyses that conform to the SIP-approved PSD program and submit a case-by-case MACT application identifying a selected control technology. In addition, EPA should initiate a PSD increment "SIP Call," in order to determine whether mitigation is needed to address PM increment violations in the area surrounding the NRG facility. Finally, EPA should instruct TCEQ that EPA will be obligated to take enforcement action to bar construction of the NRG new source until such action is taken to address the modeled PM increment violation.

⁵ 21 TR at 72:15-23.

ATTACHMENT 3

Summary of Las Brisas Energy Center LLC Draft Permit Deficiencies

Background

The Las Brisas Energy Center (“Las Brisas”) Draft Permit Nos. HAP 48¹, PAL 41, and PSD-TX-1138, issued by the TCEQ’s Executive Director on January 7, 2009, is an example of the State’s disregard for federal Clean Air Act and State Implementation Plan (SIP) requirements. The Executive Director fashioned a “MACT determination” out of whole cloth, implicitly agreeing that Texas BACT equals MACT. EPA should immediately take action, by informing the TCEQ, in writing, that (1) case-by-case MACT applies to the Las Brisas main petcoke-fired CFB units, (2) a BACT analysis does not satisfy MACT, and (3) Las Brisas and TCEQ must comply with federal and SIP-approved state requirements to submit an application, conduct an analysis, and make a MACT determination subject to public notice and comment *before* a permit for construction may be issued by the Commission.

Las Brisas proposes to build a large, 1,200 megawatt, power plant, consisting of four main circulating fluidized bed (“CFB”) boilers that will burn petroleum coke. Las Brisas is a major source of HAP. See, Preliminary Determination Summary (“PDS”) at p. 19, *Attachment 3A*. But, Las Brisas takes the position that *petroleum coke*-fired electric generating units are not subject to the federal Clean Air Act § 112 case-by-case maximum achievable control technology (“MACT”) standards, because “petroleum coke is neither coal nor oil.” *Id.*, and *see also*, Prefiled Direct Testimony of Shanon DiSorbo, at p.14 -15, *Attachment 3B*.

Las Brisas failed to submit a MACT application as required by TCEQ’s own rules, and instead provided a MACT-like analysis as an 11th-hour supplement to their PSD application, a month before TCEQ published issuance of the Draft Permit. The Draft Permit does not contain any limits purporting to be MACT for the four main boilers. In fact, the Draft Permit specifically states that case-by-case MACT was conducted for the auxiliary boilers only. The TCEQ Executive Director’s reasoning is that:

“[T]he regulations do not seem to require case-by-case MACT analysis for the CFBs.”

As a matter of law, the Las Brisas electric generating units, that will burn pet-coke, are subject to the case-by-case MACT provisions of the federal Clean Air Act. By law, any *solid fuel*-fired, including any *fossil fuel*-fired electric generating unit for which a MACT standard has not been promulgated, is subject to the Clean Air Act’s stringent “MACT hammer” provisions, requiring a case-by-case MACT analysis and a MACT determination. Moreover, under applicable regulatory definitions, petroleum coke is, indeed, defined as either coal or oil. Finally, it is conceivable that the four CFB units could fire coal or other fuel in the future, despite the current commitment and draft permit requirement to burn only petcoke.

The TCEQ may not authorize the proposed permit until (1) Las Brisas has made application, and (2) the Executive Director has made, a case-by-case MACT determination for mercury and many other hazardous air pollutants that would be emitted by Las Brisas. The Executive Director may not violate the SIP, the agency’s own rules, as well as applicable federal rules, requiring that a proper application be filed, and that such application and draft permit be

¹ The “HAP 48” permit represents the TCEQ Executive Director’s MACT determination for the auxiliary boilers only. No MACT application, determination, or MACT limits are included for the four main boilers.

made available for public notice. Anything short of compliance with these requirements not only violates basic public notice, but also disregards the Clean Air Act's stringent MACT provisions.

Las Brisas relies on the vacated definitional change of "coal-fired," as explained in the January 30, 2004, Federal Register notice in which EPA proposes the de-listing and Clean Air Mercury Rule, for the proposition that petroleum coke is a "non-regulated supplementary fuel" (69 Federal Register, page 4,674). See, PDS, p. 19.

The proposed rule defines "coal-fired electric generating steam unit" as follows:

Coal-fired electric utility steam generating unit means an electric utility steam generating unit that burns coal, coal refuse, or a synthetic gas derived from coal either exclusively, in any combination together, or in any combination with other supplemental fuels.

Examples of supplemental fuels include, but are not limited to, petroleum coke and tire-derived fuels. 69 FR 4727 (January 30, 2004)

On reconsideration of the (vacated) de-listing decision, EPA inserted a "technical correction" which sought to clarify that while coal plants that burned some petcoke were covered by the (vacated) standard, petcoke itself is not coal. *See*, 70 FR at 62218, column 1-2.

Relying on these Federal Register notices is erroneous for at least two reasons. First, EPA's actions were vacated in their entirety. *See, New Jersey v. EPA*, No. 05-1097 at 15. Second, notwithstanding the now-vacated de-listing and CAMR decisions, *any* solid fuel-fired EGUs for which there is no promulgated MACT standards are subject to case-by-case MACT.

Additionally, the definitions of "coal" in 40 CFR 60 Subparts Db and Dc are instructive.

§ 60.41b Definitions.

* * * * *

Coal means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by the American Society of Testing and Materials in ASTM D388 (incorporated by reference, see § 60.17), coal refuse, and petroleum coke. Coal derived synthetic fuels, including but not limited to solvent refined coal, gasified coal not meeting the definition of natural gas, coal-oil mixtures, coke oven gas, and coal-water mixtures, are also included in this definition for the purposes of this subpart. 74 FR 5084 (January 28, 2009)

§ 60.41c Definitions.

* * * * *

Coal means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by the American Society of Testing and Materials in ASTM D388 (incorporated by reference, see § 60.17), coal refuse, and petroleum coke. Coal derived synthetic fuels derived from coal for the purposes of creating useful heat, including but not limited to solvent refined coal, gasified coal not meeting the definition of natural gas, coal-oil mixtures, and coal-water mixtures, are also included in this definition for the purposes of this subpart. 71 FR 9884 (February 27, 2006); 74 FR 5090 (January 28, 2009)

Even if the definition of “coal” does not currently include pet-coke, then the definition of “oil” does. In issuing its final decision on reconsideration, EPA defined “petroleum” to include petcoke. See, 71 FR at 33396. Importantly, EPA changed the definition of “petroleum” to:

“Petroleum means crude oil or petroleum or a fuel derived from crude oil or petroleum, including distillate, residual oil, and petroleum coke.” 40 CFR 60.41Da (adopted by final rule 71 FR 9866)

In the proposed Clean Air Interstate Rule (“CAIR”), which was co-proposed with CAMR), EPA proposed the following definition:

Oil-fired electric utility steam generating unit means an electric utility steam generating unit that either burns oil exclusively, or burns oil alternately with burning fuels other than oil at other times. See 69 FR at 4727.

Based on the foregoing discussion, it is clear that it was EPA’s intent to include pet-coke in either the definition of “oil” or “coal” as those terms are used to identify “coal- or oil-fired electric utility” units. Since EPA’s regulatory determination in 2000 applied to both coal- and oil-fired units, proposed petcoke-fired units are currently subject to the MACT hammer, and must undertake a formal case-by-case MACT analysis for all HAPs. Certainly an interpretation of “oil” that *excludes* petcoke would be directly in conflict with the only existing indications of EPA’s own interpretation of this language. Finally, the current definition of “fossil fuel” includes “petroleum, coal, and any form of solid, liquid, or gaseous fuel derived from such material.” 40 CFR 60.41 Da.

A “MACT-Like” Analysis Does Not Satisfy the Legal Requirement, and BACT is Not MACT.

The TCEQ Executive Director determined that:

“Although the regulations do not seem to require case-by-case MACT analysis for the CFBs, Las Brisas provided a MACT like analysis in Appendix D to the permit application, which concludes that if case-by-case MACT review were required, the results would be no more stringent requirements than proposed in the BACT determination.” (Emphasis added.)

Prior to providing the TCEQ with a “MACT-like analysis,” Las Brisas submitted the following as part of the Application:

“10.10 HAP – 30 TAC § 116.111(a)(2)(K). The Las Brisas CFB boilers and Auxiliary boilers are not subject to any existing MACT standards; therefore, [sic] may likely be an affected source subject to the requirements of FCAA 112(g) or 112(j). Las Brisas recognizes that the vacatur of the Clean Air Mercury Rule, along with the absence of a

source category MACT standard, may now subject the proposed CFBs to the requirements for case-by-case MACT pursuant to FCAA 112(g).

In addition, LAS BRISAS also recognizes that the vacatur of the Boiler MACT (40 CFR Part 63, Subpart DDDDD), along with the absence of a source category MACT standard, may now subject the proposed Auxiliary Boilers to the requirements for case-by-case MACT pursuant to FCAA 112(g) and/or the MACT Hammer provisions of FCAA 112(j).

However, at this time LEBC is awaiting guidance from the Court, TCEQ, and EPA prior to submitting an application to establish a case-by-case MACT limit for the CFBs and/or a 112(j) determination for the Auxiliary Boilers."

App. p. 55 (emphasis added).

The TCEQ Executive Director, in issuing the Draft Permit, takes a nuanced position on the question of whether case-by-case MACT applies to this source, and whether or not a MACT Determination was made:

"XII. CASE-BY-CASE MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (MACT)

A. Petroleum Coke-Fired CFBs The proposed CFBs are major sources of hazardous air pollutants (HAP), a collection of about 189 pollutants listed by the EPA under the Federal Clean Air Act (FCAA) § 112(b). Under FCAA § 112, most major sources of HAP are subject to MACT standards for control of HAP. However, for some electric utility steam generating units (EUSGU), determining the applicability of regulation under § 112 is more complicated, based on language in FCAA § 112(n)(1) that requires EPA to perform a study of the hazards to public health associated with HAP emissions from EUSGU, and to require regulation of HAPS if the Administrator finds such regulation is appropriate and necessary after considering the results of the study. Following the 1999 study, the EPA published in December, 2000, a finding under FCAA § 112(c), called a "listing decision," that it was necessary and appropriate to regulate oil and coal-fired EUSGU under FCAA § 112. EPA later de-listed oil- and coal-fired EUSGU and developed regulations for mercury for the coal units and nickel for the oil units under FCAA § 111. These rules were vacated in March, 2008 by the U.S. Court of Appeals for the D.C. Circuit. Under this decision, the 2000 listing decision is thought to stand again. Las Brisas takes the position that the petroleum coke-fired CFBs are not subject to FCAA § 112 because petroleum coke is neither coal nor oil. Las Brisas cites the January 30, 2004 proposed MACT rule for coal and oil fired EUSGUs, that refers to petroleum coke as a non-regulated supplementary fuel (69 Federal Register, page 4,674). Usually, if EPA fails to issue a MACT standard in a timely fashion, FCAA § 112(g) makes it necessary for new major HAP sources to undergo case-by-case MACT review under the NSR process. However, under the TCEQ's rule implementing FCAA § 112(g), at 30 TAC § 116.402(a), the requirements do not apply to EUSGU unless and until such time as these units are added to the source category list under FCAA 112(c)(5). Although the regulations do not seem to require case-by-case MACT analysis for the CFBs, Las Brisas provided a MACT like analysis in Appendix D to the permit application, which concludes that if case-by-case MACT review were required, the results would be no more

stringent requirements than proposed in the BACT determination. (Emphases added; Preliminary Determination Summary for Permit Nos. 85013, HAP48, P AL41, and PSD-TX-1138, Page 19).

Yet, in its final public notice in this matter, the Notice of Application and Preliminary Decision (“NAPD”), the ED states that maximum achievable control technology will be used for the control of hazardous air pollutants. (NAPD p.2).

The court in *New Jersey v. EPA*, No. 05-1097, (D.C. Cir. Feb. 8, 2008) vacated not only EPA’s CAMR rule, but also EPA’s “de-listing” of coal- and oil-fired power plants. The now vacated rule attempted to remove these sources from the Clean Air Act section 112(c) list of sources for which emissions standards based on MACT are required under CAA section 112(d). Because EPA’s de-listing rule is vacated, the court itself recognized, *id.*, slip op. at 17, that coal- and oil-fired “EGUs remain listed under section 112.” (Emphasis added.) As a result, the statutory requirements that attach at listing directly apply to coal- and oil-fired electric generating units. Even if Las Brisas were not subject to MACT as a solid fuel-fired EGU, then it would be subject to industrial boiler MACT.

These requirements include the case-by-case MACT requirements found in 42 U.S.C. § 7412(g). *See also* 40 C.F.R. §63.40(c). Because EPA has not promulgated categorical MACT standards applicable industry-wide, a case-by-case determination, pursuant to CAA Sec. 112(g) is required. Nowhere in the law, is there any exception or allowance for a “MACT like” determination. And, nowhere in the law is there any provision allowing a regulatory agency to simply sign off on an applicant’s contention that if a MACT determination were required, the result would be no more stringent than BACT.

A “MACT-like” analysis is not sufficient to comply with the legal requirement. In *Southern Alliance for Clean Energy v. Duke Energy Carolinas, LLC*, the Court faced an issue similar to the one here. In that case, Plaintiffs sued a Duke Energy power plant for continuing construction without compliance with MACT’s case-by-case requirements. At the time the Duke plant received a permit and commenced construction, EPA had adopted a rule exempting coal-fired power plants from the list of facilities regulated under the MACT provisions. The EPA’s action in delisting power plants was subsequently challenged, reversed and vacated. *See New Jersey v. EPA*, 517 F.3d 574, 583 (D.C. Cir. 2008).

The court in *Southern Alliance* held that the reversal must be given retroactive effect and that, therefore, Duke was subject to MACT’s requirement for a case-by-case MACT determination prior to construction. The court rejected Duke and North Carolina’s attempt to use a “MACT-like” or “MACT equivalent” proceeding stating that Duke “has yet to participate in a full MACT, case-by-case procedure with full opportunity for public scrutiny. The Court finds no reason to substitute a suggested process for that required under existing law.” *So. Alliance for Clean Energy v. Duke Energy Carolinas, LLC*, 2008 U.S. Dist. LEXIS 97485 (D.C. NC, Dec. 2, 2008)(Order Denying motion for Summary Judgment and Motion to Dismiss).

In addition, BACT is not MACT. Setting aside the major flaws with Texas’ implementation of BACT, even the most thorough BACT analysis would still not equate to a

MACT analysis. EPA has commented, and TCEQ is well-aware, that the State may not interpret the federal requirement for a case-by-case MACT determination to be satisfied by a BACT determination. See, 23 TexReg 6980, Volume 23, Number 27 (July 3, 1998). EPA should not allow Texas to continue issuing permits that blatantly disregard clear requirements.

TCEQ Rules Require A Case-by-case MACT Analysis.

TCEQ's application and hazardous air pollutant ("HAP") rules require that LAS BRISAS's application include a case-by-case MACT analysis.

Consistent with the requirements of 40 Code of Federal Regulations §63.43 (concerning maximum achievable control technology determinations for constructed and reconstructed major sources), the owner or operator of a proposed affected source...shall submit a permit application as described in §116.110 of this title (relating to Applicability). 30 Tex. Admin. Code § 116.404.

See also, 30 Tex. Admin. Code § 116.111, requiring that an application include information which demonstrates that for hazardous air pollutants the source "shall comply with all applicable requirements under Subchapter C of this chapter: relating to Hazardous Air Pollutants: Regulations Governing Constructed or Reconstructed Major Sources (FCAA, §112(g), 40 CFR Part 63)." 30 Tex. Admin. Code § 116.111(a)(2)(K).²

Conclusion

For the foregoing reasons, EPA should immediately inform the TCEQ Executive Director that the (1) case-by-case MACT applies to the Las Brisas main petcoke-fired CFB units, (2) a BACT analysis does not satisfy MACT, and (3) Las Brisas and TCEQ must comply with federal and SIP-approved state requirements to submit an application, conduct an analysis, and make a MACT determination subject to public notice and comment *before* a permit for construction may be issued.

² Subchapter C: "relating to Hazardous Air Pollutants: Regulations Governing Constructed or Reconstructed Major Sources (FCAA, §112(g), 40 CFR Part 63)," is now found at Subchapter E, 30 Tex. Admin. Code § 116.400 et. seq.

ATTACHMENT 3A

Preliminary Determination Summary – Las Brisas Energy Center LLC

PRELIMINARY DETERMINATION SUMMARY

Las Brisas Energy Center, LLC

Permit Nos. 85013, HAP48, PAL41, and PSD-TX-1138

I. APPLICANT

Las Brisas Energy Center LLC (LBEC)
11011 Richmond Avenue, Suite 350
Houston, Texas 77042

II. PROJECT LOCATION

The Las Brisas Energy Center (LBEC) is located at 6059 Joe Fulton Corridor, Corpus Christi, Nueces County, Texas.

III. PROJECT DESCRIPTION

LBEC proposes to construct and operate new steam-electric utility generating facilities using four circulating fluidized bed (CFB) boilers, each with a design maximum heat input of 3,080 million British thermal units per hour (MMBtu/hr) and 300 MW net electric output. The gross electric output of the four steam electric generators is about 1,400 MW; the net electric output of the LBEC is about 1,200 MW. The proposed fuel is petroleum coke. The project is sized with the capability to take all the petroleum coke produced by the Corpus Christi petroleum refineries, located nearby along the Corpus Christi Ship Channel Natural gas is proposed as the CFB startup fuel, with vaporized propane as a back-up startup fuel if natural gas is unavailable.

Air pollutant-emitting equipment necessary for supporting the operation of the CFBs and steam turbine generators is included in the draft air permit. Combustion-type facilities include: two auxiliary boilers, used to provide process steam during CFB startups, shutdowns, and during the commissioning phase of the project (the last phase of construction); two propane vaporizers to vaporize the propane back-up fuel; and eleven diesel engines to provide, variously, emergency electric generation, fire fighting water pumping capability, and emergency boiler feed water pumping capability. Each auxiliary boiler and propane vaporizer will be limited to operate no more than 2,500 hours per year; each engine, no more than 500 hours per year.

The steam-electric generation process requires that the steam circulated in the boiler-steam turbine loop be condensed to water before being pumped up to operating pressure and returned to the boiler. LBEC proposes two water-cooled cooling towers, each with a cooling water circulation design rate of 300,000 gallons per minute.

The results of the analysis indicate that the predicted worst-case concentrations for all compounds are less than their respective 1-hr and annual average ESLs, except for vanadium & compounds. The predicted short-term maximum concentration off-property for vanadium & compounds is 1.4 times its ESL for 3 hours per year, and is 1.2 times its ESL for two hours per year at the highest non-industrial receptor. Based on the guidance contained in RG-324, these impacts are considered acceptable by TCEQ's toxicologists.

XII. CASE-BY-CASE MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (MACT)

A. Petroleum Coke-Fired CFBs The proposed CFBs are major sources of hazardous air pollutants (HAP), a collection of about 189 pollutants listed by the EPA under the Federal Clean Air Act (FCAA) § 112(b). Under FCAA § 112, most major sources of HAP are subject to MACT standards for control of HAP. However, for some electric utility steam generating units (EUSGU), determining the applicability of regulation under § 112 is more complicated, based on language in FCAA § 112(n)(1) that requires EPA to perform a study of the hazards to public health associated with HAP emissions from EUSGU, and to require regulation of HAPS if the Administrator finds such regulation is appropriate and necessary after considering the results of the study. Following the 1999 study, the EPA published in December, 2000, a finding under FCAA § 112(c), called a "listing decision," that it was necessary and appropriate to regulate oil and coal-fired EUSGU under FCAA § 112. EPA later de-listed oil- and coal-fired EUSGU and developed regulations for mercury for the coal units and nickel for the oil units under FCAA § 111. These rules were vacated in March, 2008 by the U.S. Court of Appeals for the D.C. Circuit. Under this decision, the 2000 listing decision is thought to stand again. LBEC takes the position that the petroleum coke-fired CFBs are not subject to FCAA § 112 because petroleum coke is neither coal nor oil. LBEC cites the January 30, 2004 proposed MACT rule for coal and oil-fired EUSGUs, that refers to petroleum coke as a non-regulated supplementary fuel (69 Federal Register, page 4,674). Usually, if EPA fails to issue a MACT standard in a timely fashion, FCAA § 112(g) makes it necessary for new major HAP sources to undergo case-by-case MACT review under the NSR process. However, under the TCEQ's rule implementing FCAA § 112(g), at 30 TAC § 116.402(a), the requirements do not apply to EUSGU unless and until such time as these units are added to the source category list under FCAA 112(c)(5). Although the regulations do not seem to require case-by-case MACT analysis for the CFBs, LBEC provided a MACT like analysis in Appendix D to the permit application, which concludes that if case-by-case MACT review were required, the results would be no more stringent requirements than proposed in the BACT determination.

ATTACHMENT 3B

**Direct Testimony of Shannon DiSorbo, P.E. On Behalf of Applicant
Las Brisas Energy Center, LLC**

**SOAH DOCKET NO. 582-09-2005
TCEQ DOCKET NO. 2009-0033-AIR**

**APPLICATIONS OF LAS BRISAS § BEFORE THE STATE OFFICE
ENERGY CENTER, LLC FOR §
STATE AIR QUALITY PERMIT; § OF
NOS. 85013, HAP-48, PAL-41, AND §
PSD-TX-1138 § ADMINISTRATIVE HEARINGS**

**DIRECT TESTIMONY
OF
SHANNON DISORBO, P.E.
ON BEHALF OF
APPLICANT LAS BRISAS ENERGY CENTER, LLC**

**Las Brisas Exhibit 1
Page 1 of 106**

1 pollutants be conducted, but TCEQ's air quality permits program requires an appropriate
2 level of impacts analysis regardless of whether PSD is triggered. The primary implication
3 of PSD review in Texas is that the applicant must show through the impacts analysis that
4 the so-called "PSD increments" are protected. Also, an analysis of a project's potential
5 effects on growth, soils, vegetation, and visibility is needed.

6 Case-by-case MACT or HAP permitting, which I also mentioned previously, is another
7 federally mandated group of preconstruction permitting requirements that may be triggered
8 under the TCEQ's Chapter 116 rules. Case-by-case MACT is triggered only for the
9 construction and reconstruction of certain "major" sources of HAP for which the EPA has
10 not promulgated a MACT standard under 40 C.F.R. Part 63. Significantly, TCEQ's HAP
11 permitting rules exempt from case-by-case MACT requirements electric generating units
12 that have not been added to the source category list under Section 112(c)(5) of the federal
13 Clean Air Act.

14 Pursuant to TCEQ's case-by-case MACT rules, the construction of a group of stationary
15 sources such as the LBEC is considered to be the construction of a major source of HAP if
16 the sources will emit 10 tons per year of any individual HAP or 25 tons per year of any
17 combination of HAP. The reconstruction of an existing major source of HAP may also
18 trigger case-by-case MACT. The LBEC will be a new major source of HAP and, thus,
19 triggers case-by-case MACT review for those non-exempt sources for which the EPA has
20 not promulgated a MACT standard.

21 Although coal- and oil-fired electric utility steam generating units ("EUSGUs") have been
22 added to the federal Clean Air Act § 112(c)(5) source category list, petroleum coke-fired
23 EUSGUs have not. Accordingly, the LBEC Units are exempt from case-by-case

Las Brisas Exhibit 1
Page 14 of 106

1 MACT requirements pursuant to TCEQ's HAP permitting rules. The auxiliary boilers
2 and propane vaporizers are, however, subject to case-by-case MACT requirements due to
3 the vacatur of the EPA's MACT standards for industrial, commercial, and institutional
4 boilers and process heaters (40 C.F.R. Part 63, Subpart DDDDD).
5 Similar to PSD, the applicability of case-by-case MACT requirements does not have a
6 great effect on permit emission limitations in Texas. The reason for this is the stringency
7 of the TCEQ BACT review process. Accordingly, the purpose of the case-by-case
8 MACT review is to confirm that the BACT -based emission limits also reflect MACT for
9 each HAP or HAP category. This review is conducted in a two-step process. First, the
10 MACT "floor" or most stringent emission limitation achieved in practice by the best
11 controlled similar source is established. Second, a "beyond the floor" analysis is
12 performed to identify other methods for potentially reducing emissions to a greater
13 degree, considering factors such as the cost of achieving such emissions reductions and
14 any non-air quality health and environmental impacts and energy requirements, and to
15 establish whether these reductions are achievable. The case-by-case MACT limit must be
16 no less stringent than the MACT "floor" and, if applicable, "beyond the floor" limits. In
17 addition to NNSR, PSD, and HAP requirements, if applicable, an NSR permit applicant
18 must address any applicable federal National Emission Standards for Hazardous Air
19 Pollutants ("NESHAPS") and New Source Performance Standards ("NSPS"). These
20 requirements, codified in 40 C.F.R. Parts 61 and 63 (NESHAPS) and Part 60 (NSPS), set
21 forth technology-based emission control standards for specific types of operations and
22 specific pollutants.

Las Brisas Exhibit 1
Page 15 of106

020027E0020027F002002800020028100040020027A0020027B0020027C0020027D0004002002740
1F0101001F0103B31FBB1FEFB901580401400B1FED1F931FEC1FE41FEB1FB80201B21FD920B80401
62636820B003266165B03C236544B058234420B13F414565234520B003266062636820B003266165

ATTACHMENT 4b

TCEQ INTERPRETATION OF BACT REQUIREMENTS IN A PSD CASE

Buddy Garcia, *Chairman*
Larry R. Soward, *Commissioner*
Bryan W. Shaw, Ph.D., *Commissioner*
Mark R. Vickery, P.G., *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

June 9, 2009

The Honorable Sarah G. Ramos
Administrative Law Judge
State Office of Administrative Hearings
300 West 15th Street, Suite 502
P.O. Box 13025
Austin, Texas 78711-0325

Re: Aspen Power LLC, Contested Case Hearing for Application for Air Permit No. 81706, PSD-TX-1089, HAP12
SOAH Docket #582-09-0636; TCEQ Docket # 2008-1145-AIR
Executive Director's Closing Argument

Dear Judge Ramos:

Enclosed please find the Executive Director's Closing Argument for the contested case hearing listed above.

If you have any questions, please do not hesitate to call me at (512) 239-0891.

Sincerely,

A handwritten signature in black ink that reads "Amy Browning". To the right of the signature is a large, open circle, likely a placeholder for a signature or stamp.

Amy L. Browning
Staff Attorney
Environmental Law Division

Enclosures

Cc: Robin Morse, Crain, Caton & James, Five Houston Center, 1401 McKinney, 17th Floor, Houston, TX 77010-4035
Garrett Arthur, TCEQ, Public Interest Council, MC-103
Enrique Valdivia, Texas Rio Grande Legal Aid, 1111 North Main Street, San Antonio, TX 78212
Kelly Haragan, Environmental Law Clinic, University of Texas at Austin, 727 East Dean Keeton Street, Austin, TX 78705
Sylvester McClain, PO Box 153635, Lufkin, TX 75915

evaluates the analysis submitted by the applicant to determine whether the facility satisfies the BACT requirements. In this case, the following evidence reflects the thoroughness of Mr. Hughes's review of BACT and MACT: 1) Mr. Hughes's testimony documenting his review of the information Aspen submitted with its application, the RACT/BACT/LAER Clearinghouse, recently permitted facilities, and generally available public information on air pollution technology for biomass fired power plants;⁷ 2) documentation in the Review Analysis and Technical Review, commonly referred to as the "Tech Review";⁸ and 3) the documentation in the Preliminary Determination Summary.⁹ Mr. Hughes also testified on cross-examination by the protestants to the equivalency of the EPA and TCEQ BACT review processes.¹⁰

Finally, both the protestants and the applicant made multiple references to EPA guidance documents for BACT review. As Mr. Hughes testified, however, TCEQ has an approved state implementation plan for the prevention of significant deterioration, which includes the BACT review process.¹¹ As a result of this, TCEQ follows its own guidance in reviewing BACT, instead of EPA guidance documents.¹²

III. Air Quality Analysis.

In addition to compliance with the BACT requirement, Aspen is required to demonstrate through an air quality analysis that the air quality impacts from the proposed new source would

⁷ Executive Director Exhibit ED – 1, 10:21 – 11:12; Executive Director Exhibit ED – 1, 18:14 – 20:19; Tr. Vol. 5, 670:4 – 671:9, 673:13 – 678:13, 685:11 – 688:8.

⁸ Executive Director Exhibit ED – 6.

⁹ Executive Director Exhibit ED – 7.

¹⁰ Tr. Vol. 5 680:9 – 19; Protestants' expert witness, Mr. William Powers, also testified to the equivalency of the TCEQ and EPA BACT review processes in Protestants' Exhibit 1, 7:16-28.

¹¹ Tr. Vol. 5, 689:16 – 691:13 and Executive Director Exhibit ED – 16.

¹² Tr. Vol. 5, 689:16 – 691:13 and Executive Director Exhibit ED – 16.

ATTACHMENT 4c

TCEQ INADEQUATE BACT ANALYSIS

TRANSCRIPT OF PROCEEDINGS BEFORE THE
STATE OFFICE OF ADMINISTRATIVE HEARINGS
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

APPLICATION OF LAS BRISAS ENERGY CENTER, LLC, FOR STATE AIR QUALITY PERMIT 85013 AND PREVENTION OF SIGNIFICANT DETERIORATION OF AIR QUALITY PERMIT PSD-TX-1138; FOR HAZARDOUS AIR POLLUTANT MAJOR SOURCE [FCAA SECTION 122(g)] PERMIT HAP48 AND PLANTWIDE APPLICABILITY LIMIT PAL41) SOAH DOCKET NO. 582-09-2005)))))) TCEQ DOCKET NO. 2009-0033-AIR)
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HEARING ON THE MERITS

WEDNESDAY, NOVEMBER 11, 2009

BE IT REMEMBERED THAT AT approximately 8:50 a.m., on Wednesday the 11th day of November 2009, the above-entitled matter came on for hearing at Del Mar College, Center for Economic Development, 3209 South Staples Street, Room 106, Corpus Christi, Texas, before TOMMY BROYLES AND CRAIG BENNETT, Administrative Law Judges; and the following proceedings were reported by Kim Pence, Lorrie Schnoor and ~~Rebecca~~ Callow, Certified Shorthand Reporters of:

Volume 8

Pages 1857 - ^^^^

<p style="text-align: right;">1906</p> <p>1 A No.</p> <p>2 MR. RILEY: That legislation is dead, I 3 believe.</p> <p>4 MR. LEVIN: I'm sorry?</p> <p>5 MR. RILEY: That legislation, I believe, 6 is dead. It's been withdrawn. But you may have 7 better information than I do. So "pending" is the 8 wrong term, I believe.</p> <p>9 MR. LEVIN: Okay.</p> <p>10 JUDGE BENNETT: That's fine. I think 11 the witness answered he didn't know either way.</p> <p>12 MR. LEVIN: I understand. I understood 13 that as well. Thank you.</p> <p>14 Q (BY MR. LEVIN) And so flipping over to the 15 next page there, the e-mail from Steve Hagood to Jim 16 Linville, copying Steve Hagood and Richard Hyde, do 17 you see that?</p> <p>18 A Yes.</p> <p>19 Q Okay. And so that excerpt that I read on the 20 first page, the e-mail that went to you, that came out 21 of this e-mail. Right?</p> <p>22 A Yes.</p> <p>23 Q Okay. Now, the last sentence of the second 24 paragraph, which is the large -- the bigger paragraph 25 there on that page. Do you see that last sentence</p>	<p style="text-align: left;">1908</p> <p>1 would try to get it out by that time.</p> <p>2 Q (BY MR. LEVIN) Okay. And Mr. Vickery is the 3 Executive Director of the TCEQ. Right?</p> <p>4 A Right.</p> <p>5 Q And so does Mr. Vickery usually get involved 6 at this level in permits that you're working on?</p> <p>7 A It's happened more than once.</p> <p>8 (Laughter)</p> <p>9 Q (BY MR. LEVIN) Thank you for that. And 10 so -- and here is why I'm asking about this. Do you 11 still have your deposition handy?</p> <p>12 A Yes.</p> <p>13 Q Okay. And if you can flip to -- it's Page 10 14 of your deposition.</p> <p>15 MS. SELVERA: What was that, Ilan?</p> <p>16 MR. LEVIN: Page 10.</p> <p>17 JUDGE BENNETT: This is Bates stamped 18 Page 12 or is it -- or which deposition?</p> <p>19 MR. LEVIN: Oh, it's the deposition 20 of --</p> <p>21 JUDGE BENNETT: Not the deposition on 22 written questions, but the oral deposition?</p> <p>23 MR. LEVIN: Correct.</p> <p>24 JUDGE BENNETT: Okay. We were just at 25 500, which was his deposition on written questions, so</p>
<p style="text-align: right;">1907</p> <p>1 that says, "Richard" -- and, by the way, who is 2 Richard?</p> <p>3 A That would be Richard Hyde.</p> <p>4 Q Okay. And who is Richard Hyde?</p> <p>5 A At the time he was the Director of the Air 6 Permits Division.</p> <p>7 Q Okay. And it says, "Richard has stressed the 8 importance of getting this done at Mr. Vickery's 9 request." And who is Mr. Vickery?</p> <p>10 A He is the Executive Director of the TCEQ.</p> <p>11 Q Okay. And then the second -- the next 12 paragraph starts out, "If we get in a pinch on 12/30 13 Mr. Hagle said he would be available on 12/31 by 14 e-mail from home." Do you see that?</p> <p>15 A Yes.</p> <p>16 Q Okay. What was so important about getting 17 the draft permit out by 12/31?</p> <p>18 MS. SELVERA: Objection. He's already 19 answered his knowledge basis for why the permit would 20 have to come out on the date it was requested.</p> <p>21 JUDGE BENNETT: Overruled. I'll allow 22 that.</p> <p>23 A I understand that Las Brisas talked to 24 Mark Vickery about the importance of getting the 25 permit out, and Mark made some commitments that we</p>	<p style="text-align: left;">1909</p> <p>1 I was a little confused.</p> <p>2 Q (BY MR. LEVIN) Are you there, Randy?</p> <p>3 A Yes.</p> <p>4 Q Okay. Now, I asked you in your deposition 5 about a statement that you made in your deposition on 6 written questions. And I'm actually on Page 9 at 7 Line 23 in your depo that you have in front of you. 8 And I asked you, "Okay. Let me ask you about a 9 statement you make in your deposition on written 10 question responses, and you're talking specifically 11 about best available control technology, or BACT. And 12 I'm going to come back -- and I have a few questions 13 about BACT in a little while, but you said -- in 14 describing the process for BACT, you said in some 15 cases, negotiations are necessary to lower the 16 proposed limits to reflect BACT, and if the permit 17 engineer and the applicant do not agree on proposed 18 BACT, TCEQ management above the engineer will make the 19 decision." And I said, "Do you recall that 20 statement?" And you said, "Yes." Are you with me?</p> <p>21 A I'm sorry.</p> <p>22 Q You're lost?</p> <p>23 A I remember that, but I'm lost here.</p> <p>24 Q Okay. I'm on page -- I started on Page 9, 25 Line 23 in your deposition that you have before you.</p>

<p>1 A Okay. I'm with you.</p> <p>2 Q Okay. And I'm not going to re-read that into 3 the record. But did I characterize that correctly 4 there? I went over to Page 10. I read all the way 5 through the end of my long question, which ended 6 Page 10, Line 9.</p> <p>7 A Yes.</p> <p>8 Q Okay. Do you remember that I asked you about 9 your statement in your deposition on written 10 questions, that from time to time, TCEQ management 11 above the engineer will make the decision about BACT? 12 Do you recall that?</p> <p>13 A Yes.</p> <p>14 Q Okay. And I said, "Do you recall that 15 statement?" And you said, "Yes."</p> <p>16 The next question on Page 10, Line 11, I 17 asked you, "Did that happen in this matter?" And you 18 answered, "I would say, in effect, it did. I was 19 pursuing a line of inquiry and management felt that it 20 was time to move on, I guess."</p> <p>21 A Yes.</p> <p>22 Q Okay. And I asked you, "And specifically, 23 with which emission limit or control technology did 24 this happen?" And you answered, "The NOX limit."</p> <p>25 A Yes.</p>	<p>1910</p> <p>1 A Right.</p> <p>2 Q Okay. Now, Table A, the third column, let me 3 ask you about that. Do you see that? And it's a 4 little hard to read in the copies, but I see there 5 that the third column has got "Compliance Averaging 6 Period."</p> <p>7 A Yes.</p> <p>8 Q Okay. Now, in Table B, the third column, it 9 doesn't say, "Compliance Averaging Period," does it?</p> <p>10 A No.</p> <p>11 Q It says, "Compliance Demonstration Period."</p> <p>12 Right?</p> <p>13 A Right.</p> <p>14 Q Okay. What's the difference between those 15 two things?</p> <p>16 A It just connotes a little difference in the 17 thinking about showing compliance through 18 continuous -- what we call continuous monitoring and 19 what we would call any number of things, but stack 20 testing. Stack testing is this different thing.</p> <p>21 Q Okay. And the reason -- and keeping all that 22 open, if you can -- I'm going to try to make this as 23 focused as I can -- but can you turn to the 24 preliminary determination summary, which is Las Brisas 25 Exhibit 21 in this matter. I'm going to ask you to</p>
<p>1911</p> <p>1 Q Okay. So you were pursuing a line of inquiry 2 regarding SCR. Correct?</p> <p>3 A Correct.</p> <p>4 Q Regarding the technical feasibility or 5 applicability or availability of SCR for the Las 6 Brisas boilers. Correct?</p> <p>7 A Correct.</p> <p>8 Q Okay. And you were told to stop that 9 inquiry. Correct?</p> <p>10 A Correct.</p> <p>11 Q Okay. Let me ask you now about -- I have 12 some general questions about BACT, and I'm going to 13 ask you to turn to Las Brisas Exhibit 27. It's the 14 draft permit. And, Randy, when you get there, I'm 15 going to ask you to turn to Las Brisas Exhibit 27, 16 Page 3, the BACT table or Special Condition 11.</p> <p>17 A Yes.</p> <p>18 Q Okay. And I want to ask you about Special 19 Condition 11, Tables A and B.</p> <p>20 Now, Table A says, "Standards 21 Demonstrated by Continuous Emissions Monitoring 22 Systems (CEMS)." Right?</p> <p>23 A Right.</p> <p>24 Q Okay. And Table B says, "Standards 25 demonstrated by Reference Method testing." Right?</p>	<p>1913</p> <p>1 flip back and forth. And so if you need tabs or 2 something to keep your place, let me know.</p> <p>3 And specifically it's Las Brisas 4 Exhibit 21, Page 5 -- I'm sorry -- Page 4. And let me 5 know when you're there.</p> <p>6 A I'm there.</p> <p>7 Q Okay. So IV, "Control Technology, Best 8 Available Control Technology," do you see that?</p> <p>9 A Roman VI.</p> <p>10 Q I'm sorry. VI, Section A, "CFB Boilers."</p> <p>11 Are you with me?</p> <p>12 A Yes.</p> <p>13 Q Okay. And there's a table there that goes on 14 to the next page. Now, I understand that those are 15 the BACT limits, the proposed BACT limits for this 16 plant. Right?</p> <p>17 A It's my attempt to summarize what -- it's my 18 attempt to summarize what is in the draft permit.</p> <p>19 Q Okay. And that's my question, because for 20 the pollutants in that table -- NOX, SO2 and CO -- 21 it's got an averaging time associated with all of 22 those. Right?</p> <p>23 A (Nodded)</p> <p>24 Q And I see that those averaging times are the 25 same averaging times in Table -- in Special Condition</p>

ATTACHMENT 4d

WHITE STALLION MACT AND PSD MODELING ISSUES



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

DSR
65282

APR 14 2009

TEXAS
COMMISSION
ON ENVIRONMENTAL
QUALITY

REC'D APR 16 AM 10:04

CHEF CLERKS OFFICE

OPA

APR 16 2009

BY

Office of the Chief Clerk (MC-105)
Texas Commission on
Environmental Quality
P.O. Box 13087
Austin, TX 78711-3087

RE: Prevention of Significant Deterioration (PSD) Draft Permit, White Stallion Energy Center, PSD-TX-1160, HAP28, and PAL26, Matagorda County, Texas 80088

To Whom It May Concern:

We have reviewed the draft Prevention of Significant Deterioration (PSD) permit for the White Stallion Energy Center located in Matagorda County, Texas. We received it in our office on March 13, 2009. The draft permit was evaluated to ensure consistency with the Texas PSD State Implementation Plan (SIP) and Federal Clean Air Act requirements. Our comments on the permit are enclosed.

We look forward to working with the Texas Commission on Environmental Quality (TCEQ) to address the issues identified in our comments and to ensure that the final permit is consistent with the requirements of the Texas PSD SIP. This letter is not a final position by the U.S. Environmental Protection Agency (EPA) concerning the disposition of the application and draft permit. Please contact me at (214) 665-7250, or Stephanie Kordzi of my staff at (214) 665-7520, if you have questions. Thank you for your cooperation.

Sincerely yours,

Jeff Robinson
Chief
Air Permits Section

THE STATE OF TEXAS
COUNTY OF MATAGORDA
INDUSTRIAL COMMISSION
DEPARTMENT OF ENERGY AND NATURAL RESOURCES
REGULATORY DIVISION
REGULATORY DIVISION

Enclosures:

SEP 21 2009

RECYCLED PAPER
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cc: Mr. Randy Hamilton
Texas Commission on Environmental Quality

Mr. Steve Hagle
Texas Commission on Environmental Quality

THE STATE OF TEXAS
COUNTY OF TRAVIS
AERODYNAMIC TEST INSTITUTE
OF THE TEXAS COMMISSION ON ENVIRONMENTAL
QUALITY, A TEXAS STATE AGENCY

SEP 21 2009

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
SEAL OF THE STATE OF TEXAS

TEXAS GOVERNOR RICK PERRY
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

ENCLOSURE

Permit

1. Page 18, Permit Condition 32 - We recommend that TCEQ consider requiring particulate matter (PM) Continuous Emission Monitoring Systems (CEMS) to monitor filterable PM. PM CEMS was mentioned in the Preliminary Determination Summary (See Comment Number 4 below). PM CEMS measures the pollutant of interest, which periodic performance testing also measures, but it provides a greater degree of confidence that the PM control device is operating as intended. We believe PM CEMS for filterable particulate matter have been adequately demonstrated, and we are aware of a number of successful applications in industries such as pulp and paper, hazardous waste incineration, copper smelting, and no fewer than six electric generating units. We are aware of additional plans for installation of PM CEMS on electrical generating units. The capital and operating costs of PM CEMS are comparable to those of Continuous Opacity Monitoring Systems (COMS). Also, we note that revisions to the New Source Performance Standards for electric utility boilers allow PM CEMS to be used in lieu of opacity limits and COMS. Direct, continuous measurement of the pollutant of concern, as can be provided only by PM CEMS, will help ensure proper monitoring of the PM control equipment to the source, the environmental agency, and the public.
2. Page 20, Permit Condition 39.C. – The permit condition states that compliance with the Plantwide Applicability Limit (PAL) will be demonstrated by using CEMS. However, CEMS are not required for PM monitoring. Please reconcile.
3. Page 20, Permit Condition 39.D. – The permit states that the PAL is subject to the requirements of 30 Texas Administrative Code (TAC) Chapter 116, Subchapter C. However, EPA is currently reviewing these state regulations and has not yet taken action to approve or disapprove these regulations into the Texas State Implementation Plan (SIP). Accordingly, Texas must demonstrate that all emissions units at this source continue to meet all requirements of the currently approved SIP, including the requirements of any existing permits issued under the approved SIP. If any requirement of an existing permit is changed, the record for this permit action must demonstrate that such change meets the applicable SIP approved requirements in 30 TAC section 116.116. In addition, we strongly encourage TCEQ to ensure that all facets of EPA's PAL provisions are adequately addressed by this permit. (Please see *Federal Register* (FR), 67 FR 80186, December 31, 2002.)

Preliminary Determination Summary

4. Page 9, BACT for Emissions during Startup/Shutdown – Please have the permittee forward a final copy of the final Startup/Shutdown written plan, when prepared.

5. Page 13, Section VII, Ozone Analysis – The EPA is concerned about the TCEQ guidance referenced by the applicant in the Modeling Report that was submitted to TCEQ regarding assessing the ozone impacts from the proposed unit in its PSD permit application. Specifically, it was determined that the location is ozone neutral. If the TCEQ guidance that was used is based on the Scheffe Point Source Screening Tables, then EPA has commented and provided information to TCEQ on the inaccuracy of using Scheffe Point Source Screening Tables for determining ozone ambient impacts in previous permit comment letters. While Scheffe tables have been previously used in PSD permit applications to assess ozone impacts in the absence of other accepted techniques, use of the Scheffe Point Source Screening Tables or similar screening processes are not EPA-approved PSD modeling protocols.¹ TCEQ Air Quality Modeling Guidelines establish a process by which the permit applicant communicates with TCEQ staff and develops a modeling protocol that will be followed. We could not see where a modeling protocol was developed or submitted by White Stallion. Please forward it to our office if it was prepared. The TCEQ has numerous nitrogen oxide control strategies throughout East Texas and in the Houston-Galveston-Brazoria (HGB) area to reduce ozone levels, but the comment that the proposed source, considering its proposed location, is ozone neutral is in direct conflict with control strategies developed to reduce ozone in the nearby HGB Nonattainment Area. EPA Region 6 will consider available Clean Air Act enforcement authorities or objecting to the subsequent Title V permit for this facility if an appropriate ozone analysis is not conducted for this facility. In addition, since this facility is proposed immediately outside the HGB non-attainment area, please provide EPA appropriate air quality modeling for ozone impacts that clearly demonstrates what the project's impact will be at specific monitors in the HGB area and that the construction of the facility will not significantly impact ozone levels at the HGB area. At this point, the only modeling technique that would seem technically appropriate for this source would be a CAMx based analysis using available modeling databases. We look forward to working together with the source in developing a modeling protocol for the ozone analysis. Please remember that EPA does not have an established significant impact level for ozone and TCEQ should not assume that the threshold for PSD purposes is an impact of 2.0 parts per billion or more.

1. We have enclosed the Richard Scheffe letter on the Scheffe Point Source Screening Tables for TCEQ and the source's reference.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
RESEARCH TRIANGLE PARK, NC 27711

JUL 4 6 2006

Rec'd
BP - AR

AUG - 3 2006

Dick _____
Staff _____

Ms. Abigail Dillen
209 South Willson Avenue
Bozeman, Montana 59715

OFFICE OF
AIR QUALITY PLANNING
AND STANDARDS

Dear Ms. Dillen:

This letter is in response to your inquiry regarding applicability of the Scheffe Point Source Screening Tables.

I developed the screening tables in 1988 as a screening test to estimate the contribution to ambient ozone associated with increased non-methane organic carbon (NMOC) emissions arising from new or modified point sources. The tables never achieved a level of EPA certification associated with EPA guideline models and consequently were not endorsed by the Agency. After publication (non peer reviewed literature) of the tables in 1989, the American Petroleum Institute enlisted renowned atmospheric modeling experts, Drs. John Seinfeld and Panos Georgopoulos of the California Institute of Technology, to review the technique. Based on their input and our own analysis, the EPA decided at that time that the tables did not adhere to an adequate level of scientific credibility to be recommended for their intended purpose.

Ozone science has advanced markedly since 1988 with substantial improvements in the characterization of emissions, meteorological, and atmospheric chemistry processes, paralleling an equivalent improvement in computational processing capability, all of which constitute the principal features of a modeling framework. As a result, the Scheffe method, which was deemed "not adequate" in 1989, would be even less adequate today.

Please do not hesitate to contact me (919-477-7955) regarding any further questions.

Sincerely,

Richard D. Scheffe, PhD
Senior Science Advisor
OAQPS, EPA

cc: Richard Long, Region 8
Tom Curran
Valerie Broadwell

SEP 21 2006



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, TEXAS
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

COMMISSION
ON ENVIRONMENTAL
QUALITY

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APR 20 2009

CHIEF CLERKS OFFICE

OPA

Office of the Chief Clerk (MC-105)
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

APR 24 2009

BY

209

RE: White Stallion Energy Center, LLC (WSEC), Permits 86088, HAP28, PAL26 and PSD-TX-1160, Matagorda County, Texas

To Whom It May Concern:

We appreciate the opportunity to provide you with information in your efforts to establish a case-by-case maximum achievable control technology (MACT) determination for the proposed construction of the White Stallion Energy Center, LLC (WSEC), 1200 megawatt (MW) power plant, Matagorda County, Texas. The Texas Commission on Environmental Quality (TCEQ) is the permitting authority required to make the section 112(g) MACT determination for the construction of the WSEC. However, consistent with the U.S. Environmental Protection Agency's (EPA) regulations implementing section 112(g), EPA can provide information to permitting authorities if that "information can be expeditiously provided by the Administrator." See 40 Code of Federal Regulations (CFR) §63.43(d) (requiring, among other things, that the 112(g) limit be based on "available information") 40 CFR § 63.41 (defining "available information"). Consistent with these provisions, we are providing the following information for you to consider as you develop the case-by-case section 112(g) MACT standard for the WSEC.

- Item 1. With respect to the proposed MACT to control emissions of Hydrogen Chloride (HCl) from the four circulating fluidized bed (CFB) boilers, in Permits 86088, HAP28, PAL26 and PSD-TX-1160, which we received in March 2009, WSEC proposes dry flue gas desulfurization (FGD) and fabric filter (FF). One example we have identified is a January 2008 permitting action for a petroleum coke, coal, and biomass fired, 230 MW, CFB boiler unit by the State of Louisiana at Louisiana Generating LLC's, Big Cajun I Power Plant (Unit I) which will utilize dry FGD and FF technology to control emissions of HCl.
- Item 2. With respect to the proposed MACT to control emissions of Hydrogen Fluoride (HF) from the four CFB boilers, in Permits 86088, HAP28, PAL26 and PSD-TX-1160, which we received in March 2009, WSEC

MW

proposes dry FGD and FF. One example we have identified is a January 2008 permitting action for a petroleum coke, coal, and biomass fired, 230 MW, CFB boiler unit by the State of Louisiana at Louisiana Generating LLC's, Big Cajun I Power Plant (Unit I) which will utilize dry FGD and FF technology to control emissions of HF.

The TCEQ may obtain additional information concerning the above-referenced permitting actions to assist it in the MACT determination for the proposed WSEC plant. See 40 CFR 63.41. Should TCEQ have any questions about the requirements of Section 112(g) of the Clean Air Act, please contact me or Rick Barrett of my staff at (214) 665-7227.

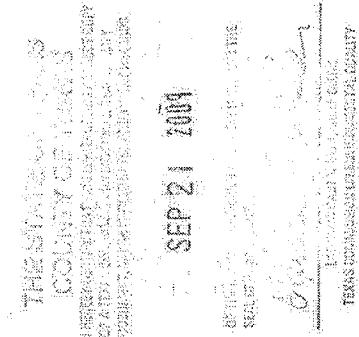
Sincerely yours,



Jeff Robinson
Chief
Air Permits Section

cc: Ms. Toni Oyler
Texas Commission on Environmental Quality

Mr. Steve Hagle
Texas Commission on Environmental Quality



EXECUTIVE DIRECTOR'S RESPONSE TO COMMENTS
WHITE STALLION ENERGY CENTER LLC, PERMIT NOS. 86088, HAP28, PAL26 AND PSD-TX-1160
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There are meteorological conditions that will affect the amount of dispersion of emissions from a source. Source parameter data, along with meteorological data, are used to determine the maximum ground level concentrations for each source. Different sources may have maximum ground level concentrations from different meteorological conditions. With more than 40,000 hourly samples contained within the 5-year meteorological dataset used in the air dispersion modeling analysis, the worst-case meteorological conditions have been sufficiently represented in the dataset to calculate maximum ground level concentrations.

See Response 1 for more information on how state and federal standards and effects screening levels are used to evaluate the emissions associated with the proposed plant.

TCEQ rules do not require an Applicant to analyze pollution resulting from additional use of a rail line, barge, or the use of trucks in an individual permit application. Trains, barges, and trucks are categorized as mobile sources and their emissions by definition are not subject to review under the NSR permitting requirements of the Clean Air Act, even if traveling on site. For the same reasons, diesel and particulate pollution resulting from mobile sources to other proposed plants are not part of this application or permit review. Finally, the TCEQ does not have jurisdiction over mining operations.

Comment 19 (Photochemical Modeling): Commenter is concerned about TCEQ guidance referenced by the applicant when assessing the ozone impacts from the proposed unit in its PSD permit application. Specifically, it was determined that the location is ozone neutral. If the TCEQ guidance that was used was based on the Scheffe Point Source Screening Tables, the EPA has commented and provided information to TCEQ on the inaccuracy of using Scheffe Point Source Screening Tables for determining ozone ambient impacts in previous permit comment letters. Use of the Scheffe Point Source Screening Tables or similar screening processes is not EPA-approved. TCEQ Air Quality Modeling Guidelines establish a process by which the permit applicant communicates with the TCEQ staff and develops a modeling protocol that will be followed. Commenter did not see where a modeling protocol was developed or submitted by the applicant. Commenter asks that the applicant forward a copy of the modeling protocol if it was prepared (*EPA*).

Commenters are concerned that TCEQ relies on outdated and inaccurate modeling requirements such as the Scheffe Point Source Screening Tables for determining ozone ambient impact (*NCC, Public Citizen, SEED Coalition*).

Commenter claims that TCEQ's statement that the proposed source, considering its proposed location, is ozone neutral is in direct conflict with control strategies developed to reduce ozone in the nearby Houston-Galveston-Brazoria (HGB) Non-Attainment Area. Commenter states that it will consider available enforcement authorities for objecting to the subsequent Title V permit for this facility if an appropriate ozone analysis is not conducted for this facility (*EPA*).

Commenter asks that TCEQ provide appropriate air quality modeling for ozone impacts that clearly demonstrate 1) what the project's impact will be at specific monitors in the HGB area and

EXECUTIVE DIRECTOR'S RESPONSE TO COMMENTS
WHITE STALLION ENERGY CENTER LLC, PERMIT NOS. 86088, HAP28, PAL26 AND PSD-TX-1160
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2) that the construction of the facility will not significantly impact ozone levels in the HGB area (*EPA*).

Commenter states that the only modeling technique that would be technically appropriate for this source would be a CAMx based analysis using available modeling databases (*EPA*).

Commenter states that neither the applicant, TCEQ, application, nor the draft permit comply with federal and state laws requiring a demonstration that the proposed emissions will not cause or contribute to air pollution in violation of a NAAQS or PSD increment limits in any air quality control region (*NCC, Public Citizen, SEED Coalition*).

Response 19: The EPA requested an ozone modeling protocol. The TCEQ does not require permit applicants to conduct the type of formal photochemical modeling protocol needed for SIP analyses. The TCEQ did discuss screening approaches with the applicant that could be used for the ozone analysis. The Applicant performed an ozone analysis consistent with TCEQ modeling guidance. The analysis consists of determining the methane-normalized VOC to NO_x ratio using the proposed emissions of VOC and NO_x. If the ratio is 2:1 or less, the site is considered to be VOC-limited. The proposed WSEC site is VOC-limited. This analysis did not use the Scheffe Method, as this method is not applicable to VOC-limited sources.

The intent of the phrase "ozone neutral" was to describe only the impact of the project in the area near the site. Based on the lack of VOCs, the NO_x from the site would not significantly increase ozone formation in this near area and would likely reduce it depending on local meteorology, precursor emissions, and formed emissions on any given day. The phrase was not meant to qualify the project's effect downwind at larger distances, where plumes from the site could contribute to ozone formation. The agency will not use this phrase in the future to avoid any further confusion.

The EPA is concerned that the ozone analysis is in direct conflict with control strategies developed to reduce ozone in the nearby HGB Nonattainment Area. The TCEQ does not agree with this concern. At this time, the TCEQ does not have a strategy to target emissions from sources of VOC or NO_x within 100 and 200 kilometers, respectively, of these precursors outside the HGB Nonattainment area. If strategies outside a nonattainment area are needed, the SIP process is best suited to develop consistent and effective strategies that can be applied for a specified nonattainment area.

The EPA is concerned that the site is located next to a nonattainment county. Based on HGB conceptual models for ozone exceedances and the location of the source, the source will not have a significant impact downwind of the site. The EPA suggests that the TCEQ should obtain CAMx modeled concentrations at specific monitors to clearly demonstrate that the project's impact will not significantly impact ozone levels in the HGB nonattainment area. The TCEQ is concerned that the scope of the modeling and associated review required for multiple episodes and monitors (and potential control scenarios for any monitors currently above the ozone standard) would be costly, take up to a year to complete, and still not provide information to definitively address EPA's concerns, since the EPA does not have an established significant

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impact level for ozone. Without a significance level, there will be a contribution from the source and the EPA has not provided, and TCEQ is not aware of, any method to demonstrate that the contribution would not be significant.

For ozone, the EPA has no preferred model to determine regional impacts of a single source on ozone formation. TCEQ guidance is based on general results from EPA's Empirical Kinetic Modeling Approach (EKMA). Since the EPA has no preferred model for single-source ozone impact analysis, the TCEQ uses the EKMA as a screening tool for VOC-limited sources.

Additionally, EPA's current Guideline on Air Quality Models, 40 CFR 51 Appendix W, sets forth acceptable models for estimating ozone impacts in Section 5.2.1. Sections 5.2.1.a and 5.2.1.b both refer to the Guidance on the Use of Models and Other Analyses in Attainment Demonstrations for the 8-hr Ozone NAAQS (EPA; 2005). The TCEQ requested clarification on the applicability of this new guidance to the NSR permitting program. EPA's response validated that sections 5.2.1.a and 5.2.1.b do not address nor apply to the NSR permitting program.²¹ Based on the guidance and EPA's clarification of the guidance, there is no requirement for photochemical modeling or SIP attainment demonstration modeling techniques for NSR permitting purposes for sources of VOC or NO_x within 100 and 200 kilometers, respectively, of these precursors outside a non-attainment area. If an evaluation of ozone impacts on a non-attainment area is needed, the SIP process is best suited to develop consistent and effective strategies that can be applied for a specified non-attainment area because the simulation of ozone formation and transport is a highly complex and resource intensive exercise.

Please see Responses 12 for information on the NAAQS analyses. Please see Response 15 for information on the Increment analyses.

Comment 20 (Class I Visibility Analysis): Commenter is concerned that the application does not adequately examine the impact of SO₂ and NO_x secondary particulate emissions on Class I areas, such as Big Bend National Park (*EDF, Sierra Club*). Commenters are concerned that Big Bend and the Wichita Mountains in Oklahoma will be impacted by reduced visibility diminishing the scenic beauty of these areas (*NCC, Public Citizen, SEED Coalition*).

Response 20: Emissions from the proposed site are not expected to adversely affect Big Bend National Park or Wichita Mountains National Wildlife Refuge. 40 CFR § 52.21(p) requires the TCEQ to provide written notice of any permit application for a proposed major stationary source which *may affect* a Class I area to the Federal land manager and the Federal official charged with direct responsibility for management of any lands within any such area (emphasis added). The EPA, through applicable guidance, has interpreted the meaning of the term "may affect" to include all major sources or major modifications which propose to locate within 100 kilometers of a Class I area.²² Since Big Bend National Park and Wichita Mountains National Wildlife Refuge Class I areas are located approximately 665 and 695 kilometers, respectively, from the

²¹ E-mail from Tyler Fox, Group Leader, EPA Air Quality Modeling Group, to Dom Ruggeri, Manager, Technical Program Support, TCEQ Air Permits Division (Sept. 29, 2006).

²² Memorandum from John S. Seitz on Clarification of PSD Guidance for Modeling Class I Area Impacts (Oct. 19, 1992).

ATTACHMENT 5

**"MEMORANDUM RE: NEW SOURCE REVIEW (NSR) PROGRAM
TRANSITIONAL GUIDANCE" FROM JOHN S. SEITZ, OFFICE OF AIR
QUALITY PLANNING AND STANDARDS, (MARCH 11, 1991).**

March 11, 1991

MEMORANDUM

SUBJECT: New Source Review (NSR) Program Transitional Guidance

FROM: John S. Seitz, Director
Office of Air Quality Planning and Standards (MD-10)

TO: Addressees

The Clean Air Act Amendments of 1990 (1990 Amendments) make numerous changes to the NSR requirements of the prevention of significant deterioration (PSD) and nonattainment area programs. The 1990 Amendments create new and expanded nonattainment areas, extend PSD coverage to current Class I area boundaries, and mandate a PSD exemption for certain hazardous air pollutants. The Environmental Protection Agency (EPA) intends to propose by September of this year a regulatory package that will implement these and other changes to the NSR provisions. Final adoption of these revised regulations is projected for August 1992. In the interim period between passage of the 1990 Amendments and adoption of the Agency's final regulations, EPA expects that numerous issues regarding the 1990 Amendments will arise. This memorandum sets forth the Agency's position on the most important of these transitional issues involving the NSR program.

The Regional Offices should send this guidance document to their States. Questions from States and applicants concerning specific issues and cases should be directed to the appropriate EPA Regional Office. If you have any general questions, please contact Mr. Michael Sewell of the New Source Review Section at FTS 629-0873 or (919) 541-0873.

Attachment

Addressees

Director, Air, Pesticides, and Toxics Management Division,
Regions I, IV, and VI

Director, Air and Waste Management Division, Region II

Director, Air Management Division, Regions III and IX

Director, Air and Radiation Division, Region V

Director, Air and Toxics Division, Regions VII, VIII, and X

cc: J. Calcagni
 R. Campbell
 W. Laxton
 E. Lillis
 J. Rasnic
 L. Wegman
 J. Weigold
 NSR Contacts

New Source Review (NSR) Transitional Guidance

Toxics and National Emissions Standards for Hazardous Air Pollutants (NESHAPS) Issues

1. Section 112 Hazardous Air Pollutants are No Longer Considered Regulated Pollutants Under Prevention of Significant Deterioration (PSD), but NESHAPS Still Apply

Under the 1977 Amendments to the Clean Air Act (Act) and regulations issued thereunder, the PSD requirements of the Act apply to all "major" new sources and "major" modifications, i.e., those exceeding certain annual tonnage thresholds [see 40 CFR 52.21(b)(1)(i) and (b)(2)(i)]. Typically, new sources and modifications become subject to PSD because they exceed the specified tonnage threshold for a criteria pollutant, i.e., a pollutant for which a national ambient air quality standard (NAAQS) has been established under section 109 of the Act. Once a new source or modification is subject to PSD, the PSD requirements apply to every pollutant subject to regulation under the Act that is emitted in "significant" quantities (or, in the case of a major modification, for which there is a significant net emissions increase) [see 40 CFR 52.21(b)(23) and (i)(2)]. Under the 1977 Amendments, best available control technology (BACT) and other PSD requirements apply not only to emissions of criteria pollutants but also to emissions of pollutants regulated under other provisions of the Act, such as section 111 or 112. This regulatory structure was altered by the 1990 Amendments.

Title III of the 1990 Amendments added a new section 112(b)(6) that excludes the hazardous air pollutants listed in section 112(b)(1) of the revised Act (as well as any pollutants that may be added to the list) from the PSD (and other) requirements of Part C. Thus, because they are on the initial Title III hazardous air pollutants list, the following pollutants, which had been regulated under PSD because they were covered by the section 112 NESHAPS or section 111 new source performance standards (NSPS) program, are now exempt from Federal PSD applicability:

- ! arsenic
- ! asbestos
- ! benzene (including benzene from gasoline)
- ! beryllium
- ! hydrogen sulfide (H_2S)
- ! mercury
- ! radionuclides (including radon and polonium)
- ! vinyl chloride.

The Title III exemption applies to final Federal PSD permits (i.e., those issued in final form and for which administrative appeals, if any, under 40 CFR 124.19 have been exhausted) issued on or after the date of enactment of the 1990 Amendments (November 15, 1990). For Federal PSD permit applications now

under review by either an EPA Regional Office or a delegated State, PSD permit requirements do not apply to the pollutants exempted by Title III. For Federal PSD permits containing PSD requirements for the pollutants exempted by Title III issued on or after November 15, 1990, the permittee may request a revision (e.g., removal of a BACT limit for benzene) to their PSD permit to reflect the Title III exemption from Federal PSD applicability.

Note that pursuant to section 116 and the preservation clause in section 112(d)(7) of the amended Act, States with an approved PSD program may continue to regulate the Title III hazardous air pollutants now exempted from Federal PSD by section 112(b)(6) if the State PSD regulations provide an independent basis to do so. These State rules would remain in effect unless a State revised them to provide similar exemptions. Additionally, the Title III pollutants continue to be subject to any other applicable State and Federal rules; the exclusion is only for Part C rules.

Finally, section 112(q) retains existing NESHAPS regulations by specifying that any standard under section 112 in effect prior to the date of enactment of the 1990 Amendments shall remain in force and effect after such date unless modified as provided in the amended section. Therefore, the requirements of 40 CFR 61.05 to 61.08, including preconstruction permitting requirements, for new and modified sources subject to existing NESHAPS regulations are still applicable.

In summary, the pollutants currently regulated under the Act as of March 1991 that are still subject to Federal PSD review and permitting requirements are:

- ! carbon monoxide
- ! nitrogen oxides
- ! sulfur dioxide
- ! particulate matter and PM-10
- ! ozone (volatile organic compounds)
- ! lead (elemental)
- ! fluorides
- ! sulfuric acid mist
- ! total reduced sulfur compounds (including H₂S)
- ! CFC's 11, 12, 113, 114, 115
- ! halons 1211, 1301, 2402
- ! municipal waste combustor (MWC) acid gases, MWC metals and MWC organics.

2. Hazardous Air Pollutants that are Regulated as One Component of a More General Pollutant Under Other Provisions of the Clean Air Act are Still Regulated

Any hazardous air pollutants listed in section 112(b)(1) which are regulated as constituents of a more general pollutant listed under section 108 of the Act are still subject

to PSD as part of the more general pollutant, despite the exemption in Title III. For example, volatile organic compounds (VOC's) (a term which includes benzene, vinyl chloride, methanol, toluene, methyl ethyl ketone, and thousands of other compounds) are still regulated as VOC's (but not as individual pollutants such as benzene, etc.) under the PSD regulations because these pollutants are ozone precursors, not because they are air toxics. Also, particulates (including lead compounds and asbestos) are still regulated as particulates (both PM-10 and particulate matter) under the PSD regulations. Lead compounds are exempt from Federal PSD by Title III, but the elemental lead portion of lead compounds (as tested for in 40 CFR Part 60, Appendix A, Method 12) is still considered a criteria pollutant subject to the lead NAAQS and still regulated under PSD.

3. Toxic Effect of Unregulated Pollutants Still Considered in BACT Analysis

Based on the remand decision on June 3, 1986 by the EPA Administrator in North County Resource Recovery Associates (PSD Appeal No. 85-2), the impact on emissions of other pollutants, including unregulated pollutants, must be taken into account in determining BACT for a regulated pollutant. When evaluating control technologies and their associated emissions limits, combustion practices, and related permit terms and conditions in a BACT proposal, the applicant must consider the environmental impacts of all pollutants not regulated by PSD. Once a project is subject to BACT due to the emission of nonexempted pollutants, the BACT analysis should therefore consider all pollutants, including Title III hazardous air pollutants previously subject to PSD, in determining which control strategy is best.

PSD Class I Boundary Issues

1. PSD Applicability Coverage Changes as Class I Area Boundaries Change

Sections 162(a) and 164(a) of the amended Act specify that the boundaries of areas designated as Class I must now conform to all boundary changes at such parks and wilderness areas made since August 7, 1977 and any changes that may occur in the future. The EPA does not believe that Congress intended to create the turmoil which would occur if this redesignation required the modification of permits issued between August 7, 1977 and November 15, 1990, or the resubmission and reevaluation of complete permit applications submitted prior to enactment of the 1990 Amendments. Thus, for this reason, applications considered complete prior to November 15, 1990 should be processed as submitted without regard to the new Class I area boundaries. Exceptions to this general policy are in the areas of increment consumption and air quality related values (including visibility), as discussed below.

For an applicant who submitted a complete PSD application prior to November 15, 1990, if all other PSD requirements are met, a permit may be issued based on the Class I analysis as submitted in the application, unless the reviewing authority finds, on a case-by-case basis, that additional analysis is needed from the applicant to address suspected adverse impacts or increment consumption problems due to the expanded boundaries of the Class I areas. Any existing increment violations in the new boundaries of Class I areas must be remedied through a SIP revision pursuant to 40 CFR 51.166(a)(3).

The PSD applications not considered complete before November 15, 1990 must consider the impact of both existing sources and the new or modified source on the Class I areas as defined by the 1990 Amendments. Thus, the complete application must consider the impacts on the entire Class I area based upon the boundaries in existence on the date of submittal of a complete application; as before, if a Class I boundary changes before the permit is issued, the reviewing authority may find, on a case-by-case basis, that additional analysis is needed from the applicant to address suspected adverse impacts or increment consumption problems due to expanded Class I area boundaries.

NSR Nonattainment Issues

1. NSR Construction Permit Requirements in Nonattainment Areas

In many States, the existing approved Part D permit program by its terms covers all designated nonattainment areas in the State, so a Part D permit program will automatically apply to the new and expanded nonattainment areas which are established under provisions of Title I of the 1990 Amendments. Thus, until new rules are adopted for these new or expanded nonattainment areas, States should apply the requirements of their existing approved Part D permit program. However, in other States, a Part D program may be limited to specified areas and does not apply to new or expanded areas. In these areas, States must implement a transitional permitting program until their existing Part D programs are revised to meet the requirements of the 1990 Amendments and expanded to cover all nonattainment areas in the State. Otherwise, both the goals of Part D and Congress' intent in creating new or expanded nonattainment areas will be frustrated.

The EPA regulations already provide for these new or expanded designated nonattainment areas because the Emission Offset Interpretative Ruling (40 CFR Part 51, Appendix S) governs permits to construct between the date of designation and the date an approved Part D plan is made applicable to the new nonattainment area [see 40 CFR 52.24(k)]. Until a State's new Part D plan is approved by EPA, if a State wishes to issue a permit for a major stationary source or major modification in a new or expanded designated nonattainment area, the State should comply with the requirements of Appendix S. Among other things, Appendix S requires a major source seeking to locate in a nonattainment area to (1) meet the lowest achievable emission rate for such source, (2) provide offsets from existing sources in the area, and (3) show that the offsets will provide a positive net air quality benefit (see 40 CFR Part 51, Appendix S, section IV.A). The EPA believes that in order to carry out the intent of Appendix S, offsets should be required for sources in all categories and in all instances should be calculated on a tons per year basis (see 40 CFR Part 51, Appendix S, section IV.C).

Of course, neither Appendix S nor the existing NSR rules incorporate the NSR changes mandated by Title I of the 1990 Amendments such as lower source applicability thresholds, increased emissions offset ratios, new definitions of major stationary source, and (for ozone nonattainment areas) requirements for nitrogen oxides (NO_x) control and NO_x emissions offsets. However, the 1990 Amendments require States to submit to EPA new NSR permit program rules for ozone nonattainment areas by November 15, 1992; for PM-10 nonattainment areas by June 30, 1992; and for most carbon monoxide (CO) nonattainment areas no later than 3 years from the date of the nonattainment designation. The EPA interprets this as an expression of congressional intent not to mandate that States adhere to the more stringent Title I NSR requirements in nonattainment areas during the time provided for State implementation plan (SIP) development. Thus, for NSR permitting purposes in nonattainment areas, the new NSR requirements in Title I are not in effect until the States, as required by the Act, adopt NSR permit program rules to

implement the Title I provisions. In addition, EPA encourages any State having adequate authority for early implementation of the NSR changes to do so as soon as possible.

If States fail to submit to EPA the new NSR permit program rules for nonattainment areas by the deadlines in the amended Act, EPA intends to impose in these nonattainment areas a Federal implementation plan (FIP) embodying such requirements. Currently, EPA intends to propose revised NSR regulations at 40 CFR Part 52 that would implement the new Title I NSR requirements under a FIP in a State if that State's revised NSR rules to implement Title I are not submitted in approvable form to EPA and made effective within the State by the deadlines established by the 1990 Amendments.

The area designation in effect on the date of permit issuance by the reviewing agency determines which regulations (Part C or Part D) apply to that permit. In other words, the PSD permit regulations apply to pollutants for which the area is designated as attainment or unclassifiable, and the NSR nonattainment permit regulations apply to pollutants for which the area is designated nonattainment [see 40 CFR 51.166(i)(3) and (5); and 40 CFR 52.21(i)(3) and (5)]. Under these regulations, a PSD permit for a pollutant cannot be issued in an area that is designated nonattainment for that pollutant. For the situation where a source receives a PSD or other permit prior to the date the area is designated as nonattainment, the permit remains in effect as long as the source commences construction within 18 months after the date of nonattainment designation of the area, does not discontinue construction for more than 18 months, and completes construction within a reasonable time [see 40 CFR 52.24(g) and (k)]. Although the PSD regulations provide for extension of these deadlines, no extension would be appropriate where the area has been designated as nonattainment following permit issuance. Accordingly, if any of these construction provisions are not met, the PSD permit or other permit will not be extended, and the source (if subject to the nonattainment provisions) must obtain a nonattainment permit prior to commencing (or continuing) construction.

The 1990 Amendments create some new and expanded nonattainment areas by operation of law. Other nonattainment area changes are expected as the States and EPA complete the designation process prescribed in amended section 107(d). Because of these provisions, the dates areas switch from attainment to nonattainment for NSR purposes vary by pollutant. However, except for the two instances where the Amendments create changes by operation of law, the new designations and expanded boundaries will not be effective for NSR purposes until EPA promulgates the changes. The promulgations will be announced in the Federal Register.

Congress create new PM-10 nonattainment areas through designations that became effective upon enactment of the 1990 Amendments on November 15, 1990[see section 107(d)(4)(B)]. Specifically, Congress designated Group I areas and areas where violations of the PM-10 NAAQS had occurred prior to January 1, 1989 as nonattainment. The EPA published a list of these PM-10 areas in a Federal Register notice (see 55 FR

45799, October 31, 1990; see also 52 FR 29383, August 7, 1987). The EPA plans to publish a notice in the Federal Register listing these areas as nonattainment in the near future, but they are already considered nonattainment areas as of November 15, 1990.

Similarly, the 1990 Amendments expand by operation of law some CO and ozone nonattainment areas. However, these changes did not become effective with passage but rather on December 30, 1990. The specifics are as follows:

Section 107(d)(4)(A)(iv) of the amended Act provides that, with the exception explained below, ozone and CO nonattainment areas located within metropolitan statistical areas (MSA) and consolidated metropolitan statistical areas (CMSA) which are classified as serious, severe, or extreme for ozone or as serious for CO are automatically expanded to include the entire MSA or CMSA. This expansion became effective by operation of law 45 days after enactment unless the Governor submitted a notice by this deadline of the State's intent to seek a modification of the expanded boundaries pursuant to the procedures set forth in section 107(d)(4)(A)(v). So if a State did not provide this notice, the nonattainment boundaries of all serious, severe, and extreme ozone nonattainment areas in the State and all serious CO areas in the State expanded to include the entire MSA or CMSA on December 30, 1990. If a State did provide timely notice, the Administrator has up to 14 months from enactment to resolve the State's challenge. Until EPA promulgates a resolution of the State's challenge, the old boundaries remain in effect.

Except for these two cases where new or expanded boundaries have been created by operation of law, nonattainment area changes will not be considered effective until the changes are promulgated by the EPA. As to most new areas or expansions of previously-designated nonattainment areas, this will occur 240 days after enactment [see section 107(d)(4)(A)(i) and (ii)]. Newly-created ozone and CO nonattainment areas will be considered part of a designated nonattainment area for NSR purposes at the time of promulgation.

2. Status of Construction Bans

Pursuant to section 110(n)(3), an existing construction ban that was imposed due to the absence of approved Part D NSR rules remains in effect until a revised NSR SIP is approved. Existing construction bans imposed due to disapproval of primary sulfur dioxide NAAQS attainment plans also remain in effect. A Federal Register notice will be published soon announcing the status of construction bans in general and also lifting

specific bans where appropriate. Should a construction ban be lifted in any area designated as nonattainment, and the area lacks an approved Part D NSR rule, the State should meet the requirements of 40 CFR Part 51, Appendix S, in issuing permits to major new sources or major modifications prior to the adoption of NSR rules meeting the requirements of the 1990 Amendments.

3. Federal Implementation Plans Remain in Effect

The NSR permitting program in an existing FIP remains in effect until a SIP is approved or a revised FIP is adopted.

4. Use of Previously-Approved Growth Allowances is Prohibited

Section 173(b) invalidates growth allowances in existing SIP's in areas that received a SIP call prior to enactment of the 1990 Amendments, or that receive one thereafter. For NSR permits issued on or after November 15, 1990, previously-approved growth allowances cannot be used in these areas. Construction permits cannot be issued in SIP-call areas under existing EPA-approved Part D programs to the extent that such permits rely on previously-approved growth allowances. Case-by-case emission offsets must be obtained for any such permits, and other existing Part D requirements must be met.

5. Existing NSR Permitting Rules Continue to Apply in the Northeast Ozone Transport Region (NOTR)

The 1990 Amendments establish a single ozone transport region comprised of the States of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and the CMSA that includes the District of Columbia and part of the State of Virginia. For this transport region, including all attainment areas within its boundaries, new section 184(b)(2) specifies that any stationary source that emits or has the potential to emit at least 50 tons per year of VOC's shall be considered a major stationary source and subject to the requirements which would be applicable to major stationary sources if the area were classified as a moderate ozone nonattainment area. For NSR purposes, the requirements of section 184(b)(2) are not in effect in a State until the State submits a new or revised SIP that includes the requirements (or EPA imposes a FIP implementing those requirements). A State in the NOTR has until November 15, 1992 to submit to EPA the new or revised NSR rules addressing the new requirements.

ATTACHMENT 6

**“LETTER TO JANET MCCABE, INDIANA DEPT. OF ENVIRON. QUALITY,
ASST. COMMISSIONER, OFFICE OF AIR QUALITY” FROM STEPHEN
ROTHBLATT, EPA REGION 5, DIRECTOR OF AIR AND RADIATION (FEB.
26, 2004).**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

FEB 26 2004

REPLY TO THE ATTENTION OF
(A-18J)

Janet G. McCabe, Assistant Commissioner
Office of Air Quality
Indiana Department of Environmental Management
100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015

Dear Ms. McCabe:

This is in response to your January 12, 2004, letter regarding the implementation of New Source Review (NSR) in areas that will be designated as nonattainment for the new 8-hour ozone standard. We appreciate the work that your office has done to formulate and raise to us the questions below. We also understand that the States are under a narrow time frame to get answers before the designations for the new ozone standards go into effect. The following are your questions and our response.

1. *When will the new designations be considered effective? Upon issuance of final letters to the Governors (expected on April 15, 2004)?*

The designation notice will be signed no later than April 15, 2004 and will provide the effective date. At this time, we expect the designations to be effective in mid to late May.

2. *When will nonattainment new source review be required in newly designated counties? Please explain the legal basis setting forth the requirements.*

The nonattainment NSR requirements apply to newly designated nonattainment areas upon the effective date of the designation. After this effective date, permits issued in these areas must satisfy the part D nonattainment NSR requirements, as required by 40 CFR 52.24(k) and 40 CFR part 51, appendix S. According to appendix S, "a major new source or major modification which would locate in an area designated in 40 CFR 81.300 et seq., as nonattainment for a pollutant for which the source or modification would be major may be allowed to construct only if the stringent conditions set forth below are met." These requirements

include applying the lowest achievable emission rate (LAER) and obtaining sufficient offsetting emission reductions to assure that the new major source will not interfere with the area's progress toward attainment. A more detailed discussion of 40 CFR 52.24(k) and appendix S is set forth in the proposed rule to implement the 8-hour ozone standard (68 FR 32843-32848, June 2, 2003). Implementation of part D nonattainment NSR requirements on the date of designation is consistent with our past guidance on this matter. See "New Source Review Transitional Guidance" at A-6 (March 11, 1991).

3. *If an application is filed before the effective date of designations but the permit is issued after that date, which permitting rules apply, attainment or nonattainment? Again, cites to appropriate sections of the Clean Air Act (the Act) or regulations would be helpful.*

As we explained in our response to question 2, permits issued in nonattainment areas must meet the part D nonattainment NSR requirements as set forth in 40 CFR 52.24(k) and appendix S. An exemption is not provided for sources that applied for a permit during the period when an area was in attainment. Furthermore, under the federal PSD regulations, the applicability of PSD requirements is limited to "an area designated as attainment or unclassifiable." 40 CFR 51.166(a)(7)(i); 52.21(a)(2)(i). Therefore, a PSD permit for a pollutant cannot be issued in an area that is designated nonattainment for that pollutant. See "New Source Review Transitional Guidance" at A-6 (March 11, 1991). As a result, a source that submits a permit application before the nonattainment designation effective date, but does not obtain a final issued permit by the effective date must apply for a part D nonattainment NSR permit if emissions exceed the major source or major modification threshold.

4. *Does the United States Environmental Protection Agency (EPA) Region V have any record of Indiana addressing or committing to apply the requirements in 40 CFR part 51, appendix S, as an element of its State Implementation Plan (SIP)? We are researching our records, but thought it would be helpful if your staff could investigate this as well, since it would have happened several decades ago, if at all.*

Our staff have searched our records and were unable to find any indications of a previous commitment from Indiana to apply 40 CFR part 51, appendix S.

5. Could you please confirm the thresholds that will apply for new sources and modifications in nonattainment areas? Will it be 100 tons per year for new sources and 40 tons per year for modifications designated under Subpart 1 or marginal or moderate under Subpart 2?

Pursuant to the definition of "major stationary source" in §302(j) of the Act and 40 CFR 51.165(a)(1)(iv)(A)(1) and the definition of "significant" in 40 CFR 51.165(a)(1)(x), Subpart 1 nonattainment areas and marginal or moderate Subpart 2 nonattainment areas will have a 100 tons per year major source threshold and a 40 tons per year significance threshold for triggering major NSR for ozone precursor pollutants.

6. For the designated ozone nonattainment areas, will it be necessary for major new sources (or major modifications) of nitrogen oxides (NO_x) to obtain emission offsets for NO_x, given that the States are now operating under a NO_x budget pursuant to the NO_x SIP Call? If yes, will the waiver procedure still be available to States upon a demonstration that NO_x reductions in a particular area will be counterproductive?

In areas that are designated nonattainment for ozone, major new sources or major modifications must continue to obtain offsets pursuant to §173 of the Act. EPA has expressed the view that nonattainment NSR offset requirements of the CAA can be met using the mechanism of the NO_x Budget Trading Program, but has pointed out that integrating these programs involves many complex issues. 63 Fed. Reg. 57355, 57475-76 (Oct. 27, 1998). EPA is continuing to work toward resolving these issues.

According to the June 2, 2003, proposed rule to implement the 8-hour ozone standard (68 FR 32840), the NO_x waiver procedure of §182(f) of the Act would still be available to States upon a demonstration that net air quality benefits are greater in the absence of reductions of NO_x from the sources concerned. The preamble to the proposed rule further provides that: "for areas that were previously granted a NO_x waiver under the 1-hour ozone standard, a re-approval would be needed to make it clear that the exemption applies, to allow for public comment, to be consistent with the waiver guidance under the 8-hour standard (once issued) and to account for any new information that may point to a different conclusion." It is important to note that, if this provision is finalized as proposed, States will be required to seek re-approval for the NO_x waiver in 8-hour

ozone nonattainment areas.

7. *What will be the baseline date for offsets for NSR permitting in new nonattainment areas?*

To clarify, we understand this question to be a request for the baseline date after which emission reduction credits remain available for the purpose of obtaining offsets for NSR permitting. The baseline date for NSR offsets in 8-hour ozone nonattainment areas will be based on the date of the emission inventory data or emission projections. In most areas, this will be 2002. However, in future years if there are updated emissions inventories or projections used for an attainment demonstration, the new inventory or projection date will replace the existing baseline date. The regulations governing offsets can be found at 51.165(a)(3).

8. *If a source has gotten a permit under the Prevention of Significant Deterioration (PSD) program and does not construct within 18 months, what permitting rules will apply if the county has now been designated nonattainment?*

According to 40 CFR 52.21(r)(2), an approval to construct (e.g.; a PSD permit) becomes invalid if a source does not commence construction within 18 months of permit issuance (the regulation allows for an extension to the 18-month period to construct upon a satisfactory showing that an extension is justified, however for the purpose of your question we will presume that the permitting authority does not grant an extension to an approval to construct). If this scenario occurs in a county that has since been designated nonattainment, consistent with our response to question 2, a source must obtain a new permit pursuant to the part D nonattainment NSR requirements that now apply in that area. The SIP-approved Indiana PSD regulation includes language comparable to 40 CFR 52.21(r)(2) in 326 IAC 2-2-8(1).

9. *In the alternative site analysis required in nonattainment NSR, how does EPA interpret the phrase "significantly outweigh the environmental and social costs imposed as a result of a source's location, construction or modification"? How is this measured? Is it still a case by case evaluation?*

The alternative site analysis is required in §173(a)(5) of the Act. This requirement continues to be a case-by-case evaluation for NSR projects located in nonattainment areas. Since this analysis is performed on a case-by-case basis, we

are unable to provide a general answer on the interpretation and measurement of the phrase "significantly outweigh the environmental and social costs imposed as a result of a source's location, construction or modification."

10. Does EPA intend to revise or update appendix S and what is the agency's timeframe?

EPA is in the process of considering whether to update appendix S or adopt a separate rule to address preconstruction permitting during the SIP development period. See 68 FR 46536 (August 6, 2003) and www.epa.gov/ttn/naaqs/ozone/o3imp8hr/documents/proprule/req_text_073103.pdf. At this time, we are unable to provide a time frame for this action.

We appreciate Indiana's efforts to transition to the new 8-hour ozone standard. We will continue to work with your staff to address NSR implementation issues. If you have any questions, please contact Sam Portanova, of my staff, at (312) 886-3189.

Sincerely yours,



Stephen Rothblatt, Director
Air and Radiation Division

ATTACHMENT 7

**"LETTER TO RICHARD HYDE, TCEQ, DIRECTOR AIR PERMITS DIVISION"
FROM JEFF ROBINSON, EPA, REGION 6, CHIEF AIR PERMITS SECTION
(MAY 21, 2008).**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6

1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

MAY 21 2008

Mr. Richard Hyde, P.E.
Director
Air Permits Division
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, TX 78711-3087

Dear Mr. Hyde:

Since March 2007, we have been discussing with your staff the process for addressing emissions from maintenance, start-up, and shutdown (MSS) activities in new source permits for major sources. My staff has reviewed the Texas Commission on Environmental Quality (TCEQ) draft model permit for MSS emissions e-mailed to us on February 11, 2008. We appreciate the opportunity to provide comments on the draft model permit.

The TCEQ's initiative to address MSS emissions through permits at major stationary sources is related to changes in the State's Chapter 101 Excess Emissions rule, which establishes an affirmative defense for excess emissions during MSS, but then provides a schedule for phasing out the use of the affirmative defense for excess emissions from planned MSS activities. The U.S. Environmental Protection Agency (EPA) has not yet taken rulemaking action on this State Implementation Plan (SIP) revision. The EPA understands that these sources have combinations of Federal major and minor New Source Review permits, as well as State permits that will need to be amended. Reconciliations to correct terms and conditions in Prevention of Significant Deterioration/Nonattainment New Source Review permits, including adding or revising requirements for MSS activities, should undergo the same process as the original Federal Permit. This process would include a Best Available Control Technology (BACT) and/or Lowest Achievable Control Technology (LAER) review, an air quality impact analyses, and public participation requirements for all sources.

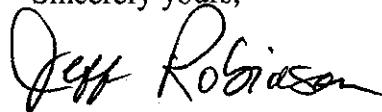
The EPA is concerned that the model permit may authorize increased emission limits for maintenance of control devices that occurs during normal process operations. The EPA's long-standing guidance states that maintenance for pollution control devices is a predictable event that can be scheduled at the discretion of the facility to coincide with maintenance of process equipment. The Texas Commission on Environmental Quality (TCEQ) should explicitly state that this permit does not authorize excess

emissions that occur as a result of maintenance activities of these control devices that occurs during normal operations. Additionally, we are concerned that the draft permit might be construed to allow sources to address MSS periods in a manner that is inconsistent with Federal rules and regulations such as New Source Performance Standard Subpart J, applicable consent decrees, current permit conditions, and the approved SIP. The MSS permit should state that compliance with the most stringent applicable requirement is required. The new source permit process may only be used to address MSS from activities permitted in the original new source permit. Moreover, terms in the permit cannot authorize emissions that are prohibited by Federal requirements, including any requirements in the approved SIP. As noted above, any modification of compliance obligations in current permits for periods of MSS may occur only by reopening these permits and providing public participation consistent with the public participation requirements for the initial permit.

Enclosed are our detailed comments. These comments were developed jointly with EPA's Office of Air Quality and Planning Standards, the Office of Compliance Assurance and Enforcement, the Office of General Counsel, and other EPA Regions. Please note that while we have carefully considered the draft model permit and consulted with other EPA offices, it is difficult to review the model permit in the abstract, without consideration of source-specific information. As we indicate in the body of our comments, the ultimate determination of emission limits and requirements for individual sources will occur on a case-by-case basis to evaluate applicability issues, BACT, LAER, air quality impacts and compliance monitoring and recordkeeping for the sources. Thus, we may identify additional issues with the model permit as we review the analyses for individual sources.

We look forward to continuing to work with TCEQ to resolve these issues. Should you have any questions regarding our comments, please feel free to contact me or you may contact Bonnie Braganza of my staff at (214) 665-7340.

Sincerely yours,



Jeff Robinson
Chief
Air Permits Section

Enclosure

ENCLOSURE

I. MSS emissions must be addressed through the SIP-approved new source permitting program

The EPA's long-standing interpretation of the Clean Air Act (CAA) and Parts 51 and 52 requires a source subject to New Source Review (NSR) to evaluate its maximum capacity to emit a pollutant under its physical and operational design. EPA has stated that MSS emissions are part of normal operation of a source and should be accounted for in planning, design, and implementation of operating procedures for process and control equipment.¹ As such, MSS emissions should have been included in Potential to Emit (PTE) and subject to all PSD and NNSR requirements, including public participation, BACT, and air quality analysis, at the time of issuance of the original permit. TCEQ's action to reconcile PSD and NNSR permits should demonstrate that all program requirements are met.² MSS activities must be authorized in permits issued under the Federally approved SIP.

Emission increases resulting from maintenance activities should be minimal because those events can be scheduled during process unit downtime. Maintenance of control devices during process operations which would result in increased emissions should be prohibited unless redundant control devices are operational.

The model permit indicates TCEQ may authorize MSS emissions by this site-wide permit without reopening existing permits. As a preliminary matter, the only MSS emissions that can be addressed through this permit are from units that have obtained or are obtaining a new source permit. A unit cannot obtain an MSS permit allowing emissions but be "grandfathered" from new source program requirements in other respects (e.g., no Federal BACT or LAER, etc...). Furthermore, EPA regards the inclusion of MSS emissions related to any SIP approved nonattainment New Source Review (NNSR) or Prevention of Significant Deterioration (PSD) permit program as a reopening of the original NSR permit to correct the potential to emit (PTE) assumption. TCEQ should reopen and correct the PTE and other terms and conditions in existing permits that will conflict with this permit.

¹See, e.g., Memorandum from John B. Rasnic, Director, Stationary Source Compliance Division, Office of Air Quality Planning and Standards, U.S. EPA, to Linda M. Murphy, Director, Air, Pesticides and Toxics Management Division, U.S. EPA Region I (Jan. 28, 1993) ("Rasnic Memo");

See Memorandum from Kathleen M. Bennett, Assistant Administrator for Air And Radiation, to the Regional Administrators, entitled "Policy Regarding Excess Emissions During Startup, Shutdown, Scheduled Maintenance, and Malfunctions" (February 15, 1983) (referred to hereafter as "1983 Excess Emissions Policy").

² See, Memorandum from Gary McCutchen, New Source Review Section Chief and Michael Trutna, Air Toxics Section Chief to J. David Sullivan, ALO Enforcement Section, Region VI, Request for Determination on Best Available Control Technology Issues – Ogden Martin Tulsa Municipal Waste Incinerator Facility, Nov. 19, 1987.

A. BACT

1. Secondary BACT or LAER emission limits or an increase in existing BACT or LAER emission limitations for MSS activities should be considered only after the State has made an on-the-record determination that compliance with existing emission limitations during periods of MSS is infeasible.³ Allowing an increase in allowable emissions or adding secondary emission limitations without this demonstration is inconsistent with the definition of BACT and LAER. Note that conditions in other existing NSR permits may not be superseded without reopening and correcting terms and conditions in the relevant permit.
2. Special Condition 12 should be restated to eliminate the exemption for combustion units from Federally enforceable emission limits or BACT limits required by the CAA (Federal BACT). The condition should provide for the development of an alternative case by case Federal BACT limitation for MSS periods. The EPA has noted that several permit applicants indicate using a TCEQ Tier approach of BACT. This approach should be substantially equivalent to the Federal guidance on the top/down BACT approach and be a case by case analysis. The duration for startup/shutdown in this Special Condition 12 should be based on BACT. EPA recognizes that TCEQ has attempted to provide thresholds for the durations for startup and shutdown activities. However, Federal BACT is based on a case by case analysis based on the specific units that vary in size, age and control devices, and therefore should not contain generalized BACT limits.
3. BACT for the MSS activities should have numerical emission limits and/or specific work practice standards that can be effectively monitored and recorded. It is not clear that all the emission units identified in the Maximum Allowable Emission Rates Table (MAERT) will have short term and annual limits.

B. Public Participation

EPA would like to emphasize our concern regarding public participation in the permitting of MSS emissions. Texas' actions to reconcile PSD and NNSR permits at this time must ensure that all permitting requirements in the original authorization, including public participation, are met. EPA guidance and policy requires 30-day notice and comment on a draft permit when a PSD PSD or NNSR permit is re-opened. EPA is aware that all the permit applications were public noticed. However in developing the draft permits, several revisions and updates were provided to TCEQ, such that the rationale for terms and conditions in some draft permits may not represent the original public noticed permit applications. Additionally, we understand that the modeling for the increased emission limits was requested by TCEQ in February 2008 and is still not complete, which means that the public has not had an opportunity to comment on the modeling. The EPA questions whether this process meets the SIP public participation requirements for major or minor NSR modifications/revisions.

³ See, *In re: Tallmadge Generating Station*, PSD Appeal No. 02-12, (EAB, May 22, 2003) and *In re: Rockgen Energy Center*, PSD Appeal No. 99-1, (EAB, August 25, 1999).

Therefore, these draft permits should have a 30-day public notice and comment period.

Various environmental organizations have informed EPA that some permit applications claimed emission data as Confidential Business Information (CBI). Sections 110 and 114(c) of the Clean Air Act (CAA) require emission data to be made available to the public, even if it otherwise qualifies as trade secret information.⁴ EPA has determined that emission data does not qualify as confidential if it meets the definition under 40 CFR 2.301(a)(2)(I) for information necessary to determine the identity, amount, frequency, concentration, or other characteristics of any emission which has been emitted by the source or information necessary to determine the identity, amount, frequency, concentration, or other characteristics of the emission which, under an applicable standard or limitation, the source was authorized to emit. We note that the Office of the Attorney General of Texas also recently reviewed this requirement.⁵ EPA recommends that TCEQ review permit applications to determine whether the CBI claims are allowed under State and Federal law, and therefore whether the permit application is administratively complete.

C. Air Quality Analyses

The EPA will provide comments on the modeling protocol for MSS emissions received via email on February 20, 2008, at a later date. EPA is requesting the modeling data from the facilities or TCEQ for our records. TCEQ should consider emissions from background sources in the modeling to ensure that these permits do not interfere with attainment and maintenance of the NAAQS or PSD increments.

D. Houston/Galveston/Brazoria (HGB) area NSR applicability thresholds and offset ratios and Title V applicability

The EPA has proposed to grant the State's request to reclassify the HGB area from moderate to severe nonattainment for the 8-hour ozone standard. However, even prior to the time the area is reclassified to severe for the 8-hour standard, permitting for sources in the HGB area should be consistent with the Non-attainment new source review (NSR) and Title V based on the 1-hour ozone nonattainment classification of severe for the area.

In *South Coast Air Quality Management District (SCAQMD) v. EPA*, 472 F.3d. 882 (D.C.Cir. 2006), the Court of Appeals reviewing EPA's rule for implementing the 8-hour ozone standard decided that the EPA had improperly determined that areas designated as non-attainment under the 1-hour ozone NAAQS would no longer be subject to 1-hour NSR requirements. The effect of the court's ruling is to restore the applicability of the

⁴ See Notice of Policy on Public Emission Data within the meaning of Sections 110 and 114(c) of the Clean Air Act (CAA), 56 FR 7042-01, February 21, 1991.

⁵ See letter from Heather Pendleton Ross, Assistant Attorney General, Office of the Attorney General of Texas to Mr. Robert Martinez, Director of Environmental Law Division, Texas Commission on Environmental Quality, dated July 30, 2007, reference number OR2007-9631.

more stringent NSR thresholds and emission offsets that applied under the Act based on an area's 1-hour ozone classification.

Recordkeeping

Recordkeeping requirements must be sufficient to determine whether a facility is operating in normal, startup, shutdown, and turnaround or maintenance mode to ensure enforceability of the permit. In other words, the owner or operator must identify which emission limitation or other requirements are applicable at all times. We recommend that TCEQ revise the recordkeeping requirements to ensure that records are required to document which mode of operation is current before the startup, shutdown, turnaround or maintenance activity begins. The recordkeeping should state the start and end time of the activity, not just the duration. The estimated quantity of each pollutant should be expressed in terms of short-term limitations in the permit. Exceedances of the short-term emission limitation must be documented and will be considered a violation of this permit.

II. Practical Enforceability

- A. Permitting of MSS emissions should be incorporated into a permit issued under a SIP-approved rule. We are aware that many of these facilities have flexible permits that are not SIP-approved permits. For Federally enforceable permit terms, TCEQ may only use the approved SIP rules for permitting of MSS. Where MSS emissions are incorporated into a flexible permit, the source has an authorization for those emissions under State law. However, the source has no Federal authorization for MSS emissions under the SIP. Therefore, the source should consider MSS emissions as unauthorized under the SIP and subject to all reporting requirements, including Federal Operating Permit (FOP) deviation reporting and compliance certification. The flexible permit should be incorporated into the FOP as a State-only requirement.

These exemptions from the Maximum Allowable Emission Rate Table (MAERT) limits for periods of startup, shutdown, maintenance or malfunction are not authorized by EPA because they would allow for circumvention of Federal CAA requirements. The exemption is also inconsistent with the language of the model MSS permit. EPA believes, at a minimum, underlying permits with such exemptions must be reopened to remove the provision and other terms or conditions that are inconsistent with the MSS permit. We also request that TCEQ include a statement in all permits issued under the SIP that when there are multiple Federal or SIP requirements that apply to an emission source during MSS periods, the most stringent requirement applies and that an exceedance of this applicable emission limitation is a violation which may be subject to enforcement action.

- B. The EPA has concerns regarding the enforceability of the MSS emission limits where an older existing permit at a facility may contain an exemption from compliance with emission limitations during periods of upset, startup, shutdown or maintenance activities. We believe such exemption language is inconsistent with the model MSS permit. EPA recommends that underlying permits with such exemptions be reopened to remove the

- provision. Alternatively, please provide a method to ensure that exceedances of permit emission limitations during periods of startup, shutdown, maintenance, and upsets can be enforced as violations of the SIP. We also request that TCEQ include a statement in the MSS permits that when there are multiple Federal or SIP requirements that apply to an emission source during MSS periods, the most stringent requirement applies and that an exceedance of this applicable emission limitation is a violation which may be subject to enforcement action.
- C. Special Condition 1 states "Startup and shutdown emissions due to the activities identified in Special Condition 2 are authorized from facilities and emission points in other construction permits at the site provided the facility and emissions are compliant with the respective MAERT and special conditions, or Special Condition 12 of this permit." EPA is not clear how this condition can be practically enforceable. The MSS permit cannot alter or supersede terms and conditions in an existing permit without reopening and revising the existing permit. Since TCEQ is undertaking this effort because planned MSS emissions were not specifically subject to specific limits in existing permits, the MSS permitting actions should address all units that have MSS activities and emissions from the site.
- D. Please ensure that the applicable leak detection program for the site is addressed in this permit.

III. Permits by Rule (PBR)

We also are concerned that these sources can use the Permit by Rule (PBR) to amend the MSS emissions in these permits. The Permit by Rule should only be used for small minor sources (PTE less than 100TPY/250TPY) and is not a vehicle for major sources to supplement emission limits or conditions in a Federally enforceable permit. EPA has consistently expressed concerns about PBRs that authorize a category of emissions, such as MSS, or that modify an existing NSR permit.⁶ These PBRs are inconsistent with the approved SIP and may serve as a circumvention of CAA requirements. At a minimum, condition 11 should be removed from the model permit.

IV. Comments on Special Conditions of the model permit.

- A. The model permit should contain the provision that MSS activities not listed in the permit are not authorized. Special Condition 2 refers to MSS activities in the permit application. In most cases the permit applications were revised extensively, therefore EPA believes that references to activities in a permit application are not practically enforceable unless

⁶ Letter dated November 16, 2007 to Mr. Richard Hyde regarding Comments on Proposed Amendments to Chapter 106, 116 for Maintenance Startup and Shutdown (MSS), Chapter 106 Subchapter K.

Letter dated March 30, 2006 to Mr. Steve Hagle regarding comments on Proposed Rule Revisions to 30 Texas Administrative Code Chapter 106 and 116 and to the State Implementation Plan B Rule Project Number 2005-016-106-PR;

TCEQ provides a cross-walk and rationale for the differences between the permit and permit application. Please explain what type of exceptions TCEQ expects to see in Special Condition 10 regarding a planned process unit startup.

- B. Special Condition 3 provides the process for degassing, emptying and depressurizing of process units and facilities. This condition should require a case by case assessment of the types and quantities of air pollutants. TCEQ should provide the rationale for the conclusion that venting to the atmosphere of pollutants below 0.5 psi and 50 lbs has a negligible air quality impact and is consistent with other Federal requirements and standards. The permit should also indicate monitoring requirements for determining when the condition of 50 lbs is reached.
- C. Special Condition 7 appears to have a typographical error and should read "Special Condition 6.B (i) through 6.B(v)"
- D. Special Condition 9 requires frac or temporary tanks that are used to support MSS and that are exposed to the sun to be white or aluminum effective May 1, 2013. If the emissions are minimized by these requirements, this should be considered BACT at the time of permit issuance. Please remove the effective date requirement of May 1, 2013 in this condition.
- E. It is not clear how TCEQ will apply Special Condition 12 universally to all combustion sources without referring to the current existing limits, units and permits. EPA recommends that this permit identify the existing limit for each combustion unit at the site and then identify the secondary (MSS) BACT limit or work practice standard to make this practically enforceable.
- F. Please clarify if Special Condition 13 only applies to control devices used during periods of MSS. This permit should not supersede any previous Federal conditions in current permits, unless a case by case rationale is provided and the underlying permit is reopened. EPA believes that BACT should consider having redundant control devices.
- G. For the control devices in Specific Condition 13, the method for monitoring compliance should be specified for the Internal Combustion engines. Please clarify if these are the only required control devices to be used during MSS activities and if this list will be updated as new technology to control these emissions are developed.
- H. Special Condition 14 refers to capture systems for flare control devices. The monitoring condition in 14A should be performed during an MSS activity to determine compliance with the emission rates, not on a monthly or annual basis. Special Condition 14 states "A deviation shall be reported if the monitoring or inspections indicate bypass of the control device." However this condition is allowing the bypass of a control device. Please clarify the language. The permit must not provide for automatic exemption to allow bypass of an emission control device.

V. General Comments:

- A. Please provide definitions for startup, shutdown and maintenance activities. It is possible that startup, shutdown and maintenance are specific to the source and therefore these definitions may need to be included in each permit. As we have discussed earlier, EPA's guidance states that maintenance activities are a planned and predictable event that can be scheduled at the discretion of the operator to coincide with maintenance of production equipment. TCEQ's BACT evaluation for MSS activities must eliminate or minimize periods during which production equipment operates without control devices.
- B. Attachment A to the permit application was missing. That Attachment identifies a list of activities with low emissions that are performed numerous times each year. It appears that these activities will be exempt from emission monitoring. Similarly, the draft you provided us did not include Attachment B to the permit application, which identifies maintenance activities involving equipment/facilities such as valves, pumps, piping, and heat exchangers. It is expected that these attachments will be site specific. Therefore our comments are limited to information provided in the model permit and additional comments will be provided at the time EPA reviews the site specific permits. Please note that there can be no exemption for MSS activities as indicated in the Special Conditions of the model permit.
- C. The specific conditions related to the MAERT and Facility List table are not clear, since there are no emission estimates associated with the emission units. Each emission unit should have an applicable short term emission limit. EPA understands that these provisions may be clarified when the source specific permit is reviewed and we may provide additional comments at that time.
- D. The permit does not contain monitoring for the special conditions in this permit with the exceptions of some control devices that are listed in the permit. Monitoring and recordkeeping are required to determine compliance with permit terms and conditions.
- E. EPA is also concerned that there are no PM considerations for catalyst loading activities that happen frequently during major unit turnarounds. BACT for these activities should be considered using control devices such as filters baghouses etc.
- F. Please clarify how the MSS emissions are included in this permit on an annual and short term basis for units that have a turnaround frequency of less than a year.
- G. There are references in the permit to using "good engineering practice" to reduce emissions such as Specific Condition 6 B (ii). BACT in the permit should be specific with respect to emission limits, and work practice standards should only be used when numerical emission limits are infeasible. All BACT terms and conditions should require monitoring and recordkeeping sufficient to ensure compliance. Monitoring should be done by approved EPA methods or other approved methods that are replicable under these operating conditions.

ATTACHMENT 8

FACILITY EMISSION EVENT INFORMATION



National Environmental Law Center

44 Winter Street, Boston, MA 02108 (617) 422-0880 (ph) (617) 292-8057 (fx)

June 12, 2009

President and Chief Executive Officer
Chevron Phillips Chemical Company, LP
10001 Six Pines Drive
The Woodlands, Texas 77380

Van Long, Cedar Bayou Plant Manager
Chevron Phillips Chemical Co.- Cedar Bayou
9500 I-10 East Exit 796
Baytown, Texas 77521-9570

Dear Sirs:

I write on behalf of Environment Texas and Sierra Club ("the Citizen Groups") and their members.

Chevron Phillips Chemical Company, LP¹ ("Chevron Phillips") owns and operates a petrochemical plant in Baytown, Texas (the plant is hereafter referred to as the "Cedar Bayou Plant"). Based on available information, the Citizen Groups believe that Chevron Phillips has repeatedly violated, and will continue to violate, its air emission permits, the Texas State Implementation Plan, and the federal Clean Air Act ("CAA") by emitting air pollutants into the atmosphere from the Cedar Bayou Plant in excess of applicable emission limitations.

Applicable Clean Air Act Requirements

The Texas State Implementation Plan ("SIP") is a set of state laws and regulations designed to protect air quality in Texas and, more specifically, to achieve compliance with federally promulgated national ambient air quality standards ("NAAQS"). SIPs are required by Section 110 of the Clean Air Act, 42 U.S.C. § 7410, and must be approved by the U.S. Environmental Protection Agency ("EPA").

¹ Chevron Phillips Chemical Company LP is a wholly-owned subsidiary of Chevron Phillips Chemical Company LLC. This letter also serves to notify Chevron Phillips Chemical Company LLC of violations at the Cedar Bayou Plant.

The Cedar Bayou Plant contains a number of fixed sources of air pollution that are classified as “stationary sources” under the Clean Air Act. The Texas SIP requires Chevron Phillips to report certain unauthorized emissions of air pollutants from these stationary sources to the Texas Commission on Environmental Quality (“TCEQ”) within 24 hours of their discovery. 30 Tex. Admin. Code §§ 101.201(a) and 101.211(a). Thereafter, Chevron Phillips has two weeks to issue a “final” report concerning such emission events; if no final report is submitted, the initial report is considered final. 30 Tex. Admin. Code §§ 101.201(b) and (c) and 101.211(b) and (c).

These emission event reports submitted by Chevron Phillips to TCEQ include, among other information: the date, time, and duration of the event; the nature and cause of the event; any corrective action taken; the unit and the specific emission point from which pollutants were emitted to the atmosphere; the permit or regulation applicable to the unit and emission point; the emission standard or limitation that has been exceeded; and the type and estimated quantities of air pollutants emitted.

Emissions of air pollutants from the Cedar Bayou Plant are governed by, among other requirements, Prevention of Significant Deterioration Permit (“PSD Permit”) No. PSD-TX-748 and Texas New Source Review Permit (“NSR Permit”) Nos. 1504A, 37063, 2462C, 46305 and 19027, issued to Chevron Phillips by the TCEQ pursuant to 30 Tex. Admin. Code § 116. These permits contain Maximum Allowable Emission Rate Tables (“MAERTs”) that set forth, for each source of air pollutants governed by each permit, a maximum hourly emission limit (expressed in pounds per hour) and a maximum annual emission limit (expressed in tons per year) for each pollutant authorized to be discharged during normal operations. Some of the MAERTs also include maximum hourly emission limits and maximum annual emission limits for each pollutant authorized to be discharged from a source during start-up, shutdown and/or maintenance activities. Compliance with the numerical emission limits in the MAERTs is mandatory. Texas Health & Safety Code § 382.085(b); 30 Tex. Admin. Code § 116.115(b)(2)(F).

Chevron Phillips’ NSR/PSD Permits and all of the emission standards and limitations contained therein have been incorporated into federal operating permits, Nos. O-2113, O-2114, O-2115, and O-2370, issued pursuant to Title V of the Clean Air Act, 42 U.S.C. §§ 7661-7661f. Any release of air pollutants into the atmosphere (1) in excess of an hourly or annual emission limit contained in any of Chevron Phillips’ NSR/PSD permits, (2) from an emission point not authorized to emit such pollutants, or (3) not authorized to be released, is a violation of both the applicable NSR/PSD permit and the corresponding Title V permit. All such releases also violate both the Texas SIP and the federal Clean Air Act. 42 U.S.C. §§ 7604(a)(1) and(f) and 7661a(a).

In addition, the stationary sources at the Cedar Bayou Plant referenced above are “new sources” within the meaning of Section 111(a)(2) of the Clean Air Act, 42 U.S.C. § 7411(a)(2), and are “affected facilities” within the meaning of 40 C.F.R. § 60.2. Accordingly, they are subject to federal New Source Performance Standards (“NSPS”), which are national, technology-based emission standards and limitations promulgated pursuant to Section 111, 42 U.S.C. § 7411.

Pursuant to CAA section 111(b), 42 U.S.C. § 7411(b), EPA promulgated general NSPS provisions, codified at 40 C.F.R. Part 60, Subpart A, §§ 60.1-60.19, that apply to owners and operators of any stationary source that contains an “affected facility” subject to regulation under 40 C.F.R. Part 60. 40 C.F.R. § 60.11(d) requires that at all times – including periods of startup, shutdown, and malfunction – owners and operators shall, to the extent practicable, maintain and operate any affected facility, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. 40 C.F.R. § 60.18(c) requires, among other things, that flares used to comply with applicable subparts of 40 C.F.R. Parts 60 and 61 be operated with no visible emissions (except for periods not to exceed five minutes during any two consecutive hours) and with the presence of a flame at all times.

CAA Section 111(e), 42 U.S.C. § 7411(e), prohibits the operation of any new source in violation of an NSPS applicable to such source. Thus, a violation of an NSPS is a violation of Section 111(e) of the Clean Air Act, as well as a violation of the Cedar Bayou Plant’s applicable PSD or NSR permit and Title V permit, each of which incorporates applicable NSPS requirements.

In addition, stationary sources at the Cedar Bayou Plant are subject to national emission standards for hazardous air pollutants (“NESHAPs”) promulgated by EPA pursuant to Section 112(d) of the Act, 42 U.S.C. § 7412(d). Pursuant to Section 112(d), EPA promulgated general NESHAPs provisions, codified at 40 C.F.R. Part 61, Subpart A, §§ 61.1-61.19, that apply to owners and operators of any stationary source for which a NESHAP is prescribed. 40 C.F.R. § 61.12(c) requires that owners and operators shall maintain and operate the source, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions.

A violation of 40 C.F.R. § 61.12(c) is a violation of the Clean Air Act, as well as a violation of the Cedar Bayou Plant’s applicable PSD or NSR permit and Title V permit, each of which incorporates this regulatory requirement.

In addition, the Cedar Bayou Plant has vent gas streams containing highly-reactive volatile organic compounds (“HRVOCs”), as defined in 30 Tex. Admin. Code § 115.10, and flares that emit or have the potential to emit HRVOCs. Accordingly, the Cedar Bayou Plant is prohibited from emitting more than 1,200 pounds of HRVOCs in any one-hour block period from any flare, vent, pressure relief valve, cooling tower, or any combination thereof. 30 Tex. Admin. Code §§ 115.720(a) and 115.722(c)(1). Any violation of this emission limitation is a violation of the Cedar Bayou Plant’s state and federal permits, the Texas SIP, and the federal Clean Air Act.

Chevron Phillips's Clean Air Act Violations

Hourly MAERT Limits

Chevron Phillips has, on numerous occasions, emitted air pollutants into the atmosphere from the Cedar Bayou Plant in amounts or at rates that exceeded applicable hourly permit limits.

A description of such emissions from the Cedar Bayou Plant during emission events occurring from February 2003 through May 2009² is contained in the attached Table 1. For each such emission of pollutants, Table 1 contains: the emission event tracking number; the start and end dates of the emission event; the applicable NSR permit number or regulation, if any (under the heading "Authorization"); Chevron Phillips' characterization of the event ("emission event" is abbreviated as "EE"); the unit and emission point from which the emissions occurred ("facility identification number" is abbreviated as "FIN" and "emission point number" is abbreviated as "EPN"); the type and amount of pollutant(s) emitted (the amount is expressed as a percentage in the case of opacity); the duration of the emission event; and the reported applicable emission standard or limitation.

The pollutant types and amounts and the applicable emission standards and limitations listed in Table 1 are set forth just as Chevron Phillips reported them on its emission event reports to TCEQ. The "reported" emission limits, however, may differ from the actual permit limits in effect. For example, Chevron Phillips' PSD and NSR permits impose limits on total Volatile Organic Compounds; but Chevron Phillips, in its emission event reports, frequently reports pollutant releases and the applicable emission limits separately for each individual VOC. Similarly, Chevron Phillips frequently reports nitric oxide and nitrogen dioxide emissions and their applicable limits separately, even though its permits impose limits on total oxides of nitrogen ("NOx"). For convenience, Table 1 includes, for each emissions event, the individualized pollutant emissions as they were reported by Chevron Phillips, and also a calculated entry for "Total VOCs" and "Total NOx." The information presented in Table 1 is sufficient to enable Chevron Phillips to ascertain the nature of each alleged violation and when and where it occurred.

In addition, Chevron Phillips' PSD and NSR permits do not authorize fugitive emissions of air pollutants. Although numerical amounts are listed for certain fugitive sources in the MAERTs and reported as applicable emission limits by Chevron Phillips (as reflected in Table 1), the permits state that such amounts are "an estimate only and should not be considered as a maximum allowable emission rate." The actual emission limit on all fugitive emissions is therefore zero.

² The Citizen Groups do not intend to file suit to enforce violations occurring more than five years before the date of this letter.

Annual MAERT Limits

Chevron Phillips has, on numerous occasions, emitted air pollutants into the atmosphere from the Cedar Bayou Plant in amounts that exceed applicable annual permit limits. A description of such permit violations at the Cedar Bayou Plant resulting solely from emission events occurring from December 2003 through May 2009 is contained in the attached Table 2. For each such violation of an annual permit limit, Table 2 contains: the applicable NSR permit number; the number of the emission point from which the emissions occurred; the type and amount of pollutant discharged; the applicable tons per year limit; and the rolling 12-month period during which each violation occurred (or is still occurring).

Moreover, the pollutants released during the emission events described in Table 1 may, when added to the “routine” pollutant emissions occurring during normal operations at Chevron Phillips’ Cedar Bayou Plant, have contributed to additional violations of tons per year limits not reflected in Table 2. This notice letter covers all such violations of annual tons per year limits.

HRVOC Limits

Chevron Phillips has, on numerous occasions, emitted HRVOCs into the atmosphere from the Cedar Bayou Plant in amounts or at rates that exceeded the hourly, site-wide HRVOC limit in the Texas SIP and incorporated into Chevron Phillips’ permits. A description of such HRVOC violations at the Cedar Bayou Plant is contained in the attached Table 3. The information in Table 3 is based on the emission event information reported by Chevron Phillips to TCEQ. For each such violation of the hourly HRVOC limit, Table 3 contains: the emission event tracking number; the start date and time, end date and time, and duration of the emissions; the amount of HRVOCs released; and the hourly emission limit.

Unauthorized Startup, Shutdown and Maintenance Emissions

Special Condition 3 of NSR Permit No. 1504A, Special Condition 3 of NSR Permit No. 37063, and Special Condition 10 of NSR Permit No. 2462C each authorize emissions only from the specified maintenance, startup or shutdown activities at the specified emission points described in each permit condition. Special Condition 3 of Permit No. 1504A and Special Condition 3 of Permit No. 37063 provide further that any maintenance, start-up, or shutdown activities not specifically listed “are not authorized by this permit.” The applicable emission limit for any such non-listed maintenance, startup or shutdown activities at the units covered by these permits is therefore zero pounds per hour.

Table 4 identifies emission events that involved startup, shutdown or maintenance activities and that Chevron Phillips reported as being authorized by either Permit No.

1504A, 37063 or 2462C and as therefore subject to an emission limit greater than zero.³ For each of these emission events, Table 4 contains: the emission event tracking number; the start and end dates and times of the emission event; the applicable permit number; Chevron Phillips' characterization of the event; the unit and emission point from which the emissions occurred.

Because each of the emission events described in Table 4 involved unauthorized startup, shutdown or maintenance activities, each constitutes a violation of the applicable special condition described above. In addition, because each report Chevron Phillips submitted to TCEQ for the emission events in Table 4 contained an incorrect emission limit applicable to these events, each report constitutes a violation of 30 Tex. Admin. Code §§ 101.201(b)(1)(H) or 101.211(a)(1)(I) and (b)(1)(I) (requiring reporting of authorized emissions limits, if any, for the facilities involved).

General NSPS and NESHAP Requirements

The unauthorized releases of air pollutants described in Tables 1 and 2 and in the HRVOC table above also constitute violations of 40 C.F.R. Part 60, Subpart A, including, but not limited to, §60.11(d) (relating to good air pollution control practices) and 40 C.F.R. Part 61, Subpart A, including, but not limited to, § 61.12(c) (also relating to good air pollution control practices).

In addition, the emission events identified by tracking numbers 17017, 24350, 26276, 31334, and 37194 in Table 1 constitute violations of 40 C.F.R. § 60.18(c)(1), regarding visible emissions from flares, and the emission events identified by tracking numbers 65091, 70394, 70583, 70666, 70786, 75108, 76377, 114137, and 114138 in Table 1 constitute violations of 40 C.F.R. §60.18(c)(2), requiring the presence of a flame at all times during operation of a flare.

This notice letter and the attached tables are based on publicly available sources of information. Additional information, including information in the possession of Chevron Phillips, may reveal additional details about the violations described above and may reveal additional violations of the Clean Air Act at the Cedar Bayou Plant. This letter covers all such violations.

The Citizen Groups intend to file suit against Chevron Phillips in federal court to secure appropriate relief under state and federal law for all violations described in this notice letter occurring within the five years immediately preceding the sending of this letter, and for any similar violations that occur after the date of this notice letter.

³ The events listed in Table 4 are also included in Table 1. Thus, even if any of the activities were in fact authorized, the emissions would still violate the emission standards and limitations described on p. 4, above.

If you believe any of the above information is in error, or if you take steps to permanently correct any of the described violations, or if you believe you are currently in compliance with the Clean Air Act, or if you have any questions concerning this letter or the described violations, please contact me as soon as possible at (617) 747-4333 or at the address listed above. If you would like to meet in person to discuss this matter, we are available to meet in Houston during the week of July 6 or the week of July 20.

Sincerely,



Joshua R. Kratka

Additional Legal Counsel Sending This Letter

David A. Nicholas
20 Whitney Road
Newton, Massachusetts 02460
(617) 964-1548

Philip H. Hilder
Hilder & Associates
819 Lovett Boulevard
Houston, Texas 77006-3905
(713) 655-9111

Addresses and telephone numbers of the Citizen Groups

Environment Texas
815 Brazos, Suite 600
Austin, Texas 78701
(512) 479-0388

Sierra Club
1202 San Antonio Street
Austin, Texas 78701
(512) 477-1729

cc: By certified mail – return receipt requested

Lisa Jackson, Administrator
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

Lawrence E. Starfield, Acting Regional Administrator, Region VI
U.S. Environmental Protection Agency
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202

Governor Rick Perry
Office of the Governor
P.O. Box 12428
Austin, Texas 78711-2428

Mark R. Vickery, Executive Director
Texas Commission on Environmental Quality
MC 109
P.O. Box 13087
Austin, Texas 78711-3087

Greg Garland, President and Chief Executive Officer
Chevron Phillips Chemical Company, LLC
10001 Six Pines Drive
The Woodlands, Texas 77380

CT Corporation Systems
350 North St. Paul Street
Dallas, Texas 75201
(registered agent for Chevron Phillips Chemical Company LP
and Chevron Phillips Chemical Company LLC)

Table 1 - Violations of Hourly Limits

Tracking Number	Start Date and Time	End Date and Time	Authorization	Type of Event	Unit	Additional Source Info/FIN	Emission Point	EPN	Pollutant	Amount Released (lbs)	Duration (hrs)	Reported Emission Limit (lbs/hr)
13981	2/1/03 11:00	2/5/03 12:30	2462C	Startup	PEU 1792	45			CO	488.72	97.50	23.30
13981	2/1/03 11:00	2/5/03 12:30	2462C	Startup	PEU 1792	45			Nitrogen Dioxide	3.38	97.50	0.16
13981	2/1/03 11:00	2/5/03 12:30	2462C	Startup	PEU 1792	45			Nitrogen Oxide	64.28	97.50	3.04
13981	2/1/03 11:00	2/5/03 12:30	2462C	Startup	PEU 1792	45			TOTAL NOx	67.66	97.50	0.00
13981	2/1/03 11:00	2/5/03 12:30	2462C	Startup	PEU 1792	45			Ethylene	631.00	97.50	19.70
13981	2/1/03 11:00	2/5/03 12:30	2462C	Startup	PEU 1792	45			Propane	14.00	97.50	6.63
13981	2/1/03 11:00	2/5/03 12:30	2462C	Startup	PEU 1792	45			Propylene	44.00	97.50	0.00
13981	2/1/03 11:00	2/5/03 12:30	2462C	Startup	PEU 1792	45			TOTAL VOCs	689.00	97.50	0.00
17017	3/7/03 15:00	3/7/03 19:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	CO	1344.00	4.50	127.51
17017	3/7/03 15:00	3/7/03 19:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Nitrogen Dioxide	9.00	4.50	17.65
17017	3/7/03 15:00	3/7/03 19:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Nitrogen Oxide	177.00	4.50	17.65
17017	3/7/03 15:00	3/7/03 19:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	TOTAL NOx	186.00	4.50	17.65
17017	3/7/03 15:00	3/7/03 19:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Opacity	50.00%	4.50	0.00
17017	3/7/03 15:00	3/7/03 19:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Ethylene	1890.00	4.50	358.62
17017	3/7/03 15:00	3/7/03 19:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	TOTAL VOCs	1890.00	4.50	358.62
17142	3/10/03 13:00	3/10/03 14:00	37063	EE	NAOU 1798	P-1798	Fugitive	F-1798-30	Ethylene	9350.00	1.00	7.33
17142	3/10/03 13:00	3/10/03 14:00	37063	EE	NAOU 1798	P-1798	Fugitive	F-1798-30	TOTAL VOCs	9350.00	1.00	7.33
17987	5/5/03 6:00	5/6/03 12:43	37063	Startup	NAOU 1798	P-1798	Z-1101 Flare	1798-22	CO	209.68	30.72	127.51
17987	5/5/03 6:00	5/6/03 12:43	37063	Startup	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Nitrogen Dioxide	2.05	30.72	17.65
17987	5/5/03 6:00	5/6/03 12:43	37063	Startup	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Nitrogen Oxide	39.10	30.72	17.65
17987	5/5/03 6:00	5/6/03 12:43	37063	Startup	NAOU 1798	P-1798	Z-1101 Flare	1798-22	TOTAL NOx	41.15	30.72	17.65
17987	5/5/03 6:00	5/6/03 12:43	37063	Startup	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Ethylene	295.90	30.72	8.00
17987	5/5/03 6:00	5/6/03 12:43	37063	Startup	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Propylene	2.34	30.72	0.00
17987	5/5/03 6:00	5/6/03 12:43	37063	Startup	NAOU 1798	P-1798	Z-1101 Flare	1798-22	TOTAL VOCs	298.24	30.72	358.62
17992	4/11/03 6:00	4/14/03 6:00	37063	Shutdown	NAOU 1798	P-1798	Z-1101 Flare	1798-22	CO	156.20	72.00	127.51
17992	4/11/03 6:00	4/14/03 6:00	37063	Shutdown	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Nitrogen Dioxide	1.10	72.00	17.65
17992	4/11/03 6:00	4/14/03 6:00	37063	Shutdown	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Nitrogen Oxide	20.50	72.00	17.65
17992	4/11/03 6:00	4/14/03 6:00	37063	Shutdown	NAOU 1798	P-1798	Z-1101 Flare	1798-22	TOTAL NOx	21.60	72.00	17.65
17992	4/11/03 6:00	4/14/03 6:00	37063	Shutdown	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Ethylene	210.00	72.00	8.00
17992	4/11/03 6:00	4/14/03 6:00	37063	Shutdown	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Propylene	10.00	72.00	0.00
17992	4/11/03 6:00	4/14/03 6:00	37063	Shutdown	NAOU 1798	P-1798	Z-1101 Flare	1798-22	TOTAL VOCs	220.00	72.00	358.62
18862	4/25/03 6:00	4/28/03 6:00	37063	Shutdown	NAOU 1797	P-1797	Z-101 Flare	110	CO	12.83	72.00	35.72
18862	4/25/03 6:00	4/28/03 6:00	37063	Shutdown	NAOU 1797	P-1797	Z-101 Flare	110	Nitrogen Dioxide	0.13	72.00	4.95
18862	4/25/03 6:00	4/28/03 6:00	37063	Shutdown	NAOU 1797	P-1797	Z-101 Flare	110	Nitrogen Oxide	2.39	72.00	4.95
18862	4/25/03 6:00	4/28/03 6:00	37063	Shutdown	NAOU 1797	P-1797	Z-101 Flare	110	TOTAL NOx	2.52	72.00	4.95
18862	4/25/03 6:00	4/28/03 6:00	37063	Shutdown	NAOU 1797	P-1797	Z-101 Flare	110	Ethylene	16.91	72.00	20.00
18862	4/25/03 6:00	4/28/03 6:00	37063	Shutdown	NAOU 1797	P-1797	Z-101 Flare	110	Propylene	1.38	72.00	0.00
18862	4/25/03 6:00	4/28/03 6:00	37063	Shutdown	NAOU 1797	P-1797	Z-101 Flare	110	TOTAL VOCs	18.29	72.00	79.71
18868	6/1/03 6:00	6/7/03 23:55	37063	Startup	NAOU 1797	P-1797	Z-101 Flare	110	CO	198.00	161.92	35.72
18868	6/1/03 6:00	6/7/03 23:55	37063	Startup	NAOU 1797	P-1797	Z-101 Flare	110	Nitrogen Dioxide	2.00	161.92	4.95
18868	6/1/03 6:00	6/7/03 23:55	37063	Startup	NAOU 1797	P-1797	Z-101 Flare	110	Nitrogen Oxide	37.00	161.92	4.95
18868	6/1/03 6:00	6/7/03 23:55	37063	Startup	NAOU 1797	P-1797	Z-101 Flare	110	TOTAL NOx	39.00	161.92	4.95
18868	6/1/03 6:00	6/7/03 23:55	37063	Startup	NAOU 1797	P-1797	Z-101 Flare	110	Ethylene	96.00	161.92	20.00
18868	6/1/03 6:00	6/7/03 23:55	37063	Startup	NAOU 1797	P-1797	Z-101 Flare	110	Hexene	63.00	161.92	7.44
18868	6/1/03 6:00	6/7/03 23:55	37063	Startup	NAOU 1797	P-1797	Z-101 Flare	110	Propylene	22.00	161.92	0.00

Table 1 - Violations of Hourly Limits

Tracking Number	Start Date and Time	End Date and Time	Authorization	Type of Event	Unit	Additional Source Info/FIN	Emission Point	EPA	Pollutant	Amount Released (lbs)	Duration (hrs)	Reported Emission Limit (lbs/hr)
18868	6/1/03 6:00	6/7/03 23:55	37063	Startup	NAOU 1797	P-1797	Z-101 Flare	110	TOTAL VOCs	181.00	161.92	79.71
19147	4/13/03 13:00	4/15/03 8:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	CO	151.50	43.50	127.51
19147	4/13/03 13:00	4/15/03 8:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Nitrogen Dioxide	1.50	43.50	17.65
19147	4/13/03 13:00	4/15/03 8:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Nitrogen Oxide	28.20	43.50	17.65
19147	4/13/03 13:00	4/15/03 8:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	TOTAL NOx	29.70	43.50	17.65
19147	4/13/03 13:00	4/15/03 8:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Ethylene	153.96	43.50	8.00
19147	4/13/03 13:00	4/15/03 8:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Hexene	107.51	43.50	3.24
19147	4/13/03 13:00	4/15/03 8:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Propylene	7.50	43.50	0.00
19147	4/13/03 13:00	4/15/03 8:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	TOTAL VOCs	268.97	43.50	358.62
20426	5/7/03 17:42	5/7/03 19:10	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	CO	353.00	1.47	133.57
39426	5/7/03 17:42	5/7/03 19:10	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Nitrogen Dioxide	3.00	1.47	18.49
39426	5/7/03 17:42	5/7/03 19:10	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Nitrogen Oxide	46.00	1.47	18.49
20426	5/7/03 17:42	5/7/03 19:10	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	TOTAL NOx	49.00	1.47	17.65
39426	5/7/03 17:42	5/7/03 19:10	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Butene	11.00	1.47	350.64
39426	5/7/03 17:42	5/7/03 19:10	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Ethylene	479.00	1.47	8.00
39426	5/7/03 17:42	5/7/03 19:10	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Hexene	13.00	1.47	7.44
39426	5/7/03 17:42	5/7/03 19:10	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Octene	11.00	1.47	0.47
20426	5/7/03 17:42	5/7/03 19:10	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	TOTAL VOCs	514.00	1.47	358.62
30691	5/10/03 20:31	5/10/03 20:30	46783	PE	PEU 1790	P-1792	Process Fugitives	F-75-G	Ethylene	167.00	0.15	2.28
20691	5/10/03 20:31	5/10/03 20:40	46783	EE	PEU 1792	P-1792	Process Fugitives	F-75-G	TOTAL VOCs	167.00	0.15	2.28
31130	5/18/03 22:05	5/19/03 20:15	37063	EE	PEU 1792	P-1792	Emissions	F04	Ethylene	271.00	22.17	13.95
31130	5/18/03 22:05	5/19/03 20:15	37063	EE	PEU 1792	P-1792	Emissions	F04	Propane	26.00	22.17	0.45
21130	5/18/03 22:05	5/19/03 20:15	2462C	EE	PEU 1792	P-1792	Emissions	F04	VOC	33.00	22.17	0.44
21130	5/18/03 22:05	5/19/03 20:15	2462C	EE	PEU 1792	P-1792	Emissions	F04	TOTAL VOCs	330.00	22.17	0.00
21143	5/19/03 18:09	5/20/03 0:00	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	CO	634.00	5.85	133.57
21143	5/19/03 18:09	5/20/03 0:00	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Nitrogen Dioxide	4.00	5.85	18.49
21143	5/19/03 18:09	5/20/03 0:00	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Nitrogen Oxide	83.00	5.85	18.49
21143	5/19/03 18:09	5/20/03 0:00	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	TOTAL NOx	87.00	5.85	17.65
21143	5/19/03 18:09	5/20/03 0:00	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Butene	6.00	5.85	350.64
21143	5/19/03 18:09	5/20/03 0:00	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Ethylene	883.00	5.85	8.00
21143	5/19/03 18:09	5/20/03 0:00	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Hexene	7.00	5.85	7.44
21143	5/19/03 18:09	5/20/03 0:00	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Octene	6.00	5.85	0.47
21143	5/19/03 18:09	5/20/03 0:00	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	TOTAL VOCs	902.00	5.85	358.62
21441	5/23/03 20:45	5/23/03 22:15	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	CO	255.00	1.50	133.57
21441	5/23/03 20:45	5/23/03 22:15	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Nitrogen Dioxide	2.00	1.50	18.49
21441	5/23/03 20:45	5/23/03 22:15	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Nitrogen Oxide	34.00	1.50	18.49
21441	5/23/03 20:45	5/23/03 22:15	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	TOTAL NOx	36.00	1.50	17.65
21441	5/23/03 20:45	5/23/03 22:15	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Butene	6.00	1.50	350.64
21441	5/23/03 20:45	5/23/03 22:15	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Ethylene	350.00	1.50	8.00
21441	5/23/03 20:45	5/23/03 22:15	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Hexene	7.00	1.50	7.44
21441	5/23/03 20:45	5/23/03 22:15	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	TOTAL VOCs	363.00	1.50	358.62
21683	5/30/03 3:17	5/30/03 4:39	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	CO	167.00	1.37	133.57
21683	5/30/03 3:17	5/30/03 4:39	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Nitrogen Dioxide	1.00	1.37	18.49
21683	5/30/03 3:17	5/30/03 4:39	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Nitrogen Oxide	22.00	1.37	18.49
21683	5/30/03 3:17	5/30/03 4:39	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	TOTAL NOx	23.00	1.37	17.65

Table 1 - Violations of Hourly Limits

Tracking Number	Start Date and Time	End Date and Time	Authorization	Type of Event	Unit	Additional Source Info/TIN	Emission Point	EPN	Pollutant	Amount Released (lbs)	Duration (hrs)	Reported Emission Limit (lbs/hr)
31683	5/30/03 3:17	5/30/03 4:39	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Butene	7.00	1.37	350.64
31683	5/30/03 3:17	5/30/03 4:39	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Ethylene	226.00	1.37	8.00
31683	5/30/03 3:17	5/30/03 4:39	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Hexene	8.00	1.37	7.44
31683	5/30/03 3:17	5/30/03 4:39	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Octene	7.00	1.37	0.47
21683	5/30/03 3:17	5/30/03 4:39	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	TOTAL VOCs	248.00	1.37	358.62
22389	6/3/03 1:31	6/3/03 21:51	PEU 1792	N/A	PEU 1792, Line	P-1792	Fugitive, safety relief system	F-75	Ethylene	425.00	0.03	7.35
22389	6/3/03 21:30	6/3/03 21:32	2462C	EE	S Reactor	P-1792	Fugitive, safety relief system	F-75	TOTAL VOCs	425.00	0.03	7.35
22389	6/11/03 5:01	6/13/03 10:43	2462C	EE	PEU 1792	P-1792	E-501 Cooling Tower	1792-76	Ethylene	5340.00	53.70	3.47
22594	6/11/03 5:01	6/13/03 10:43	2462C	EE	PEU 1792	P-1792	E-501 Cooling Tower	1792-76	TOTAL VOCs	5340.00	53.70	3.47
22647	6/15/03 1:15	6/15/03 2:21	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	CO	160.00	1.10	133.57
22647	6/15/03 1:15	6/15/03 2:21	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Nitrogen Dioxide	2.00	1.10	18.49
22647	6/15/03 1:15	6/15/03 2:21	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Nitrogen Oxide	21.00	1.10	18.49
22647	6/15/03 1:15	6/15/03 2:21	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	TOTAL NOx	23.00	1.10	17.65
22647	6/15/03 1:15	6/15/03 2:21	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Butene	7.00	1.10	350.64
22647	6/15/03 1:15	6/15/03 2:21	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Ethylene	215.00	1.10	8.00
22647	6/15/03 1:15	6/15/03 2:21	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Hexene	8.00	1.10	7.44
22647	6/15/03 1:15	6/15/03 2:21	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Octene	7.00	1.10	0.47
22647	6/15/03 1:15	6/15/03 2:21	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	TOTAL VOCs	237.00	1.10	358.62
23394	6/28/03 10:28	6/29/03 0:21	37063	EE	NAOU 1797	P-1791	Z-101 Flare	110	CO	82.30	13.88	35.72
23394	6/28/03 10:28	6/29/03 0:21	37063	EE	NAOU 1797	P-1791	Z-101 Flare	110	Nitrogen Dioxide	0.60	13.88	4.95
23394	6/28/03 10:28	6/29/03 0:21	37063	EE	NAOU 1797	P-1791	Z-101 Flare	110	Nitrogen Oxide	10.80	13.88	4.95
23394	6/28/03 10:28	6/29/03 0:21	37063	EE	NAOU 1797	P-1791	Z-101 Flare	110	TOTAL NOx	11.40	13.88	4.95
23394	6/28/03 10:28	6/29/03 0:21	37063	EE	NAOU 1797	P-1791	Z-101 Flare	110	Ethylene	116.00	13.88	20.00
23394	6/28/03 10:28	6/29/03 0:21	37063	EE	NAOU 1797	P-1791	Z-101 Flare	110	TOTAL VOCs	116.00	13.88	20.00
23630	7/5/03 3:38	7/5/03 3:50	1504A	Excess Opacity	Utilities, 1092	BF-801A	Boiler Stack	1592-10	Opacity	50.50%	0.20	15.00%
24350	7/17/03 17:28	7/18/03 1:58	46305	EE	PEU 1799	P-1799	FS-9004 Flare	1799-20	CO	548.67	8.50	14.90
24350	7/17/03 17:28	7/18/03 1:58	46305	EE	PEU 1799	P-1799	FS-9004 Flare	1799-20	Nitrogen Dioxide	3.20	8.50	14.90
24350	7/17/03 17:28	7/18/03 1:58	46305	EE	PEU 1799	P-1799	FS-9004 Flare	1799-20	Nitrogen Oxide	60.79	8.50	14.90
24350	7/17/03 17:28	7/18/03 1:58	46305	EE	PEU 1799	P-1799	FS-9004 Flare	1799-20	TOTAL NOx	63.99	8.50	14.96
24350	7/17/03 17:28	7/18/03 1:58	46305	EE	PEU 1799	P-1799	FS-9004 Flare	1799-20	Opacity	50.00%	8.50	0.00%
24350	7/17/03 17:28	7/18/03 1:58	46305	EE	PEU 1799	P-1799	FS-9004 Flare	1799-20	Butane	554.98	8.50	178.40
24350	7/17/03 17:28	7/18/03 1:58	46305	EE	PEU 1799	P-1799	FS-9004 Flare	1799-20	Ethylene	17.85	8.50	178.40
24350	7/17/03 17:28	7/18/03 1:58	46305	EE	PEU 1799	P-1799	FS-9004 Flare	1799-20	Hexene	2.80	8.50	178.40
24350	7/17/03 17:28	7/18/03 1:58	46305	EE	PEU 1799	P-1799	FS-9004 Flare	1799-20	Pentane	0.83	8.50	178.40
24350	7/17/03 17:28	7/18/03 1:58	46305	EE	PEU 1799	P-1799	FS-9004 Flare	1799-20	Propane	0.39	8.50	178.40
24350	7/17/03 17:28	7/18/03 1:58	46305	EE	PEU 1799	P-1799	FS-9004 Flare	1799-20	TOTAL VOCs	576.85	8.50	178.40
24382	7/18/03 1:50	7/18/03 13:00	46783	EE	Process Fugitives	F-75-G	Ethylene	407.00		6.00		2.28
24382	7/18/03 7:00	7/18/03 13:00	46783	EE	PEU 1792	P-1792	Process Fugitives	F-75-G	TOTAL VOCs	407.00	6.00	2.28
24444	7/21/03 7:00	7/21/03 8:45	37063	EE	NAOU 1797	SYS-740	SYS-740 Flare	136	CO	92.00	1.75	2.34
24444	7/21/03 7:00	7/21/03 8:45	37063	EE	NAOU 1797	SYS-740	SYS-740 Flare	136	Nitrogen Dioxide	2.00	1.75	1.17

Table 1 - Violations of Hourly Limits

Tracking Number	Start Date and Time	End Date and Time	Authorization	Type of Event	Unit	Additional Source Info/FIN	Emission Point	EPN	Pollutant	Amount Released (lbs)	Duration (hrs)	Reported Emission Limit (lbs/hr)
24444	7/21/03 7:00	7/21/03 8:45	37063	EE	NAOU 1797	SYS-740	SYS-740 Flare	136	Nitrogen Oxide	44.00	1.75	1.17
24444	7/21/03 7:00	7/21/03 8:45	37063	EE	NAOU 1797	SYS-740	SYS-740 Flare	136	TOTAL NOx	46.00	1.75	0.05
24444	7/21/03 7:00	7/21/03 8:45	37063	EE	NAOU 1797	SYS-740	SYS-740 Flare	136	Butene	12.00	1.75	0.00
24444	7/21/03 7:00	7/21/03 8:45	37063	EE	NAOU 1797	SYS-740	SYS-740 Flare	136	Ethylene	147.00	1.75	4.00
24444	7/21/03 7:00	7/21/03 8:45	37063	EE	NAOU 1797	SYS-740	SYS-740 Flare	136	Hexene	14.00	1.75	0.00
24444	7/21/03 7:00	7/21/03 8:45	37063	EE	NAOU 1797	SYS-740	SYS-740 Flare	136	Octene	12.00	1.75	0.00
24444	7/21/03 7:00	7/21/03 8:45	37063	EE	NAOU 1797	SYS-740	SYS-740 Flare	136	TOTAL VOCs	185.00	1.75	0.01
24898	7/29/03 10:00	7/29/03 18:15	2462C	EE	PEU 1792	P-1792	PEU 1792 Flare, Line 6 4#Hopper	45, F-75	CO	69.80	8.25	23.30
24898	7/29/03 10:00	7/29/03 18:15	2462C	EE	PEU 1792	P-1792	PEU 1792 Flare, Line 6 4#Hopper	45, F-75	Nitrogen Dioxide	0.50	8.25	3.20
24898	7/29/03 10:00	7/29/03 18:15	2462C	EE	PEU 1792	P-1792	PEU 1792 Flare, Line 6 4#Hopper	45, F-75	Nitrogen Oxide	9.20	8.25	3.20
24898	7/29/03 10:00	7/29/03 18:15	2462C	EE	PEU 1792	P-1792	PEU 1792 Flare, Line 6 4#Hopper	45, F-75	TOTAL NOx	9.70	8.25	3.20
24898	7/29/03 10:00	7/29/03 18:15	2462C	EE	PEU 1792	P-1792	PEU 1792 Flare, Line 6 4#Hopper	45, F-75	Ethylene	1124.20	8.25	19.70
24898	7/29/03 10:00	7/29/03 18:15	2462C	EE	PEU 1792	P-1792	PEU 1792 Flare, Line 6 4#Hopper	45, F-75	TOTAL VOCs	1124.20	8.25	19.70
26276	8/20/03 6:47	8/20/03 12:02	1504A	EE	EU 1592	P-1592	Flare	16	CO	2709.46	5.25	4837.93
26276	8/20/03 6:47	8/20/03 12:02	1504A	EE	EU 1592	P-1592	Flare	16	Nitrogen Dioxide	18.70	5.25	669.82
26276	8/20/03 6:47	8/20/03 12:02	1504A	EE	EU 1592	P-1592	Flare	16	Nitrogen Oxide	356.40	5.25	669.82
26276	8/20/03 6:47	8/20/03 12:02	1504A	EE	EU 1592	P-1592	Flare	16	TOTAL NOx	375.10	5.25	669.82
26276	8/20/03 6:47	8/20/03 12:02	1504A	EE	EU 1592	P-1592	Flare	16	Opacity	20.00%	5.25	0.00%
26276	8/20/03 6:47	8/20/03 12:02	1504A	EE	EU 1592	P-1592	Flare	16	Acetylene	98.75	5.25	8222.00
26276	8/20/03 6:47	8/20/03 12:02	1504A	EE	EU 1592	P-1592	Flare	16	Ethylene	2664.03	5.25	8222.00
26276	8/20/03 6:47	8/20/03 12:02	1504A	EE	EU 1592	P-1592	Flare	16	Propane	1.86	5.25	8222.00
26276	8/20/03 6:47	8/20/03 12:02	1504A	EE	EU 1592	P-1592	Flare	16	Propylene	1.86	5.25	8222.00
26276	8/20/03 6:47	8/20/03 12:02	1504A	EE	EU 1592	P-1592	Flare	16	TOTAL VOCs	2766.50	5.25	8222.00
29880	10/26/03 19:00	10/29/03 21:30	37063	EE	NAOU 1798	P-1798	R-1209	F-1798-30	CO	8.90	74.50	133.57
29880	10/26/03 19:00	10/29/03 21:30	37063	EE	NAOU 1798	P-1798	R-1209	F-1798-30	Nitrogen Dioxide	0.06	74.50	18.49
29880	10/26/03 19:00	10/29/03 21:30	37063	EE	NAOU 1798	P-1798	R-1209	F-1798-30	Nitrogen Oxide	1.20	74.50	18.49
29880	10/26/03 19:00	10/29/03 21:30	37063	EE	NAOU 1798	P-1798	R-1209	F-1798-30	TOTAL NOx	1.26	74.50	0.00
29880	10/26/03 19:00	10/29/03 21:30	37063	EE	NAOU 1798	P-1798	R-1209	F-1798-30	Ethylene	13163.00	74.50	358.60
29880	10/26/03 19:00	10/29/03 21:30	37063	EE	NAOU 1798	P-1798	R-1209	F-1798-30	TOTAL VOCs	13163.00	74.50	7.33
30505	11/13/03 5:00	11/13/03 14:30	2462C	EE	PEU 1792	P-1792	E-501 Cooling Tower	1792-76	Ethylene	225.00	9.50	3.47
30505	11/12/03 5:00	11/12/03 14:30	2462C	EE	PEU 1792	P-1792	E-501 Cooling Tower	1792-76	TOTAL VOCs	225.00	9.50	3.47
30534	11/14/03 2:37	11/14/03 4:46	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	CO	244.00	2.15	133.57
30534	11/14/03 2:37	11/14/03 4:46	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Nitrogen Dioxide	17.00	2.15	18.49
30534	11/14/03 2:37	11/14/03 4:46	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Nitrogen Oxide	32.00	2.15	18.49
30534	11/14/03 2:37	11/14/03 4:46	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	TOTAL NOx	49.00	2.15	17.65
30534	11/14/03 2:37	11/14/03 4:46	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Butene	53.00	2.15	350.64

Table 1 - Violations of Hourly Limits

Tracking Number	Start Date and Time	End Date and Time	Authorization	Type of Event	Unit	Additional Source Info/FIN	Emission Point	EPN	Pollutant	Amount Released (lbs)	Duration (hrs)	Reported Emission Limit (lbs/hr)
30534	11/14/03 2:37	11/14/03 4:46	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Ethylene	264.00	2.15	8.00
30534	11/14/03 2:37	11/14/03 4:46	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Hexene	62.00	2.15	7.44
30534	11/14/03 2:37	11/14/03 4:46	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Octene	53.00	2.15	47.00
30534	11/14/03 2:37	11/14/03 4:46	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	TOTAL VOCs	432.00	2.15	358.62
31110	11/22/03 8:00	11/22/03 8:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798	CO	235.00	0.50	127.00
31110	11/22/03 8:00	11/22/03 8:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798	Nitrogen Dioxide	2.00	0.50	17.00
31110	11/22/03 8:00	11/22/03 8:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798	Nitrogen Oxide	30.00	0.50	17.00
31110	11/22/03 8:00	11/22/03 8:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798	TOTAL NOx	32.00	0.50	17.65
31110	11/22/03 8:00	11/22/03 8:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798	Ethylene	330.00	0.50	362.00
31110	11/22/03 8:00	11/22/03 8:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798	TOTAL VOCs	330.00	0.50	358.62
31121	11/24/03 11:00	11/27/03 13:00	19027	EE	PEU 1796	P-1796	FS-541 Flare	1796-10A	CO	489.00	74.00	11.69
31121	11/24/03 11:00	11/27/03 13:00	19027	EE	PEU 1796	P-1796	FS-541 Flare	1796-10A	Nitrogen Dioxide	4.90	74.00	1.62
31121	11/24/03 11:00	11/27/03 13:00	19027	EE	PEU 1796	P-1796	FS-541 Flare	1796-10A	Nitrogen Oxide	91.40	74.00	1.62
31121	11/24/03 11:00	11/27/03 13:00	19027	EE	PEU 1796	P-1796	FS-541 Flare	1796-10A	TOTAL NOx	96.30	74.00	1.90
31121	11/24/03 11:00	11/27/03 13:00	19027	EE	PEU 1796	P-1796	FS-541 Flare	1796-10A	Hexene	1480.00	74.00	16.80
31121	11/24/03 11:00	11/27/03 13:00	19027	EE	PEU 1796	P-1796	FS-541 Flare	1796-10A	TOTAL VOCs	1480.00	74.00	16.80
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	CO	9254.98	382.92	731.14
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Hydrogen	364.26	382.92	1795.72
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Hydrogen Sulfide	3.99	382.92	0.01
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Nitrogen Dioxide	64.07	382.92	101.23
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Nitrogen Oxide	1217.51	382.92	101.23
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	TOTAL NOx	1281.38	382.92	283.51
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Opacity	50.00%	382.92	0.00
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	1,3-Butadiene	807.74	382.92	1795.72
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Acetylene	33.79	382.92	1795.72
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Benzene	488.92	382.92	1795.72
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Butane	34.04	382.92	1795.72
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Butene	894.58	382.92	1795.72
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Ethane	742.87	382.92	1795.72
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Ethylene	2182.61	382.92	1795.72
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Hexane	36.44	382.92	1795.72
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Hexene	44.58	382.92	1795.72
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Isoprene	49.63	382.92	1795.72
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Methane	1280.98	382.92	1795.72
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Pentane	60.93	382.92	1795.72
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Pentene	95.36	382.92	1795.72
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Propane	83.26	382.92	1795.72
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Propylene	6859.55	382.92	1795.72
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Toluene	333.40	382.92	1795.72
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Xylene	131.09	382.92	1795.72
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	TOTAL VOCs	14159.77	382.92	1795.72
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	CO	675.64	382.92	85.18
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	Hydrogen	85.57	382.92	85.09
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	Nitrogen Dioxide	4.68	382.92	11.79
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	Nitrogen Oxide	88.87	382.92	11.79

Table 1 - Violations of Hourly Limits

Tracking Number	Start Date and Time	End Date and Time	Authorization	Type of Event	Unit	Additional Source Info/FIN	Emission Point	EPN	Pollutant	Amount Released (lbs)	Duration (hrs)	Reported Emission Limit (lbs/hr)
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	TOTAL NOx	93.55	382.92	0.04
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	Acetylene	194.75	382.92	85.09
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	e	13.73	382.92	85.09
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	Ethane	80.57	382.92	85.09
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	Ethylene	190.75	382.92	85.09
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	Methane	240.26	382.92	85.09
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	Propane	0.13	382.92	85.09
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	Propylene	0.25	382.92	85.09
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	TOTAL VOCs	720.44	382.92	85.09
32438	12/18/03 18:11	12/20/03 4:40	46783	EE	PEU 1792	P-1792	Process Fugitives	F-75-G	Ethylene	763.00	34.48	2.28
32438	12/18/03 18:11	12/20/03 4:40	46783	EE	PEU 1792	P-1792	Process Fugitives	F-75-G	TOTAL VOCs	763.00	34.48	2.28
32541	12/23/03 23:40	12/24/03 0:30	46783	EE	PEU 1792	P-1792	Process Fugitives	F-75-G	Ethylene	236.00	0.83	2.28
32541	12/23/03 23:40	12/24/03 0:30	46783	EE	PEU 1792	P-1792	Process Fugitives	F-75-G	TOTAL VOCs	236.00	0.83	2.28
32974	1/8/04 21:40	1/8/04 21:44	2462C	EE	PEU 1792	P-1792	Process Fugitives	F-75	Ethylene	437.00	0.07	7.37
32974	1/8/04 21:40	1/8/04 21:44	2462C	EE	PEU 1792	P-1792	Process Fugitives	F-75	TOTAL VOCs	437.00	0.07	7.37
33770	1/24/04 6:20	1/24/04 8:00	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	Ethylene	40.00	1.67	79.71
33770	1/24/04 6:20	1/24/04 8:00	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	TOTAL VOCs	40.00	1.67	79.71
33770	1/24/04 6:20	1/24/04 8:00	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Butene	17.00	1.67	0.01
33770	1/24/04 6:20	1/24/04 8:00	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Ethylene	382.00	1.67	0.01
33770	1/24/04 6:20	1/24/04 8:00	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Hexene	20.00	1.67	0.01
33770	1/24/04 6:20	1/24/04 8:00	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Octene	17.00	1.67	0.01
33770	1/24/04 6:20	1/24/04 8:00	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	TOTAL VOCs	436.00	1.67	0.01
33777	1/24/04 6:20	1/24/04 8:00	37063	EE	NAOU 1797	SYS-740	Flare	110	Nitrogen Oxide	108.00	1.67	0.05
33777	1/24/04 6:20	1/24/04 8:00	37063	EE	NAOU 1797	SYS-740	Flare	110	TOTAL NOx	108.00	1.67	4.95
34589	4/1/04 12:30	4/5/04 18:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	1,3-Butadiene	600.00	101.50	1795.72
34589	4/1/04 12:30	4/5/04 18:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Acetylene	25.00	101.50	1795.72
34589	4/1/04 12:30	4/5/04 18:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Benzene	900.00	101.50	1795.72
34589	4/1/04 12:30	4/5/04 18:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Butane	300.00	101.50	1795.72
34589	4/1/04 12:30	4/5/04 18:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Butene	160.00	101.50	1795.72
34589	4/1/04 12:30	4/5/04 18:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Ethylene	4000.00	101.50	1795.72
34589	4/1/04 12:30	4/5/04 18:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Methylacetylene	75.00	101.50	1795.72
34589	4/1/04 12:30	4/5/04 18:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Pentane	500.00	101.50	1795.72
34589	4/1/04 12:30	4/5/04 18:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Propadiene	50.00	101.50	1795.72
34589	4/1/04 12:30	4/5/04 18:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Propane	1000.00	101.50	1795.72
34589	4/1/04 12:30	4/5/04 18:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Propylene	6000.00	101.50	1795.72
34589	4/1/04 12:30	4/5/04 18:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Toluene	300.00	101.50	1795.72
34589	4/1/04 12:30	4/5/04 18:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Xylene	200.00	101.50	1795.72
34589	4/1/04 12:30	4/5/04 18:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	TOTAL VOCs	14110.00	101.50	1795.72
34589	4/1/04 12:30	4/5/04 18:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-40	Acetylene	5.00	101.50	85.09
34589	4/1/04 12:30	4/5/04 18:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-40	Ethylene	200.00	101.50	85.09
34589	4/1/04 12:30	4/5/04 18:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-40	Propane	0.50	101.50	85.09
34589	4/1/04 12:30	4/5/04 18:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-40	Propylene	0.50	101.50	85.09
34589	4/1/04 12:30	4/5/04 18:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-40	TOTAL VOCs	206.00	101.50	85.09
34591	4/1/04 12:30	4/5/04 18:00	1504A	Shutdown	EU 1592	CB-701 Flare	CB-701 Flare	1592-16	CO	18000.00	101.50	731.14

Table 1 - Violations of Hourly Limits

Tracking Number	Start Date and Time	End Date and Time	Authorization	Type of Event	Unit	Additional Source Info/FIN	Emission Point	EPN	Pollutant	Amount Released (lbs)	Duration (hrs)	Reported Emission Limit (lbs/hr)
34591	4/1/04 12:30	4/5/04 18:00	1504A	Shutdown	EU 1592	CB-701 Flare	CB-701 Flare	1592-16	Nitrogen Dioxide	150.00	101.50	101.23
34591	4/1/04 12:30	4/5/04 18:00	1504A	Shutdown	EU 1592	CB-701 Flare	CB-701 Flare	1592-16	Nitrogen Oxide	2300.00	101.50	101.23
34591	4/1/04 12:30	4/5/04 18:00	1504A	Shutdown	EU 1592	CB-701 Flare	CB-701 Flare	1592-16	TOTAL NOx	2450.00	101.50	283.51
35198	2/20/04 0:45	2/20/04 1:00	37063	EE	NAOU 1798	F-1798-30	Z-1101 Flare	1798-22	CO	54.90	0.25	133.57
35198	2/20/04 0:45	2/20/04 1:00	37063	EE	NAOU 1798	F-1798-30	Z-1101 Flare	1798-22	Nitrogen Dioxide	0.40	0.25	18.49
35198	2/20/04 0:45	2/20/04 1:00	37063	EE	NAOU 1798	F-1798-30	Z-1101 Flare	1798-22	Nitrogen Oxide	7.20	0.25	18.49
35198	2/20/04 0:45	2/20/04 1:00	37063	EE	NAOU 1798	F-1798-30	Z-1101 Flare	1798-22	TOTAL NOx	7.60	0.25	17.65
35198	2/20/04 0:45	2/20/04 1:00	37063	EE	NAOU 1798	F-1798-30	Z-1101 Flare	1798-22	Ethylene	77.20	0.25	358.60
35198	2/20/04 0:45	2/20/04 1:00	37063	EE	NAOU 1798	F-1798-30	Z-1101 Flare	1798-22	TOTAL VOCs	77.20	0.25	77.20
35198	2/20/04 0:45	2/20/04 1:00	37063	EE	NAOU 1798	F-1798-30	R-1209	F-1798-30	Ethylene	4828.00	0.25	7.33
35198	2/20/04 0:45	2/20/04 1:00	37063	EE	NAOU 1798	F-1798-30	R-1209	F-1798-30	TOTAL VOCs	4828.00	0.25	7.33
35590	2/29/04 7:42	2/29/04 7:44	2462C	EE	PEU 1792	P-1792, Line 6 Reactor	Fugitive relief	F-75	Ethylene	425.00	0.03	7.37
35590	2/29/04 7:42	2/29/04 7:44	2462C	EE	PEU 1792	P-1792, Line 6 Reactor	Fugitive relief	F-75	TOTAL VOCs	425.00	0.03	7.37
37183	3/21/04 9:25	3/21/04 18:52	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	Butene	28.83	9.45	79.71
37183	3/21/04 9:25	3/21/04 18:52	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	Decene	26.09	9.45	79.71
37183	3/21/04 9:25	3/21/04 18:52	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	Dodecene	20.59	9.45	79.71
37183	3/21/04 9:25	3/21/04 18:52	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	Hexene	32.95	9.45	79.71
37183	3/21/04 9:25	3/21/04 18:52	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	Octene	28.83	9.45	79.71
37183	3/21/04 9:25	3/21/04 18:52	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	TOTAL VOCs	137.29	9.45	79.71
37183	3/21/04 9:25	3/21/04 18:52	37063	EE	NAOU 1797	P-1797	H-530 Heater	135	Butene	0.27	9.45	0.38
37183	3/21/04 9:25	3/21/04 18:52	37063	EE	NAOU 1797	P-1797	H-530 Heater	135	TOTAL VOCs	0.27	9.45	0.38
37183	3/21/04 9:25	3/21/04 18:52	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Butene	66.28	9.45	0.01
37183	3/21/04 9:25	3/21/04 18:52	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Decene	2.89	9.45	0.01
37183	3/21/04 9:25	3/21/04 18:52	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Dodecene	1.02	9.45	0.01
37183	3/21/04 9:25	3/21/04 18:52	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Ethane	13.17	9.45	0.01
37183	3/21/04 9:25	3/21/04 18:52	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Ethylene	363.27	9.45	0.01
37183	3/21/04 9:25	3/21/04 18:52	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Hexene	21.24	9.45	0.01
37183	3/21/04 9:25	3/21/04 18:52	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Octene	5.44	9.45	0.01
37183	3/21/04 9:25	3/21/04 18:52	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	TOTAL VOCs	473.31	9.45	0.01
37183	3/21/04 9:25	3/21/04 14:25	37063	EE	NAOU 1797	SYS-740	SYS-740 Flare	136	CO	234.10	5.00	0.11
37183	3/21/04 9:25	3/21/04 14:25	37063	EE	NAOU 1797	SYS-740	SYS-740 Flare	136	Nitrogen Dioxide	5.86	5.00	0.05
37183	3/21/04 9:25	3/21/04 14:25	37063	EE	NAOU 1797	SYS-740	SYS-740 Flare	136	Nitrogen Oxide	111.40	5.00	0.05
37183	3/21/04 9:25	3/21/04 14:25	37063	EE	NAOU 1797	SYS-740	SYS-740 Flare	136	TOTAL NOx	117.26	5.00	0.05
37194	3/30/04 8:15	3/30/04 17:15	46305	EE	PEU 1799	VE-9003	Flare	1799-20	CO	225.70	9.00	127.40
37194	3/30/04 8:15	3/30/04 17:15	46305	EE	PEU 1799	VE-9003	Flare	1799-20	Nitrogen Dioxide	1.30	9.00	14.90
37194	3/30/04 8:15	3/30/04 17:15	46305	EE	PEU 1799	VE-9003	Flare	1799-20	Nitrogen Oxide	25.00	9.00	14.90
37194	3/30/04 8:15	3/30/04 17:15	46305	EE	PEU 1799	VE-9003	Flare	1799-20	TOTAL NOx	26.30	9.00	14.96
37194	3/30/04 8:15	3/30/04 17:15	46305	EE	PEU 1799	VE-9003	Flare	1799-20	Opacity	50.00%	9.00	0.00%
37194	3/30/04 8:15	3/30/04 17:15	46305	EE	PEU 1799	VE-9003	Flare	1799-20	Butane	409.00	9.00	178.40
37194	3/30/04 8:15	3/30/04 17:15	46305	EE	PEU 1799	VE-9003	Flare	1799-20	Ethylene	4.00	9.00	178.40
37194	3/30/04 8:15	3/30/04 17:15	46305	EE	PEU 1799	VE-9003	Flare	1799-20	Hexene	2.90	9.00	178.40
37194	3/30/04 8:15	3/30/04 17:15	46305	EE	PEU 1799	VE-9003	Flare	1799-20	TOTAL VOCs	415.00	9.00	178.4

Table 1 - Violations of Hourly Limits

Tracking Number	Start Date and Time	End Date and Time	Authorization	Type of Event	Unit	Additional Source Info/FIN	Emission Point	EPN	Pollutant	Amount Released (lbs)	Duration (hrs)	Reported Emission Limit (lbs/hr)
37413	4/3/04 22:37	4/4/04 0:26	37063	EE	NAOU 1797	P-1797	R-202 Flare	136	CO	234.00	1.82	0.11
37413	4/3/04 22:37	4/4/04 0:26	37063	EE	NAOU 1797	P-1797	R-202 Flare	136	Nitric Oxide	115.00	1.82	0.05
37413	4/3/04 22:37	4/4/04 0:26	37063	EE	NAOU 1797	P-1797	R-202 Flare	136	Nitrogen Dioxide	2.00	1.82	0.01
37413	4/3/04 22:37	4/4/04 0:26	37063	EE	NAOU 1797	P-1797	R-202 Flare	136	TOTAL NOx	117.00	1.82	0.05
37413	4/3/04 22:37	4/4/04 0:26	37063	EE	NAOU 1797	P-1797	R-202 Flare	136	Butene	10.00	1.82	0.01
37413	4/3/04 22:37	4/4/04 0:26	37063	EE	NAOU 1797	P-1797	R-202 Flare	136	Ethylene	402.00	1.82	0.01
37413	4/3/04 22:37	4/4/04 0:26	37063	EE	NAOU 1797	P-1797	R-202 Flare	136	Hexene	12.00	1.82	0.01
37413	4/3/04 22:37	4/4/04 0:26	37063	EE	NAOU 1797	P-1797	R-202 Flare	136	Octene	10.00	1.82	0.01
37413	4/3/04 22:37	4/4/04 0:26	37063	EE	NAOU 1797	P-1797	R-202 Flare	136	TOTAL VOCs	434.00	1.82	0.01
38929	5/2/04 19:12	5/2/04 21:41	37063	EE	NAOU 1797	SYS-740	SYS-740 Flare	136	CO	227.00	2.48	2.34
38929	5/2/04 19:12	5/2/04 21:41	37063	EE	NAOU 1797	SYS-740	SYS-740 Flare	136	Nitrogen Dioxide	5.70	2.48	1.17
38929	5/2/04 19:12	5/2/04 21:41	37063	EE	NAOU 1797	SYS-740	SYS-740 Flare	136	Nitrogen Oxide	108.00	2.48	1.17
38929	5/2/04 19:12	5/2/04 21:41	37063	EE	NAOU 1797	SYS-740	SYS-740 Flare	136	TOTAL NOx	113.70	2.48	0.05
38929	5/2/04 19:12	5/2/04 21:41	37063	EE	NAOU 1797	SYS-740	SYS-740 Flare	136	Butene	62.50	2.48	4.00
38929	5/2/04 19:12	5/2/04 21:41	37063	EE	NAOU 1797	SYS-740	SYS-740 Flare	136	Ethylene	312.30	2.48	4.00
38929	5/2/04 19:12	5/2/04 21:41	37063	EE	NAOU 1797	SYS-740	SYS-740 Flare	136	Hexene	72.90	2.48	4.00
38929	5/2/04 19:12	5/2/04 21:41	37063	EE	NAOU 1797	SYS-740	SYS-740 Flare	136	Octene	62.50	2.48	4.00
38929	5/2/04 19:12	5/2/04 21:41	37063	EE	NAOU 1797	SYS-740	SYS-740 Flare	136	TOTAL VOCs	510.20	2.48	4.00
39448	5/11/04 16:44	5/11/04 17:22	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Ethylene	412.48	0.63	358.62
39448	5/11/04 16:44	5/11/04 17:22	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	TOTAL VOCs	412.48	0.63	358.62
40018	5/20/04 23:30	5/22/04 0:13	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	Butene	124.54	24.72	79.71
40018	5/20/04 23:30	5/22/04 0:13	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	Ethylene	137.53	24.72	79.71
40018	5/20/04 23:30	5/22/04 0:13	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	Hexene	168.55	24.72	79.71
40018	5/20/04 23:30	5/22/04 0:13	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	TOTAL VOCs	430.62	24.72	79.71
40018	5/20/04 23:30	5/22/04 0:13	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Butene	8.58	24.72	0.01
40018	5/20/04 23:30	5/22/04 0:13	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Ethylene	53.16	24.72	0.01
40018	5/20/04 23:30	5/22/04 0:13	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Hexene	2.17	24.72	0.01
40018	5/20/04 23:30	5/22/04 0:13	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	TOTAL VOCs	63.91	24.72	0.01
40018	5/20/04 23:30	5/22/04 0:13	37063	EE	NAOU 1797	P-1797	Process Fugitives	F-130	Butene	163.00	24.72	5.67
40018	5/20/04 23:30	5/22/04 0:13	37063	EE	NAOU 1797	P-1797	Process Fugitives	F-130	Ethylene	306.00	24.72	5.67
40018	5/20/04 23:30	5/22/04 0:13	37063	EE	NAOU 1797	P-1797	Process Fugitives	F-130	Hexene	221.00	24.72	5.67
40018	5/20/04 23:30	5/22/04 0:13	37063	EE	NAOU 1797	P-1797	Process Fugitives	F-130	TOTAL VOCs	690.00	24.72	5.67
49038	5/21/04 12:00	5/31/04 12:30	1504A	EE	BU 1592	P-1592	CB-701 Flare	1592-16	1,3-Butadiene	1470.28	216.50	1795.72
49038	5/21/04 12:00	5/31/04 12:30	1504A	EE	BU 1592	P-1592	CB-701 Flare	1592-16	Acetylene	61.96	216.50	1795.72
49038	5/21/04 12:00	5/31/04 12:30	1504A	EE	BU 1592	P-1592	CB-701 Flare	1592-16	Benzene	181.59	216.50	1795.72
49038	5/21/04 12:00	5/31/04 12:30	1504A	EE	BU 1592	P-1592	CB-701 Flare	1592-16	Butane	175.59	216.50	1795.72
49038	5/21/04 12:00	5/31/04 12:30	1504A	EE	BU 1592	P-1592	CB-701 Flare	1592-16	Butene	1634.12	216.50	1795.72
49038	5/21/04 12:00	5/31/04 12:30	1504A	EE	BU 1592	P-1592	CB-701 Flare	1592-16	Ethylene	7780.53	216.50	1795.72
49038	5/21/04 12:00	5/31/04 12:30	1504A	EE	BU 1592	P-1592	CB-701 Flare	1592-16	Hexane	42.25	216.50	1795.72
49038	5/21/04 12:00	5/31/04 12:30	1504A	EE	BU 1592	P-1592	CB-701 Flare	1592-16	Hexene	3.92	216.50	1795.72
49038	5/21/04 12:00	5/31/04 12:30	1504A	EE	BU 1592	P-1592	CB-701 Flare	1592-16	Propadiene	36.53	216.50	1795.72
49038	5/21/04 12:00	5/31/04 12:30	1504A	EE	BU 1592	P-1592	CB-701 Flare	1592-16	Pentane	103.07	216.50	1795.72
49038	5/21/04 12:00	5/31/04 12:30	1504A	EE	BU 1592	P-1592	CB-701 Flare	1592-16	Pentene	82.44	216.50	1795.72
49038	5/21/04 12:00	5/31/04 12:30	1504A	EE	BU 1592	P-1592	CB-701 Flare	1592-16	Propane	80.54	216.50	1795.72
49038	5/21/04 12:00	5/31/04 12:30	1504A	EE	BU 1592	P-1592	CB-701 Flare	1592-16	Propylene	8471.84	216.50	1795.72

Table 1 - Violations of Hourly Limits

Tracking Number	Start Date and Time	End Date and Time	Authorization	Type of Event	Unit	Additional Source Info/FIN	Emission Point	EPN	Pollutant	Amount Released (lbs)	Duration (hrs)	Reported Emission Limit (lbs/hr)
40038	5/22/04 12:00	5/31/04 12:30	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Toluene	50.97	216.50	1795.72
40038	5/22/04 12:00	5/31/04 12:30	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Xylene	7.88	216.50	1795.72
40038	5/22/04 12:00	5/31/04 12:30	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	TOTAL VOCs	20183.51	216.50	1795.72
40038	5/22/04 12:00	5/31/04 12:30	1504A	EE	EU 1592	P-1592	Process Fugitives	1592-31	Propylene	93.00	216.50	12.46
40038	5/22/04 12:00	5/31/04 12:30	1504A	EE	EU 1592	P-1592	Process Fugitives	1592-31	TOTAL VOCs	93.00	216.50	12.46
40038	5/22/04 12:00	5/31/04 12:30	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	Acetylene	46.40	216.50	85.09
40038	5/22/04 12:00	5/31/04 12:30	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	Ethylene	464.12	216.50	85.09
40038	5/22/04 12:00	5/31/04 12:30	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	Propylene	7.53	216.50	85.09
40038	5/22/04 12:00	5/31/04 12:30	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	TOTAL VOCs	518.05	216.50	85.09
40039	5/22/04 12:00	5/31/04 12:30	1504A	EE	EU 1592	CB-701 Flare	CB-701 Flare	1592-16	CO	21516.14	216.50	731.14
40039	5/22/04 12:00	5/31/04 12:30	1504A	EE	EU 1592	CB-701 Flare	CB-701 Flare	1592-16	Nitric Oxide	2830.02	216.50	101.23
40039	5/22/04 12:00	5/31/04 12:30	1504A	EE	EU 1592	CB-701 Flare	CB-701 Flare	1592-16	Nitrogen Dioxide	148.95	216.50	101.23
40039	5/22/04 12:00	5/31/04 12:30	1504A	EE	EU 1592	CB-701 Flare	CB-701 Flare	1592-16	TOTAL NOx	2978.97	216.50	283.51
40039	5/22/04 12:00	5/31/04 12:30	1504A	EE	PEU 1796 Train	P-1796	FS-541 Flare	1796-10A	Ethylene	141.11	38.08	16.80
40039	5/22/04 12:00	5/31/04 12:30	1504A	EE	PEU 1796 Train	P-1796	FS-541 Flare	1796-10A	Hexene	87.66	38.08	16.80
40039	5/22/04 12:00	5/31/04 12:30	1504A	EE	PEU 1796 Train	P-1796	FS-541 Flare	1796-10A	Pentane, N-	112.82	38.08	16.80
40050	5/22/04 17:25	5/24/04 7:30	19027	EE	PEU 1796 Train	P-1796	FS-541 Flare	1796-10A	TOTAL VOCs	341.59	38.08	16.80
40051	5/22/04 17:25	5/24/04 7:30	19027	EE	PEU 1796 Train	P-1796	FS-541	1796-10A	CO	513.87	38.08	11.69
40051	5/22/04 17:25	5/24/04 7:30	19027	EE	PEU 1796 Train	P-1796	FS-541	1796-10A	Nitric Oxide	95.80	38.08	1.62
40051	5/22/04 17:25	5/24/04 7:30	19027	EE	PEU 1796 Train	P-1796	FS-541	1796-10A	Nitrogen Dioxide	5.04	38.08	1.62
40051	5/22/04 17:25	5/24/04 7:30	19027	EE	PEU 1796 Train	P-1796	FS-541	1796-10A	TOTAL NOx	100.84	38.08	1.90
40233	5/26/04 1:55	5/26/04 6:57	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Butene	13.60	5.03	0.01
40233	5/26/04 1:55	5/26/04 6:57	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Ethylene	445.40	5.03	0.01
40233	5/26/04 1:55	5/26/04 6:57	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Hexene	15.30	5.03	0.01
40233	5/26/04 1:55	5/26/04 6:57	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Octene	13.60	5.03	0.01
40233	5/26/04 1:55	5/26/04 6:57	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	TOTAL VOCs	487.90	5.03	0.01
40234	5/26/04 1:55	5/26/04 6:57	37063	EE	NAOU 1797	SYS-740	SYS-740 Flare	136	CO	257.10	5.03	0.05
40234	5/26/04 1:55	5/26/04 6:57	37063	EE	NAOU 1797	SYS-740	SYS-740 Flare	136	Nitric Oxide	123.90	5.03	0.05
40234	5/26/04 1:55	5/26/04 6:57	37063	EE	NAOU 1797	SYS-740	SYS-740 Flare	136	Nitrogen Dioxide	6.50	5.03	0.05
40234	5/26/04 1:55	5/26/04 6:57	37063	EE	NAOU 1797	SYS-740	SYS-740 Flare	136	TOTAL NOx	130.40	5.03	0.05
40906	6/7/04 20:19	6/7/04 20:26	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	CO	22.20	0.12	0.11
40906	6/7/04 20:19	6/7/04 20:26	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Nitric Oxide	10.73	0.12	0.05
40906	6/7/04 20:19	6/7/04 20:26	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Nitrogen Dioxide	0.56	0.12	0.05
40906	6/7/04 20:19	6/7/04 20:26	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	TOTAL NOx	11.29	0.12	0.05
40906	6/7/04 20:19	6/7/04 20:26	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Ethylene	40.30	0.12	0.01
40906	6/7/04 20:19	6/7/04 20:26	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	TOTAL VOCs	40.30	0.12	0.01

Table 1 - Violations of Hourly Limits

Tracking Number	Start Date and Time	End Date and Time	Authorization	Type of Event	Unit	Additional Source Info/FIN	Emission Point	EPN	Pollutant	Amount Released (lbs)	Duration (hrs)	Reported Emission Limit (lbs/hr)
40906	6/7/04 20:19	6/7/04 20:25	37063	EE	NAOU 1797	P-1797	Fugitives	F-130	Ethylene	728.00	0.12	5.67
40906	6/7/04 20:19	6/7/04 20:26	37063	EE	NAOU 1797	P-1797	Fugitives	F-130	TOTAL VOCs	728.00	0.12	5.67
411800	6/25/04 9:20	6/25/04 14:45	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Acetylene	0.02	5.42	3150.43
411800	6/25/04 9:20	6/25/04 14:45	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Ethylene	2480.87	5.42	3150.43
411800	6/25/04 9:20	6/25/04 14:45	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Propane	0.15	5.42	3150.43
411800	6/25/04 9:20	6/25/04 14:45	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Propylene	2.23	5.42	3150.43
411800	6/25/04 9:20	6/25/04 14:45	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	TOTAL VOCs	2483.27	5.42	3150.43
411800	6/25/04 9:20	6/25/04 14:45	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	CO	79.40	5.42	0.32
411800	6/25/04 9:20	6/25/04 14:45	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	Nitric Oxide	10.44	5.42	0.04
411800	6/25/04 9:20	6/25/04 14:45	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	Nitrogen Dioxide	0.55	5.42	0.04
411800	6/25/04 9:20	6/25/04 14:45	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	TOTAL NOx	10.99	5.42	0.04
411800	6/25/04 9:20	6/25/04 14:45	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	Acetylene	57.22	5.42	0.02
411800	6/25/04 9:20	6/25/04 14:45	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	Ethylene	1.25	5.42	0.02
411800	6/25/04 9:20	6/25/04 14:45	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	Propylene	0.02	5.42	0.02
411800	6/25/04 9:20	6/25/04 14:45	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	TOTAL VOCs	58.49	5.42	0.02
411801	6/25/04 9:20	6/25/04 14:45	1504A	EE	EU 1592	CB-701 Flare	1592-16	CO	2596.49	5.42	2047.71	
411801	6/25/04 9:20	6/25/04 14:45	1504A	EE	EU 1592	CB-701 Flare	1592-16	Nitric Oxide	341.52	5.42	283.51	
411801	6/25/04 9:20	6/25/04 14:45	1504A	EE	EU 1592	CB-701 Flare	1592-16	Nitrogen Dioxide	17.97	5.42	283.51	
411801	6/25/04 9:20	6/25/04 14:45	1504A	EE	EU 1592	CB-701 Flare	1592-16	TOTAL NOx	359.49	5.42	283.51	
411802	6/25/04 14:23	6/25/04 17:58	46305	EE	PEU 1799	P-1799	FS-9004 Flare	1799-20	CO	135.90	3.58	127.40
411802	6/25/04 14:23	6/25/04 17:58	46305	EE	PEU 1799	P-1799	FS-9004 Flare	1799-20	Nitric Oxide	15.10	3.58	14.90
411802	6/25/04 14:23	6/25/04 17:58	46305	EE	PEU 1799	P-1799	FS-9004 Flare	1799-20	Nitrogen Dioxide	0.70	3.58	14.90
411802	6/25/04 14:23	6/25/04 17:58	46305	EE	PEU 1799	P-1799	FS-9004 Flare	1799-20	TOTAL NOx	15.80	3.58	14.96
411802	6/25/04 14:23	6/25/04 17:58	46305	EE	PEU 1799	P-1799	FS-9004 Flare	1799-20	Ethylene	121.90	3.58	178.40
411802	6/25/04 14:23	6/25/04 17:58	46305	EE	PEU 1799	P-1799	FS-9004 Flare	1799-20	TOTAL VOCs	121.90	3.58	178.40
411928	6/28/04 19:30	7/3/04 12:00	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	CO	446.10	112.50	127.51
411928	6/28/04 19:30	7/3/04 12:00	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Nitric Oxide	58.67	112.50	17.65
411928	6/28/04 19:30	7/3/04 12:00	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Nitrogen Dioxide	3.09	112.50	17.65
411928	6/28/04 19:30	7/3/04 12:00	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	TOTAL NOx	61.76	112.50	17.65
411928	6/28/04 19:30	7/3/04 12:00	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Ethylene	89.31	112.50	358.62
411928	6/28/04 19:30	7/3/04 12:00	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Hexene	1143.32	112.50	358.62
411928	6/28/04 19:30	7/3/04 12:00	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	TOTAL VOCs	1232.63	112.50	358.62
411928	6/28/04 19:30	7/3/04 12:00	37063	EE	NAOU 1798	P-1798	Process Fugitives	F-1798-30	Ethylene	2979.61	112.50	7.33
411928	6/28/04 19:30	7/3/04 12:00	37063	EE	NAOU 1798	P-1798	Process Fugitives	F-1798-30	TOTAL VOCs	2979.61	112.50	7.33
411928	7/8/04 15:20	7/8/04 20:47	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Butene	40.00	5.45	358.62
411928	7/8/04 15:20	7/8/04 20:47	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Ethylene	3861.00	5.45	358.62
424411	7/8/04 15:20	7/8/04 20:47	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	TOTAL VOCs	3901.00	5.45	358.62
424412	7/8/04 15:20	7/8/04 20:47	37063	EE	NAOU 1798	Z-1101	Z-1101 Flare	1798-22	CO	2823.00	5.45	127.51
424412	7/8/04 15:20	7/8/04 20:47	37063	EE	NAOU 1798	Z-1101	Z-1101 Flare	1798-22	Nitric Oxide	371.00	5.45	17.65
424412	7/8/04 15:20	7/8/04 20:47	37063	EE	NAOU 1798	Z-1101	Z-1101 Flare	1798-22	Nitrogen Dioxide	20.00	5.45	17.65
424412	7/8/04 15:20	7/8/04 20:47	37063	EE	NAOU 1798	Z-1101	Z-1101 Flare	1798-22	TOTAL NOx	391.00	5.45	17.65
431100	7/20/04 12:00	7/20/04 21:00	1504A	EE	Utilities 1092	BF-801A	BF-801A Stack	1592-10	Nitric Oxide	121.32	9.00	59.02
431100	7/20/04 12:00	7/20/04 21:00	1504A	EE	Utilities 1092	BF-801A	BF-801A Stack	1592-10	Nitrogen Dioxide	6.38	9.00	59.02
431100	7/20/04 12:00	7/20/04 21:00	1504A	EE	Utilities 1092	BF-801A	BF-801A Stack	1592-10	TOTAL NOx	127.70	9.00	118.04

Table 1 - Violations of Hourly Limits

Tracking Number	Start Date and Time	End Date and Time	Authorization	Type of Event	Unit	Additional Source Info/FIN	Emission Point	EPN	Pollutant	Amount Released (lbs)	Duration (hrs)	Reported Emission Limit (lbs/hr)
43102	7/20/04 12:00	7/20/04 21:00	1504A	EE	Utilities 1092	BF-801C	BF-801C Stack	1592-11	Nitric Oxide	151.90	9.00	59.02
43102	7/20/04 12:00	7/20/04 21:00	1504A	EE	Utilities 1092	BF-801C	BF-801C Stack	1592-11	Nitrogen Dioxide	8.00	9.00	59.02
43102	7/20/04 12:00	7/20/04 21:00	1504A	EE	Utilities 1092	BF-801C	BF-801C Stack	1592-11	TOTAL NOx	159.90	9.00	59.02
43142	7/21/04 16:55	7/22/04 17:44	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	1,3-Butadiene	549.64	24.82	3150.43
43142	7/21/04 16:55	7/22/04 17:44	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Acetylene	40.56	24.82	3150.43
43142	7/21/04 16:55	7/22/04 17:44	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Benzene	381.35	24.82	3150.43
43142	7/21/04 16:55	7/22/04 17:44	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Butane	22.73	24.82	3150.43
43142	7/21/04 16:55	7/22/04 17:44	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Butene	541.42	24.82	3150.43
43142	7/21/04 16:55	7/22/04 17:44	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Ethylene	2382.89	24.82	3150.43
43142	7/21/04 16:55	7/22/04 17:44	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Hexane	2.66	24.82	3150.43
43142	7/21/04 16:55	7/22/04 17:44	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Hexene	154.34	24.82	3150.43
43142	7/21/04 16:55	7/22/04 17:44	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Isoprene	9.73	24.82	3150.43
43142	7/21/04 16:55	7/22/04 17:44	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Pentane	9.73	24.82	3150.43
43142	7/21/04 16:55	7/22/04 17:44	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Pentene	223.70	24.82	3150.43
43142	7/21/04 16:55	7/22/04 17:44	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Propane	158.02	24.82	3150.43
43142	7/21/04 16:55	7/22/04 17:44	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Propylene	3471.73	24.82	3150.43
43142	7/21/04 16:55	7/22/04 17:44	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Toluene	130.18	24.82	3150.43
43142	7/21/04 16:55	7/22/04 17:44	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Xylene	0.03	24.82	3150.43
43142	7/21/04 16:55	7/22/04 17:44	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	TOTAL VOCs	8078.71	24.82	3150.43
43142	7/21/04 16:55	7/22/04 17:44	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	CO	268.37	24.82	0.32
43142	7/21/04 16:55	7/22/04 17:44	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	Nitric Oxide	35.30	24.82	0.04
43142	7/21/04 16:55	7/22/04 17:44	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	Nitrogen Dioxide	1.86	24.82	0.04
43142	7/21/04 16:55	7/22/04 17:44	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	TOTAL NOx	37.16	24.82	0.04
43142	7/21/04 16:55	7/22/04 17:44	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	Acetylene	64.41	24.82	0.02
43142	7/21/04 16:55	7/22/04 17:44	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	Ethylene	79.92	24.82	0.02
43142	7/21/04 16:55	7/22/04 17:44	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	Propane	0.03	24.82	0.02
43142	7/21/04 16:55	7/22/04 17:44	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	Propylene	0.09	24.82	0.02
43142	7/21/04 16:55	7/22/04 17:44	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	TOTAL VOCs	144.45	24.82	0.02
43143	7/21/04 16:55	7/22/04 17:44	1504A	EE	EU 1592	CB-701 Flare	CB-701 Flare	1592-16	CO	6170.21	24.82	2047.71
43143	7/21/04 16:55	7/22/04 17:44	1504A	EE	EU 1592	CB-701 Flare	CB-701 Flare	1592-16	Nitric Oxide	811.57	24.82	283.51
43143	7/21/04 16:55	7/22/04 17:44	1504A	EE	EU 1592	CB-701 Flare	CB-701 Flare	1592-16	Nitrogen Dioxide	42.71	24.82	283.51
43143	7/21/04 16:55	7/22/04 17:44	1504A	EE	EU 1592	CB-701 Flare	CB-701 Flare	1592-16	TOTAL NOx	854.28	24.82	283.51
43143	7/21/04 16:55	7/22/04 17:44	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Methylacetylene	158.00	30.50	3150.43
43143	7/21/04 16:55	7/22/04 17:44	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Propadiene	122.00	30.50	3150.43
43143	7/21/04 16:55	7/22/04 17:44	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Propane	1466.00	30.50	3150.43
43143	7/21/04 16:55	7/22/04 17:44	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Propylene	2020.00	30.50	3150.43
43299	7/25/04 6:30	7/26/04 13:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	TOTAL VOCs	3766.00	30.50	3150.43
43300	7/25/04 6:30	7/26/04 13:00	1504A	EE	EU 1592	CB-701 Flare	CB-701 Flare	1592-16	CO	2636.00	30.50	2047.71
43300	7/25/04 6:30	7/26/04 13:00	1504A	EE	EU 1592	CB-701 Flare	CB-701 Flare	1592-16	Nitric Oxide	347.00	30.50	283.51
43300	7/25/04 6:30	7/26/04 13:00	1504A	EE	EU 1592	CB-701 Flare	CB-701 Flare	1592-16	Nitrogen Dioxide	18.00	30.50	283.51
43300	7/25/04 6:30	7/26/04 13:00	1504A	EE	EU 1592	CB-701 Flare	CB-701 Flare	1592-16	TOTAL NOx	365.00	30.50	283.51
45547	9/1/04 19:05	9/2/04 3:55	2462C	EE	PEU 1792	P-1792	X-901 Flare	45	CO	113.75	8.83	23.30
45547	9/1/04 19:05	9/2/04 3:55	2462C	EE	PEU 1792	P-1792	X-901 Flare	45	Nitric Oxide	14.96	8.83	3.20
45547	9/1/04 19:05	9/2/04 3:55	2462C	EE	PEU 1792	P-1792	X-901 Flare	45	Nitrogen Dioxide	0.79	8.83	3.20
45547	9/1/04 19:05	9/2/04 3:55	2462C	EE	PEU 1792	P-1792	X-901 Flare	45	TOTAL NOx	15.75	8.83	3.20

Table 1 - Violations of Hourly Limits

Tracking Number	Start Date and Time	End Date and Time	Authorization	Type of Event	Unit	Additional Source Info/TIN	Emission Point	EPN	Pollutant	Amount Released (lbs)	Duration (hrs)	Reported Emission Limit (lbs/hr)
45547	9/1/04 19:05	9/2/04 3:55	2462C	EE	PEU 1792	P-1792	X-901 Flare	45	Ethylene	160.00	8.83	28.80
45547	9/1/04 19:05	9/2/04 3:55	2462C	EE	PEU 1792	P-1792	X-901 Flare	45	TOTAL VOCs	160.00	8.83	28.80
47791	10/13/04 16:30	10/14/04 21:07	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	1,3-Butadiene	2484.92	28.62	3150.43
47791	10/13/04 16:30	10/14/04 21:07	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Acetylene	178.86	28.62	3150.43
47791	10/13/04 16:30	10/14/04 21:07	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Butane	294.34	28.62	3150.43
47791	10/13/04 16:30	10/14/04 21:07	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Butene	3436.31	28.62	3150.43
47791	10/13/04 16:30	10/14/04 21:07	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Ethylene	13359.31	28.62	3150.43
47791	10/13/04 16:30	10/14/04 21:07	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Hexene	764.84	28.62	3150.43
47791	10/13/04 16:30	10/14/04 21:07	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Methylacetylene	60.62	28.62	3150.43
47791	10/13/04 16:30	10/14/04 21:07	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Pentane	0.15	28.62	3150.43
47791	10/13/04 16:30	10/14/04 21:07	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Pentene	1204.88	28.62	3150.43
47791	10/13/04 16:30	10/14/04 21:07	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Propadiene	60.62	28.62	3150.43
47791	10/13/04 16:30	10/14/04 21:07	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Propane	214.63	28.62	3150.43
47791	10/13/04 16:30	10/14/04 21:07	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Propylene	6687.58	28.62	3150.43
47791	10/13/04 16:30	10/14/04 21:07	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	TOTAL VOCs	28747.06	28.62	3150.43
47791	10/13/04 16:30	10/14/04 21:07	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	Acetylene	46.21	28.62	0.02
47791	10/13/04 16:30	10/14/04 21:07	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	Ethylene	440.03	28.62	0.02
47791	10/13/04 16:30	10/14/04 21:07	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	Propylene	7.13	28.62	0.02
47791	10/13/04 16:30	10/14/04 21:07	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	TOTAL VOCs	493.37	28.62	0.02
47792	10/13/04 16:30	10/14/04 21:07	1504A	EE	EU 1592	CB-701 Flare	CB-701 Flare	1592-16	CO	23971.77	28.62	2047.71
47792	10/13/04 16:30	10/14/04 21:07	1504A	EE	EU 1592	CB-701 Flare	CB-701 Flare	1592-16	Nitric Oxide	3153.01	28.62	283.51
47792	10/13/04 16:30	10/14/04 21:07	1504A	EE	EU 1592	CB-701 Flare	CB-701 Flare	1592-16	Nitrogen Dioxide	165.95	28.62	283.51
47792	10/13/04 16:30	10/14/04 21:07	1504A	EE	EU 1592	CB-701 Flare	CB-701 Flare	1592-16	TOTAL NOx	3318.96	28.62	283.51
47800	10/13/04 16:38	10/14/04 23:30	2462C	EE	PEU 1792	P-1792	X-901 Flare	45	Ethylene	687.00	30.87	28.80
47800	10/13/04 16:38	10/14/04 23:30	2462C	EE	PEU 1792	P-1792	X-901 Flare	45	Propane	92.00	30.87	28.80
47800	10/13/04 16:38	10/14/04 23:30	2462C	EE	PEU 1792	P-1792	X-901 Flare	45	TOTAL VOCs	779.00	30.87	28.80
47805	10/13/04 16:38	10/14/04 23:30	2462C	EE	PEU 1792	X-901 Flare	X-901 Flare	45	CO	560.00	30.87	23.30
47805	10/13/04 16:38	10/14/04 23:30	2462C	EE	PEU 1792	X-901 Flare	X-901 Flare	45	Nitrogen Dioxide	3.90	30.87	3.20
47805	10/13/04 16:38	10/14/04 23:30	2462C	EE	PEU 1792	X-901 Flare	X-901 Flare	45	Nitrogen Oxide	73.70	30.87	3.20
47805	10/13/04 16:38	10/14/04 23:30	2462C	EE	PEU 1792	X-901 Flare	X-901 Flare	45	TOTAL NOx	77.60	30.87	3.20
47806	10/13/04 16:35	10/14/04 7:27	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	CO	615.53	14.87	35.72
47806	10/13/04 16:35	10/14/04 7:27	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	Nitric Oxide	80.96	14.87	4.95
47806	10/13/04 16:35	10/14/04 7:27	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	Nitrogen Dioxide	4.26	14.87	4.95
47806	10/13/04 16:35	10/14/04 7:27	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	TOTAL NOx	85.22	14.87	4.95
47806	10/13/04 16:35	10/14/04 7:27	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	Butene	264.54	14.87	79.71
47806	10/13/04 16:35	10/14/04 7:27	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	Ethylene	573.16	14.87	79.71
47806	10/13/04 16:35	10/14/04 7:27	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	Hexene	176.36	14.87	79.71
47806	10/13/04 16:35	10/14/04 7:27	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	Octane	176.36	14.87	79.71
47806	10/13/04 16:35	10/14/04 7:27	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	TOTAL VOCs	1190.42	14.87	79.71
47806	10/13/04 16:35	10/14/04 7:27	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Butene	32.00	14.87	0.01
47806	10/13/04 16:35	10/14/04 7:27	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Ethylene	1704.10	14.87	0.01
47806	10/13/04 16:35	10/14/04 7:27	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Hexene	36.00	14.87	0.01
47806	10/13/04 16:35	10/14/04 7:27	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Octene	32.00	14.87	0.01
47806	10/13/04 16:35	10/14/04 7:27	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	TOTAL VOCs	1804.10	14.87	0.01
47808	10/13/04 16:35	10/14/04 7:27	37063	EE	NAOU 1797	SYS-740	SYS-740 Flare	136	CO	966.50	14.87	0.11

Table 1 - Violations of Hourly Limits

Tracking Number	Start Date and Time	End Date and Time	Authorization	Type of Event	Unit	Additional Source Info/FIN	Emission Point	EPA	Pollutant	Amount Released (lbs)	Duration (hrs)	Reported Emission Limit (lbs/hr)
47808	10/13/04 16:38	10/14/04 7:27	37063	EE	NAOU 1797	SYS-740	SYS-740 Flare	136	Nitric Oxide	465.99	14.87	0.05
47820	10/13/04 16:35	10/14/04 7:27	37063	EE	NAOU 1797	SYS-740	SYS-740 Flare	136	Nitrogen Dioxide	24.53	14.87	0.05
47808	10/13/04 16:35	10/14/04 7:27	37063	EE	NAOU 1797	SYS-740	SYS-740 Flare	136	TOTAL NOx	490.52	14.87	0.05
47822	10/13/04 16:38	10/14/04 12:42	19027	EE	PEU 1796	P-1796	Incinerator	1796-06G	Hexene	24.20	20.07	4.90
47822	10/13/04 16:38	10/14/04 12:42	19027	EE	PEU 1796	P-1796	Incinerator	1796-06G	TOTAL VOCs	24.20	20.07	4.90
47822	10/13/04 16:38	10/14/04 12:42	19027	EE	PEU 1796	P-1796	FS-541 Flare	1796-10A	Ethylene	376.50	20.07	16.80
47822	10/13/04 16:38	10/14/04 12:42	19027	EE	PEU 1796	P-1796	FS-541 Flare	1796-10A	Hexane	41.60	20.07	16.80
47822	10/13/04 16:38	10/14/04 12:42	19027	EE	PEU 1796	P-1796	FS-541 Flare	1796-10A	Hexene	183.90	20.07	16.80
47822	10/13/04 16:38	10/14/04 12:42	19027	EE	PEU 1796	P-1796	FS-541 Flare	1796-10A	Methyl Pentane	83.20	20.07	16.80
47822	10/13/04 16:38	10/14/04 12:42	19027	EE	PEU 1796	P-1796	FS-541 Flare	1796-10A	Pentane	404.00	20.07	16.80
47822	10/13/04 16:38	10/14/04 12:42	19027	EE	PEU 1796	P-1796	FS-541 Flare	1796-10A	TOTAL VOCs	1089.20	20.07	16.80
47829	10/13/04 16:38	10/14/04 12:42	19027	EE	PEU 1796	FS-541 Flare	1796-10A	CO	685.40	20.07	11.69	
47829	10/13/04 16:38	10/14/04 12:42	19027	EE	PEU 1796	FS-541 Flare	1796-10A	Nitrogen Dioxide	6.70	20.07	1.62	
47829	10/13/04 16:38	10/14/04 12:42	19027	EE	PEU 1796	FS-541 Flare	1796-10A	Nitrogen Oxide	127.70	20.07	1.62	
47829	10/13/04 16:38	10/14/04 12:42	19027	EE	PEU 1796	FS-541 Flare	1796-10A	TOTAL NOx	134.40	20.07	1.90	
48279	10/22/04 2:00	10/22/04 16:54	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	CO	2.23	14.90	35.72
48279	10/22/04 2:00	10/22/04 16:54	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	Nitric Oxide	0.29	14.90	4.95
48279	10/22/04 2:00	10/22/04 16:54	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	Nitrogen Dioxide	0.02	14.90	4.95
48279	10/22/04 2:00	10/22/04 16:54	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	TOTAL NOx	0.31	14.90	4.95
48279	10/22/04 2:00	10/22/04 16:54	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	Ethylene	3.14	14.90	79.71
48279	10/22/04 2:00	10/22/04 16:54	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	TOTAL VOCs	3.14	14.90	79.71
48279	10/22/04 2:00	10/22/04 16:54	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Butene	64.90	14.90	0.01
48279	10/22/04 2:00	10/22/04 16:54	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Ethylene	304.10	14.90	0.01
48279	10/22/04 2:00	10/22/04 16:54	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Hexene	73.00	14.90	0.01
48279	10/22/04 2:00	10/22/04 16:54	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Octene	64.90	14.90	0.01
48279	10/22/04 2:00	10/22/04 16:54	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	TOTAL VOCs	506.90	14.90	0.01
48282	10/22/04 2:00	10/22/04 4:54	37063	EE	NAOU 1797	SYS-740	SYS-740 Flare	136	CO	223.40	2.90	0.11
48282	10/22/04 2:00	10/22/04 4:54	37063	EE	NAOU 1797	SYS-740	SYS-740 Flare	136	Nitric Oxide	106.40	2.90	0.05
48282	10/22/04 2:00	10/22/04 4:54	37063	EE	NAOU 1797	SYS-740	SYS-740 Flare	136	Nitrogen Dioxide	5.60	2.90	0.05
48282	10/22/04 2:00	10/22/04 4:54	37063	EE	NAOU 1797	SYS-740	SYS-740 Flare	136	TOTAL NOx	112.00	2.90	0.05
48397	10/25/04 9:15	10/25/04 11:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	CO	9.62	1.75	2047.71
48397	10/25/04 9:15	10/25/04 11:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Nitric Oxide	1.26	1.75	283.51
48397	10/25/04 9:15	10/25/04 11:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Nitrogen Dioxide	0.07	1.75	283.51
48397	10/25/04 9:15	10/25/04 11:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	TOTAL NOx	1.33	1.75	283.51
48397	10/25/04 9:15	10/25/04 11:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	1,3-Butadiene	3.16	1.75	3150.43
48397	10/25/04 9:15	10/25/04 11:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Benzene	0.14	1.75	3150.43
48397	10/25/04 9:15	10/25/04 11:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Butane	4.12	1.75	3150.43
48397	10/25/04 9:15	10/25/04 11:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Butene	2.74	1.75	3150.43
48397	10/25/04 9:15	10/25/04 11:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Cyclopentane	0.96	1.75	3150.43
48397	10/25/04 9:15	10/25/04 11:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Dicyclopentadiene	0.27	1.75	3150.43
48397	10/25/04 9:15	10/25/04 11:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Hexane	0.07	1.75	3150.43
48397	10/25/04 9:15	10/25/04 11:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Methyl Pentane	0.07	1.75	3150.43
48397	10/25/04 9:15	10/25/04 11:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Methylcyclo-			
48397	10/25/04 9:15	10/25/04 11:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	pentane	0.07	1.75	3150.43
48397	10/25/04 9:15	10/25/04 11:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Pentane	2.20	1.75	3150.43

Table 1 - Violations of Hourly Limits

Tracking Number	Start Date and Time	End Date and Time	Authorization	Type of Event	Unit	Additional Source Info/RIN	Emission Point	EPN	Pollutant	Amount Released (lbs)	Duration (hrs)	Reported Emission Limit (lbs/hr)
48397	10/25/04 9:15	10/25/04 11:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	TOTAL VOCs	13.80	1.75	3150.43
48397	10/25/04 9:15	10/25/04 11:00	1504A	EE	EU 1592	P-1592	Process Fugitives	1592-31	1,3-Butadiene	150.30	1.75	12.46
48397	10/25/04 9:15	10/25/04 11:00	1504A	EE	EU 1592	P-1592	Process Fugitives	1592-31	Benzene	6.50	1.75	12.46
48397	10/25/04 9:15	10/25/04 11:00	1504A	EE	EU 1592	P-1592	Process Fugitives	1592-31	Butane	194.70	1.75	12.46
48397	10/25/04 9:15	10/25/04 11:00	1504A	EE	EU 1592	P-1592	Process Fugitives	1592-31	Butene	133.30	1.75	12.46
48397	10/25/04 9:15	10/25/04 11:00	1504A	EE	EU 1592	P-1592	Process Fugitives	1592-31	Cyclopentane	45.80	1.75	12.46
48397	10/25/04 9:15	10/25/04 11:00	1504A	EE	EU 1592	P-1592	Process Fugitives	1592-31	Dicyclopentadiene	13.10	1.75	12.46
48397	10/25/04 9:15	10/25/04 11:00	1504A	EE	EU 1592	P-1592	Process Fugitives	1592-31	Hexane	3.30	1.75	12.46
48397	10/25/04 9:15	10/25/04 11:00	1504A	EE	EU 1592	P-1592	Process Fugitives	1592-31	Methyl Pentane	3.30	1.75	12.46
48397	10/25/04 9:15	10/25/04 11:00	1504A	EE	EU 1592	P-1592	Process Fugitives	1592-31	Methylcyclopentane	3.30	1.75	12.46
48397	10/25/04 9:15	10/25/04 11:00	1504A	EE	EU 1592	P-1592	Process Fugitives	1592-31	Pentane	101.50	1.75	12.46
48397	10/25/04 9:15	10/25/04 11:00	1504A	EE	EU 1592	P-1592	Process Fugitives	1592-31	TOTAL VOCs	655.10	1.75	12.46
50045	11/29/04 8:30	12/20/04 4:00	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	CO	38.02	240.00	35.72
50045	11/29/04 8:30	12/20/04 4:00	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	Nitric Oxide	5.00	240.00	4.95
50045	11/29/04 8:30	12/20/04 4:00	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	Nitrogen Dioxide	0.26	240.00	4.95
50045	11/29/04 8:30	12/20/04 4:00	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	TOTAL NOx	5.26	241.00	4.95
50045	11/29/04 8:30	12/20/04 4:00	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	Butene	111.36	240.00	79.71
50045	11/29/04 8:30	12/20/04 4:00	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	TOTAL VOCs	111.36	240.00	79.71
50045	11/18/04 15:00	11/29/04 8:30	37063	EE	NAOU 1797	P-1797	Condensate Vent	D-567	Butene	6020.40	257.50	0.00
50045	11/18/04 15:00	11/29/04 8:30	37063	EE	NAOU 1797	P-1797	Condensate Vent	D-567	TOTAL VOCs	6020.40	257.50	0.00
50045	11/18/04 15:00	11/29/04 8:30	37063	EE	PEU 1792	P-1792	Process Fugitives	F-75	Ethylene	389.00	0.13	7.37
52733	1/23/05 23:52	1/24/05 0:00	2462C	EE	PEU 1792	P-1792	Process Fugitives	F-75	TOTAL VOCs	389.00	0.13	7.37
52799	1/24/05 23:52	1/25/05 1:00	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Butene	8.96	1.83	0.01
52799	1/24/05 23:52	1/25/05 1:00	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Ethylene	335.01	1.83	0.01
52799	1/24/05 23:52	1/25/05 1:00	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Hexene	10.08	1.83	0.01
52799	1/24/05 23:52	1/25/05 1:00	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Octene	8.96	1.83	0.01
52799	1/24/05 23:52	1/25/05 1:00	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	TOTAL VOCs	363.01	1.83	0.01
53349	2/2/05 3:25	2/2/05 3:31	1504A	EE	Utilities 1092	BF-801B	Boiler Stack	1592-10	Opacity	52.00%	0.10	20.00%
54141	2/21/05 0:40	2/22/05 11:52	19027	Shutdown	PEU 1796	FS-541	FS-541 Flare	1796-10A	CO	667.00	35.20	11.69
54141	2/21/05 0:40	2/22/05 11:52	19027	Shutdown	PEU 1796	FS-541	FS-541 Flare	1796-10A	Nitrogen Dioxide	6.50	35.20	1.62
54141	2/21/05 0:40	2/22/05 11:52	19027	Shutdown	PEU 1796	FS-541	FS-541 Flare	1796-10A	Nitrogen Oxide	124.00	35.20	1.62
54141	2/21/05 0:40	2/22/05 11:52	19027	Shutdown	PEU 1796	FS-541	FS-541 Flare	1796-10A	TOTAL NOx	130.50	35.20	1.90
54149	2/21/05 0:40	2/22/05 11:52	19027	Shutdown	PEU 1796	FS-541	FS-541 Flare	1796-10A	Ethylene	83.00	35.20	16.80
54149	2/21/05 0:40	2/22/05 11:52	19027	Shutdown	PEU 1796	FS-541	FS-541 Flare	1796-10A	Hexane	29.00	35.20	16.80
54149	2/21/05 0:40	2/22/05 11:52	19027	Shutdown	PEU 1796	FS-541	FS-541 Flare	1796-10A	Hexene	98.00	35.20	16.80
54149	2/21/05 0:40	2/22/05 11:52	19027	Shutdown	PEU 1796	FS-541	FS-541 Flare	1796-10A	Octane	247.00	35.20	16.80
54149	2/21/05 0:40	2/22/05 11:52	19027	Shutdown	PEU 1796	FS-541	FS-541 Flare	1796-10A	TOTAL VOCs	457.00	35.20	16.8
54939	3/29/05 20:00	3/29/05 21:00	37063	EE	NAOU 1798	P-1798	Drum	D-1567	Butene	245.00	1.48	0.00
54939	3/29/05 20:00	3/29/05 21:00	37063	EE	NAOU 1798	P-1798	Drum	D-1567	Decene	85.00	1.48	0.00
54939	3/29/05 20:00	3/29/05 21:00	37063	EE	NAOU 1798	P-1798	Drum	D-1567	Dodecene	16.00	1.48	0.00
54939	3/29/05 20:00	3/29/05 21:00	37063	EE	NAOU 1798	P-1798	Drum	D-1567	Eicosene	0.20	1.48	0.00
54939	3/29/05 20:00	3/29/05 21:00	37063	EE	NAOU 1798	P-1798	Drum	D-1567	Ethane	20.00	1.48	0.00

Table 1 - Violations of Hourly Limits

Tracking Number	Start Date and Time	End Date and Time	Authorization	Type of Event	Unit	Additional Source Info/TIN	Emission Point	EPN	Pollutant	Amount Released (lbs)	Duration (hrs)	Reported Emission Limit (lbs/hr)
55989	3/29/05 20:00	3/29/05 21:29	37063	EE	NAOU 1798	P-1798	Drum	D-1567	Ethylene	482.00	1.48	0.00
55989	3/29/05 20:00	3/29/05 21:29	37063	EE	NAOU 1798	P-1798	Drum	D-1567	Hexadecene	0.60	1.48	0.00
55989	3/29/05 20:00	3/29/05 21:29	37063	EE	NAOU 1798	P-1798	Drum	D-1567	Hexene	304.00	1.48	0.00
55989	3/29/05 20:00	3/29/05 21:29	37063	EE	NAOU 1798	P-1798	Drum	D-1567	Methane	0.08	1.48	0.00
55989	3/29/05 20:00	3/29/05 21:29	37063	EE	NAOU 1798	P-1798	Drum	D-1567	Octadecene	0.10	1.48	0.00
55989	3/29/05 20:00	3/29/05 21:29	37063	EE	NAOU 1798	P-1798	Drum	D-1567	Octene	197.00	1.48	0.00
55989	3/29/05 20:00	3/29/05 21:29	37063	EE	NAOU 1798	P-1798	Drum	D-1567	Tetradecene	3.00	1.48	0.00
55989	3/29/05 20:00	3/29/05 21:29	37063	EE	NAOU 1798	P-1798	Drum	D-1567	TOTAL VOCs	1352.98	1.48	0.00
56572	4/11/05 18:38	4/11/05 21:40	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	CO	76.25	3.03	35.72
56572	4/11/05 18:38	4/11/05 21:40	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	Nitrogen Dioxide	0.53	3.03	4.95
56572	4/11/05 18:38	4/11/05 21:40	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	Nitrogen Oxide	10.03	3.03	4.95
56572	4/11/05 18:38	4/11/05 21:40	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	TOTAL NOx	10.56	3.03	4.95
56572	4/11/05 18:38	4/11/05 21:40	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	Ethylene	107.25	3.03	79.71
56572	4/11/05 18:38	4/11/05 21:40	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	TOTAL VOCs	107.25	3.03	79.71
56655	4/12/05 18:00	4/12/05 18:05	46783	EE	PEU 1792	P-1792	Process Fugitives	F-75-G	Ethylene	514.03	0.08	2.28
56655	4/12/05 18:00	4/12/05 18:05	46783	EE	PEU 1792	P-1792	Process Fugitives	F-75-G	TOTAL VOCs	514.03	0.08	2.28
56689	4/13/05 17:15	4/15/05 9:00	2462C	EE	PEU 1792	P-1792	X-901 Flare	45	Ethylene	148.51	39.75	28.80
56689	4/13/05 17:15	4/15/05 9:00	2462C	EE	PEU 1792	P-1792	X-901 Flare	45	Propane	29.31	39.75	28.80
56689	4/13/05 17:15	4/15/05 9:00	2462C	EE	PEU 1792	P-1792	X-901 Flare	45	Propylene	242.95	39.75	28.80
56688	4/13/05 17:15	4/15/05 9:00	2462C	EE	PEU 1792	P-1792	X-901 Flare	45	TOTAL VOCs	420.77	39.75	28.80
56689	4/13/05 17:15	4/15/05 9:00	2462C	EE	PEU 1792	X-901	X-901 Flare	45	CO	293.60	39.75	23.30
56689	4/13/05 17:15	4/15/05 9:00	2462C	EE	PEU 1792	X-901	X-901 Flare	45	Nitrogen Dioxide	2.03	39.75	3.20
56689	4/13/05 17:15	4/15/05 9:00	2462C	EE	PEU 1792	X-901	X-901 Flare	45	Nitrogen Oxide	38.62	39.75	3.20
56689	4/13/05 17:15	4/15/05 9:00	2462C	EE	PEU 1792	X-901	X-901 Flare	45	TOTAL NOx	40.65	39.75	3.20
57507	4/27/05 15:05	4/27/05 15:25	106.261/262	EE	NAOU 1797	TK-31	TK-31	126F	Butene	37.20	0.33	0.81
57507	4/27/05 15:05	4/27/05 15:25	106.261/262	EE	NAOU 1797	TK-31	TK-31	126F	Ethene	0.20	0.33	0.81
57507	4/27/05 15:05	4/27/05 15:25	106.261/262	EE	NAOU 1797	TK-31	TK-31	126F	Ethylene	0.30	0.33	0.81
57507	4/27/05 15:05	4/27/05 15:25	106.261/262	EE	NAOU 1797	TK-31	TK-31	126F	Hexene	177.40	0.33	0.81
57507	4/27/05 15:05	4/27/05 15:25	106.261/262	EE	NAOU 1797	TK-31	TK-31	126F	Octene	9.30	0.33	0.81
57507	4/27/05 15:05	4/27/05 15:25	106.261/262	EE	NAOU 1797	TK-31	TK-31	126F	TOTAL VOCs	224.40	0.33	0.81
58374	5/17/05 8:30	5/17/05 9:20	1504A	EE	Shipping Area	P-1592	Process Fugitives	F-1592-31	1,3-Butadiene	3.80	0.83	12.45
58374	5/17/05 8:30	5/17/05 9:20	1504A	EE	Shipping Area	P-1592	Process Fugitives	F-1592-31	2-Butyne	29.63	0.83	12.45
58374	5/17/05 8:30	5/17/05 9:20	1504A	EE	Shipping Area	P-1592	Process Fugitives	F-1592-31	cis-Piperylene	133.98	0.83	12.46
58374	5/17/05 8:30	5/17/05 9:20	1504A	EE	Shipping Area	P-1592	Process Fugitives	F-1592-31	Cyclopentadiene	114.61	0.83	12.46
58374	5/17/05 8:30	5/17/05 9:20	1504A	EE	Shipping Area	P-1592	Process Fugitives	F-1592-31	Cyclopentene	205.12	0.83	12.46
58374	5/17/05 8:30	5/17/05 9:20	1504A	EE	Shipping Area	P-1592	Process Fugitives	F-1592-31	Dicyclopentadiene	285.37	0.83	12.46
58374	5/17/05 8:30	5/17/05 9:20	1504A	EE	Shipping Area	P-1592	Process Fugitives	F-1592-31	Hexane	6.80	0.83	12.45

Table 1 - Violations of Hourly Limits

Tracking Number	Start Date and Time	End Date and Time	Authorization	Type of Event	Unit	Additional Source Info/FIN	Emission Point	EPN	Pollutant	Amount Released (lbs)	Duration (hrs)	Reported Emission Limit (lbs/hr)
48374	5/17/05 8:30	5/17/05 9:20	1504A	EE	EU 1592 Shipping Area	P-1592	Process Fugitives	F-1592-31	Isoprene	290.09	0.83	12.46
48374	5/17/05 8:30	5/17/05 9:20	1504A	EE	EU 1592 Shipping Area	P-1592	Process Fugitives	F-1592-31	Pentane	1068.26	0.83	12.45
48374	5/17/05 8:30	5/17/05 9:20	1504A	EE	EU 1592 Shipping Area	P-1592	Process Fugitives	F-1592-31	trans-Piperylene	168.34	0.83	12.46
58374	5/17/05 8:30	5/17/05 9:20	1504A	EE	EU 1592 Shipping Area	P-1592	Process Fugitives	F-1592-31	TOTAL VOCs	2306.00	0.83	12.46
61368	7/15/05 0:30	7/16/05 13:30	1504A	EE	EU 1592	P-1592	Fugitives	F-160	1,3-Butadiene	183.00	37.00	0.31
61368	7/15/05 0:30	7/16/05 13:30	1504A	EE	EU 1592	P-1592	Fugitives	F-160	Benzene	39.10	37.00	0.31
61368	7/15/05 0:30	7/16/05 13:30	1504A	EE	EU 1592	P-1592	Fugitives	F-160	Butane	13.50	37.00	0.31
61368	7/15/05 0:30	7/16/05 13:30	1504A	EE	EU 1592	P-1592	Fugitives	F-160	Butene	157.40	37.00	0.31
61368	7/15/05 0:30	7/16/05 13:30	1504A	EE	EU 1592	P-1592	Fugitives	F-160	Hexane	67.90	37.00	0.31
61368	7/15/05 0:30	7/16/05 13:30	1504A	EE	EU 1592	P-1592	Fugitives	F-160	Propadiene	29.70	37.00	0.31
61368	7/15/05 0:30	7/16/05 13:30	1504A	EE	EU 1592	P-1592	Fugitives	F-160	Pentane	64.50	37.00	0.31
61368	7/15/05 0:30	7/16/05 13:30	1504A	EE	EU 1592	P-1592	Fugitives	F-160	Pentene	18.40	37.00	0.31
61368	7/15/05 0:30	7/16/05 13:30	1504A	EE	EU 1592	P-1592	Fugitives	F-160	Propane	122.80	37.00	0.31
61368	7/15/05 0:30	7/16/05 13:30	1504A	EE	EU 1592	P-1592	Fugitives	F-160	Propylene	797.60	37.00	0.31
61268	7/15/05 0:30	7/16/05 13:30	1504A	EE	EU 1592	P-1592	Fugitives	F-160	TOTAL VOCs	1493.90	37.00	0.31
61859	7/28/05 1:01	7/28/05 11:51	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	CO	95.15	10.83	35.72
61859	7/28/05 1:01	7/28/05 11:51	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	Nitrogen Dioxide	0.66	10.83	4.95
61859	7/28/05 1:01	7/28/05 11:51	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	Nitrogen Oxide	12.65	10.83	4.95
61859	7/28/05 1:01	7/28/05 11:51	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	TOTAL NOx	13.31	10.83	4.95
61859	7/28/05 1:01	7/28/05 11:51	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	Ethylene	135.16	10.83	79.71
61859	7/28/05 1:01	7/28/05 11:51	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	TOTAL VOCs	135.16	10.83	79.71
61859	7/28/05 1:01	7/28/05 11:51	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	CO	20.30	10.83	0.11
61859	7/28/05 1:01	7/28/05 11:51	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Nitrogen Dioxide	0.52	10.83	0.05
61859	7/28/05 1:01	7/28/05 11:51	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Nitrogen Oxide	9.83	10.83	0.05
61859	7/28/05 1:01	7/28/05 11:51	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	TOTAL NOx	10.35	10.83	0.05
61859	7/28/05 1:01	7/28/05 11:51	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Ethylene	36.90	10.83	0.01
61859	7/28/05 1:01	7/28/05 11:51	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	TOTAL VOCs	36.90	10.83	0.01
61859	7/28/05 1:01	7/28/05 11:51	37063	EE	NAOU 1797	P-1797	Process Fugitives	F-130	Ethylene	2675.00	10.83	5.67
61859	7/28/05 1:01	7/28/05 11:51	37063	EE	NAOU 1797	P-1797	Process Fugitives	F-130	TOTAL VOCs	2675.00	10.83	5.67
61987	7/31/05 1:46	7/31/05 6:59	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	CO	67.70	5.22	35.70
61987	7/31/05 1:46	7/31/05 6:59	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	Nitrogen Dioxide	0.50	5.22	4.90
61987	7/31/05 1:46	7/31/05 6:59	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	Nitrogen Oxide	8.90	5.22	4.90
61987	7/31/05 1:46	7/31/05 6:59	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	TOTAL NOx	9.40	5.22	4.95
61987	7/31/05 1:46	7/31/05 6:59	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	Butene	183.00	5.22	79.70
61987	7/31/05 1:46	7/31/05 6:59	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	Hexene	15.00	5.22	79.70
61987	7/31/05 1:46	7/31/05 6:59	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110	TOTAL VOCs	198.00	5.22	79.70
61987	7/31/05 1:46	7/31/05 6:59	37063	EE	NAOU 1797	P-1797	Fugitive	F-130	Butene	119.00	5.22	5.67
61987	7/31/05 1:46	7/31/05 6:59	37063	EE	NAOU 1797	P-1797	Fugitive	F-130	Hexene	10.00	5.22	5.67
61987	7/31/05 1:46	7/31/05 6:59	37063	EE	NAOU 1797	P-1797	Fugitive	F-130	TOTAL VOCs	129.00	5.22	5.67
93434	8/24/05 3:12	8/24/05 5:39	1504A	EE	EU 1592	P-1592	Process Fugitives	F-1592-31	2 Methyl Nonane	0.11	0.08	12.46

Table 1 - Violations of Hourly Limits

Tracking Number	Start Date and Time	End Date and Time	Authorization	Type of Event	Unit	Additional Source Info/FIN	Emission Point	EPN	Pollutant	Amount Released (lbs)	Duration (hrs)	Reported Emission Limit (lbs/hr)
63434	8/24/05 5:15	8/24/05 5:20	1504A	EE	EU 1592	P-1592	Process Fugitives	F-1592-31	Benzene, butyl-	0.22	0.08	12.46
63434	8/24/05 5:15	8/24/05 5:20	1504A	EE	EU 1592	P-1592	Process Fugitives	F-1592-31	Benzene	10.00	0.08	12.46
63434	8/24/05 5:15	8/24/05 5:20	1504A	EE	EU 1592	P-1592	Process Fugitives	F-1592-31	Cyclopentadiene	0.29	0.08	12.46
63434	8/24/05 5:15	8/24/05 5:20	1504A	EE	EU 1592	P-1592	Process Fugitives	F-1592-31	Dicyclopentadiene	4.65	0.08	12.46
63434	8/24/05 5:15	8/24/05 5:20	1504A	EE	EU 1592	P-1592	Process Fugitives	F-1592-31	Ethylbenzene	0.44	0.08	12.46
63434	8/24/05 5:15	8/24/05 5:20	1504A	EE	EU 1592	P-1592	Process Fugitives	F-1592-31	Indene	0.44	0.08	12.46
63434	8/24/05 5:15	8/24/05 5:20	1504A	EE	EU 1592	P-1592	Process Fugitives	F-1592-31	Pentane	0.41	0.08	12.46
63434	8/24/05 5:15	8/24/05 5:20	1504A	EE	EU 1592	P-1592	Process Fugitives	F-1592-31	Styrene	2.44	0.08	12.46
63434	8/24/05 5:15	8/24/05 5:20	1504A	EE	EU 1592	P-1592	Process Fugitives	F-1592-31	Toluene	2.18	0.08	12.46
63434	8/24/05 5:15	8/24/05 5:20	1504A	EE	EU 1592	P-1592	Trimethylbenzene,					
63434	8/24/05 5:15	8/24/05 5:20	1504A	EE	EU 1592	P-1592	Process Fugitives	F-1592-31	1,2,4-	0.44	0.08	12.46
63434	8/24/05 5:15	8/24/05 5:20	1504A	EE	EU 1592	P-1592	Process Fugitives	F-1592-31	Xylene	0.62	0.08	12.46
63434	8/24/05 5:15	8/24/05 5:20	1504A	EE	EU 1592	P-1592	Process Fugitives	F-1592-31	TOTAL VOCs	22.24	0.08	12.46
64862	9/21/05 12:00	10/1/05 9:15	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	CO	10289.58	237.25	731.14
64862	9/21/05 12:00	10/1/05 9:15	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Nitric Oxide	1353.39	237.25	101.23
64862	9/21/05 12:00	10/1/05 9:15	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Nitrogen Dioxide	71.23	237.25	101.23
64862	9/21/05 12:00	8/24/05 5:20	1504A	EE	EU 1592	P-1592	Process Fugitives	F-1592-31	TOTAL NOx	1424.62	237.25	283.51
64862	9/21/05 12:00	10/1/05 9:15	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	1,3-Butadiene	589.86	237.25	1795.72
64862	9/21/05 12:00	10/1/05 9:15	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Acetylene	22.05	237.25	1795.72
64862	9/21/05 12:00	10/1/05 9:15	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Benzene	824.44	237.25	1795.72
64862	9/21/05 12:00	10/1/05 9:15	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Butane	271.70	237.25	1795.72
64862	9/21/05 12:00	10/1/05 9:15	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Butene	157.48	237.25	1795.72
64862	9/21/05 12:00	10/1/05 9:15	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Ethylene	3283.50	237.25	1795.72
64862	9/21/05 12:00	10/1/05 9:15	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Methylacetylene	64.15	237.25	1795.72
64862	9/21/05 12:00	10/1/05 9:15	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Pentane, N-	468.16	237.25	1795.72
64862	9/21/05 12:00	10/1/05 9:15	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Propadiene	47.65	237.25	1795.72
64862	9/21/05 12:00	10/1/05 9:15	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Propane	898.89	237.25	1795.72
64862	9/21/05 12:00	10/1/05 9:15	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Propylene	3233.08	237.25	1795.72
64862	9/21/05 12:00	10/1/05 9:15	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Toluene	273.92	237.25	1795.72
64862	9/21/05 12:00	10/1/05 9:15	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Xylene	180.76	237.25	1795.72
64862	9/21/05 12:00	10/1/05 9:15	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	TOTAL VOCs	10315.64	237.25	1795.72
64862	9/21/05 12:00	10/1/05 9:15	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	CO	144.32	237.25	85.18
64862	9/21/05 12:00	10/1/05 9:15	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	Nitric Oxide	18.98	237.25	11.79
64862	9/21/05 12:00	10/1/05 9:15	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	Nitrogen Dioxide	1.00	237.25	11.79
64862	9/21/05 12:00	10/1/05 9:15	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	TOTAL NOx	19.98	237.25	0.04
64862	9/21/05 12:00	10/1/05 9:15	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	Acetylene	5.00	237.25	85.09
64862	9/21/05 12:00	10/1/05 9:15	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	Ethylene	200.00	237.25	85.09
64862	9/21/05 12:00	10/1/05 9:15	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	Propane	0.50	237.25	85.09
64862	9/21/05 12:00	10/1/05 9:15	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	Propylene	0.50	237.25	85.09
64862	9/21/05 12:00	10/1/05 9:15	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	TOTAL VOCs	206.00	237.25	85.09
64887	9/21/05 12:00	9/22/05 2:00	37063	Shutdown	NAOU 1797	P-1797	Z-101 Flare	110	CO	393.39	14.00	35.72
64887	9/21/05 12:00	9/22/05 2:00	37063	Shutdown	NAOU 1797	P-1797	Z-101 Flare	110	Nitric Oxide	51.74	14.00	4.95
64887	9/21/05 12:00	9/22/05 2:00	37063	Shutdown	NAOU 1797	P-1797	Z-101 Flare	110	Nitrogen Dioxide	2.72	14.00	4.95
64887	9/21/05 12:00	9/22/05 2:00	37063	Shutdown	NAOU 1797	P-1797	Z-101 Flare	110	TOTAL NOx	54.46	14.00	4.95
64887	9/21/05 12:00	9/22/05 2:00	37063	Shutdown	NAOU 1797	P-1797	Z-101 Flare	110	Ethylene	527.98	14.00	79.71

Table 1 - Violations of Hourly Limits

Tracking Number	Start Date and Time	End Date and Time	Authorization	Type of Event	Unit	Additional Source Info/TIN	Emission Point	EPN	Pollutant	Amount Released (lbs)	Duration (hrs)	Reported Emission Limit (lbs/hr)
64887	9/21/05 12:00	9/22/05 2:00	37063	Shutdown	NAOU 1797	P-1797	Z-101 Flare	110	TOTAL VOCs	527.98	14.00	79.71
64887	9/21/05 12:00	9/22/05 2:00	37063	Shutdown	NAOU 1797	P-1797	SYS-740 Flare	136	CO	72.27	14.00	2.23
64887	9/21/05 12:00	9/22/05 2:00	37063	Shutdown	NAOU 1797	P-1797	SYS-740 Flare	136	Nitric Oxide	34.40	14.00	1.12
64887	9/21/05 12:00	9/22/05 2:00	37063	Shutdown	NAOU 1797	P-1797	SYS-740 Flare	136	Nitrogen Dioxide	1.81	14.00	1.12
64887	9/21/05 12:00	9/22/05 2:00	37063	Shutdown	NAOU 1797	P-1797	SYS-740 Flare	136	TOTAL NOx	36.21	14.00	0.05
64887	9/21/05 12:00	9/22/05 2:00	37063	Shutdown	NAOU 1797	P-1797	SYS-740 Flare	136	Butene	6.52	14.00	4.00
64887	9/21/05 12:00	9/22/05 2:00	37063	Shutdown	NAOU 1797	P-1797	SYS-740 Flare	136	Ethylene	120.03	14.00	4.00
64887	9/21/05 12:00	9/22/05 2:00	37063	Shutdown	NAOU 1797	P-1797	SYS-740 Flare	136	TOTAL VOCs	126.55	14.00	4.00
64926	9/21/05 12:00	9/30/05 19:30	2462C	Shutdown	PEU 1792	P-1792	X-901 Flare	45	CO	415.53	223.50	23.30
64926	9/21/05 12:00	9/30/05 19:30	2462C	Shutdown	PEU 1792	P-1792	X-901 Flare	45	Nitric Oxide	54.66	223.50	3.20
64926	9/21/05 12:00	9/30/05 19:30	2462C	Shutdown	PEU 1792	P-1792	X-901 Flare	45	Nitrogen Dioxide	2.88	223.50	3.20
64926	9/21/05 12:00	9/30/05 19:30	2462C	Shutdown	PEU 1792	P-1792	X-901 Flare	45	TOTAL NOx	57.54	223.50	3.20
64926	9/21/05 12:00	9/30/05 19:30	2462C	Shutdown	PEU 1792	P-1792	X-901 Flare	45	Ethylene	432.63	223.50	28.80
64926	9/21/05 12:00	9/30/05 19:30	2462C	Shutdown	PEU 1792	P-1792	X-901 Flare	45	Propane	4.19	223.50	28.80
64926	9/21/05 12:00	9/30/05 19:30	2462C	Shutdown	PEU 1792	P-1792	X-901 Flare	45	Propylene	36.29	223.50	28.80
64926	9/21/05 12:00	9/30/05 19:30	2462C	Shutdown	PEU 1792	P-1792	X-901 Flare	45	TOTAL VOCs	473.11	223.50	28.8
64928	9/26/05 6:00	9/30/05 13:00	2462C	Startup	PEU 1792	P-1792	X-901 Flare	45	CO	116.96	103.00	23.30
64928	9/26/05 6:00	9/30/05 13:00	2462C	Startup	PEU 1792	P-1792	X-901 Flare	45	Nitric Oxide	15.38	103.00	3.20
64928	9/26/05 6:00	9/30/05 13:00	2462C	Startup	PEU 1792	P-1792	X-901 Flare	45	Nitrogen Dioxide	0.81	103.00	3.20
64928	9/26/05 6:00	9/30/05 13:00	2462C	Startup	PEU 1792	P-1792	X-901 Flare	45	TOTAL NOx	16.19	103.00	3.20
64928	9/26/05 6:00	9/30/05 13:00	2462C	Startup	PEU 1792	P-1792	X-901 Flare	45	Ethylene	89.28	103.00	28.80
64928	9/26/05 6:00	9/30/05 13:00	2462C	Startup	PEU 1792	P-1792	X-901 Flare	45	Propane	32.00	103.00	28.80
64928	9/26/05 6:00	9/30/05 13:00	2462C	Startup	PEU 1792	P-1792	X-901 Flare	45	Propylene	45.66	103.00	28.80
64928	9/26/05 6:00	9/30/05 13:00	2462C	Startup	PEU 1792	P-1792	X-901 Flare	45	TOTAL VOCs	166.94	103.00	28.80
64936	9/21/05 11:30	9/22/05 11:30	19027	Shutdown	PEU 1796	P-1796	FS-541 Flare	1796-10A	CO	1527.00	24.00	11.69
64936	9/21/05 11:30	9/22/05 11:30	19027	Shutdown	PEU 1796	P-1796	FS-541 Flare	1796-10A	Nitric Oxide	169.00	24.00	1.62
64936	9/21/05 11:30	9/22/05 11:30	19027	Shutdown	PEU 1796	P-1796	FS-541 Flare	1796-10A	Nitrogen Dioxide	8.90	24.00	1.62
64936	9/21/05 11:30	9/22/05 11:30	19027	Shutdown	PEU 1796	P-1796	FS-541 Flare	1796-10A	TOTAL NOx	177.90	24.00	1.90
64936	9/21/05 11:30	9/22/05 11:30	19027	Shutdown	PEU 1796	P-1796	FS-541 Flare	1796-10A	Ethylene	344.50	24.00	16.80
64936	9/21/05 11:30	9/22/05 11:30	19027	Shutdown	PEU 1796	P-1796	FS-541 Flare	1796-10A	Hexane	51.00	24.00	16.80
64936	9/21/05 11:30	9/22/05 11:30	19027	Shutdown	PEU 1796	P-1796	FS-541 Flare	1796-10A	Hexene	131.00	24.00	16.80
64936	9/21/05 11:30	9/22/05 11:30	19027	Shutdown	PEU 1796	P-1796	FS-541 Flare	1796-10A	Methyl Pentane	118.00	24.00	16.80
64936	9/21/05 11:30	9/22/05 11:30	19027	Shutdown	PEU 1796	P-1796	FS-541 Flare	1796-10A	Pentane, N-	372.00	24.00	16.80
64936	9/21/05 11:30	9/22/05 11:30	19027	Shutdown	PEU 1796	P-1796	FS-541 Flare	1796-10A	TOTAL VOCs	1016.50	24.00	16.80
65091	9/21/05 13:10	9/21/05 14:00	19027	EE	PEU 1796	P-1796	FS-541 Flare	1796-10A	Butene	5.00	0.83	16.80
65091	9/21/05 13:10	9/21/05 13:30	19027	EE	PEU 1796	P-1796	FS-541 Flare	1796-10A	Ethylene	3320.00	0.83	16.80
65091	9/21/05 13:10	9/21/05 13:30	19027	EE	PEU 1796	P-1796	FS-541 Flare	1796-10A	Hexane	18.00	0.83	16.80
65091	9/21/05 13:10	9/21/05 13:30	19027	EE	PEU 1796	P-1796	FS-541 Flare	1796-10A	Hexene	621.00	0.83	16.80
65091	9/21/05 13:10	9/21/05 13:30	19027	EE	PEU 1796	P-1796	FS-541 Flare	1796-10A	Methyl Pentane	18.00	0.83	16.80
65091	9/21/05 13:10	9/21/05 13:30	19027	EE	PEU 1796	P-1796	FS-541 Flare	1796-10A	Pentane, N-	36.00	0.83	16.80
65091	9/21/05 13:10	9/21/05 14:00	19027	EE	PEU 1796	P-1796	FS-541 Flare	1796-10A	TOTAL VOCs	4018.00	0.83	16.80
65405	9/27/05 13:30	9/28/05 16:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	CO	887.80	27.00	6.06
65405	9/27/05 13:30	9/28/05 16:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Nitric Oxide	116.80	27.00	0.84
65405	9/27/05 13:30	9/28/05 16:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Nitrogen Oxide	6.10	27.00	0.84
65405	9/27/05 13:30	9/28/05 16:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	TOTAL NOx	133.34	27.00	17.65

Table 1 - Violations of Hourly Limits

Tracking Number	Start Date and Time	End Date and Time	Authorization	Type of Event	Unit	Additional Source Info/FIN	Emission Point	EPN	Pollutant	Amount Released (lbs)	Duration (hrs)	Reported Emission Limit (lbs/hr)
65815	9/27/05 13:30	9/28/05 16:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Butene	95.18	27.00	8.00
65815	9/27/05 13:30	9/28/05 16:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Decene	2.12	27.00	8.00
65815	9/27/05 13:30	9/28/05 16:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Ethylene	1123.21	27.00	8.00
65815	9/27/05 13:30	9/28/05 16:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Hexene	16.54	27.00	8.00
65815	9/27/05 13:30	9/28/05 16:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Octene	0.92	27.00	8.00
65405	9/27/05 13:30	9/28/05 16:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22	TOTAL VOCs	1227.53	27.00	8.00
65815	10/5/05 10:30	10/10/05 14:47	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	CO	17134.98	124.28	731.14
65815	10/5/05 10:30	10/10/05 14:47	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Nitric Oxide	2253.77	124.28	101.23
65815	10/5/05 10:30	10/10/05 14:47	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Nitrogen Dioxide	118.62	124.28	101.23
65815	10/5/05 10:30	10/10/05 14:47	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	TOTAL NOx	2372.39	124.28	283.51
65815	10/5/05 10:30	10/10/05 14:47	1504A	EE	BU 1592	P-1592	CB-701 Flare	1592-16	1,3-Butadiene	2229.80	124.28	1795.72
65815	10/5/05 10:30	10/10/05 14:47	1504A	EE	BU 1592	P-1592	CB-701 Flare	1592-16	Acetylene	58.65	124.28	1795.72
65815	10/5/05 10:30	10/10/05 14:47	1504A	EE	BU 1592	P-1592	CB-701 Flare	1592-16	Benzene	1297.15	124.28	1795.72
65815	10/5/05 10:30	10/10/05 14:47	1504A	EE	BU 1592	P-1592	CB-701 Flare	1592-16	Butane	266.42	124.28	1795.72
65815	10/5/05 10:30	10/10/05 14:47	1504A	EE	BU 1592	P-1592	CB-701 Flare	1592-16	Butene	2490.02	124.28	1795.72
65815	10/5/05 10:30	10/10/05 14:47	1504A	EE	BU 1592	P-1592	CB-701 Flare	1592-16	Ethylene	11026.50	124.28	1795.72
65815	10/5/05 10:30	10/10/05 14:47	1504A	EE	BU 1592	P-1592	CB-701 Flare	1592-16	Hexene	4.81	124.28	1795.72
65815	10/5/05 10:30	10/10/05 14:47	1504A	EE	BU 1592	P-1592	CB-701 Flare	1592-16	Propadiene	110.38	124.28	1795.72
65815	10/5/05 10:30	10/10/05 14:47	1504A	EE	BU 1592	P-1592	CB-701 Flare	1592-16	Pentane	405.49	124.28	1795.72
65815	10/5/05 10:30	10/10/05 14:47	1504A	EE	BU 1592	P-1592	CB-701 Flare	1592-16	Pentene	534.21	124.28	1795.72
65815	10/5/05 10:30	10/10/05 14:47	1504A	EE	BU 1592	P-1592	CB-701 Flare	1592-16	Propane	68.03	124.28	1795.72
65815	10/5/05 10:30	10/10/05 14:47	1504A	EE	BU 1592	P-1592	CB-701 Flare	1592-16	Propylene	2681.48	124.28	1795.72
65815	10/5/05 10:30	10/10/05 14:47	1504A	EE	BU 1592	P-1592	CB-701 Flare	1592-16	Toluene	877.28	124.28	1795.72
65815	10/5/05 10:30	10/10/05 14:47	1504A	EE	BU 1592	P-1592	CB-701 Flare	1592-16	Xylene	344.95	124.28	1795.72
65815	10/5/05 10:30	10/10/05 14:47	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	TOTAL VOCs	22395.17	124.28	1795.72
65815	10/5/05 10:30	10/10/05 14:47	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	CO	85.39	124.28	85.18
65815	10/5/05 10:30	10/10/05 14:47	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	Nitric Oxide	11.23	124.28	11.79
65815	10/5/05 10:30	10/10/05 14:47	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	Nitrogen Dioxide	0.59	124.28	11.79
65815	10/5/05 10:30	10/10/05 14:47	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	TOTAL NOx	11.82	124.28	0.04
65815	10/5/05 10:30	10/10/05 14:47	1504A	EE	BU 1592	P-1592	CB-710 Flare	1592-40	Acetylene	15.16	124.28	85.09
65815	10/5/05 10:30	10/10/05 14:47	1504A	EE	BU 1592	P-1592	CB-710 Flare	1592-40	Ethylene	51.13	124.28	85.09
65815	10/5/05 10:30	10/10/05 14:47	1504A	EE	BU 1592	P-1592	CB-710 Flare	1592-40	Propylene	0.83	124.28	85.09
65815	10/5/05 10:30	10/10/05 14:47	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	TOTAL VOCs	67.12	124.28	85.09
68710	12/1/05 15:30	12/4/05 12:00	46305	EE	PEU 1799	P-1799	Flare	1799-20	CO	3380.00	68.50	128.13
68710	12/1/05 15:30	12/4/05 12:00	46305	EE	PEU 1799	P-1799	Flare	1799-20	Nitric Oxide	374.30	68.50	14.96
68710	12/1/05 15:30	12/4/05 12:00	46305	EE	PEU 1799	P-1799	Flare	1799-20	Nitrogen Dioxide	19.70	68.50	14.96
68710	12/1/05 15:30	12/4/05 12:00	46305	EE	PEU 1799	P-1799	Flare	1799-20	TOTAL NOx	394.00	68.50	14.96
68962	12/8/05 23:12	12/8/05 23:13	2462C	EE	PEU 1792	P-1792	Process Fugitives	F-75	Ethylene	136.00	0.02	7.37
68962	12/8/05 23:12	12/8/05 23:13	2462C	EE	PEU 1792	P-1792	Process Fugitives	F-75	TOTAL VOCs	136.00	0.02	7.37
70202	1/11/06 10:00	1/17/06 10:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	CO	6396.44	144.00	731.14
70202	1/11/06 10:00	1/17/06 10:00	1504A	Shutdown	BU 1592	P-1592	CB-701 Flare	1592-16	Nitric Oxide	841.32	144.00	101.23
70202	1/11/06 10:00	1/17/06 10:00	1504A	Shutdown	BU 1592	P-1592	CB-701 Flare	1592-16	Nitrogen Dioxide	44.28	144.00	101.23
70202	1/11/06 10:00	1/17/06 10:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	TOTAL NOx	885.60	144.00	283.51
70202	1/11/06 10:00	1/17/06 10:00	1504A	Shutdown	BU 1592	P-1592	CB-701 Flare	1592-16	1,3-Butadiene	285.68	144.00	1795.72
70202	1/11/06 10:00	1/17/06 10:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Acetylene	19.01	144.00	1795.72

Table 1 - Violations of Hourly Limits

Tracking Number	Start Date and Time	End Date and Time	Authorization	Type of Event	Unit	Additional Source Info/FIN	Emission Point	EPN	Pollutant	Amount Released (lbs)	Duration (hrs)	Reported Emission Limit (lbs/hr)
70302	1/11/06 10:00	1/17/06 10:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Benzene	105.06	144.00	1795.72
70303	1/11/06 10:00	1/17/06 10:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Butane	132.62	144.00	1795.72
70304	1/11/06 10:00	1/17/06 10:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Butene	76.45	144.00	1795.72
70305	1/11/06 10:00	1/17/06 10:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Ethylene	2226.44	144.00	1795.72
70307	1/11/06 10:00	1/17/06 10:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Propadiene	44.57	144.00	1795.72
70309	1/11/06 10:00	1/17/06 10:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Pentene	73.25	144.00	1795.72
70310	1/11/06 10:00	1/17/06 10:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Propylene	1545.55	144.00	1795.72
70312	1/11/06 10:00	1/17/06 10:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Toluene	30.04	144.00	1795.72
70313	1/11/06 10:00	1/17/06 10:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	VOC	215.73	144.00	1795.72
70314	1/11/06 10:00	1/17/06 10:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Xylene	18.45	144.00	1795.72
70202	1/11/06 10:00	1/17/06 10:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	TOTAL VOCs	4772.85	144.00	1795.72
70202	1/11/06 10:00	1/17/06 10:00	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	CO	207.13	144.00	85.18
70308	1/11/06 10:00	1/17/06 10:00	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	Nitric Oxide	27.24	144.00	11.79
70309	1/11/06 10:00	1/17/06 10:00	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	Nitrogen Dioxide	1.43	144.00	11.79
70202	1/11/06 10:00	1/17/06 10:00	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	TOTAL NOx	28.67	144.00	0.04
70303	1/11/06 10:00	1/17/06 10:00	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	Acetylene	9.97	144.00	85.09
70304	1/11/06 10:00	1/17/06 10:00	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	Ethylene	195.05	144.00	85.09
70305	1/11/06 10:00	1/17/06 10:00	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	Propylene	3.17	144.00	85.09
70306	1/11/06 10:00	1/17/06 10:00	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	VOC	1.79	144.00	85.09
70202	1/11/06 10:00	1/17/06 10:00	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	TOTAL VOCs	209.98	144.00	85.09
70303	1/15/05 15:46	1/15/05 16:46	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	1,3-Butadiene	167.70	1.00	3150.40
70304	1/15/05 15:46	1/15/05 16:46	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Ethylene	4586.00	1.00	3150.40
70305	1/15/05 15:46	1/15/05 16:46	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Propane	356.10	1.00	3150.40
70306	1/15/05 15:46	1/15/05 16:46	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Propylene	469.90	1.00	3150.40
70307	1/15/05 15:46	1/15/05 16:46	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	VOC	566.30	1.00	3150.40
70394	1/15/05 15:46	1/15/05 16:46	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	TOTAL VOCs	6146.00	1.00	3150.40
70395	1/18/06 10:00	1/25/06 10:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	CO	14743.00	168.00	731.14
70308	1/18/06 10:00	1/25/06 10:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	Nitric Oxide	1939.00	168.00	101.23
70309	1/18/06 10:00	1/25/06 10:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	Nitrogen Dioxide	102.00	168.00	101.23
70395	1/18/06 10:00	1/25/06 10:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	TOTAL NOx	2041.00	168.00	283.51
70308	1/18/06 10:00	1/25/06 10:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	1,3-Butadiene	317.00	168.00	1795.72
70309	1/18/06 10:00	1/25/06 10:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	Butane	208.00	168.00	1795.72
70310	1/18/06 10:00	1/25/06 10:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	Butene	429.00	168.00	1795.72
70308	1/18/06 10:00	1/25/06 10:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	Ethylene	11109.00	168.00	1795.72
70305	1/18/06 10:00	1/25/06 10:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	Pentene	157.00	168.00	1795.72
70305	1/18/06 10:00	1/25/06 10:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	Propylene	667.00	168.00	1795.72
70305	1/18/06 10:00	1/25/06 10:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	VOC	179.00	168.00	1795.72
70395	1/18/06 10:00	1/25/06 10:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	TOTAL VOCs	13066.00	168.00	1795.72
70395	1/18/06 10:00	1/25/06 10:00	1504A	Startup	EU 1592	P-1592	CB-710 Flare	1592-40	CO	332.00	168.00	85.18
70305	1/18/06 10:00	1/25/06 10:00	1504A	Startup	EU 1592	P-1592	CB-710 Flare	1592-40	Nitric Oxide	44.00	168.00	11.79
70305	1/18/06 10:00	1/25/06 10:00	1504A	Startup	EU 1592	P-1592	CB-710 Flare	1592-40	Nitrogen Dioxide	2.00	168.00	11.79
70395	1/18/06 10:00	1/25/06 10:00	1504A	Startup	EU 1592	P-1592	CB-710 Flare	1592-40	TOTAL NOx	46.00	168.00	0.04
70305	1/18/06 10:00	1/25/06 10:00	1504A	Startup	EU 1592	P-1592	CB-710 Flare	1592-40	Acetylene	38.00	168.00	85.09
70305	1/18/06 10:00	1/25/06 10:00	1504A	Startup	EU 1592	P-1592	CB-710 Flare	1592-40	Ethylene	263.00	168.00	85.09
70305	1/18/06 10:00	1/25/06 10:00	1504A	Startup	EU 1592	P-1592	CB-710 Flare	1592-40	Propylene	4.00	168.00	85.09

Table 1 - Violations of Hourly Limits

Tracking Number	Start Date and Time	End Date and Time	Authorization	Type of Event	Unit	Additional Source Info/FIN	Emission Point	EPN	Pollutant	Amount Released (lbs)	Duration (hrs)	Reported Emission Limit (lbs/hr)
70395	1/18/06 10:00	1/25/06 10:00	1504A	Startup	EU 1592	P-1592	CB-710 Flare	1592-40	TOTAL VOCs	305.00	168.00	85.09
70583	1/19/06 1:30	1/19/06 3:42	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	1,3-Butadiene	207.10	2.20	3150.40
70583	1/19/06 1:30	1/19/06 3:42	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Ethylene	4909.00	2.20	3150.40
70583	1/19/06 1:30	1/19/06 3:42	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Propane	840.50	2.20	3150.40
70583	1/19/06 1:30	1/19/06 3:42	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Propylene	1315.00	2.20	3150.40
70583	1/19/06 1:30	1/19/06 3:42	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	VOC	778.00	2.20	3150.40
70583	1/19/06 1:30	1/19/06 3:42	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	TOTAL VOCs	8049.60	2.20	3150.40
70666	1/22/06 14:22	1/22/06 15:42	1504A	EE	EU 1592	EU-1592	CB-701 Flare	1592-16	1,3-Butadiene	120.90	1.33	3150.00
70666	1/22/06 14:22	1/22/06 15:42	1504A	EE	EU 1592	EU-1592	CB-701 Flare	1592-16	Ethylene	5000.60	1.33	3150.00
70666	1/22/06 14:22	1/22/06 15:42	1504A	EE	EU 1592	EU-1592	CB-701 Flare	1592-16	Propane	1742.89	1.33	3150.00
70666	1/22/06 14:22	1/22/06 15:42	1504A	EE	EU 1592	EU-1592	CB-701 Flare	1592-16	Propylene	725.40	1.33	3150.00
70666	1/22/06 14:22	1/22/06 15:42	1504A	EE	EU 1592	EU-1592	CB-701 Flare	1592-16	VOC	781.70	1.33	3150.00
70666	1/22/06 14:22	1/22/06 15:42	1504A	EE	EU 1592	EU-1592	CB-701 Flare	1592-16	TOTAL VOCs	8371.49	1.33	3150.00
70786	1/23/06 21:14	1/24/06 8:17	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	CO	21.10	11.05	731.14
70786	1/23/06 21:14	1/24/06 8:17	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	1,3-Butadiene	194.80	11.05	3150.00
70786	1/23/06 21:14	1/24/06 8:17	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Ethylene	7503.70	11.05	3150.00
70786	1/23/06 21:14	1/24/06 8:17	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Propane	2930.70	11.05	3150.00
70786	1/23/06 21:14	1/24/06 8:17	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Propylene	2340.80	11.05	3150.00
70786	1/23/06 21:14	1/24/06 8:17	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	VOC	1336.50	11.05	3150.00
70786	1/23/06 21:14	1/24/06 8:17	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	TOTAL VOCs	14306.50	11.05	3150.00
70858	3/4/06 1:07	3/4/06 1:12	2462C	EE	PEU 1792	P-1792	Fugitive	F-75	Ethylene	351.00	0.08	7.37
72456	3/4/06 1:07	3/4/06 1:12	2462C	EE	PEU 1792	P-1792	Fugitive	F-75	TOTAL VOCs	351.00	0.08	7.37
72547	3/6/06 15:00	3/9/06 15:00	1504A	EE	EU 1592	P-1592	BA-101	1592-01A	Ammonia	404.00	72.00	1.08
74116	4/25/06 11:15	4/25/06 11:45	2462C	EE	PEU 1792	P-1792	Process Fugitives	F-75	Ethylene	683.00	0.50	7.37
74916	4/25/06 11:15	4/25/06 11:45	2462C	EE	PEU 1792	P-1792	Process Fugitives	F-75	TOTAL VOCs	683.00	0.50	7.44
75103	4/28/06 16:07	4/28/06 16:40	37063	EE	NAOU 1797	P-1791	Z-101 Flare	110	Cyclopentadiene	49.08	0.55	79.71
75103	4/28/06 16:07	4/28/06 16:40	37063	EE	NAOU 1797	P-1791	Z-101 Flare	110	Dicyclopentadiene	57.43	0.55	79.71
75103	4/28/06 16:07	4/28/06 16:40	37063	EE	NAOU 1797	P-1791	Z-101 Flare	110	Isopentane	67.88	0.55	79.91
75103	4/28/06 16:07	4/28/06 16:40	37063	EE	NAOU 1797	P-1791	Z-101 Flare	110	Isoprene	78.32	0.55	79.71
75103	4/28/06 16:07	4/28/06 16:40	37063	EE	NAOU 1797	P-1791	Z-101 Flare	110	Pentane, N-	78.32	0.55	79.71
75103	4/28/06 16:07	4/28/06 16:40	37063	EE	NAOU 1797	P-1791	Z-101 Flare	110	Pentadienes	68.40	0.55	79.71
75103	4/28/06 16:07	4/28/06 16:40	37063	EE	NAOU 1797	P-1791	Z-101 Flare	110	Pentene	26.11	0.55	79.71
75103	4/28/06 16:07	4/28/06 16:40	37063	EE	NAOU 1797	P-1791	Z-101 Flare	110	Piperlylene	26.11	0.55	79.71
75103	4/28/06 16:07	4/28/06 16:40	37063	EE	NAOU 1797	P-1791	Z-101 Flare	110	VOC	46.99	0.55	79.71
75108	4/28/06 16:07	4/28/06 16:40	37063	EE	NAOU 1797	P-1791	Z-101 Flare	110	TOTAL VOCs	498.64	0.55	79.71
75111	4/30/06 13:45	4/30/06 13:45	37063	EE	NAOU 1797	P-1791	Trap	134	2-Butyne	5.34	4.00	2.02
75111	4/30/06 13:45	4/30/06 13:45	37063	EE	NAOU 1797	P-1791	Trap	134	Butene	3.43	4.00	2.02
75111	4/30/06 13:45	4/30/06 13:45	37063	EE	NAOU 1797	P-1791	Trap	134	Cyclopentadiene	23.18	4.00	2.02
75111	4/30/06 13:45	4/30/06 13:45	37063	EE	NAOU 1797	P-1791	Trap	134	Cyclopentene	45.52	4.00	2.02
75111	4/30/06 13:45	4/30/06 13:45	37063	EE	NAOU 1797	P-1791	Trap	134	Dicyclopentadiene	79.38	4.00	2.02
75111	4/30/06 13:45	4/30/06 13:45	37063	EE	NAOU 1797	P-1791	Trap	134	Isopentane	59.94	4.00	2.02
75112	4/30/06 13:45	4/30/06 13:45	37063	EE	NAOU 1797	P-1791	Trap	134	Isoprene	62.52	4.00	2.02
75112	4/30/06 13:45	4/30/06 13:45	37063	EE	NAOU 1797	P-1791	Trap	134	Pentane, N-	9.26	4.00	2.02
75112	4/30/06 13:45	4/30/06 13:45	37063	EE	NAOU 1797	P-1791	Trap	134	Pentene	24.50	4.00	2.02
75112	4/30/06 13:45	4/30/06 13:45	37063	EE	NAOU 1797	P-1791	Trap	134	Piperlylene	77.81	4.00	2.02

Table 1 - Violations of Hourly Limits

Tracking Number	Start Date and Time	End Date and Time	Authorization	Type of Event	Unit	Additional Source Info/FIN	Emission Point	EPN	Pollutant	Amount Released (lbs)	Duration (hrs)	Reported Emission Limit (lbs/hr)
75112	4/30/06 13:45	4/30/06 17:45	37063	EE	NAOU 1797	P-1791	Trap	134	VOC	105.20	4.00	2.02
75112	4/30/06 13:45	4/30/06 17:45	37063	EE	NAOU 1797	P-1791	Trap	134	TOTAL VOCs	476.08	4.00	2.02
75967	5/17/06 5:13	5/18/06 17:13	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	CO	12400.00	36.00	2047.70
75967	5/17/06 5:13	5/18/06 17:13	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Nitric Oxide	1716.70	36.00	283.50
75967	5/17/06 5:13	5/18/06 17:13	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	TOTAL NOx	1716.70	36.00	283.51
75967	5/17/06 5:13	5/18/06 17:13	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	1,3-Butadiene	281.60	36.00	3150.40
75967	5/17/06 5:13	5/18/06 17:13	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Benzene	763.10	36.00	3150.40
75967	5/17/06 5:13	5/18/06 17:13	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Butane	921.90	36.00	3150.40
75967	5/17/06 5:13	5/18/06 17:13	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Butene	286.60	36.00	3150.40
75967	5/17/06 5:13	5/18/06 17:13	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Ethylene	8203.50	36.00	3150.40
75967	5/17/06 5:13	5/18/06 17:13	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Propane	2134.70	36.00	3150.40
75967	5/17/06 5:13	5/18/06 17:13	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Propylene	1980.30	36.00	3150.40
75967	5/17/06 5:13	5/18/06 17:13	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	VOC	745.60	36.00	3150.40
75967	5/17/06 5:13	5/18/06 17:13	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	TOTAL VOCs	15367.30	36.00	3150.40
75967	5/17/06 5:13	5/18/06 17:13	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	CO	550.80	36.00	0.32
75967	5/17/06 5:13	5/18/06 17:13	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	Nitric Oxide	76.30	36.00	0.04
75967	5/17/06 5:13	5/18/06 17:13	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	TOTAL NOx	76.30	36.00	0.04
75967	5/17/06 5:13	5/18/06 17:13	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	Acetylene	220.00	36.00	0.02
75967	5/17/06 5:13	5/18/06 17:13	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	Ethylene	352.60	36.00	0.02
75967	5/17/06 5:13	5/18/06 17:13	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	VOC	53.70	36.00	0.02
75967	5/17/06 5:13	5/18/06 17:13	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	TOTAL VOCs	626.30	36.00	0.02
76324	5/25/06 18:00	5/26/06 7:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	CO	34582.00	13.00	3150.00
76324	5/25/06 18:00	5/26/06 7:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	NOx	4788.00	13.00	283.51
76324	5/25/06 18:00	5/26/06 7:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	1,3-Butadiene	66.50	13.00	3150.00
76324	5/25/06 18:00	5/26/06 7:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Benzene	391.00	13.00	3150.00
76324	5/25/06 18:00	5/26/06 7:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Butane	473.00	13.00	3150.00
76324	5/25/06 18:00	5/26/06 7:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Butene	107.00	13.00	3150.00
76324	5/25/06 18:00	5/26/06 7:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Ethylene	1288.00	13.00	3150.00
76324	5/25/06 18:00	5/26/06 7:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Propane	315.00	13.00	3150.00
76324	5/25/06 18:00	5/26/06 7:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Propylene	858.00	13.00	3150.00
76324	5/25/06 18:00	5/26/06 7:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	VOC	403.00	13.00	3150.00
76324	5/25/06 18:00	5/26/06 7:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	TOTAL VOCs	3901.50	13.00	3150.00
76324	5/25/06 18:00	5/26/06 7:00	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	CO	2693.00	13.00	0.32
76324	5/25/06 18:00	5/26/06 7:00	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	NOx	373.00	13.00	0.04
76324	5/25/06 18:00	5/26/06 7:00	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	Acetylene	12.20	13.00	0.02
76324	5/25/06 18:00	5/26/06 7:00	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	Ethylene	239.00	13.00	0.02
76324	5/25/06 18:00	5/26/06 7:00	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	VOC	3.70	13.00	0.02
76324	5/25/06 18:00	5/26/06 7:00	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40	TOTAL VOCs	254.90	13.00	0.02
76377	5/28/06 19:45	5/29/06 19:45	1504A	EE	EU 1592	1592-16	CB-701 Flare	1592-16	CO	11810.00	24.00	2047.71
76377	5/28/06 19:45	5/29/06 19:45	1504A	EE	EU 1592	1592-16	CB-701 Flare	1592-16	NOx	1635.20	24.00	283.51
76377	5/28/06 19:45	5/29/06 19:45	1504A	EE	EU 1592	1592-16	CB-701 Flare	1592-16	1,3-Butadiene	748.40	24.00	3150.00
76377	5/28/06 19:45	5/29/06 19:45	1504A	EE	EU 1592	1592-16	CB-701 Flare	1592-16	Benzene	2255.00	24.00	3150.00
76377	5/28/06 19:45	5/29/06 19:45	1504A	EE	EU 1592	1592-16	CB-701 Flare	1592-16	Butane	1572.40	24.00	3150.00
76377	5/28/06 19:45	5/29/06 19:45	1504A	EE	EU 1592	1592-16	CB-701 Flare	1592-16	Butene	600.70	24.00	3150.00
76377	5/28/06 19:45	5/29/06 19:45	1504A	EE	EU 1592	1592-16	CB-701 Flare	1592-16	Ethylene	10775.30	24.00	3150.00

Table 1 - Violations of Hourly Limits

Tracking Number	Start Date and Time	End Date and Time	Authorization	Type of Event	Unit	Additional Source Info/FIN	Emission Point	EPN	Pollutant	Amount Released (lbs)	Duration (hrs)	Reported Emission Limit (lbs/hr)
76377	5/28/06 19:45	5/29/06 19:45	1504A	EE	EU 1592	1592-16	CB-701 Flare	1592-16	Propane	1641.40	24.00	3150.00
76377	5/28/06 19:45	5/29/06 19:45	1504A	EE	EU 1592	1592-16	CB-701 Flare	1592-16	Propylene	4881.10	24.00	3150.00
76377	5/28/06 19:45	5/29/06 19:45	1504A	EE	EU 1592	1592-16	CB-701 Flare	1592-16	VOC	2361.10	24.00	3150.00
76377	5/28/06 19:45	5/29/06 19:45	1504A	EE	EU 1592	1592-16	CB-701 Flare	1592-16	TOTAL VOCs	24835.40	24.00	3150.00
76377	5/28/06 19:45	5/29/06 19:45	1504A	EE	EU 1592	1592-16	CB-710 Flare	1592-40	CO	288.80	24.00	0.32
76377	5/28/06 19:45	5/29/06 19:45	1504A	EE	EU 1592	1592-16	CB-710 Flare	1592-40	NOx	40.00	24.00	0.04
76377	5/28/06 19:45	5/29/06 19:45	1504A	EE	EU 1592	1592-16	CB-710 Flare	1592-40	Acetylene	57.70	24.00	0.32
76377	5/28/06 19:45	5/29/06 19:45	1504A	EE	EU 1592	1592-16	CB-710 Flare	1592-40	Ethylene	136.40	24.00	0.02
76377	5/28/06 19:45	5/29/06 19:45	1504A	EE	EU 1592	1592-16	CB-710 Flare	1592-40	VOC	71.90	24.00	0.02
76377	5/28/06 19:45	5/29/06 19:45	1504A	EE	EU 1592	1592-16	CB-710 Flare	1592-40	TOTAL VOCs	266.00	24.00	0.02
76377	5/28/06 19:45	5/29/06 19:45	1504A	EE	EU 1592	1592-16	TK-31	126F	Ethylene	261.00	9.33	0.35
76684	6/6/06 17:30	6/6/06 2:50	37063	EE	NAOU 1797	P-1797	TK-31	126F	TOTAL VOCs	261.00	9.33	0.35
82342	10/7/06 4:30	10/7/06 14:30	1504A	EE	EU 1592	CB-701 Flare	CB-701 Flare	1592-16	CO	12440.40	10.00	2047.71
82342	10/7/06 4:30	10/7/06 14:30	1504A	EE	EU 1592	CB-701 Flare	CB-701 Flare	1592-16	NOx	1721.70	10.00	283.51
82342	10/7/06 4:30	10/7/06 14:30	1504A	EE	EU 1592	CB-701 Flare	CB-701 Flare	1592-16	Acetylene	9.21	10.00	3150.43
82342	10/7/06 4:30	10/7/06 14:30	1504A	EE	EU 1592	CB-701 Flare	CB-701 Flare	1592-16	Ethylene	14048.20	10.00	1200.00
82342	10/7/06 4:30	10/7/06 14:30	1504A	EE	EU 1592	CB-701 Flare	CB-701 Flare	1592-16	Propane	11.92	10.00	3150.43
82342	10/7/06 4:30	10/7/06 14:30	1504A	EE	EU 1592	CB-701 Flare	CB-701 Flare	1592-16	Propylene	83.87	10.00	1200.00
82342	10/7/06 4:30	10/7/06 14:30	1504A	EE	EU 1592	CB-701 Flare	CB-701 Flare	1592-16	VOC	7.09	10.00	3150.43
82342	10/7/06 4:30	10/7/06 14:30	1504A	EE	EU 1592	CB-701 Flare	CB-701 Flare	1592-16	TOTAL VOCs	14160.29	10.00	3150.43
82584	10/12/06 21:52	10/12/06 22:00	37063	EE	Loading	P-1791	Fugitives	F-130	Butene	3314.00	0.13	5.67
82584	10/12/06 21:52	10/12/06 22:00	37063	EE	Loading	P-1791	Fugitives	F-130	TOTAL VOCs	3314.00	0.13	5.67
82827	10/12/06 21:52	10/12/06 22:00	37063	EE	Loading	P-1791	Fugitives	F-130	Butene	3314.00	0.13	5.67
82951	10/23/06 13:30	10/24/06 13:30	37063	Shutdown	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Ethylene	63.00	24.00	5.67
82956	10/23/06 13:30	10/24/06 13:30	37063	EE	NAOU 1798	P-1798	Emissions	F-1798-30	Ethylene	34.00	24.00	7.33
82956	10/23/06 13:30	10/24/06 13:30	37063	EE	NAOU 1798	P-1798	Emissions	F-1798-30	TOTAL VOCs	34.00	24.00	7.33
83059	10/25/06 23:00	10/26/06 23:00	37063	Startup	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Ethylene	2105.00	24.00	358.62
83913	11/15/06 16:00	11/16/06 1:00	19027	EE	PEU 1796	P-1796	Z-1101 Flare	1798-22	TOTAL VOCs	2105.00	24.00	358.62
83913	11/15/06 16:00	11/16/06 1:00	19027	EE	PEU 1796	P-1796	FS-541 Flare	1796-10A	CO	297.30	9.00	10.30
83913	11/15/06 16:00	11/16/06 1:00	19027	EE	PEU 1796	P-1796	FS-541 Flare	1796-10A	NOx	55.80	9.00	1.90
83913	11/15/06 16:00	11/16/06 1:00	19027	EE	PEU 1796	P-1796	FS-541 Flare	1796-10A	Ethylene	423.00	9.00	16.79
83913	11/15/06 16:00	11/16/06 1:00	19027	EE	PEU 1796	P-1796	FS-541 Flare	1796-10A	TOTAL VOCs	423.00	9.00	76.79
84075	11/20/06 7:30	11/20/06 12:00	19027	EE	PEU 1796	P-1796	FS-541 Flare	1796-10A	CO	2.10	4.50	10.30
84075	11/20/06 7:30	11/20/06 12:00	19027	EE	PEU 1796	P-1796	FS-541 Flare	1796-10A	NOx	0.41	4.50	1.90
84075	11/20/06 7:30	11/20/06 12:00	19027	EE	PEU 1796	P-1796	FS-541 Flare	1796-10A	Ethylene	143.00	4.50	16.79
84075	11/20/06 7:30	11/20/06 12:00	19027	EE	PEU 1796	P-1796	FS-541 Flare	1796-10A	Hexene	165.00	4.50	16.79
84075	11/20/06 7:30	11/20/06 12:00	19027	EE	PEU 1796	P-1796	FS-541 Flare	1796-10A	TOTAL VOCs	308.00	4.50	16.79
84075	11/20/06 7:30	11/20/06 12:00	19027	EE	PEU 1796	-	Process Fugitives	1796-12A	Ethylene	221.00	4.50	3.22
84075	11/20/06 7:30	11/20/06 12:00	19027	EE	PEU 1796	-	Process Fugitives	1796-12A	Hexene	78.00	4.50	3.22
84075	11/20/06 7:30	11/20/06 12:00	19027	EE	PEU 1796	-	Process Fugitives	1796-12A	TOTAL VOCs	299.00	4.50	3.22
84075	11/20/06 7:30	11/20/06 12:00	19027	EE	PEU 1796	P-1792	Process Fugitives	F-75	Ethylene	87.70	0.57	7.44
85306	12/20/06 19:29	12/20/06 20:03	2462	EE	PEU 1792	P-1792	Process Fugitives	F-75	TOTAL VOCs	87.70	0.57	7.44
86704	2/17/07 4:30	2/19/07 6:30	19027	Absenteece	PEU 1796	TK-561	Tank 561	1796-04B	VOC	7.34	48.00	0.31

Table 1 - Violations of Hourly Limits

Tracking Number	Start Date and Time	End Date and Time	Authorization	Type of Event	Unit	Additional Source Info/FIN	Emission Point	EPN	Pollutant	Amount Released (lbs)	Duration (hrs)	Reported Emission Limit (lbs/hr)
86704	2/17/07 6:30	2/19/07 6:30	19027	Maintenance	PEU 1796	TK-561	Tank 561	1796-04B	TOTAL VOCs	7.34	48.00	0.31
91369	5/18/07 14:54	5/18/07 15:05	1504A	Excess Opacity	EU 1592	BA111	Cracking Furnace	1592-06A	Opacity	75%	0.18	5%
93571	7/31/07 16:53	7/31/07 17:00	14627	EE	PEU 1792	P-1792	Fugitive	F-75	Ethylene	351.00	0.08	7.37
95271	7/31/07 16:55	7/31/07 17:00	2462C	EE	PEU 1792	P-1792	Fugitive	F-75	TOTAL VOCs	351.00	0.08	7.37
98658	10/13/07 1:52	10/13/07 3:43	19027	EE	PEU 1796	FS-541	PEU 1796 Flare	1796-10A	CO	234.60	1.85	26.80
98658	10/13/07 1:52	10/13/07 3:43	19027	EE	PEU 1796	FS-541	PEU 1796 Flare	1796-10A	NOx	46.04	1.85	26.80
98658	10/13/07 1:52	10/13/07 3:43	19027	EE	PEU 1796	FS-541	PEU 1796 Flare	1796-10A	Butane	1.90	1.85	26.80
98658	10/13/07 1:52	10/13/07 3:43	19027	EE	PEU 1796	FS-541	PEU 1796 Flare	1796-10A	Ethylene	218.10	1.85	26.80
98658	10/13/07 1:52	10/13/07 3:43	19027	EE	PEU 1796	FS-541	PEU 1796 Flare	1796-10A	Hexene	183.60	1.85	26.80
98658	10/13/07 1:52	10/13/07 3:43	19027	EE	PEU 1796	FS-541	PEU 1796 Flare	1796-10A	Pentane	110.60	1.85	26.80
98658	10/13/07 1:52	10/13/07 3:43	19027	EE	PEU 1796	FS-541	PEU 1796 Flare	1796-10A	TOTAL VOCs	514.20	1.85	26.80
98658	10/13/07 1:52	10/13/07 3:43	None	EE	PEU 1796	-	Analyzer Tube	None	Ethylene	47.00	1.85	0.00
98658	10/13/07 1:52	10/13/07 3:43	None	EE	PEU 1796	-	Analyzer Tube	None	Hexene	15.00	1.85	0.00
98658	10/13/07 1:52	10/13/07 3:43	None	EE	PEU 1796	-	Analyzer Tube	None	Pentane	8.00	1.85	0.00
98658	10/13/07 1:52	10/13/07 3:43	None	EE	PEU 1796	-	Analyzer Tube	None	TOTAL VOCs	70.00	1.85	0.00
98632	10/25/07 16:11	10/25/07 18:13	2426C	EE	PEU 1792	P-1792	Fugitive	F-75	Ethylene	123.06	0.17	7.37
99292	10/25/07 16:11	10/25/07 16:21	2426C	EE	PEU 1792	P-1792	Fugitive	F-75	TOTAL VOCs	123.06	0.17	7.37
101332	12/13/07 23:50	12/14/07 1:34	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	CO	201.00	1.73	0.11
101332	12/13/07 23:50	12/14/07 1:34	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Nitrogen Oxide	100.70	1.73	0.05
101332	12/13/07 23:50	12/14/07 1:34	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	TOTAL NOx	100.70	1.73	0.05
101332	12/13/07 23:50	12/14/07 1:34	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Butene	27.40	1.73	12.01
101332	12/13/07 23:50	12/14/07 1:34	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Ethylene	306.80	1.73	12.01
101332	12/13/07 23:50	12/14/07 1:34	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	VOC	26.80	1.73	12.01
101332	12/13/07 23:50	12/14/07 1:34	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	TOTAL VOCs	361.00	1.73	12.01
101701	12/26/07 16:00	12/26/07 22:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	CO	1820.00	6.00	731.14
101701	12/26/07 16:00	12/26/07 22:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	NOx	252.00	6.00	101.23
101701	12/26/07 16:00	12/26/07 22:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	1,3-Butadiene	39.00	6.00	1795.72
101701	12/26/07 16:00	12/26/07 22:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Acetylene	2.00	6.00	1795.72
101701	12/26/07 16:00	12/26/07 22:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Benzene	141.00	6.00	1795.72
101701	12/26/07 16:00	12/26/07 22:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Butane	130.00	6.00	1795.72
101701	12/26/07 16:00	12/26/07 22:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Butene	38.00	6.00	1795.72
101701	12/26/07 16:00	12/26/07 22:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Ethylene	549.00	6.00	1795.72
101701	12/26/07 16:00	12/26/07 22:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Pentene	110.00	6.00	1795.72
101701	12/26/07 16:00	12/26/07 22:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Propane	249.00	6.00	1795.72
101701	12/26/07 16:00	12/26/07 22:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Propylene	116.00	6.00	1795.72
101701	12/26/07 16:00	12/26/07 22:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Toluene	47.00	6.00	1795.72
101701	12/26/07 16:00	12/26/07 22:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	VOC	12.00	6.00	1795.72
101701	12/26/07 16:00	12/26/07 22:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Xylene	3.00	6.00	1795.72
101701	12/26/07 16:00	12/26/07 22:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	TOTAL VOCs	1436.00	6.00	3150.43
101701	12/26/07 16:00	12/26/07 22:00	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	CO	144.00	6.00	85.18
101701	12/26/07 16:00	12/26/07 22:00	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	NOx	20.00	6.00	11.79
101701	12/26/07 16:00	12/26/07 22:00	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	Acetylene	1.00	6.00	85.09
101701	12/26/07 16:00	12/26/07 22:00	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	Ethylene	189.00	6.00	85.09
101701	12/26/07 16:00	12/26/07 22:00	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	Propane	0.50	6.00	85.09
101701	12/26/07 16:00	12/26/07 22:00	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	Propylene	0.10	6.00	85.09

Table 1 - Violations of Hourly Limits

Tracking Number	Start Date and Time	End Date and Time	Authorization	Type of Event	Unit	Additional Source Info/PIN	Emission Point	EPN	Pollutant	Amount Released (lbs)	Duration (hrs)	Reported Emission Limit (lbs/hr)
101701	12/26/07 16:00	12/26/07 22:00	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	TOTAL VOCs	190.60	6.00	85.09
101849	12/29/07 18:00	12/29/07 22:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	CO	2592.00	4.00	731.14
101849	12/29/07 18:00	12/29/07 22:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	NOx	359.00	4.00	101.23
101849	12/29/07 18:00	12/29/07 22:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	1,3-Butadiene	121.00	4.00	1795.72
101849	12/29/07 18:00	12/29/07 22:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	Acetylene	12.00	4.00	1795.72
101849	12/29/07 18:00	12/29/07 22:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	Benzene	0.01	4.00	1795.72
101849	12/29/07 18:00	12/29/07 22:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	Butane	55.00	4.00	1795.72
101849	12/29/07 18:00	12/29/07 22:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	Butene	99.00	4.00	1795.72
101849	12/29/07 18:00	12/29/07 22:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	Ethylene	1483.00	4.00	1795.72
101849	12/29/07 18:00	12/29/07 22:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	Hexane	0.01	4.00	1795.72
101849	12/29/07 18:00	12/29/07 22:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	Hexene	0.01	4.00	1795.72
101849	12/29/07 18:00	12/29/07 22:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	Pentane	401.00	4.00	1795.72
101849	12/29/07 18:00	12/29/07 22:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	Pentene	0.01	4.00	1795.72
101849	12/29/07 18:00	12/29/07 22:00	1504A	Startup	EU 1592	P-1592	CB-761 Flare	1592-16	Propane	100.00	4.00	1795.72
101849	12/29/07 18:00	12/29/07 22:00	1504A	Startup	BU 1592	P-1592	CB-701 Flare	1592-16	Propylene	227.00	4.00	1795.72
101849	12/29/07 18:00	12/29/07 22:00	1504A	Startup	BU 1592	P-1592	CB-701 Flare	1592-16	Toluene	0.01	4.00	1795.72
101849	12/29/07 18:00	12/29/07 22:00	1504A	Startup	BU 1592	P-1592	CB-701 Flare	1592-16	VOC	0.01	4.00	1795.72
101849	12/29/07 18:00	12/29/07 22:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	Xylene	0.01	4.00	1795.72
101849	12/29/07 18:00	12/29/07 22:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	TOTAL VOCs	2498.07	4.00	1795.72
101849	12/29/07 18:00	12/29/07 22:00	1504A	Startup	EU 1592	P-1592	CB-710 Flare	1592-40	CO	14.47	4.00	85.18
101849	12/29/07 18:00	12/29/07 22:00	1504A	Startup	EU 1592	P-1592	CB-710 Flare	1592-40	NOx	2.00	4.00	11.79
101849	12/29/07 18:00	12/29/07 22:00	1504A	Startup	EU 1592	P-1592	CB-710 Flare	1592-40	Acetylene	0.10	4.00	85.09
101849	12/29/07 18:00	12/29/07 22:00	1504A	Startup	EU 1592	P-1592	CB-710 Flare	1592-40	Ethylene	10.00	4.00	85.09
101849	12/29/07 18:00	12/29/07 22:00	1504A	Startup	EU 1592	P-1592	CB-710 Flare	1592-40	Propylene	2.00	4.00	85.09
101849	12/29/07 18:00	12/29/07 22:00	1504A	Startup	EU 1592	P-1592	CB-710 Flare	1592-40	TOTAL VOCs	12.10	4.00	85.09
102459	1/15/08 0:00	1/15/08 0:00	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	CO	82.43	0.00	0.11
102459	1/15/08 0:00	1/15/08 0:00	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	NOx	41.29	0.00	0.05
102459	1/15/08 14:18	1/15/08 14:57	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Butane	0.12	0.65	6.01
102459	1/15/08 0:00	1/15/08 0:00	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Butene	7.13	0.00	6.01
102459	1/15/08 0:00	1/15/08 0:00	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Ethylene	121.04	0.00	6.01
102459	1/15/08 0:00	1/15/08 0:00	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Pentane	4.47	0.00	6.01
102459	1/15/08 0:00	1/15/08 0:00	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	Propane	0.09	0.00	6.01
102459	1/15/08 0:00	1/15/08 0:00	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136	TOTAL VOCs	132.85	0.00	6.01
103310	2/5/08 4:57	2/5/08 7:59	2426C	EE	PEU 1792	P-1792	Fugitive	F-75	Ethylene	351.00	0.03	7.37
103310	2/5/08 7:57	2/5/08 7:59	2426C	EE	PEU 1792	P-1792	Fugitive	F-75	TOTAL VOCs	351.00	0.03	7.37
103520	2/9/08 3:00	2/9/08 5:00	46305	EE	PEU 1799	FS-9004	Flare	1799-20	CO	14.90	2.00	128.13
103520	2/9/08 3:00	2/9/08 5:00	46305	EE	PEU 1799	FS-9004	Flare	1799-20	NOx	1.70	2.00	14.96
103520	2/9/08 3:00	2/9/08 5:00	46305	EE	PEU 1799	FS-9004	Flare	1799-20	Butane	1199.00	2.00	179.65
103520	2/9/08 3:00	2/9/08 5:00	46305	EE	PEU 1799	FS-9004	Flare	1799-20	Ethylene	179.00	2.00	179.65
103520	2/9/08 3:00	2/9/08 5:00	46305	EE	PEU 1799	FS-9004	Flare	1799-20	Hexene	3.00	2.00	179.65
103520	2/9/08 3:00	2/9/08 5:00	46305	EE	PEU 1799	FS-9004	Flare	1799-20	TOTAL VOCs	1381.00	2.00	179.65
104248	2/27/08 7:29	2/27/08 7:34	37063	Maintenance	NAOU 1798	P-1798	Z-1101 Flare	1798-22	CO	97.72	0.08	6.06
104248	2/27/08 7:29	2/27/08 7:34	37063	Maintenance	NAOU 1798	P-1798	Z-1101 Flare	1798-22	NOx	13.53	0.08	0.84
104248	2/27/08 7:29	2/27/08 7:34	37063	Maintenance	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Ethylene	137.50	0.08	8.00
104248	2/27/08 7:29	2/27/08 7:34	37063	Maintenance	NAOU 1798	P-1798	Z-1101 Flare	1798-22	TOTAL VOCs	137.50	0.08	8.00

Table 1 - Violations of Hourly Limits

Tracking Number	Start Date and Time	End Date and Time	Authorization	Type of Event	Unit	Additional Source Info/FIN	Emission Point	EPN	Pollutant	Amount Released (lbs)	Duration (hrs)	Reported
												Emission Limit (lbs/hr)
105136	3/18/08 13:50	3/18/08 15:40	37063	EE	NAOU 1798	Z-1101	Z-1101 Flare	1798-22	CO	399.90	1.83	127.51
105136	M/18/08 13:50	3/18/08 15:40	37063	EE	NAOU 1798	Z-1101	Z-1101 Flare	1798-22	Nitrogen Oxide	55.40	1.83	17.65
105136	3/18/08 13:50	3/18/08 15:40	37063	EE	NAOU 1798	Z-1101	Z-1101 Flare	1798-22	TOTAL NOx	55.40	1.83	17.65
105136	M/18/08 13:50	3/18/08 15:40	37063	EE	NAOU 1798	Z-1101	Z-1101 Flare	1798-22	Butane	1.69	1.83	342.16
105136	M/18/08 13:50	3/18/08 15:40	37063	EE	NAOU 1798	Z-1101	Z-1101 Flare	1798-22	Butene	184.30	1.83	342.16
105136	M/18/08 13:50	3/18/08 15:40	37063	EE	NAOU 1798	Z-1101	Z-1101 Flare	1798-22	Ethylene	327.22	1.83	342.16
105136	M/18/08 13:50	3/18/08 15:40	37063	EE	NAOU 1798	Z-1101	Z-1101 Flare	1798-22	Propane	0.15	1.83	342.16
105136	M/18/08 13:50	3/18/08 15:40	37063	EE	NAOU 1798	Z-1101	Z-1101 Flare	1798-22	Propylene	2.81	1.83	342.16
105136	M/18/08 13:50	3/18/08 15:40	37063	EE	NAOU 1798	Z-1101	Z-1101 Flare	1798-22	VOC	150.35	1.83	342.16
105136	3/18/08 13:50	3/18/08 15:40	37063	EE	NAOU 1798	Z-1101	Z-1101 Flare	1798-22	TOTAL VOCs	666.52	1.83	342.16
105393	4/4/08 0:00	4/12/08 23:00	37063	Shutdown	NAOU 1798	Z-1101	Z-1101 Flare	1798-22	CO	1838.61	215.00	6.06
105393	4/4/08 0:00	4/12/08 23:00	37063	Shutdown	NAOU 1798	Z-1101	Z-1101 Flare	1798-22	NOx	254.56	215.00	0.84
105393	4/4/08 0:00	4/12/08 23:00	37063	Shutdown	NAOU 1798	Z-1101	Z-1101 Flare	1798-22	Butane	14.14	215.00	8.00
105393	4/4/08 0:00	4/12/08 23:00	37063	Shutdown	NAOU 1798	Z-1101	Z-1101 Flare	1798-22	Butene	80.79	215.00	8.00
105393	4/4/08 0:00	4/12/08 23:00	37063	Shutdown	NAOU 1798	Z-1101	Z-1101 Flare	1798-22	Ethylene	45.81	215.00	8.00
105393	4/4/08 0:00	4/12/08 23:00	37063	Shutdown	NAOU 1798	Z-1101	Z-1101 Flare	1798-22	Hexene	234.80	215.00	8.00
105393	4/4/08 0:00	4/12/08 23:00	37063	Shutdown	NAOU 1798	Z-1101	Z-1101 Flare	1798-22	Propane	12.30	215.00	8.00
105393	4/4/08 0:00	4/12/08 23:00	37063	Shutdown	NAOU 1798	Z-1101	Z-1101 Flare	1798-22	Propylene	223.41	215.00	8.00
105393	4/4/08 0:00	4/12/08 23:00	37063	Shutdown	NAOU 1798	Z-1101	Z-1101 Flare	1798-22	TOTAL VOCs	611.25	215.00	8.00
105955	4/18/08 7:00	4/23/08 2:00	37063	Shutdown	NAOU 1797	Z-101	Z-101 Flare	110	CO	1111.60	115.00	35.72
105955	4/18/08 7:00	4/23/08 2:00	37063	Shutdown	NAOU 1797	Z-101	Z-101 Flare	110	NOx	153.90	115.00	4.95
105955	4/18/08 7:00	4/23/08 2:00	37063	Shutdown	NAOU 1797	Z-101	Z-101 Flare	110	1,3-Butadiene	0.02	115.00	79.71
105955	4/18/08 7:00	4/23/08 2:00	37063	Shutdown	NAOU 1797	Z-101	Z-101 Flare	110	Butane	8.25	115.00	79.71
105955	4/18/08 7:00	4/23/08 2:00	37063	Shutdown	NAOU 1797	Z-101	Z-101 Flare	110	Butene	72.46	115.00	79.71
105955	4/18/08 7:00	4/23/08 2:00	37063	Shutdown	NAOU 1797	Z-101	Z-101 Flare	110	Ethylene	55.08	115.00	79.71
105955	4/18/08 7:00	4/23/08 2:00	37063	Shutdown	NAOU 1797	Z-101	Z-101 Flare	110	Hexene	164.27	115.00	79.71
105955	4/18/08 7:00	4/23/08 2:00	37063	Shutdown	NAOU 1797	Z-101	Z-101 Flare	110	Propane	6.71	115.00	79.71
105955	4/18/08 7:00	4/23/08 2:00	37063	Shutdown	NAOU 1797	Z-101	Z-101 Flare	110	Propylene	15.92	115.00	79.71
105955	4/18/08 7:00	4/23/08 2:00	37063	Shutdown	NAOU 1797	Z-101	Z-101 Flare	110	TOTAL VOCs	322.71	115.00	79.71
106528	4/30/08 12:00	5/5/08 18:00	37063	Startup	NAOU 1798	F-1798	TK-1800	1798-01	Butene	6.10	126.00	0.72
106528	4/30/08 12:00	5/5/08 18:00	37063	Startup	NAOU 1798	F-1798	TK-1800	1798-01	Decene	39.50	126.00	0.72
106528	4/30/08 12:00	5/5/08 18:00	37063	Startup	NAOU 1798	F-1798	TK-1800	1798-01	Dodecene	5.00	126.00	0.72
106528	4/30/08 12:00	5/5/08 18:00	37063	Startup	NAOU 1798	F-1798	TK-1800	1798-01	Hexadecene	7.00	126.00	0.72
106528	4/30/08 12:00	5/5/08 18:00	37063	Startup	NAOU 1798	F-1798	TK-1800	1798-01	Hexene	1145.40	126.00	0.72
106528	4/30/08 12:00	5/5/08 18:00	37063	Startup	NAOU 1798	F-1798	TK-1800	1798-01	Octene	20.60	126.00	0.72
106528	4/30/08 12:00	5/5/08 18:00	37063	Startup	NAOU 1798	F-1798	TK-1800	1798-01	Tetradecene	0.10	126.00	0.72
106528	4/30/08 12:00	5/5/08 18:00	37063	Startup	NAOU 1798	F-1798	TK-1800	1798-01	TOTAL VOCs	1223.70	126.00	0.72
106528	4/30/08 12:00	5/5/08 18:00	37063	Startup	NAOU 1798	F-1798	TK-1800	1798-03	Hexene	833.40	126.00	0.64
106528	4/30/08 12:00	5/5/08 18:00	37063	Startup	NAOU 1798	F-1798	TK-1806	1798-03	TOTAL VOCs	833.40	126.00	0.64
106528	4/30/08 12:00	5/5/08 18:00	37063	Startup	NAOU 1798	F-1798	Z-1101 Flare	1798-22	CO	320.79	126.00	127.51
106528	4/30/08 12:00	5/5/08 18:00	37063	Startup	NAOU 1798	F-1798	Z-1101 Flare	1798-22	NOx	44.41	126.00	17.65
106528	4/30/08 12:00	5/5/08 18:00	37063	Startup	NAOU 1798	F-1798	Z-1101 Flare	1798-22	Butane	4.92	126.00	342.16
106528	4/30/08 12:00	5/5/08 18:00	37063	Startup	NAOU 1798	F-1798	Z-1101 Flare	1798-22	Butene	39.42	126.00	342.16
106528	4/30/08 12:00	5/5/08 18:00	37063	Startup	NAOU 1798	F-1798	Z-1101 Flare	1798-22	Ethylene	325.25	126.00	342.16
106528	4/30/08 12:00	5/5/08 18:00	37063	Startup	NAOU 1798	F-1798	Z-1101 Flare	1798-22	Hexene	114.52	126.00	342.16

Table 1 - Violations of Hourly Limits

Tracking Number	Start Date and Time	End Date and Time	Authorization	Type of Event	Unit	Additional Source Info/FIN	Emission Point	EPN	Pollutant	Amount Released (lbs)	Duration (hrs)	Reported Emission Limit (lbs/hr)
106528	4/30/08 12:00	5/5/08 18:00	37063	Startup	NAOU 1798	F-1798	Z-1101 Flare	1798-22	Propane	3.97	126.00	342.16
106528	4/30/08 12:00	5/5/08 18:00	37063	Startup	NAOU 1798	F-1798	Z-1101 Flare	1798-22	Propylene	4.73	126.00	342.16
106528	4/30/08 12:00	5/5/08 18:00	37063	Startup	NAOU 1798	F-1798	Z-1101 Flare	1798-22	TOTAL VOCs	492.81	126.00	342.16
106531	4/28/08 21:00	4/29/08 22:00	37063	Startup	NAOU 1797	F-1797	Z-101 Flare	110	CO	440.00	25.00	35.72
106531	4/28/08 21:00	4/29/08 22:00	37063	Startup	NAOU 1797	F-1797	Z-101 Flare	110	NOx	60.00	25.00	4.95
106531	4/28/08 21:00	4/29/08 22:00	37063	Startup	NAOU 1797	F-1797	Z-101 Flare	110	Butane	10.00	25.00	79.71
106531	4/28/08 21:00	4/29/08 22:00	37063	Startup	NAOU 1797	F-1797	Z-101 Flare	110	Butene	50.00	25.00	79.71
106531	4/28/08 21:00	4/29/08 22:00	37063	Startup	NAOU 1797	F-1797	Z-101 Flare	110	Ethylene	165.00	25.00	79.71
106531	4/28/08 21:00	4/29/08 22:00	37063	Startup	NAOU 1797	F-1797	Z-101 Flare	110	Hexene	45.00	25.00	79.71
106531	4/28/08 21:00	4/29/08 22:00	37063	Startup	NAOU 1797	F-1797	Z-101 Flare	110	Propane	10.00	25.00	79.71
106531	4/28/08 21:00	4/29/08 22:00	37063	Startup	NAOU 1797	F-1797	Z-101 Flare	110	Propylene	5.00	25.00	79.71
106531	4/28/08 21:00	4/29/08 22:00	37063	Startup	NAOU 1797	F-1797	Z-101 Flare	110	TOTAL VOCs	285.00	25.00	79.71
107083	4/29/08 22:00	4/30/08 23:00	37063	EE	NAOU 1797	F-1797	Z-101 Flare	110	CO	393.83	25.00	440.00
107083	4/29/08 22:00	4/30/08 23:00	37063	EE	NAOU 1797	F-1797	Z-101 Flare	110	NOx	54.53	25.00	60.00
107083	4/29/08 22:00	4/30/08 23:00	37063	EE	NAOU 1797	F-1797	Z-101 Flare	110	Butane	1.84	25.00	10.00
107083	4/29/08 22:00	4/30/08 23:00	37063	EE	NAOU 1797	F-1797	Z-101 Flare	110	Butene	43.03	25.00	50.00
107083	4/29/08 22:00	4/30/08 23:00	37063	EE	NAOU 1797	F-1797	Z-101 Flare	110	Ethylene	101.77	25.00	165.00
107083	4/29/08 22:00	4/30/08 23:00	37063	EE	NAOU 1797	F-1797	Z-101 Flare	110	Hexene	259.69	25.00	45.00
107083	4/29/08 22:00	4/30/08 23:00	37063	EE	NAOU 1797	F-1797	Z-101 Flare	110	Propane	1.49	25.00	10.00
107083	4/29/08 22:00	4/30/08 23:00	37063	EE	NAOU 1797	F-1797	Z-101 Flare	110	Propylene	2.13	25.00	5.00
107083	4/29/08 22:00	4/30/08 23:00	37063	EE	NAOU 1797	F-1797	Z-101 Flare	110	TOTAL VOCs	409.95	25.00	79.71
107366	5/7/08 4:00	5/7/08 4:02	1504A	EE	EU 1592	P-1592	Fugitive	1592-31	Benzene	59.00	0.03	12.65
107366	5/7/08 4:00	5/7/08 4:02	1504A	EE	EU 1592	P-1592	Fugitive	1592-31	VOC	38.00	0.03	12.65
107661	5/14/08 12:00	5/14/08 20:00	19027	Shutdown	PEU 1796	P-1796	FS-541 Flare	1796-10A	CO	151.00	8.00	10.30
107661	5/14/08 12:00	5/14/08 20:00	19027	Shutdown	PEU 1796	P-1796	FS-541 Flare	1796-10A	Nitrogen Oxide	29.70	8.00	1.90
107661	5/14/08 12:00	5/14/08 20:00	19027	Shutdown	PEU 1796	P-1796	FS-541 Flare	1796-10A	TOTAL NOx	29.70	1.90	1.90
107661	5/14/08 12:00	5/14/08 20:00	19027	Shutdown	PEU 1796	P-1796	FS-541 Flare	1796-10A	Ethylene	77.40	8.00	26.79
107661	5/14/08 12:00	5/14/08 20:00	19027	Shutdown	PEU 1796	P-1796	FS-541 Flare	1796-10A	Hexane	97.50	8.00	26.79
107661	5/14/08 12:00	5/14/08 20:00	19027	Shutdown	PEU 1796	P-1796	FS-541 Flare	1796-10A	Hexene	23.20	8.00	26.79
107661	5/14/08 12:00	5/14/08 20:00	19027	Shutdown	PEU 1796	P-1796	FS-541 Flare	1796-10A	Pentane	156.00	8.00	26.79
107661	5/14/08 12:00	5/14/08 20:00	19027	Shutdown	PEU 1796	P-1796	FS-541 Flare	1796-10A	TOTAL VOCs	354.10	8.00	26.79
108052	5/27/08 7:00	5/28/08 7:00	37063	Maintenance	NAOU 1797	SYS-740	SYS-740 Flare	136	CO	15.74	24.00	0.46
108052	5/27/08 7:00	5/28/08 7:00	37063	Maintenance	NAOU 1797	SYS-740	SYS-740 Flare	136	NOx	7.88	24.00	0.23
108052	5/27/08 7:00	5/28/08 7:00	37063	Maintenance	NAOU 1797	SYS-740	SYS-740 Flare	136	Butane	10.20	24.00	6.01
108052	5/27/08 7:00	5/28/08 7:00	37063	Maintenance	NAOU 1797	SYS-740	SYS-740 Flare	136	Ethylene	22.04	24.00	6.01
108052	5/27/08 7:00	5/28/08 7:00	37063	Maintenance	NAOU 1797	SYS-740	SYS-740 Flare	136	TOTAL VOCs	32.24	24.00	6.01
108468	6/1/08 6:05	6/1/08 17:05	2462C	EE	PEU 1792	X-901	Flare	45	CO	630.00	11.00	22.99
108468	6/1/08 6:05	6/1/08 17:05	2462C	EE	PEU 1792	X-901	Flare	45	NOx	87.00	11.00	3.18
108468	6/1/08 6:05	6/1/08 17:05	2462C	EE	PEU 1792	X-901	Flare	45	Ethylene	753.00	11.00	28.55
108468	6/1/08 6:05	6/1/08 17:05	2462C	EE	PEU 1792	X-901	Flare	45	Propane	50.00	11.00	28.55
108468	6/1/08 6:05	6/1/08 17:05	2462C	EE	PEU 1792	X-901	Flare	45	Propylene	82.00	11.00	28.55
108468	6/1/08 6:05	6/1/08 17:05	2462C	EE	PEU 1792	X-901	Flare	45	TOTAL VOCs	885.00	11.00	28.55
108469	6/1/08 23:00	6/2/08 1:00	2462C	Startup	PEU 1792	X-901	Flare	45	CO	87.90	2.00	22.99
108469	6/1/08 23:00	6/2/08 1:00	2462C	Startup	PEU 1792	X-901	Flare	45	NOx	12.20	2.00	3.18

Table 1 - Violations of Hourly Limits

Tracking Number	Start Date and Time	End Date and Time	Authorization	Type of Event	Unit	Additional Source Info/IDN	Emission Point	EPN	Pollutant	Amount Released (lbs)	Duration (hrs)	Reported Emission Limit (lbs/hr)	
108469	6/1/08 23:00	6/2/08 1:00	2462C	Startup	PEU 1792	X-901	Flare	45	Ethylene	48.90	2.00	28.55	
108469	6/1/08 23:00	6/2/08 1:00	2462C	Startup	PEU 1792	X-901	Flare	45	Propane	4.20	2.00	28.55	
108469	6/1/08 23:00	6/2/08 1:00	2462C	Startup	PEU 1792	X-901	Flare	45	Propylene	68.50	2.00	28.55	
108469	6/1/08 23:00	6/2/08 1:00	2462C	Startup	PEU 1792	X-901	Flare	45	TOTAL VOCs	121.60	2.00	28.55	
109236	6/12/08 9:20	6/14/08 9:30	1504A	EE	EU 1592		Flare	1592-16	CO	8324.00	48.17	2043.00	
109236	6/12/08 9:20	6/14/08 9:30	1504A	EE	EU 1592		Flare	1592-16	NOx	1189.00	48.17	283.00	
109236	6/12/08 9:20	6/14/08 9:30	1504A	EE	EU 1592		Flare	1592-16	1,3-Butadiene	339.00	48.17	3144.00	
109236	6/12/08 9:20	6/14/08 9:30	1504A	EE	EU 1592		Flare	1592-16	Acetylene	89.00	48.17	3144.00	
109236	6/12/08 9:20	6/14/08 9:30	1504A	EE	EU 1592		Flare	1592-16	Benzene	402.00	48.17	3144.00	
109236	6/12/08 9:20	6/14/08 9:30	1504A	EE	EU 1592		Flare	1592-16	Butane	385.00	48.17	3144.00	
109236	6/12/08 9:20	6/14/08 9:30	1504A	EE	EU 1592		Flare	1592-16	Butene	227.00	48.17	3144.00	
109236	6/12/08 9:20	6/14/08 9:30	1504A	EE	EU 1592		Flare	1592-16	Ethylene	8796.00	48.17	3144.00	
109236	6/12/08 9:20	6/14/08 9:30	1504A	EE	EU 1592		Flare	1592-16	Propane	5949.00	48.17	3144.00	
109236	6/12/08 9:20	6/14/08 9:30	1504A	EE	EU 1592		Flare	1592-16	Propylene	4259.00	48.17	3144.00	
109236	6/12/08 9:20	6/14/08 9:30	1504A	EE	EU 1592		Flare	1592-16	Styrene	52.00	48.17	3144.00	
109236	6/12/08 9:20	6/14/08 9:30	1504A	EE	EU 1592		Flare	1592-16	Toluene	245.00	48.17	3144.00	
109236	6/12/08 9:20	6/14/08 9:30	1504A	EE	EU 1592		Flare	1592-16	VOC	996.00	48.17	3144.00	
109236	6/12/08 9:20	6/14/08 9:30	1504A	EE	EU 1592		Flare	1592-16	Xylene	52.00	48.17	3144.00	
109236	6/12/08 9:20	6/14/08 9:30	1504A	EE	EU 1592		Flare	1592-16	TOTAL VOCs	21791.00	48.17	3144.00	
109236	6/12/08 9:20	6/14/08 9:30	1504A	EE	CB-701 Ethylene Flare		CB-701	CB-710 Flare	1592-40	CO	516.43	48.17	0.32
109236	6/12/08 9:20	6/14/08 9:30	1504A	EE	CB-701 Ethylene Flare		CB-701	CB-710 Flare	1592-40	NOx	73.78	48.17	0.04
109236	6/12/08 9:30	6/14/08 9:30	1504A	EE	CB-701 Ethylene Flare		CB-701	CB-710 Flare	1592-40	Acetylene	6.75	48.17	4.02
109236	6/12/08 9:30	6/14/08 9:30	1504A	EE	CB-701 Ethylene Flare		CB-701	CB-710 Flare	1592-40	Butane	4.29	48.17	4.02
109236	6/12/08 9:30	6/14/08 9:30	1504A	EE	CB-701 Ethylene Flare		CB-701	CB-710 Flare	1592-40	Butene	0.05	48.17	4.02
109236	6/12/08 9:30	6/14/08 9:30	1504A	EE	CB-701 Ethylene Flare		CB-701	CB-710 Flare	1592-40	Ethylene	210.37	48.17	4.02
109236	6/12/08 9:30	6/14/08 9:30	1504A	EE	CB-701 Ethylene Flare		CB-701	CB-710 Flare	1592-40	Propane	6.48	48.17	4.02
109236	6/12/08 9:30	6/14/08 9:30	1504A	EE	CB-701 Ethylene Flare		CB-701	CB-710 Flare	1592-40	Propylene	7.58	48.17	4.02
109236	6/12/08 9:30	6/14/08 9:30	1504A	EE	CB-701 Ethylene Flare		CB-701	CB-710 Flare	1592-40	VOC	6.31	48.17	4.02
109236	6/12/08 9:30	6/14/08 9:30	1504A	EE	CB-701 Ethylene Flare		CB-701	CB-710 Flare	1592-40	TOTAL VOCs	241.83	48.17	4.02
109295	6/14/08 9:00	6/15/08 10:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare; CB-710 Flare	1592-16; 1592-40	CO	125.99	25.00	85.18	

Table 1 - Violations of Hourly Limits

Tracking Number	Start Date and Time	End Date and Time	Authorization	Type of Event	Unit	Additional Source Info/FIN	Emission Point	EPN	Pollutant	Amount Released (lbs)	Duration (hrs)	Reported Emission Limit (lbs/hr)
109295	6/14/08 9:00	6/15/08 10:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare; CB-710 Flare	1592-16; 1592-40	NOx	17.44	25.00	11.79
109295	6/14/08 9:00	6/15/08 10:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare; CB-710 Flare	1592-16; 1592-40	1,3-Butadiene	0.83	25.00	85.09
109295	6/14/08 9:00	6/15/08 10:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare; CB-710 Flare	1592-16; 1592-40	Acetylene	7.53	25.00	85.09
109295	6/14/08 9:00	6/15/08 10:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare; CB-710 Flare	1592-16; 1592-40	Butane	1.15	25.00	85.09
109295	6/14/08 9:00	6/15/08 10:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare; CB-710 Flare	1592-16; 1592-40	Butene	0.88	25.00	85.09
109295	6/14/08 9:00	6/15/08 10:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare; CB-710 Flare	1592-16; 1592-40	Ethylene	57.40	25.00	85.09
109295	6/14/08 9:00	6/15/08 10:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare; CB-710 Flare	1592-16; 1592-40	Propane	5.60	25.00	85.09
109295	6/14/08 9:00	6/15/08 10:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare; CB-710 Flare	1592-16; 1592-40	Propylene	12.56	25.00	85.09
109295	6/14/08 9:00	6/15/08 10:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare; CB-710 Flare	1592-16; 1592-40	VOC	0.72	25.00	85.09
109295	6/14/08 9:00	6/15/08 10:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare; CB-710 Flare	1592-16; 1592-40	TOTAL VOCs	86.67	25.00	85.09
109537	6/14/08 9:00	6/15/08 10:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	CO	11113.00	25.00	731.14
109537	6/14/08 9:00	6/15/08 10:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	NOx	1539.00	25.00	101.23
109537	6/14/08 9:00	6/15/08 10:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	1,3-Butadiene	2000.00	25.00	1795.72
109537	6/14/08 9:00	6/15/08 10:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Acetylene	152.00	25.00	1795.72
109537	6/14/08 9:00	6/15/08 10:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Benzene	1441.00	25.00	1795.72
109537	6/14/08 9:00	6/15/08 10:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Butane	477.00	25.00	1795.72
109537	6/14/08 9:00	6/15/08 10:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Butene	3719.00	25.00	1795.72
109537	6/14/08 9:00	6/15/08 10:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Ethylene	16123.00	25.00	1795.72
109537	6/14/08 9:00	6/15/08 10:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Pentane	1041.00	25.00	1795.72
109537	6/14/08 9:00	6/15/08 10:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Pentene	1042.00	25.00	1795.72
109537	6/14/08 9:00	6/15/08 10:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Propane	1827.00	25.00	1795.72
109537	6/14/08 9:00	6/15/08 10:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Propylene	4836.00	25.00	1795.72
109537	6/14/08 9:00	6/15/08 10:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Styrene	192.00	25.00	1795.72
109537	6/14/08 9:00	6/15/08 10:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Toluene	859.00	25.00	1795.72
109537	6/14/08 9:00	6/15/08 10:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	VOC	1457.00	25.00	1795.72
109537	6/14/08 9:00	6/15/08 10:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Xylene	157.00	25.00	1795.72
109537	6/14/08 9:00	6/15/08 10:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	TOTAL VOCs	35343.00	25.00	1795.72
111058	7/14/08 6:00	7/15/08 2:00	37063	EE	NAOU 1797	F-1797	Z-101 Flare	110	CO	315.63	20.00	35.72
111058	7/14/08 6:00	7/15/08 2:00	37063	EE	NAOU 1797	F-1797	Z-101 Flare	110	NOx	158.10	20.00	4.95
111058	7/14/08 6:00	7/15/08 2:00	37063	EE	NAOU 1797	F-1797	Z-101 Flare	110	Butane	2.71	20.00	79.70
111058	7/14/08 6:00	7/15/08 2:00	37063	EE	NAOU 1797	F-1797	Z-101 Flare	110	Butene	82.01	20.00	79.70
111058	7/14/08 6:00	7/15/08 2:00	37063	EE	NAOU 1797	F-1797	Z-101 Flare	110	Ethylene	206.25	20.00	79.70
111058	7/14/08 6:00	7/15/08 2:00	37063	EE	NAOU 1797	F-1797	Z-101 Flare	110	Hexene	209.78	20.00	79.70

Table 1 - Violations of Hourly Limits

Tracking Number	Start Date and Time	End Date and Time	Authorization	Type of Event	Unit	Additional Source Info/FIN	Emission Point	EPN	Pollutant	Amount Released (lbs)	Duration (hrs)	Reported Emission Limit (lbs/hr)
111058	7/14/08 6:00	7/15/08 2:00	37063	EE	NAOU 1797	F-1797	Z-101 Flare	110	Propane	2.34	20.00	79.70
111058	7/14/08 6:00	7/15/08 2:00	37063	EE	NAOU 1797	F-1797	Z-101 Flare	110	Propylene	0.14	20.00	79.70
111058	7/14/08 6:00	7/15/08 2:00	37063	EE	NAOU 1797	F-1797	Z-101 Flare	110	TOTAL VOCs	503.23	20.00	79.70
111058	7/14/08 6:00	7/15/08 2:00	37063	EE	NAOU 1797	F-1797	SYS-740 Flare	136	CO	273.92	20.00	0.11
111058	7/14/08 6:00	7/15/08 2:00	37063	EE	NAOU 1797	F-1797	SYS-740 Flare	136	NOx	137.21	20.00	0.05
111058	7/14/08 6:00	7/15/08 2:00	37063	EE	NAOU 1797	F-1797	SYS-740 Flare	136	Butane	0.55	20.00	6.01
111058	7/14/08 6:00	7/15/08 2:00	37063	EE	NAOU 1797	F-1797	SYS-740 Flare	136	Butene	75.01	20.00	6.01
111058	7/14/08 6:00	7/15/08 2:00	37063	EE	NAOU 1797	F-1797	SYS-740 Flare	136	Ethylene	399.14	20.00	6.01
111058	7/14/08 6:00	7/15/08 2:00	37063	EE	NAOU 1797	F-1797	SYS-740 Flare	136	Hexene	63.62	20.00	6.01
111058	7/14/08 6:00	7/15/08 2:00	37063	EE	NAOU 1797	F-1797	SYS-740 Flare	136	TOTAL VOCs	538.32	20.00	6.01
113346	9/10/08 5:00	9/11/08 0:00	19027	Maintenance	PEU 1796	H-549	H-549	1796-06G	Hexane	11.00	19.00	4.90
113346	9/10/08 5:00	9/11/08 0:00	19027	Maintenance	PEU 1796	H-549	H-549	1796-06G	Hexene	67.00	19.00	4.90
113346	9/10/08 5:00	9/11/08 0:00	19027	Maintenance	PEU 1796	H-549	H-549	1796-06G	Pentane	34.00	19.00	4.90
113346	9/10/08 5:00	9/11/08 0:00	19027	Maintenance	PEU 1796	H-549	H-549	1796-06G	TOTAL VOCs	112.00	19.00	4.90
113799	9/10/08 5:00	9/11/08 0:00	19027	Shutdown	PEU 1796	P-1796	FS-541 Flare	1796-10A	CO	258.00	24.00	10.30
113799	9/10/08 18:00	9/11/08 18:00	19027	Shutdown	PEU 1796	P-1796	FS-541 Flare	1796-10A	NOx	51.00	24.00	1.90
113799	9/10/08 18:00	9/11/08 18:00	19027	Shutdown	PEU 1796	P-1796	FS-541 Flare	1796-10A	Ethylene	117.00	24.00	26.79
113799	9/10/08 18:00	9/11/08 18:00	19027	Shutdown	PEU 1796	P-1796	FS-541 Flare	1796-10A	Hexane	50.00	24.00	26.79
113799	9/10/08 18:00	9/11/08 18:00	19027	Shutdown	PEU 1796	P-1796	FS-541 Flare	1796-10A	Hexene	289.00	24.00	26.79
113799	9/10/08 18:00	9/11/08 18:00	19027	Shutdown	PEU 1796	P-1796	FS-541 Flare	1796-10A	Methyl Pentane	10.00	24.00	26.79
113799	9/10/08 18:00	9/11/08 18:00	19027	Shutdown	PEU 1796	P-1796	FS-541 Flare	1796-10A	Pentane	150.00	24.00	26.79
113799	9/10/08 18:00	9/11/08 18:00	19027	Shutdown	PEU 1796	P-1796	FS-541 Flare	1796-10A	VOC	22.00	24.00	26.79
113799	9/10/08 18:00	9/11/08 18:00	19027	Shutdown	PEU 1796	P-1796	FS-541 Flare	1796-10A	TOTAL VOCs	638.00	24.00	26.79
113835	9/11/08 0:00	9/12/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	CO	12350.00	24.00	2047.71
113835	9/11/08 0:00	9/12/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	NOx	1430.00	24.00	283.51
113835	9/11/08 7:30	9/12/08 7:30	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	1,3-Butadiene	710.00	24.00	3144.43
113835	9/11/08 0:00	9/12/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Acetylene	110.00	24.00	3144.43
113835	9/11/08 0:00	9/12/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Benzene	1000.00	24.00	3144.43
113835	9/11/08 0:00	9/12/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Butane	470.00	24.00	3144.43
113835	9/11/08 0:00	9/12/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Butene	280.00	24.00	3144.43
113835	9/11/08 0:00	9/12/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Ethylene	10560.00	24.00	3144.43
113835	9/11/08 0:00	9/12/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Pentane, N-	570.00	24.00	3144.43
113835	9/11/08 0:00	9/12/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Propadiene	60.00	24.00	3144.43
113835	9/11/08 0:00	9/12/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Propane	7140.00	24.00	3144.43
113835	9/11/08 0:00	9/12/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Propylene	5110.00	24.00	3144.43
113835	9/11/08 0:00	9/12/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Toluene	330.00	24.00	3144.43
113835	9/11/08 0:00	9/12/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Xylene	220.00	24.00	3144.43
113835	9/11/08 0:00	9/12/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	TOTAL VOCs	26560.00	24.00	3144.43
113835	9/11/08 0:00	9/12/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	CO	620.00	24.00	0.32
113835	9/11/08 0:00	9/12/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	NOx	90.00	24.00	0.04
113835	9/11/08 0:00	9/12/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	Acetylene	10.00	24.00	4.02
113835	9/11/08 0:00	9/12/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	Butane	10.60	24.00	4.02
113835	9/11/08 0:00	9/12/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	Butene	1.00	24.00	4.02
113835	9/11/08 0:00	9/12/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	Ethylene	255.00	24.00	4.02
113835	9/11/08 0:00	9/12/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	Propane	10.60	24.00	4.02

Table 1 - Violations of Hourly Limits

Tracking Number	Start Date and Time	End Date and Time	Authorization	Type of Event	Unit	Additional Source Info/RIN	Emission Point	EPN	Pollutant	Amount Released (lbs)	Duration (hrs)	Reported Emission Limit (lbs/hr)
113845	9/11/08 0:00	9/12/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	Propylene	15.00	24.00	4.02
113835	9/11/08 0:00	9/12/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	VOC	10.00	24.00	4.02
113835	9/11/08 0:00	9/12/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	TOTAL VOCs	311.00	24.00	4.02
113836	9/11/08 8:00	9/12/08 8:00	37063	Shutdown	NAOU 1797	F-1797	Z-101 Flare	110	CO	1340.00	24.00	35.72
113836	9/11/08 8:00	9/12/08 8:00	37063	Shutdown	NAOU 1797	F-1797	Z-101 Flare	110	NOx	190.00	24.00	4.95
113836	9/11/08 8:00	9/12/08 8:00	37063	Shutdown	NAOU 1797	F-1797	Z-101 Flare	110	Butane	10.00	24.00	79.71
113836	9/11/08 8:00	9/12/08 8:00	37063	Shutdown	NAOU 1797	F-1797	Z-101 Flare	110	Butene	90.00	24.00	79.71
113836	9/11/08 8:00	9/12/08 8:00	37063	Shutdown	NAOU 1797	F-1797	Z-101 Flare	110	Ethylene	640.00	24.00	79.71
113836	9/11/08 8:00	9/12/08 8:00	37063	Shutdown	NAOU 1797	F-1797	Z-101 Flare	110	Hexene	200.00	24.00	79.71
113836	9/11/08 8:00	9/12/08 8:00	37063	Shutdown	NAOU 1797	F-1797	Z-101 Flare	110	TOTAL VOCs	940.00	24.00	79.71
113836	9/11/08 8:00	9/12/08 8:00	37063	Shutdown	NAOU 1797	F-1797	SYS-740 Flare	136	CO	90.00	24.00	0.11
113836	9/11/08 8:00	9/12/08 8:00	37063	Shutdown	NAOU 1797	F-1797	SYS-740 Flare	136	NOx	50.00	24.00	0.05
113836	9/11/08 8:00	9/12/08 8:00	37063	Shutdown	NAOU 1797	F-1797	SYS-740 Flare	136	Butene	10.00	24.00	6.01
113836	9/11/08 8:00	9/12/08 8:00	37063	Shutdown	NAOU 1797	F-1797	SYS-740 Flare	136	Ethylene	150.00	24.00	6.01
113836	9/11/08 8:00	9/12/08 8:00	37063	Shutdown	NAOU 1797	F-1797	SYS-740 Flare	136	Hexene	8.00	24.00	6.01
113836	9/11/08 8:00	9/12/08 8:00	37063	Shutdown	NAOU 1797	F-1797	SYS-740 Flare	136	Octene	6.00	24.00	6.01
113836	9/11/08 8:00	9/12/08 8:00	37063	Shutdown	NAOU 1797	F-1797	SYS-740 Flare	136	TOTAL VOCs	174.00	24.00	6.01
113839	9/11/08 8:15	9/12/08 8:15	37063	Shutdown	NAOU 1798	P-1798	Z-1101 Flare	1798-22	CO	2210.00	24.00	127.51
113839	9/11/08 8:15	9/12/08 8:15	37063	Shutdown	NAOU 1798	P-1798	Z-1101 Flare	1798-22	NOx	310.00	24.00	17.65
113840	9/11/08 8:15	9/12/08 8:15	37063	Shutdown	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Butane	20.00	24.00	342.16
113840	9/11/08 8:15	9/12/08 8:15	37063	Shutdown	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Butene	120.00	24.00	342.16
113840	9/11/08 8:15	9/12/08 8:15	37063	Shutdown	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Ethylene	1350.00	24.00	342.16
113840	9/11/08 8:15	9/12/08 8:15	37063	Shutdown	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Hexene	285.00	24.00	342.16
113840	9/11/08 8:15	9/12/08 8:15	37063	Shutdown	NAOU 1798	P-1798	Z-1101 Flare	1798-22	Octene	2.00	24.00	342.16
113840	9/11/08 8:15	9/12/08 8:15	37063	Shutdown	NAOU 1798	P-1798	Z-1101 Flare	1798-22	VOC	4.00	24.00	342.16
113839	9/11/08 8:15	9/12/08 8:15	37063	Shutdown	NAOU 1798	P-1798	Z-1101 Flare	1798-22	TOTAL VOCs	1781.00	24.00	342.16
113890	9/11/08 14:00	9/13/08 0:00	2462C	Shutdown	PEU 1792	P-1792	X-901 Flare	45	CO	399.00	34.00	22.99
113890	9/11/08 14:00	9/13/08 0:00	2462C	Shutdown	PEU 1792	P-1792	X-901 Flare	45	NOx	55.00	34.00	0.50
113890	9/11/08 14:00	9/13/08 0:00	2462C	Shutdown	PEU 1792	P-1792	X-901 Flare	45	Ethylene	480.00	34.00	28.55
113890	9/11/08 14:00	9/13/08 0:00	2462C	Shutdown	PEU 1792	P-1792	X-901 Flare	45	Propane	76.00	34.00	28.55
113890	9/11/08 14:00	9/13/08 0:00	2462C	Shutdown	PEU 1792	P-1792	X-901 Flare	45	Propylene	6.00	34.00	28.55
113890	9/11/08 14:00	9/13/08 0:00	2462C	Shutdown	PEU 1792	P-1792	X-901 Flare	45	TOTAL VOCs	562.00	34.00	28.55
114134	9/11/08 4:00	9/15/08 3:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	1,3-Butadiene	286.30	64.00	3144.43
114134	9/11/08 4:00	9/15/08 3:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Acetylene	69.40	64.00	3144.43
114134	9/11/08 4:00	9/15/08 3:00	1504A	EE	EU 1592	P-1592	CB-701 Flare	1592-16	Benzene	4562.50	64.00	3144.43
114137	9/11/08 4:00	9/15/08 20:00	1504A	EE	EU 1592	F-1592	CB-701 Flare	1592-16	Butane	4307.50	64.00	3144.43
114137	9/11/08 4:00	9/15/08 20:00	1504A	EE	EU 1592	F-1592	CB-701 Flare	1592-16	Butene	242.50	64.00	3144.43
114137	9/11/08 4:00	9/15/08 20:00	1504A	EE	EU 1592	F-1592	CB-701 Flare	1592-16	Ethylene	127617.50	64.00	3144.43
114137	9/11/08 4:00	9/15/08 20:00	1504A	EE	EU 1592	F-1592	CB-701 Flare	1592-16	Propane	4625.70	64.00	3144.43
114137	9/11/08 4:00	9/15/08 20:00	1504A	EE	EU 1592	F-1592	CB-701 Flare	1592-16	Propylene	137764.50	64.00	3144.43
114137	9/11/08 4:00	9/15/08 20:00	1504A	EE	EU 1592	F-1592	CB-701 Flare	1592-16	Toluene	3193.75	64.00	3144.43
114137	9/11/08 4:00	9/15/08 20:00	1504A	EE	EU 1592	F-1592	CB-701 Flare	1592-16	Xyline	1368.75	64.00	3144.43
114137	9/13/08 4:00	9/15/08 20:00	1504A	EE	EU 1592	F-1592	CB-701 Flare	1592-16	TOTAL VOCs	284038.40	64.00	3144.43
114138	9/13/08 3:00	9/16/08 12:00	37063	EE	NAOU 1797	F-1797	Z-101 Flare	110	Butane	263.90	81.00	79.71
114138	9/13/08 3:00	9/16/08 12:00	37063	EE	NAOU 1797	F-1797	Z-101 Flare	110	Butene	3342.80	81.00	79.71

Table 1 - Violations of Hourly Limits

Tracking Number	Start Date and Time	End Date and Time	Authorization	Type of Event	Unit	Additional Source Info/FIN	Emission Point	EPN	Pollutant	Amount Released (lbs)	Duration (hrs)	Reported Emission Limit (lbs/hr)
114138	9/13/08 3:00	9/16/08 12:00	37063	EE	NAOU 1797	F-1797	Z-101 Flare	110	Ethylene	6159.50	81.00	79.71
114138	9/13/08 3:00	9/16/08 12:00	37063	EE	NAOU 1797	F-1797	Z-101 Flare	110	Hexene	8992.40	81.00	79.71
114138	9/13/08 3:00	9/16/08 12:00	37063	EE	NAOU 1797	F-1797	Z-101 Flare	110	Propane	398.50	81.00	79.71
114138	9/13/08 3:00	9/16/08 12:00	37063	EE	NAOU 1797	F-1797	Z-101 Flare	110	Propylene	8.40	81.00	79.71
114138	9/13/08 3:00	9/16/08 12:00	37063	EE	NAOU 1797	F-1797	Z-101 Flare	110	TOTAL VOCs	19165.50	81.00	79.71
114339	9/22/08 9:00	9/22/08 10:00	37063	Startup	NAOU 1798	F-1798	Z-1101 Flare	1798-22	CO	362.56	1.00	127.51
114339	9/22/08 9:00	9/22/08 10:00	37063	Startup	NAOU 1798	F-1798	Z-1101 Flare	1798-22	NOx	50.20	1.00	17.65
114339	9/22/08 9:00	9/22/08 10:00	37063	Startup	NAOU 1798	F-1798	Z-1101 Flare	1798-22	Butane	0.53	1.00	342.16
114339	9/22/08 9:00	9/22/08 10:00	37063	Startup	NAOU 1798	F-1798	Z-1101 Flare	1798-22	Butene	7.07	1.00	342.16
114339	9/22/08 9:00	9/22/08 10:00	37063	Startup	NAOU 1798	F-1798	Z-1101 Flare	1798-22	Ethylene	421.90	1.00	342.16
114339	9/22/08 9:00	9/22/08 10:00	37063	Startup	NAOU 1798	F-1798	Z-1101 Flare	1798-22	Hexene	53.50	1.00	342.16
114339	9/22/08 9:00	9/22/08 10:00	37063	Startup	NAOU 1798	F-1798	Z-1101 Flare	1798-22	Propane	0.53	1.00	342.16
114339	9/22/08 9:00	9/22/08 10:00	37063	Startup	NAOU 1798	F-1798	Z-1101 Flare	1798-22	Propylene	0.28	1.00	342.16
114339	9/22/08 9:00	9/22/08 10:00	37063	Startup	NAOU 1798	F-1798	Z-1101 Flare	1798-22	TOTAL VOCs	483.81	1.00	342.16
114365	9/22/08 15:00	9/23/08 10:00	37063	Startup	NAOU 1797	P-1797	Z-101 Flare	110	CO	198.84	19.00	35.72
114365	9/22/08 15:00	9/23/08 10:00	37063	Startup	NAOU 1797	P-1797	Z-101 Flare	110	NOx	27.53	19.00	4.95
114365	9/22/08 15:00	9/23/08 10:00	37063	Startup	NAOU 1797	P-1797	Z-101 Flare	110	Butene	91.93	19.00	79.71
114365	9/22/08 15:00	9/23/08 10:00	37063	Startup	NAOU 1797	P-1797	Z-101 Flare	110	Ethylene	94.22	19.00	79.71
114365	9/22/08 15:00	9/23/08 10:00	37063	Startup	NAOU 1797	P-1797	Z-101 Flare	110	Hexene	43.96	19.00	79.71
114365	9/22/08 15:00	9/23/08 10:00	37063	Startup	NAOU 1797	P-1797	Z-101 Flare	110	VOC	8.79	19.00	79.71
114365	9/22/08 15:00	9/23/08 10:00	37063	Startup	NAOU 1797	P-1797	Z-101 Flare	110	TOTAL VOCs	238.90	19.00	79.71
114629	9/26/08 7:00	9/28/08 6:00	1504A	Startup	EU 1592	F-1592	CB-701 Flare	1592-16	CO	6364.57	47.00	2047.71
114629	9/26/08 7:00	9/28/08 6:00	1504A	Startup	EU 1592	F-1592	CB-701 Flare	1592-16	NOx	881.19	47.00	283.51
114629	9/26/08 7:00	9/28/08 6:00	1504A	Startup	EU 1592	F-1592	CB-701 Flare	1592-16	1,3-Butadiene	842.45	47.00	3144.43
114629	9/26/08 7:00	9/28/08 6:00	1504A	Startup	EU 1592	F-1592	CB-701 Flare	1592-16	Acetylene	10.43	47.00	3144.43
114629	9/26/08 7:00	9/28/08 6:00	1504A	Startup	EU 1592	F-1592	CB-701 Flare	1592-16	Benzene	371.14	47.00	3144.43
114629	9/26/08 7:00	9/28/08 6:00	1504A	Startup	EU 1592	F-1592	CB-701 Flare	1592-16	Butane	1102.99	47.00	3144.43
114629	9/26/08 7:00	9/28/08 6:00	1504A	Startup	EU 1592	F-1592	CB-701 Flare	1592-16	Butene	419.19	47.00	3144.43
114629	9/26/08 7:00	9/28/08 6:00	1504A	Startup	EU 1592	F-1592	CB-701 Flare	1592-16	Ethylene	2368.56	47.00	3144.43
114629	9/26/08 7:00	9/28/08 6:00	1504A	Startup	EU 1592	F-1592	CB-701 Flare	1592-16	Hexane	171.41	47.00	3144.43
114629	9/26/08 7:00	9/28/08 6:00	1504A	Startup	EU 1592	F-1592	CB-701 Flare	1592-16	Hexene	40.67	47.00	3144.43
114629	9/26/08 7:00	9/28/08 6:00	1504A	Startup	EU 1592	F-1592	CB-701 Flare	1592-16	Propadiene	51.55	47.00	3144.43
114629	9/26/08 7:00	9/28/08 6:00	1504A	Startup	EU 1592	F-1592	CB-701 Flare	1592-16	Pentane, N-	869.99	47.00	3144.43
114629	9/26/08 7:00	9/28/08 6:00	1504A	Startup	EU 1592	F-1592	CB-701 Flare	1592-16	Pentene	244.89	47.00	3144.43
114629	9/26/08 7:00	9/28/08 6:00	1504A	Startup	EU 1592	F-1592	CB-701 Flare	1592-16	Propane	235.88	47.00	3144.43
114629	9/26/08 7:00	9/28/08 6:00	1504A	Startup	EU 1592	F-1592	CB-701 Flare	1592-16	Propylene	2148.04	47.00	3144.43
114629	9/26/08 7:00	9/28/08 6:00	1504A	Startup	EU 1592	F-1592	CB-701 Flare	1592-16	Toluene	259.80	47.00	3144.43
114629	9/26/08 7:00	9/28/08 6:00	1504A	Startup	EU 1592	F-1592	CB-701 Flare	1592-16	Xylene	74.23	47.00	3144.43
114629	9/26/08 7:00	9/28/08 6:00	1504A	Startup	EU 1592	F-1592	CB-701 Flare	1592-16	TOTAL VOCs	9211.22	47.00	3144.43
114629	9/26/08 7:00	9/28/08 6:00	1504A	Startup	EU 1592	F-1592	CB-710 Flare	1592-40	CO	221.45	47.00	0.23
114629	9/26/08 7:00	9/28/08 6:00	1504A	Startup	EU 1592	F-1592	CB-710 Flare	1592-40	NOx	30.66	47.00	0.04
114629	9/26/08 7:00	9/28/08 6:00	1504A	Startup	EU 1592	F-1592	CB-710 Flare	1592-40	Acetylene	24.40	47.00	4.02
114629	9/26/08 7:00	9/28/08 6:00	1504A	Startup	EU 1592	F-1592	CB-710 Flare	1592-40	Butane	2.45	47.00	4.02
114629	9/26/08 7:00	9/28/08 6:00	1504A	Startup	EU 1592	F-1592	CB-710 Flare	1592-40	Ethylene	60.73	47.00	4.02
114629	9/26/08 7:00	9/28/08 6:00	1504A	Startup	EU 1592	F-1592	CB-710 Flare	1592-40	Propane	2.12	47.00	4.02

Table 1 - Violations of Hourly Limits

Tracking Number	Start Date and Time	End Date and Time	Authorization	Type of Event	Unit	Additional Source Info/FIN	Emission Point	EPN	Pollutant	Amount Released (lbs)	Duration (hrs)	Reported Emission Limit (lbs/hr)
114629	9/26/08 7:00	9/26/08 6:00	1504A	Startup	EU 1592	F-1592	CB-710 Flare	1592-40	Propylene	2.79	47.00	4.02
114629	9/26/08 7:00	9/28/08 6:00	1504A	Startup	EU 1592	F-1592	CB-710 Flare	1592-40	VOC	4.51	47.00	4.02
114629	9/26/08 7:00	9/28/08 6:00	1504A	Startup	EU 1592	F-1592	CB-710 Flare	1592-40	TOTAL VOCs	97.00	47.00	4.02
116959	12/6/08 12:00	12/16/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	CO	9997.18	228.00	2047.00
116959	12/6/08 12:00	12/16/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	NOx	1384.14	228.00	284.00
116959	12/6/08 12:00	12/16/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	1,3-Butadiene	335.90	228.00	3144.00
116959	12/6/08 12:00	12/16/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Acetylene	13.41	228.00	3144.00
116959	12/6/08 12:00	12/16/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Benzene	352.25	228.00	3144.00
116959	12/6/08 12:00	12/16/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Butane	761.17	228.00	3144.00
116959	12/6/08 12:00	12/16/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Butene	325.56	228.00	3144.00
116959	12/6/08 12:00	12/16/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Ethylene	2721.09	228.00	3144.00
116959	12/6/08 12:00	12/16/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Pentane, N-	200.78	228.00	3144.00
116959	12/6/08 12:00	12/16/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Propadiene	21.13	228.00	3144.00
116959	12/6/08 12:00	12/16/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Propane	1061.69	228.00	3144.00
116959	12/6/08 12:00	12/16/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Propylene	6031.42	228.00	3144.00
116959	12/6/08 12:00	12/16/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Styrene	18.32	228.00	3144.00
116959	12/6/08 12:00	12/16/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Toluene	116.24	228.00	3144.00
116959	12/6/08 12:00	12/16/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	VOC	350.84	228.00	3144.00
116959	12/6/08 12:00	12/16/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	Xylene	77.49	228.00	3144.00
116959	12/6/08 12:00	12/16/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-16	TOTAL VOCs	12387.29	228.00	3144.00
116959	12/6/08 12:00	12/16/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-40	CO	30.06	228.00	0.32
116959	12/6/08 12:00	12/16/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-40	NOx	186.99	228.00	0.04
116959	12/6/08 12:00	12/16/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-40	Acetylene	273.78	228.00	4.02
116959	12/6/08 12:00	12/16/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-40	Butane	1.18	228.00	4.02
116959	12/6/08 12:00	12/16/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-701 Flare	1592-40	Ethylene	1341.18	228.00	4.02
116959	12/6/08 12:00	12/16/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	Propane	185.69	228.00	4.02
116959	12/6/08 12:00	12/16/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	Propylene	27.03	228.00	4.02
116959	12/6/08 12:00	12/16/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	VOC	0.37	228.00	4.02
116959	12/6/08 12:00	12/16/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40	TOTAL VOCs	1829.23	228.00	4.02
117055	11/29/08 10:00	11/30/08 11:00	19027	Maintenance	PEU 1796	P-1796	Flare FS-541	1796-10A	CO	421.13	25.00	10.30
117055	11/29/08 10:00	11/30/08 11:00	19027	Maintenance	PEU 1796	P-1796	Flare FS-541	1796-10A	NOx	82.65	25.00	1.90
117055	11/29/08 10:00	11/30/08 11:00	19027	Maintenance	PEU 1796	P-1796	Flare FS-541	1796-10A	Butane	9.13	25.00	26.79
117055	11/29/08 10:00	11/30/08 11:00	19027	Maintenance	PEU 1796	P-1796	Flare FS-541	1796-10A	Butene	0.16	25.00	26.79
117055	11/29/08 10:00	11/30/08 11:00	19027	Maintenance	PEU 1796	P-1796	Flare FS-541	1796-10A	Ethylene	28.42	25.00	26.79
117055	11/29/08 10:00	11/30/08 11:00	19027	Maintenance	PEU 1796	P-1796	Flare FS-541	1796-10A	Hexane	38.28	25.00	26.79
117055	11/29/08 10:00	11/30/08 11:00	19027	Maintenance	PEU 1796	P-1796	Flare FS-541	1796-10A	Hexene	255.95	25.00	26.79
117055	11/29/08 10:00	11/30/08 11:00	19027	Maintenance	PEU 1796	P-1796	Flare FS-541	1796-10A	Peutane	165.60	25.00	26.79
117055	11/29/08 10:00	11/30/08 11:00	19027	Maintenance	PEU 1796	P-1796	Flare FS-541	1796-10A	Propane	5.90	25.00	26.79
117055	11/29/08 10:00	11/30/08 11:00	19027	Maintenance	PEU 1796	P-1796	Flare FS-541	1796-10A	Propylene	0.39	25.00	26.79
117055	11/29/08 10:00	11/30/08 11:00	19027	Maintenance	PEU 1796	P-1796	Flare FS-541	1796-10A	TOTAL VOCs	503.83	25.00	26.79
117104	12/4/08 11:00	12/4/08 11:30	30463	N/A	NAOU 1797	P-1797	Normal Alpha Olefins Unit	1797	BiPhenyl	615.00	0.33	5.67

Table 1 - Violations of Hourly Limits

Tracking Number	Start Date and Time	End Date and Time	Authorization	Type of Event	Unit	Additional Source Info/FIN	Emission Point	EPN	Pollutant	Amount Released (lbs)	Duration (hrs)	Reported Emission Limit (lbs/hr)
							Normal Alpha Olefins Unit					
117364	12/4/08 11:00	12/4/08 11:20	37063	EE	NAOU 1797	P-1797	1797	F-130	TOTAL VOCs	615.00	0.33	5.67
117449	12/8/08 4:58	12/9/08 7:00	2462C	EE	PEU 1792	P-1792	X-902 Flare	45	CO	837.85	26.03	42.50
117449	12/8/08 4:58	12/9/08 7:00	2462C	EE	PEU 1792	P-1792	X-902 Flare	45	NOx	116.00	26.03	5.90
117449	12/8/08 4:58	12/9/08 7:00	2462C	EE	PEU 1792	P-1792	X-902 Flare	45	1,3-Butadiene	0.16	26.03	59.85
117449	12/8/08 4:58	12/9/08 7:00	2462C	EE	PEU 1792	P-1792	X-902 Flare	45	Butane	0.43	26.03	59.85
117449	12/8/08 4:58	12/9/08 7:00	2462C	EE	PEU 1792	P-1792	X-902 Flare	45	Butene	2.13	26.03	59.85
117449	12/8/08 4:58	12/9/08 7:00	2462C	EE	PEU 1792	P-1792	X-902 Flare	45	Ethylene	871.30	26.03	59.85
117449	12/8/08 4:58	12/9/08 7:00	2462C	EE	PEU 1792	P-1792	X-902 Flare	45	Propane	182.00	26.03	59.85
117449	12/8/08 4:58	12/9/08 7:00	2462C	EE	PEU 1792	P-1792	X-902 Flare	45	Propylene	43.22	26.03	59.85
117449	12/8/08 4:58	12/9/08 7:00	2462C	EE	PEU 1792	P-1792	X-902 Flare	45	VOC	52.75	26.03	59.85
117449	12/8/08 4:58	12/9/08 7:00	2462C	EE	PEU 1792	P-1792	X-902 Flare	45	TOTAL VOCs	1151.99	26.03	59.85
117664	12/15/08 13:00	12/16/08 16:00	19027	Maintenance	PEU 1796	P-1796	Flare FS-541	1796-10A	CO	134.00	27.00	10.30
117664	12/15/08 13:00	12/16/08 16:00	19027	Maintenance	PEU 1796	P-1796	Flare FS-541	1796-10A	NOx	26.00	27.00	1.90
117664	12/15/08 13:00	12/16/08 16:00	19027	Maintenance	PEU 1796	P-1796	Flare FS-541	1796-10A	Butane	24.00	27.00	26.79
117664	12/15/08 13:00	12/16/08 16:00	19027	Maintenance	PEU 1796	P-1796	Flare FS-541	1796-10A	Ethylene	35.00	27.00	26.79
117664	12/15/08 13:00	12/16/08 16:00	19027	Maintenance	PEU 1796	P-1796	Flare FS-541	1796-10A	Hexane	78.00	27.00	26.79
117664	12/15/08 13:00	12/16/08 16:00	19027	Maintenance	PEU 1796	P-1796	Flare FS-541	1796-10A	Hexene	43.00	27.00	26.79
117664	12/15/08 13:00	12/16/08 16:00	19027	Maintenance	PEU 1796	P-1796	Flare FS-541	1796-10A	Pentane	180.00	27.00	26.79
117664	12/15/08 13:00	12/16/08 16:00	19027	Maintenance	PEU 1796	P-1796	Flare FS-541	1796-10A	TOTAL VOCs	360.00	27.00	26.79
118033	12/29/08 7:00	12/29/08 19:00	19027	Maintenance	PEU 1796	P-1796	Flare FS-541	1796-10A	CO	410.00	12.00	10.30
118033	12/29/08 7:00	12/29/08 19:00	19027	Maintenance	PEU 1796	P-1796	Flare FS-541	1796-10A	NOx	80.00	12.00	1.90
118033	12/29/08 7:00	12/29/08 19:00	19027	Maintenance	PEU 1796	P-1796	Flare FS-541	1796-10A	Ethylene	400.00	12.00	26.79
118033	12/29/08 7:00	12/29/08 19:00	19027	Maintenance	PEU 1796	P-1796	Flare FS-541	1796-10A	VOC	360.00	12.00	26.79
118033	12/29/08 7:00	12/29/08 19:00	19027	Maintenance	PEU 1796	P-1796	Flare FS-541	1796-10A	TOTAL VOCs	760.00	12.00	26.79
118231	1/11/09 11:00	1/13/09 19:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	CO	8770.33	56.00	731.14
118231	1/11/09 11:00	1/13/09 19:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	NOx	1214.28	56.00	101.23
118231	1/11/09 11:00	1/13/09 19:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	1,3-Butadiene	1737.74	56.00	1795.72
118231	1/11/09 11:00	1/13/09 19:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	Acetylene	11.96	56.00	1795.72
118231	1/11/09 11:00	1/13/09 19:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	Benzene	892.41	56.00	1795.72
118231	1/11/09 11:00	1/13/09 19:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	Butane	765.12	56.00	1795.72
118231	1/11/09 11:00	1/13/09 19:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	Butene	1125.29	56.00	1795.72
118231	1/11/09 11:00	1/13/09 19:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	Ethylene	1945.37	56.00	1795.72
118231	1/11/09 11:00	1/13/09 19:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	Hexane	197.94	56.00	1795.72
118231	1/11/09 11:00	1/13/09 19:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	Hexene	46.97	56.00	1795.72
118231	1/11/09 11:00	1/13/09 19:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	Propadiene	26.84	56.00	1795.72
118231	1/11/09 11:00	1/13/09 19:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	Pentane	452.91	56.00	1795.72
118231	1/11/09 11:00	1/13/09 19:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	Pentene	127.49	56.00	1795.72
118231	1/11/09 11:00	1/13/09 19:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	Propane	1153.48	56.00	1795.72
118231	1/11/09 11:00	1/13/09 19:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	Propylene	3654.12	56.00	1795.72
118231	1/11/09 11:00	1/13/09 19:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	Toluene	620.66	56.00	1795.72
118231	1/11/09 11:00	1/13/09 19:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	Xylene	244.91	56.00	1795.72
118231	1/11/09 11:00	1/13/09 19:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-16	TOTAL VOCs	13003.21	56.00	1795.72
118231	1/11/09 11:00	1/13/09 19:00	1504A	Startup	EU 1592	P-1592	CB-701 Flare	1592-40	CO	213.88	56.00	85.18

Table 1 - Violations of Hourly Limits

Tracking Number	Start Date and Time	End Date and Time	Authorization	Type of Event	Unit	Additional Source Info/FIN	Emission Point	EPN	Pollutant	Amount Released (lbs)	Duration (hrs)	Reported Emission Limit (lbs/hr)
118231	1/11/09 11:00	1/13/09 19:00	1504A	Startup	EU 1592	P-1592	CB-710 Flare	1592-40	NOx	29.61	56.00	11.79
	1/11/09 11:00	1/13/09 19:00	1504A	Startup	EU 1592	P-1592	CB-710 Flare	1592-40	Acetylene	36.72	56.00	85.09
	1/11/09 11:00	1/13/09 19:00	1504A	Startup	EU 1592	P-1592	CB-710 Flare	1592-40	Butane	0.46	56.00	85.18
	1/11/09 11:00	1/13/09 19:00	1504A	Startup	EU 1592	P-1592	CB-710 Flare	1592-40	Ethylene	184.79	56.00	85.09
	1/11/09 11:00	1/13/09 19:00	1504A	Startup	EU 1592	P-1592	CB-710 Flare	1592-40	Propane	0.49	56.00	85.18
	1/11/09 11:00	1/13/09 19:00	1504A	Startup	EU 1592	P-1592	CB-710 Flare	1592-40	Propylene	1.75	56.00	85.09
118231	1/11/09 11:00	1/13/09 19:00	1504A	Startup	EU 1592	P-1592	CB-710 Flare	1592-40	TOTAL VOCs	225.19	56.00	4.02
118231	1/11/09 11:00	1/13/09 19:00	1504A	Startup	EU 1592	P-1592	CB-710 Flare	1592-40	VOCs	0.98	56.00	85.18
118724	1/8/09 20:00	1/14/09 7:00	2462C	EE	PEU 1792	P-1792	X-901 Flare	45	CO	614.00	131.00	22.99
118724	1/8/09 20:00	1/14/09 7:00	2462C	EE	PEU 1792	P-1792	X-901 Flare	45	NOx	85.00	131.00	3.18
118724	1/8/09 20:00	1/14/09 7:00	2462C	EE	PEU 1792	P-1792	X-901 Flare	45	Ethylene	396.00	131.00	28.55
118724	1/8/09 20:00	1/14/09 7:00	2462C	EE	PEU 1792	P-1792	X-901 Flare	45	Propane	190.00	131.00	28.55
118724	1/8/09 20:00	1/14/09 7:00	2462C	EE	PEU 1792	P-1792	X-901 Flare	45	Propylene	290.00	131.00	28.55
118724	1/8/09 20:00	1/14/09 7:00	2462C	EE	PEU 1792	P-1792	X-901 Flare	45	TOTAL VOCs	876.00	131.00	3.18
119168	2/5/09 1:00	2/8/09 20:00	2462C	Startup	PEU 1792	P-1792	X-901 Flare	45	CO	571.00	91.00	22.99
119168	2/5/09 1:00	2/8/09 20:00	2462C	Startup	PEU 1792	P-1792	X-901 Flare	45	NOx	79.00	91.00	3.18
	2/5/09 1:00	2/8/09 20:00	2462C	Startup	PEU 1792	P-1792	X-901 Flare	45	Ethylene	498.00	91.00	28.55
	2/5/09 1:00	2/8/09 20:00	2462C	Startup	PEU 1792	P-1792	X-901 Flare	45	Propane	154.00	91.00	28.55
	2/5/09 1:00	2/8/09 20:00	2462C	Startup	PEU 1792	P-1792	X-901 Flare	45	Propylene	319.00	91.00	28.55
119168	2/5/09 1:00	2/8/09 20:00	2462C	Startup	PEU 1792	P-1792	X-901 Flare	45	TOTAL VOCs	971.00	91.00	28.55
119168	2/5/09 1:00	2/8/09 20:00	2462C	Startup	PEU 1792	P-1792	NA	NA	Ethylene	498.00	91.00	3000.00
119168	2/5/09 1:00	2/8/09 20:00	2462C	Startup	PEU 1792	P-1792	NA	NA	TOTAL VOCs	498.00	91.00	3000.00
124017	5/9/09 17:30	5/9/09 20:30	2462C	EE	LDPE Unit 1792-100	X-902 Flare	X-902 Flare	45	CO	342.00	3.00	42.50
124017	5/9/09 17:30	5/9/09 20:30	2462C	EE	LDPE Unit 1792-100	X-902 Flare	X-902 Flare	45	NOx	67.00	3.00	5.90
124017	5/9/09 17:30	5/9/09 20:30	2462C	EE	LDPE Unit 1792-100	X-902 Flare	X-902 Flare	45	Ethylene	385.00	3.00	59.85
124017	5/9/09 17:30	5/9/09 20:30	2462C	EE	LDPE Unit 1792-100	X-902 Flare	X-902 Flare	45	Propane	12.00	3.00	59.85
124017	5/9/09 17:30	5/9/09 20:30	2462C	EE	LDPE Unit 1792-100	X-902 Flare	X-902 Flare	45	Propylene	78.00	3.00	59.85
124017	5/9/09 17:30	5/9/09 20:30	2462C	EE	LDPE Unit 1792-100	X-902 Flare	X-902 Flare	45	VOC	21.00	3.00	59.85
124017	5/9/09 17:30	5/9/09 20:30	2462C	EE	LDPE Unit 1792-100	X-902 Flare	X-902 Flare	45	TOTAL VOCs	496.00	3.00	59.85

Table 2 - Violations of Annual MAERT Limits

Permit Number	Emission Point Number	Pollutant	Annual Limit		Amount Released (tons)	Annual Limit (tons per year)
			Start Date	End Date		
37063	136	NOX	Dec 1, 2003	Nov 30, 2004	0.55	0.23
37063	136	NOX	Jan 1, 2004	Dec 31, 2004	0.55	0.23
37063	136	NOX	Feb 1, 2004	Jan 31, 2005	0.55	0.23
37063	136	NOX	Mar 1, 2004	Mar 1, 2005	0.55	0.23
37063	136	NOX	Apr 1, 2004	Apr 1, 2005	0.49	0.23
37063	136	NOX	May 1, 2004	May 1, 2005	0.43	0.23
37063	136	NOX	Jun 1, 2004	Jun 1, 2005	0.31	0.23
37063	136	NOX	Jul 1, 2004	Jul 1, 2005	0.30	0.23
37063	136	NOX	Aug 1, 2004	Aug 1, 2005	0.31	0.23
37063	136	NOX	Sep 1, 2004	Sep 1, 2005	0.31	0.23
37063	136	NOX	Oct 1, 2004	Oct 1, 2005	0.32	0.23
37063	136	CO	Dec 1, 2003	Nov 30, 2004	1.08	0.46
37063	136	CO	Jan 1, 2004	Dec 31, 2004	1.08	0.46
37063	136	CO	Feb 1, 2004	Jan 31, 2005	1.08	0.46
37063	136	CO	Mar 1, 2004	Mar 1, 2005	1.08	0.46
37063	136	CO	Apr 1, 2004	Apr 1, 2005	0.97	0.46
37063	136	CO	May 1, 2004	May 1, 2005	0.85	0.46
37063	136	CO	Jun 1, 2004	Jun 1, 2005	0.61	0.46
37063	136	CO	Jul 1, 2004	Jul 1, 2005	0.59	0.46
37063	136	CO	Aug 1, 2004	Aug 1, 2005	0.61	0.46
37063	136	CO	Sep 1, 2004	Sep 1, 2005	0.61	0.46
37063	136	CO	Oct 1, 2004	Oct 1, 2005	0.64	0.46
1504A	1592-40	VOC	Dec 1, 2003	Nov 30, 2004	0.90	0.33
1504A	1592-40	VOC	Jan 1, 2004	Dec 31, 2004	0.71	0.33
1504A	1592-40	VOC	Feb 1, 2004	Jan 31, 2005	0.71	0.33
1504A	1592-40	VOC	Mar 1, 2004	Mar 1, 2005	0.71	0.33
1504A	1592-40	VOC	Apr 1, 2004	Apr 1, 2005	0.71	0.33
1504A	1592-40	VOC	May 1, 2004	May 1, 2005	0.61	0.33
1504A	1592-40	VOC	Jun 1, 2004	Jun 1, 2005	0.35	0.33
1504A	1592-40	VOC	Oct 1, 2004	Oct 1, 2005	0.35	0.33
1504A	1592-40	VOC	Feb 1, 2005	Feb 1, 2006	0.39	0.33
1504A	1592-40	VOC	Mar 1, 2005	Mar 1, 2006	0.39	0.33
1504A	1592-40	VOC	Apr 1, 2005	Apr 1, 2006	0.39	0.33
1504A	1592-40	VOC	May 1, 2005	May 1, 2006	0.39	0.33
1504A	1592-40	VOC	Jun 1, 2005	Jun 1, 2006	0.97	0.33
1504A	1592-40	VOC	Jul 1, 2005	Jul 1, 2006	0.97	0.33
1504A	1592-40	VOC	Aug 1, 2005	Aug 1, 2006	0.97	0.33
1504A	1592-40	VOC	Sep 1, 2005	Sep 1, 2006	0.97	0.33
1504A	1592-40	VOC	Oct 1, 2005	Oct 1, 2006	0.86	0.33
1504A	1592-40	VOC	Nov 1, 2005	Nov 1, 2006	0.83	0.33
1504A	1592-40	VOC	Dec 1, 2005	Dec 1, 2006	0.83	0.33
1504A	1592-40	VOC	Jan 1, 2006	Jan 1, 2007	0.83	0.33
1504A	1592-40	VOC	Feb 1, 2006	Feb 1, 2007	0.57	0.33
1504A	1592-40	VOC	Mar 1, 2006	Mar 1, 2007	0.57	0.33
1504A	1592-40	VOC	Apr 1, 2006	Apr 1, 2007	0.57	0.33
1504A	1592-40	VOC	May 1, 2006	May 1, 2007	0.57	0.33
1504A	1592-40	VOC	Oct 1, 2007	Sep 30, 2008	0.43	0.33
1504A	1592-40	VOC	Nov 1, 2007	Oct 31, 2008	0.43	0.33
1504A	1592-40	VOC	Dec 1, 2007	Nov 30, 2008	0.43	0.33
1504A	1592-40	VOC	Jan 1, 2008	Dec 31, 2008	0.34	0.33
1504A	1592-40	VOC	Feb 1, 2008	Jan 31, 2009	0.45	0.33
1504A	1592-40	VOC	Mar 1, 2008	Mar 1, 2009	0.45	0.33
1504A	1592-40	VOC	Apr 1, 2008	Apr 1, 2009	0.45	0.33
1504A	1592-40	VOC	May 1, 2008	May 1, 2009	0.45	0.33
1504A	1592-40	VOC	Jun 1, 2008	Jun 1, 2009	0.45	0.33
1504A	1592-40	VOC	Jul 1, 2008	Jul 1, 2009	0.33	0.33
1504A	1592-40	VOC	Aug 1, 2008	Aug 1, 2009	0.33	0.33

Table 2 - Violations of Annual MAERT Limits

Permit Number	Emission Point Number	Pollutant	Annual Limit		Amount Released (tons)	Annual Limit (tons per year)
			Start Date	End Date		
1504A	1592-40	VOC	Sep 1, 2008	Sep 1, 2009	0.33	0.33
1504A	1592-40	NOX	Jun 1, 2005	Jun 1, 2006	0.30	0.19
1504A	1592-40	NOX	Jul 1, 2005	Jul 1, 2006	0.30	0.19
1504A	1592-40	NOX	Aug 1, 2005	Aug 1, 2006	0.30	0.19
1504A	1592-40	NOX	Sep 1, 2005	Sep 1, 2006	0.30	0.19
1504A	1592-40	NOX	Oct 1, 2005	Oct 1, 2006	0.29	0.19
1504A	1592-40	NOX	Nov 1, 2005	Nov 1, 2006	0.28	0.19
1504A	1592-40	NOX	Dec 1, 2005	Dec 1, 2006	0.28	0.19
1504A	1592-40	NOX	Jan 1, 2006	Jan 1, 2007	0.28	0.19
1504A	1592-40	NOX	Feb 1, 2006	Feb 1, 2007	0.24	0.19
1504A	1592-40	NOX	Mar 1, 2006	Mar 1, 2007	0.24	0.19
1504A	1592-40	NOX	Apr 1, 2006	Apr 1, 2007	0.24	0.19
1504A	1592-40	NOX	May 1, 2006	May 1, 2007	0.24	0.19
1504A	1592-40	NOX	Jan 1, 2008	Dec 31, 2008	0.19	0.19
1504A	1592-40	NOX	Feb 1, 2008	Jan 31, 2009	0.21	0.19
1504A	1592-40	NOX	Mar 1, 2008	Mar 1, 2009	0.21	0.19
1504A	1592-40	NOX	Apr 1, 2008	Apr 1, 2009	0.21	0.19
1504A	1592-40	NOX	May 1, 2008	May 1, 2009	0.21	0.19
1504A	1592-40	NOX	Jun 1, 2008	Jun 1, 2009	0.21	0.19
1504A	1592-40	CO	Jun 1, 2005	Jun 1, 2006	2.15	1.39
1504A	1592-40	CO	Jul 1, 2005	Jul 1, 2006	2.15	1.39
1504A	1592-40	CO	Aug 1, 2005	Aug 1, 2006	2.15	1.39
1504A	1592-40	CO	Sep 1, 2005	Sep 1, 2006	2.15	1.39
1504A	1592-40	CO	Oct 1, 2005	Oct 1, 2006	2.08	1.39
1504A	1592-40	CO	Nov 1, 2005	Nov 1, 2006	2.04	1.39
1504A	1592-40	CO	Dec 1, 2005	Dec 1, 2006	2.04	1.39
1504A	1592-40	CO	Jan 1, 2006	Jan 1, 2007	2.04	1.39
1504A	1592-40	CO	Feb 1, 2006	Feb 1, 2007	1.77	1.39
1504A	1592-40	CO	Mar 1, 2006	Mar 1, 2007	1.77	1.39
1504A	1592-40	CO	Apr 1, 2006	Apr 1, 2007	1.77	1.39
1504A	1592-40	CO	May 1, 2006	May 1, 2007	1.77	1.39
1504A	1592-16	NOX	Dec 1, 2003	Nov 30, 2004	5.80	2.25
1504A	1592-16	NOX	Jan 1, 2004	Dec 31, 2004	5.25	2.25
1504A	1592-16	NOX	Feb 1, 2004	Jan 31, 2005	5.25	2.25
1504A	1592-16	NOX	Mar 1, 2004	Mar 1, 2005	5.25	2.25
1504A	1592-16	NOX	Apr 1, 2004	Apr 1, 2005	5.25	2.25
1504A	1592-16	NOX	May 1, 2004	May 1, 2005	4.03	2.25
1504A	1592-16	NOX	Jun 1, 2004	Jun 1, 2005	2.54	2.25
1504A	1592-16	NOX	Jul 1, 2004	Jul 1, 2005	2.36	2.25
1504A	1592-16	NOX	Oct 1, 2004	Oct 1, 2005	2.46	2.25
1504A	1592-16	NOX	Feb 1, 2005	Feb 1, 2006	3.36	2.25
1504A	1592-16	NOX	Mar 1, 2005	Mar 1, 2006	3.36	2.25
1504A	1592-16	NOX	Apr 1, 2005	Apr 1, 2006	3.36	2.25
1504A	1592-16	NOX	May 1, 2005	May 1, 2006	3.36	2.25
1504A	1592-16	NOX	Jun 1, 2005	Jun 1, 2006	7.43	2.25
1504A	1592-16	NOX	Jul 1, 2005	Jul 1, 2006	7.43	2.25
1504A	1592-16	NOX	Aug 1, 2005	Aug 1, 2006	7.43	2.25
1504A	1592-16	NOX	Sep 1, 2005	Sep 1, 2006	7.43	2.25
1504A	1592-16	NOX	Oct 1, 2005	Oct 1, 2006	6.72	2.25
1504A	1592-16	NOX	Nov 1, 2005	Nov 1, 2006	6.39	2.25
1504A	1592-16	NOX	Dec 1, 2005	Dec 1, 2006	6.39	2.25
1504A	1592-16	NOX	Jan 1, 2006	Jan 1, 2007	6.39	2.25
1504A	1592-16	NOX	Feb 1, 2006	Feb 1, 2007	4.93	2.25
1504A	1592-16	NOX	Mar 1, 2006	Mar 1, 2007	4.93	2.25
1504A	1592-16	NOX	Apr 1, 2006	Apr 1, 2007	4.93	2.25
1504A	1592-16	NOX	May 1, 2006	May 1, 2007	4.93	2.25
1504A	1592-16	NOX	Oct 1, 2007	Sep 30, 2008	2.83	2.25

Table 2 - Violations of Annual MAERT Limits

Permit Number	Emission Point Number	Pollutant	Annual Limit		Amount Released (tons)	Annual Limit (tons per year)
			Start Date	End Date		
1504A	1592-16	NOX	Nov 1, 2007	Oct 31, 2008	2.83	2.25
1504A	1592-16	NOX	Dec 1, 2007	Nov 30, 2008	2.83	2.25
1504A	1592-16	NOX	Jan 1, 2008	Dec 31, 2008	3.21	2.25
1504A	1592-16	NOX	Feb 1, 2008	Jan 31, 2009	3.82	2.25
1504A	1592-16	NOX	Mar 1, 2008	Mar 1, 2009	3.82	2.25
1504A	1592-16	NOX	Apr 1, 2008	Apr 1, 2009	3.82	2.25
1504A	1592-16	NOX	May 1, 2008	May 1, 2009	3.82	2.25
1504A	1592-16	NOX	Jun 1, 2008	Jun 1, 2009	3.82	2.25
1504A	1592-16	NOX	Jul 1, 2008	Jul 1, 2009	2.45	2.25
1504A	1592-16	NOX	Aug 1, 2008	Aug 1, 2009	2.45	2.25
1504A	1592-16	NOX	Sep 1, 2008	Sep 1, 2009	2.45	2.25
1504A	1592-16	CO	Dec 1, 2003	Nov 30, 2004	42.08	31.5
1504A	1592-16	CO	Jan 1, 2004	Dec 31, 2004	38.09	31.5
1504A	1592-16	CO	Feb 1, 2004	Jan 31, 2005	38.09	31.5
1504A	1592-16	CO	Mar 1, 2004	Mar 1, 2005	38.09	31.5
1504A	1592-16	CO	Apr 1, 2004	Apr 1, 2005	38.09	31.5
1504A	1592-16	CO	Jun 1, 2005	Jun 1, 2006	53.69	31.5
1504A	1592-16	CO	Jul 1, 2005	Jul 1, 2006	53.69	31.5
1504A	1592-16	CO	Aug 1, 2005	Aug 1, 2006	53.69	31.5
1504A	1592-16	CO	Sep 1, 2005	Sep 1, 2006	53.69	31.5
1504A	1592-16	CO	Oct 1, 2005	Oct 1, 2006	48.54	31.5
1504A	1592-16	CO	Nov 1, 2005	Nov 1, 2006	46.20	31.5
1504A	1592-16	CO	Dec 1, 2005	Dec 1, 2006	46.20	31.5
1504A	1592-16	CO	Jan 1, 2006	Jan 1, 2007	46.20	31.5
1504A	1592-16	CO	Feb 1, 2006	Feb 1, 2007	35.62	31.5
1504A	1592-16	CO	Mar 1, 2006	Mar 1, 2007	35.62	31.5
1504A	1592-16	CO	Apr 1, 2006	Apr 1, 2007	35.62	31.5
1504A	1592-16	CO	May 1, 2006	May 1, 2007	35.62	31.5
1504A	1592-16	VOC	Dec 1, 2003	Nov 30, 2004	45.38	25.95
1504A	1592-16	VOC	Jan 1, 2004	Dec 31, 2004	40.90	25.95
1504A	1592-16	VOC	Feb 1, 2004	Jan 31, 2005	43.97	25.95
1504A	1592-16	VOC	Mar 1, 2004	Mar 1, 2005	43.97	25.95
1504A	1592-16	VOC	Apr 1, 2004	Apr 1, 2005	43.97	25.95
1504A	1592-16	VOC	May 1, 2004	May 1, 2005	36.92	25.95
1504A	1592-16	VOC	Jun 1, 2004	Jun 1, 2005	26.83	25.95
1504A	1592-16	VOC	Feb 1, 2005	Feb 1, 2006	40.64	25.95
1504A	1592-16	VOC	Mar 1, 2005	Mar 1, 2006	40.64	25.95
1504A	1592-16	VOC	Apr 1, 2005	Apr 1, 2006	40.64	25.95
1504A	1592-16	VOC	May 1, 2005	May 1, 2006	40.64	25.95
1504A	1592-16	VOC	Jun 1, 2005	Jun 1, 2006	62.69	25.95
1504A	1592-16	VOC	Jul 1, 2005	Jul 1, 2006	62.69	25.95
1504A	1592-16	VOC	Aug 1, 2005	Aug 1, 2006	62.69	25.95
1504A	1592-16	VOC	Sep 1, 2005	Sep 1, 2006	62.69	25.95
1504A	1592-16	VOC	Oct 1, 2005	Oct 1, 2006	57.53	25.95
1504A	1592-16	VOC	Nov 1, 2005	Nov 1, 2006	46.34	25.95
1504A	1592-16	VOC	Dec 1, 2005	Dec 1, 2006	46.34	25.95
1504A	1592-16	VOC	Jan 1, 2006	Jan 1, 2007	46.34	25.95
1504A	1592-16	VOC	Jul 1, 2007	Jun 30, 2008	30.53	25.95
1504A	1592-16	VOC	Aug 1, 2007	Jul 31, 2008	30.53	25.95
1504A	1592-16	VOC	Sep 1, 2007	Aug 31, 2008	30.53	25.95
1504A	1592-16	VOC	Oct 1, 2007	Sep 30, 2008	190.44	25.95
1504A	1592-16	VOC	Nov 1, 2007	Oct 31, 2008	190.44	25.95
1504A	1592-16	VOC	Dec 1, 2007	Nov 30, 2008	190.44	25.95
1504A	1592-16	VOC	Jan 1, 2008	Dec 31, 2008	194.67	25.95
1504A	1592-16	VOC	Feb 1, 2008	Jan 31, 2009	201.17	25.95
1504A	1592-16	VOC	Mar 1, 2008	Mar 1, 2009	201.17	25.95
1504A	1592-16	VOC	Apr 1, 2008	Apr 1, 2009	201.17	25.95

Table 2 - Violations of Annual MAERT Limits

Permit Number	Emission Point Number	Pollutant	Annual Limit	Annual Limit	Amount	Annual Limit
			Start Date	End Date	Released (tons)	(tons per year)
1504A	1592-16	VOC	May 1, 2008	May 1, 2009	201.17	25.95
1504A	1592-16	VOC	Jun 1, 2008	Jun 1, 2009	201.17	25.95
1504A	1592-16	VOC	Jul 1, 2008	Jul 1, 2009	172.60	25.95
1504A	1592-16	VOC	Aug 1, 2008	Aug 1, 2009	172.60	25.95
1504A	1592-16	VOC	Sep 1, 2008	Sep 1, 2009	172.60	25.95

Table 3 - Violations of HRVOC Limit

Tracking Number	Start Date and Time	End Date and Time	Pollutant	Amount Released (lbs)	Duration (hrs)	Emission Limit (lbs/hr)
70394	1/15/05 15:46	1/15/05 16:46	TOTAL HRVOCs	5223.60	1.00	1200
65091	9/21/05 13:10	9/21/05 14:00	TOTAL HRVOCs	3325.00	0.83	1200
70583	1/19/06 1:30	1/19/06 3:42	TOTAL HRVOCs	6431.10	2.20	1200
70666	1/22/06 14:22	1/22/06 15:42	TOTAL HRVOCs	5846.90	1.33	1200
82342	10/7/06 4:30	10/7/06 14:30	TOTAL HRVOCs	>1200.00	10.00	1200
82584	10/12/06 21:52	10/12/06 22:00	TOTAL HRVOCs	3314.00	0.13	1200
82827	10/12/06 21:52	10/12/06 22:00	TOTAL HRVOCs	3314.00	0.13	1200
109236	6/12/08 9:20	6/12/08 9:25	TOTAL HRVOCs	>1200.00	0.08	1200
109537	6/14/08 9:00	6/14/08 12:59	TOTAL HRVOCs	>1200.00	3.98	1200
114137	9/13/08 4:00	9/15/08 20:00	TOTAL HRVOCs	265910.80	64.00	1200

Table 4 - Violations of Permit Special Conditions

Tracking Number	Start Date and Time	End Date and Time	Permit Number	Type of Event	Unit	Additional Source Info/FIN	Emission Point	EPN
17017	3/7/03 15:00	3/7/03 19:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22
17017	3/7/03 15:00	3/7/03 19:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22
17987	5/5/03 6:00	5/6/03 12:43	37063	Startup	NAOU 1798	P-1798	Z-1101 Flare	1798-22
17987	5/5/03 6:00	5/6/03 12:43	37063	Startup	NAOU 1798	P-1798	Z-1101 Flare	1798-22
17992	4/11/03 6:00	4/14/03 6:00	37063	Shutdown	NAOU 1798	P-1798	Z-1101 Flare	1798-22
17992	4/11/03 6:00	4/14/03 6:00	37063	Shutdown	NAOU 1798	P-1798	Z-1101 Flare	1798-22
18862	4/25/03 6:00	4/28/03 6:00	37063	Shutdown	NAOU 1797	P-1797	Z-101 Flare	110
18862	4/25/03 6:00	4/28/03 6:00	37063	Shutdown	NAOU 1797	P-1797	Z-101 Flare	110
18868	6/1/03 6:00	6/7/03 23:55	37063	Startup	NAOU 1797	P-1797	Z-101 Flare	110
18868	6/1/03 6:00	6/7/03 23:55	37063	Startup	NAOU 1797	P-1797	Z-101 Flare	110
19147	4/13/03 13:00	4/15/03 8:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22
19147	4/13/03 13:00	4/15/03 8:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22
23394	6/28/03 10:28	6/29/03 0:21	37063	EE	NAOU 1797	P-1791	Z-101 Flare	110
23394	6/28/03 10:28	6/29/03 0:21	37063	EE	NAOU 1797	P-1791	Z-101 Flare	110
29880	10/26/03 19:00	10/29/03 21:30	37063	EE	NAOU 1798	P-1798	R-1209	F-1798-30
29880	10/26/03 19:00	10/29/03 21:30	37063	EE	NAOU 1798	P-1798	R-1209	F-1798-30
31110	11/22/03 8:00	11/22/03 8:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798
31110	11/22/03 8:00	11/22/03 8:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798
35198	2/20/04 0:45	2/20/04 1:00	37063	EE	NAOU 1798	F-1798-30	Z-1101 Flare	1798-22
35198	2/20/04 0:45	2/20/04 1:00	37063	EE	NAOU 1798	F-1798-30	Z-1101 Flare	1798-22
35198	2/20/04 0:45	2/20/04 1:00	37063	EE	NAOU 1798	F-1798-30	R-1209	F-1798-30
40906	6/7/04 20:19	6/7/04 20:26	37063	EE	NAOU 1797	P-1797	SYS-740	136
40906	6/7/04 20:19	6/7/04 20:26	37063	EE	NAOU 1797	P-1797	SYS-740	136
40906	6/7/04 20:19	6/7/04 20:26	37063	EE	NAOU 1797	P-1797	Fugitives	F-130
56572	4/11/05 18:38	4/11/05 21:40	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110
56572	4/11/05 18:38	4/11/05 21:40	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110

Table 4 - Violations of Permit Special Conditions

Tracking Number	Start Date and Time	End Date and Time	Permit Number	Type of Event	Unit	Additional Source Info/FIN	Emission Point	EPN
61859	7/28/05 1:01	7/28/05 11:51	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110
61859	7/28/05 1:01	7/28/05 11:51	37063	EE	NAOU 1797	P-1797	Z-101 Flare	110
61859	7/28/05 1:01	7/28/05 11:51	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136
61859	7/28/05 1:01	7/28/05 11:51	37063	EE	NAOU 1797	P-1797	SYS-740 Flare	136
61859	7/28/05 1:01	7/28/05 11:51	37063	EE	NAOU 1797	P-1797	Process Fugitives	F-130
64887	9/21/05 12:00	9/22/05 2:00	37063	Shutdown	NAOU 1797	P-1797	Z-101 Flare	110
64887	9/21/05 12:00	9/22/05 2:00	37063	Shutdown	NAOU 1797	P-1797	Z-101 Flare	110
64887	9/21/05 12:00	9/22/05 2:00	37063	Shutdown	NAOU 1797	P-1797	SYS-740 Flare	136
64887	9/21/05 12:00	9/22/05 2:00	37063	Shutdown	NAOU 1797	P-1797	SYS-740 Flare	136
65405	9/27/05 13:30	9/28/05 16:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22
65405	9/27/05 13:30	9/28/05 16:30	37063	EE	NAOU 1798	P-1798	Z-1101 Flare	1798-22
82951	10/23/06 13:30	10/24/06 13:30	37063	Shutdown	NAOU 1798	P-1798	Z-1101 Flare	1798-22
82956	10/23/06 13:30	10/24/06 13:30	37063	EE	NAOU 1798	P-1798	Fugitive Emissions	F-1798-30
83059	10/25/06 23:00	10/26/06 23:00	37063	Startup	NAOU 1798	P-1798	Z-1101 Flare	1798-22
83059	10/25/06 23:00	10/26/06 23:00	37063	Startup	NAOU 1798	P-1798	Z-1101 Flare	1798-22
105393	4/4/08 0:00	4/12/08 23:00	37063	Shutdown	NAOU 1798	Z-1101	Z-1101 Flare	1798-22
105955	4/18/08 7:00	4/23/08 2:00	37063	Shutdown	NAOU 1797	Z-101	Z-101 Flare	110
106528	4/30/08 12:00	5/5/08 18:00	37063	Startup	NAOU 1798	F-1798	TK-1800	1798-01
106528	4/30/08 12:00	5/5/08 18:00	37063	Startup	NAOU 1798	F-1798	TK-1806	1798-03
106528	4/30/08 12:00	5/5/08 18:00	37063	Startup	NAOU 1798	F-1798	Z-1101 Flare	1798-22
106531	4/28/08 21:00	4/29/08 22:00	37063	Startup	NAOU 1797	F-1797	Z-101 Flare	110
107083	4/29/08 22:00	4/30/08 23:00	37063	EE	NAOU 1797	F-1797	Z-101 Flare	110
112310	8/7/08 16:10	8/7/08 17:03	37063	EE	NAOU 1798	P-1798	1202	F-130
113836	9/11/08 8:00	9/12/08 8:00	37063	Shutdown	NAOU 1797	F-1797	Z-101 Flare	110
113836	9/11/08 8:00	9/12/08 8:00	37063	Shutdown	NAOU 1797	F-1797	SYS-740 Flare	136
113839	9/11/08 8:15	9/12/08 8:15	37063	Shutdown	NAOU 1798	P-1798	Z-1101 Flare	1798-22
114339	9/22/08 9:00	9/22/08 10:00	37063	Startup	NAOU 1798	F-1798	Z-1101 Flare	1798-22

Table 4 - Violations of Permit Special Conditions

Tracking Number	Start Date and Time	End Date and Time	Permit Number	Type of Event	Unit	Additional Source Info/FIN	Emission Point	EPN
114365	9/22/08 15:00	9/23/08 10:00	37063	Startup	NAOU 1797	P-1797	Z-101 Flare	110
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40
31334	12/1/03 18:58	12/17/03 17:53	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40
40038	5/22/04 12:00	5/31/04 12:30	1504A	EE	EU 1592	P-1592	Process Fugitives	1592-31
40038	5/22/04 12:00	5/31/04 12:30	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40
43142	7/21/04 16:55	7/22/04 17:44	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40
43142	7/21/04 16:55	7/22/04 17:44	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40
64862	9/21/05 12:00	10/1/05 9:15	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40
64862	9/21/05 12:00	10/1/05 9:15	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40
65815	10/5/05 10:30	10/10/05 14:47	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40
65815	10/5/05 10:30	10/10/05 14:47	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40
70202	1/11/06 10:00	1/17/06 10:00	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40
70202	1/11/06 10:00	1/17/06 10:00	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40
70395	1/18/06 10:00	1/25/06 10:00	1504A	Startup	EU 1592	P-1592	CB-710 Flare	1592-40
76324	5/25/06 18:00	5/26/06 7:00	1504A	EE	EU 1592	P-1592	CB-710 Flare	1592-40
76377	5/28/06 19:45	5/29/06 19:45	1504A	EE	EU 1592	1592-16	CB-710 Flare	1592-40
101701	12/26/07 16:00	12/26/07 22:00	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40
101849	12/29/07 18:00	12/29/07 22:00	1504A	Startup	EU 1592	P-1592	CB-710 Flare	1592-40
107366	5/7/08 4:00	5/7/08 4:02	1504A	EE	EU 1592	P-1592	Fugitive	1592-31
109295	6/14/08 9:00	6/15/08 10:00	1504A	Startup	EU 1592	P-1592	Flare; CB-710 Flare	1592-16; 1592-40
113835	9/11/08 0:00	9/12/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40
114629	9/26/08 7:00	9/28/08 6:00	1504A	Startup	EU 1592	F-1592	CB-710 Flare	1592-40
116959	12/6/08 12:00	12/16/08 0:00	1504A	Shutdown	EU 1592	P-1592	CB-710 Flare	1592-40
118231	1/11/09 11:00	1/13/09 19:00	1504A	Startup	EU 1592	P-1592	CB-710 Flare	1592-40
13981	2/1/03 11:00	2/5/03 12:30	2462C	Startup	PEU 1792	45		

Table 4 - Violations of Permit Special Conditions

Tracking Number	Start Date and Time	End Date and Time	Permit Number	Type of Event	Unit	Additional Source Info/FIN	Emission Point	EPN
21130	5/18/03 22:05	5/19/03 20:15	2462C	EE	PEU 1792	P-1792	Fugitive Emissions	F04
22389	6/3/03 21:30	6/3/03 21:32	2462C	EE	Line 5 Reactor	P-1792	safety relief system	F-75
24898	7/29/03 10:00	7/29/03 18:15	2462C	EE	PEU 1792	P-1792	Flare, Line 6 4#Hopper	45, F-75
52733	1/23/05 23:52	1/24/05 0:00	2462C	EE	PEU 1792	P-1792	Process Fugitives	F-75
117449	12/8/08 4:58	12/9/08 7:00	2462C	EE	PEU 1792	P-1792	X-902 Flare	45
118724	1/8/09 20:00	1/14/09 7:00	2462C	EE	PEU 1792	P-1792	X-901 Flare	45
119168	2/5/09 1:00	2/8/09 20:00	2462C	Startup	PEU 1792	P-1792	X-901 Flare	45
124017	5/9/09 17:30	5/9/09 20:30	2462C	EE	LDPE Unit	1792-100	X-902 Flare	X-902 Flare
								45



National Environmental Law Center

44 Winter Street, Boston, MA 02108 (617) 422-0880 (ph) (617) 292-8057 (fx)

October 10, 2007

BY CERTIFIED MAIL
RETURN RECEIPT REQUESTED

John D. Hofmeister, President
Shell Oil Company
P.O. Box 2463
Houston, TX 77252-2463

Lowell Tanner, General Manager
Deer Park Refining Limited Partnership
P.O. Box 100
Deer Park, TX 77536

Stacy Methvin, President & CEO
Shell Chemical Limited Partnership
P.O. Box 2463
Houston, TX 77252-2463

Mary Mujica, Plant Manager
Shell Deer Park Refining Company
P.O. Box 2633
Deer Park, TX 77536

Dear Mr. Hofmeister, Mr. Tanner, Ms. Methvin, and Ms. Mujica:

I write on behalf of Environment Texas and Sierra Club ("the Citizen Groups"), and their members.

The Deer Park Refining Limited Partnership ("Deer Park Refining") and Shell Deer Park Refining Company operate an oil refinery in Deer Park, Texas (the "Deer Park Refinery"). The Shell Chemical Limited Partnership ("Shell Chemical") operates a petrochemical facility at the same site (the "Deer Park Chemical Plant"). Shell Oil Company is the general partner of Deer Park Refining and of Shell Chemical. These four companies are jointly referenced in this letter as "Shell." The Deer Park Refinery and Deer Park Chemical Plant are jointly referenced in this letter as "Shell Deer Park."

Based on available information, the Citizen Groups believe that Shell has repeatedly violated, and will continue to violate, its air emission permits, the Texas State

West Coast Office: Seattle, WA

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Implementation Plan, and the federal Clean Air Act by emitting air pollutants into the atmosphere from Shell Deer Park in excess of applicable emission limitations.

Applicable Requirements

The Texas State Implementation Plan (“SIP”) is a set of state laws and regulations designed to protect air quality in Texas and, more specifically, to achieve compliance with federally promulgated national ambient air quality standards (“NAAQS”). SIPs are required by Section 110 of the Clean Air Act, 42 U.S.C. § 7410, and must be approved by the U.S. Environmental Protection Agency (“EPA”).

The Deer Park Refinery and the Deer Park Chemical Plant each have a number of fixed sources of air pollution that are classified as “stationary sources” under the Clean Air Act. The Texas SIP requires Shell to report certain unauthorized emissions of air pollutants from these stationary sources to the Texas Commission on Environmental Quality (“TCEQ”) within 24 hours of their discovery. 30 Tex. Admin. Code § 101.201(a). Thereafter, Shell has two weeks to issue a “final” report concerning such emission events; if no final report is submitted, the initial report is considered final. 30 Tex. Admin. Code § 101.201(b) and (c).

These emission event reports submitted by Shell to TCEQ include, among other information: the date, time, and duration of the event; the nature and cause of the event; any corrective action taken; the unit and the specific emission point from which pollutants were emitted to the atmosphere; the permit or regulation applicable to the unit and emission point; the emission standard or limitation that has been exceeded; and the type and estimated quantities of air pollutants emitted.

Emissions of air pollutants from the Deer Park Refinery are governed by, among other requirements, New Source Review Permit (“NSR Permit”) No. 21262, issued to Deer Park Refining by the TCEQ pursuant to 30 Tex. Admin. Code § 116. This permit contains a Maximum Allowable Emission Rate Table (“MAERT”) that sets forth, for each source of air pollutants governed by the permit, a maximum hourly emission limit (expressed in pounds per hour) and a maximum annual emission limit (expressed in tons per year) for each pollutant authorized to be discharged.

Emissions of air pollutants from the Deer Park Chemical Plant are governed by, among other requirements, NSR Permit Nos. 1968, 3214, 3215, 3216, 3217, 3219, 3173, 3179, 9334, 18576, 46535, 48912, 52088, and 55312, issued to Shell Chemical by the TCEQ pursuant to 30 Tex. Admin. Code § 116. These permits contain MAERTs that set forth, for each source of air pollutants governed by the permit, a maximum hourly emission limit and a maximum annual emission limit for each pollutant authorized to be discharged.

Shell Deer Park’s NSR Permits, and all of the emission standards and limitations contained therein, have been incorporated into federal operating permits issued pursuant to Title V of the Clean Air Act, 42 U.S.C. §§ 7661-7661f. Any release of air pollutants

into the atmosphere in excess of an hourly or annual emission limit contained in any of Shell Deer Park's NSR permits is thus a violation of both the applicable NSR permit and the corresponding Title V permit. All such releases also violate both the Texas SIP and the federal Clean Air Act.

In addition, the stationary sources at Shell Deer Park referenced above are "new sources" within the meaning of Section 111(a)(2) of the Clean Air Act, 42 U.S.C. § 7411(a)(2), and are "affected facilities" within the meaning of 40 C.F.R. § 60.2. Accordingly, they are subject to New Source Performance Standards ("NSPS"), which are technology-based emission standards and limitations promulgated pursuant to Section 111, 42 U.S.C. § 7411.

Pursuant to Section 111(b), 42 U.S.C. § 7411(b), U.S. EPA has promulgated general NSPS provisions, codified at 40 C.F.R. Part 60, Subpart A, §§ 60.1 – 60.19, that apply to owners or operators of any stationary source that contains an "affected facility" subject to regulation under 40 C.F.R. Part 60. 40 C.F.R. § 60.11(d) requires that at all times – including periods of startup, shutdown, and malfunction – owners and operators shall, to the extent practicable, maintain and operate any affected facility, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. 40 C.F.R. § 60.18(c) requires flares to be operated with no visible emissions except for periods not to exceed five minutes during any two consecutive hours.

Section 111(e), 42 U.S.C. § 7411(e), prohibits the operation of any new source in violation of an NSPS applicable to such source. Thus, a violation of an NSPS is a violation of Section 111(e) of the Clean Air Act.

Shell Deer Park's Violations

During the five years immediately preceding the date of this letter, Shell Deer Park has, on numerous occasions, emitted air pollutants into the atmosphere in amounts or at rates that exceeded applicable hourly or annual permit limits.

A description of such emissions from the Deer Park Refinery from February 2003 to the present is contained in the attached Table 1. A description of such emissions occurring at the Deer Park Chemical Plant from February 2003 to the present is contained in the attached Table 2. A description of such emissions from Shell Deer Park for which the Citizen Groups have insufficient information to determine the source plant is contained in the attached Table 3.

For each such emission of pollutants, Tables 1, 2, and 3 contain: the emission event tracking number; the start and end dates of the emission event; the applicable NSR permit number or regulation, if any (under the heading "Authorization"); Shell's characterization of the event ("emission event" is abbreviated as "EE"); the unit and emission point from which the emissions occurred ("facility identification number" is abbreviated as "FIN" and emission point number is abbreviated as "EPN"); the type and

amount of pollutant(s) emitted (the amount is expressed as a percentage in the case of opacity); the duration of the emission event; and the emission standard or limitation that has been violated.

Unless stated otherwise in the tables, the pollutant types and amounts and the applicable emission standards and limitations listed in Tables 1, 2, and 3 are set forth just as Shell reported them on its emission event reports to TCEQ, and may therefore differ from the actual permit limits in effect. For example, Shell's NSR permits appear to impose limits on total VOCs and total NOx; but Shell, in its emission event reports, frequently reports pollutant releases and the applicable emission limits separately for each individual VOC and each oxide of nitrogen. Similarly, in cases where the permits impose a single limit on multiple emission points, Shell sometimes reports the emission points separately. In other cases, the applicable emission limit is zero but Shell reports a nonzero limit (*e.g.*, 0.001 lbs/hr). Nonetheless, the information presented in Tables 1, 2, and 3 is more than sufficient to enable Shell to ascertain the nature of each alleged violation.

In addition to the hourly limit violations described in Tables 1, 2, and 3, the information summarized in Table 2 also establishes violations of at least the following annual tons per year limits at the Deer Park Chemical Plant:

Permit #	Emission Point Number	Pollutant	Date*	Amount	Limit
3219	OP2DECOK	VOCs	1/24/06	0.21 tons	0.2 tons per year (TPY)
3219	OP2ELFLA/OP3ELFLA	VOCs	2004	62 tons	39 TPY
3219	OP2ELFLA/OP3ELFLA	VOCs	2005	75 tons	39 TPY
3219	OP2ELFLA/OP3ELFLA	CO	2005	44.5 tons	38 TPY
3219	OP2ELFLA/OP3ELFLA	CO	2006	72.6 tons	38 TPY
3219	OP2ELFLA/OP3ELFLA	NOx	2005	11.7 tons	7 TPY
3219	OP2	VOCs	3/6/05	18.7 tons	11.9 TPY
9334	D371	Benzene	4/28/03	14 tons	1.01 TPY

* A specific date indicates that the annual tons per year limit was exceeded on a single day or by a single emission event that resulted in a release of pollutants.

Moreover, the pollutants released during the emission events described in Tables 1, 2, and 3 may, when added to the "routine" pollutant emissions occurring during normal operations at Shell Deer Park, have contributed to additional violations of tons per year limits. This notice letter covers all such violations of annual tons per year limits.

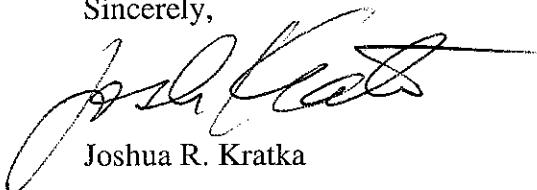
The unauthorized releases of air pollutants described in Tables 1, 2, and 3 also constitute violations of 40 C.F.R. Part 60, Subpart A, including, but not limited to, §

60.11(d) (relating to good air pollution control practices) and § 60.18(c) (relating to the operation of flares).

Tables 1, 2, and 3 are based on publicly available sources of information. Additional information, including information in the possession of Shell, may reveal additional details about the violations listed and may reveal additional violations of the Clean Air Act at Shell Deer Park. This letter covers all such violations occurring within the five years immediately preceding the sending of this notice letter. This letter fulfills the Clean Air Act's pre-suit notice requirements.

The Citizen Groups would like to discuss this matter with you. Their goal is to improve air quality in the area surrounding Shell Deer Park by securing long-term compliance with applicable law. Please contact me at (617) 747-4333 or at the address listed above.

Sincerely,

A handwritten signature in black ink, appearing to read "Joshua R. Kratka".

Joshua R. Kratka

Additional Legal Counsel Sending This Letter

Phillip H. Hilder
Hilder & Associates, P.C.
819 Lovett Boulevard
Houston, Texas 77006
(713) 655-9111

David A. Nicholas
20 Whitney Road
Newton, Massachusetts 02460
(617) 964-1548

Addresses and telephone numbers of the Citizen Groups

Environment Texas
815 Brazos, Suite 600
Austin, Texas 78701
(512) 479-0388

Sierra Club
1202 San Antonio Street

Austin, Texas 78701
(512) 477-1729

cc:

By certified mail – return receipt requested

Prentice-Hall Corporation System
701 Brazos Street, Suite 1050
Austin, Texas 78701
(registered agent for Deer Park Refining Limited Partnership)

CT Corporation System
1021 Main Street, Suite 1150
Houston, Texas 77002
(registered agent for Shell Oil Company and Shell Chemical Limited Partnership)

Stephen L. Johnson
Administrator
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

Richard E. Greene, Regional Administrator
U.S. Environmental Protection Agency
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202

Governor Rick Perry
Office of the Governor
P.O. Box 12428
Austin, Texas 78711-2428

Glenn Shankle, Executive Director
Texas Commission on Environmental Quality
MC 109
P.O. Box 13087
Austin, TX 78711-3087

ATTACHMENT 9

"MEMORANDUM RE: GUIDANCE ON ENFORCEABILITY REQUIREMENTS FOR LIMITING POTENTIAL TO EMIT THROUGH SIP AND SECTION 112 RULES AND GENERAL PERMITS" FROM KATHIE A. STEIN, OFFICE OF ENFORCEMENT AND COMPLIANCE ASSURANCE (JANUARY 25, 1995).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON. D.C. 20460

JAN 25 1995

OFFICE OF
ENFORCEMENT AND
COMPLIANCE ASSURANCE

SUBJECT: Guidance an Enforceability Requirements for
Limiting Potential to Emit through SIP and §112 Rules
and General Permits

FROM: Kathie A. Stein, Director
Air Enforcement. Division

TO: Director, Air and, Pesticides and Toxics
Management Division, Regions I and IV
Director, Air and Waste Management Division,
Region II
Director, Air, Radiation and Toxics Division,
Region III
Director, Air and Radiation Division,
Region V
Director, Air, Pesticides and Toxics Division,
Region VI
Director, Air and Toxics Division,
Regions VII, VIII, IX, and X

Attached is a guidance document developed over the past year by the former Stationary Source compliance Division in coordination with the Air Enforcement Division, Office of Air Quality Planning and Standards\$ OAR's Office of Policy Analysis and Review, and the Office of General Counsel, as well-as with significant input from several Regions.

A number of permitting authorities have begun discussions with or have submitted programs for review by EPA that would provide alternative mechanisms for limiting potential to emit. Several authorities have submitted SIP rules and at least one State has been developing a state general permit approach.; We believe that this guidance is important to assist the EPA Regions as well as States in approving and developing such approaches.

For additional information regarding this guidance, please contact me or Clara Poffenberger of my staff at (202) 564-8709.

cc: John Rasnic, Director
Manufacturing, Energy, and Transportation Division Office of Compliance

Air Branch Chiefs, Regions I -X

Enforceability Requirements for Limiting potential to Emit Through SIP and §112 Rules and General Permits

Introduction

As several EPA guidance describe, there are several mechanisms available for sources to limit potential to emit. EPA guidance have also describe the importance of practical enforceability or the means used to limit the Potential to Emit. This guidance is intended to provide additional guidance on practical enforceability for such limits. We provide references for guidance an practical enforceability for permits and rules in general and provide guidance in this document for application of the same principles to "limitations established by rule or general permit," as described in the guidance document issued January 25, 1995, entitled "Options for Limiting Potential to Emit (PTE) of a Stationary Source under section 112 and Title V of the Clean Air Act (Act)." The description is as follows:

Limitations established by rules. For less complex plant sites, and for source categories involving relatively few operations that are similar in nature, case-by-case permitting may not be the most administratively efficient approach to establishing federally enforceable restrictions. One approach that has been used is to establish a general rule which creates federally enforceable restrictions at one time for many sources (these rules have been referred to as "prohibitory" or "exclusionary" rules). The concept of exclusionary rules is described in detail in the November 3, 1993 memorandum ["Approaches to Creating Federally Enforceable Emissions Limits," from John S. Seitz]. A specific suggested approach for VOC limits by rule was described in EPA's memorandum dated October 15, 1993 entitled "Guidance for State Rules for Optional Federally Enforceable Emissions Limits Base Upon Volatile Organic Compound (VOC) Use." An example of such an exclusionary rule is a model rule developed for use in California. (The California model rule is attached, along with a discussion of its applicability to other situations - see Attachment 2). Exclusionary rules are included in a State's SIP or 112 program and generally become effective upon approval by the EPA.

The EPA prefers the term "exclusionary rule" in that this phrase is a less ambiguous description of the overall purpose of these rules.

General permits -A concept similar to the exclusionary rule is the establishment Of a general permit for a given source type. A general permit is a single permit that establishes terms and conditions that must be complied with by all sources subject to that permit. The establishment of a general permit could provide for emission limitations in a one-time permitting process, and thus avoid the need to issue separate permits for each source. Although this concept is generally thought of as an element of Title V permit programs there in no reason that a state or local agency could not submit a general permit program as a SIP submittal Aimed at creating synthetic minor sources.

Additionally FESOP [Federally Enforceable State Operating Permit usually reffering to Title I State Operating Permit Programs approved under- the criteria established by EPA in the June 28, 1989 Federal Register notice, 54 FR 27274] programs can include general permits as an element of the FESOP program being approved into the SIP. The advantage of a SIP general permit, when compared to an exclusionary rule, is that upon approval by the EPA of the state's general permit program, a general permit could be written for an additional source type without triggering the need for the formal SIP revision process. (January 25, 1995 Seitz and Van Heuvelen memorandum, page 4.)

SIP or §112 Rules

Source-category standards 'approved in the. SIP. or under 112,if enforceable as a. practical matter, can be used as federally enforceable limits on potential to emit. Such provisions require public participation and EPA review. Once a specific source qualifies under the applicability requirements of the source category rule, additional public participation is not required to make the limits federally enforceable as a matter of legal sufficiency since the rule itself underwent public participation and EPA review. The rule must still be enforceable as practical matter in order to be considered federally enforceable. A source that violates this type of rule limiting potential to emit below major a source thresholds or is later determined not to qualify for coverage under the rule, could be subject to enforcement action for violation of the rule and for constructing or operating without a proper permit (a. part 70, a New Source Review permit, or operating without meeting §112 requirements, or any combination thereof).

General Permits

The title V regulations set out provisions for general permits covering numerous similar sources. The primary purpose of general permits is to provide a permitting alternative where

the normal permitting process would be overly burdensome, such as for area sources under section 112. General permits may be issued to cover any category of numerous similar sources, including major sources, provided that such sources meet certain criteria laid out in 40 CFR part 70. Sources may be issued general permits strictly for the purpose of avoiding classification as major source. In other words, general permits may be used to limit the potential to emit for numerous similar sources. However, general permits must also meet both legal and practical federal enforceable requirements.

With respect to legal sufficiency, the operating permit regulations provide that once the general permit has been issued, after opportunity for public participation and, EPA and affected State review, the permitting authority may grant or deny a source's request to be covered by a general permit without further public participation or EPA or affected State review. The action of granting or denying the source's request is not subject to judicial review. A general permit does not carry a permit shield. A source may be subject to enforcement action for operating without a part 70 permit if the source is later determined not to qualify for coverage under the general permit. Sources covered by general permits must comply with all part 70 requirements.

State SIP or 112(1) General Permits

Another mechanism available to limit potential to emit is a general permit program approved into the SIP or under section 112(1), the hazardous air pollutant program authority. This mechanism allows permitting authorities to issue and revise general permits consistent with SIP or 112(1) program requirements without going through the SIP or 112(1) approval process for each general permit or revision of a general permit. The program is also separate from title V, like Title I state operating permits, and issuance and revisions of the permits are to comply with title V procedures.

Once a program is approved, issuing and revising general permits should be significantly less burdensome and time-consuming for State legislative and rulemaking authorities. The EPA review should also be less burdensome and time-consuming. After a program is approved, permitting authorities have the flexibility to submit and issue general permits as needed rather than submitting them all at once as part of a SIP submittal. Given the reduced procedural burden, permitting authorities should be able to issue general permits to small groups or categories or sources rather than attempt to cover broad categories with a generic rule. We anticipate that specific permit requirements or general permits may be readily developed with the assistance of interested industry groups.

The state general permit approach may allow sources to meet the federal enforceability requirements more easily than other approaches. However, to use this approach, states must have a federally enforceable program that provides the state the authority, to issue such permits; to accomplish this, EPA must approve the program into the SIP or pursuant to section. 112(1) of the Clean Air Act.

Enforceability Principles

In 1989, in response to challenges from the Chemical Manufacturers Association and other industry groups, EPA reiterated its position that controls and limitations used to limit a source's Potential to emit must be federally enforceable. See 54 FR 27274 (June 28, 1989). Federally enforceable limits can be established by Clean Air Act programs such as NSPS, NESHAPs, MACTs, and SIP requirements. However, source-specific limits are generally set forth in permits. Generally, to be considered federally enforceable, the permitting program must be approved by EPA into the SIP and include provisions for public participation. "In addition, permit terms and conditions must be practicably enforceable to be considered federally enforceable. EPA provided specific guidance on federally enforceable permit conditions in a June 13, 1989 policy memo "Limiting Potential to Emit in New Source Permitting" from John Seitz and in the June 28, 1989 Federal Register notice (54 FR 27274). Additional guidance can also be found in United States v. Louisiana Pacific, 682 F. Supp 1122 (D. Colo. 1987) 682 F. Supp 1141 (D. Colo. 1988), which led to these guidance statements and a number of other memoranda covering practicable enforceability as it relates to rolling averages, short-term averages, and emission caps. See "Use of Long Term Rolling Averages to Limit Potential to Emit," from John. B. Rasnic to David Kee, February 24, 1992; "Limiting Potential to Emit;" from Mamie Miller to George Czerniak, August, 1992; "Policy Determination an Limiting Potential to Emit for Koch Refining Company's Clean Fuels Project", from John B. Rasnic to David Kee, March 13, 1992; and "3M Tape Manufacturing Division Plant, St. Paul, Minnesota" from. John B. Rasnic to David Kee, July 14, 1992.

In 1987, EPA laid out enforceability criteria that SIP rules must meet. see "Review of State Implementation Plans and Revisions for Enforceability and Legal Sufficiency," from Michael Alushin, Alan Eckert, and John Seitz, September 3, 1987 (1997 SIP memo). The criteria include clear statements as to applicability, specificity as to the standard that must be met, explicit statements of the compliance time frames (e.g. hourly, daily, monthly, or 12-month averages, etc.), that the time frame and method of compliance employed must be sufficient to protect the standard involved, record keeping requirements must be specified, and equivalency provisions must meet certain requirements.

Based on these precedents this guidance describes six enforceability criteria which a rule or a general permit must meet to make limits enforceable as a practical matter. In general, practical enforceability for a source-specific permit term means that the provision must specify (1) a technically accurate limitation and the portions of the source subject to the limitation; (2) the time period for the limitation (hourly, daily, monthly, annually); and (3) the method to determine compliance including appropriate monitoring, record keeping and reporting. For rules and general permits that apply to categories of sources, practical enforceability additionally requires that the provision (4) identify the categories of sources that are covered by the rule; (5) where coverage is optional, provide for notice to the permitting authority of the source's election to be covered by the rule; and (6) recognize the enforcement consequences relevant to the rule.

This guidance will address requirements (4) "and (5) first as they are concepts that are unique to rules and general' permits.

A. Specific Applicability

Rules and general permits designed to limit potential to emit must be specific as to the emission units or sources covered by the rule or permit. In other words, the rule or permit must clearly identify the category(ies) of the sources that qualify for the rule's coverage. The rule must apply to categories of sources that are defined specifically or narrowly enough so that specific limits and compliance monitoring can be identified and achieved by all sources in the categories defined.

A rule or general permit that covers, a homogeneous group of sources should allow standards to be set that limit potential to emit and provide the specific monitoring requirements.

(Monitoring is more fully addressed in section D.) The State can allow for generic control efficiencies where technically sound and appropriate, depending on the extent of the application and ability to monitor compliance with resultant emission limits. Similarly, specific and narrow applicability may allow generic material usage or limits on hours of operation to be sufficient. For example, a rule or general permit that applies to fossil fuel fired boilers of a certain size may allow for limits on material usage, such as fuel-type and quantity. A rule or general permit that applies, only to standby diesel generators or emergency generators may allow restrictions on hours of operation to limit potential to emit. The necessary compliance terms (i.e., monitoring or record keeping) associated with any of these limits, such as with hours of operation, can readily be specified in the rule or the general permit itself.

General permits under Title V are assumed to include this

enforceability principle because the Part 70 regulations set out specific criteria that states should consider in developing their general permit provisions (See 57 FR 32278). These factors include requirements that

"categories of sources covered by general permits should be generally homogenous in terms of operations, processes, and emissions. All sources in the category should have essentially similar operations or processes and emit pollutants with similar characteristics."

Another factor stated is "sources should be subject to the same or substantially similar requirements governing operation, emissions, monitoring, reporting, or record keeping." Examples of source categories appropriate for general permits include: degreasers, dry cleaners, small heating systems, sheet fed printers, and VOC storage tanks (see 57 FR 32278).

B. Reporting or Notice to Permitting Authority

The rule or general permit should provide specific reporting requirements as part of the compliance method. Although the compliance method for all sources must include record keeping requirements, the permitting authority may make a determination that reporting requirements for small sources would provide minimal additional compliance assurance. Where ongoing reporting requirements are determined not to be reasonable for a category of sources, the rule or general permit should still provide that the source notify the permitting authority of its coverage by the rule or the permit. In the limited situation where all the sources described in a source category are required to comply with the all of the provisions of a rule or general permit, notice is not needed. However, where there are no reporting requirement's and no opt-in provisions, the permitting authority must provide the public with the names and locations of sources subject to the rule or permit.

For Title V general permits, Part 70 requires sources to submit an application for a general permit which must be approved or disapproved by the permitting authority. For SIP or §112 rules and SIP or §112 general permits, in response to receiving the notice or application, the permitting authority may issue an individual permit, or alternatively, a letter or certification. The permitting authority may also determine initially whether it will issue a response for each individual application or notice, and may initially specify a reasonable time period after which a source that has submitted an application or notice will be deemed to be authorized, to operate under the general permit or SIP or §112 rule.

C. Specific Technically Accurate Limits

The rule or general permit issued pursuant to the SIP or §112 must specify technically accurate limits on the potential to emit. The rule or general permit must clearly specify the limits that apply, and include the specific associated compliance monitoring. (The compliance monitoring requirements are discussed further in the next section.) The standards or limits must be technically specific and accurate to limit potential to emit, identifying any allowed deviations.

The 1987 policy on SIP enforceability states that limitations "must be sufficiently specific so that a source is fairly on notice as to the standard it must meet." For example, "alternative equivalent technique" provisions should not be approved without clarification concerning the time period over which equivalency is measured as well as whether the equivalency applies on a per source or per line basis or is facility-wide.

Further, for potential to emit limitations, the standards set must be technically sufficient to provide assurance to EPA and the public that they actually represent a limitation on the potential to emit for the category of sources identified. Any presumption for control efficiency must be technically accurate and the rule must provide the specific parameters as enforceable limits to assure that the control efficiency will be met. For example, rules setting presumptive efficiencies for incineration controls applied to a specific or broad category must state the operating temperature limits or range, the air flow, or any other parameters that may affect the efficiency on which the presumptive efficiency is based. Similarly, material usage limits such as fuel limits, as stated above, require specifying the type of fuel and may require specifying other operating parameters.

A rule that allows sources to submit the specific parameters and associated limits to be monitored may not be enforceable because the rule itself does not set specific technical limits. The submission of these voluntarily accepted limits on parameters or monitoring requirements would need to be federally enforceable. Absent a source-specific permit and appropriate review and public participation of the limits, such a rule is not consistent with the EPA's enforceability principles.

D. Specific compliance Monitoring

The rule must specify the methods to determine compliance. Specifically, the rule must state the monitoring requirements, record keeping requirements, reporting requirements, and test methods as appropriate for each potential to emit limitation; and clarity which methods are used for making a direct determination of compliance with the potential to emit limitations.

"Monitoring" refers to many different types of data collection, including continuous emission or opacity monitoring, and measurements of various parameters of process or control devices (e.g. temperature, pressure drop, fuel usage) and record keeping of parameters that have been limited, such as hours of operation, production levels, or raw material usage. Without a verifiable plantwide, verifiable emission limits must be assigned to each unit or group of units subject to the subject to the rule or general permit. Where monitoring cannot be used to determine emissions directly, limits on appropriate operating parameters must be established for the units or source, and must the monitoring be sufficient to yield data from the relevant time period that is representative of the source's compliance with the standard or limit. Continuous emissions monitoring, especially in the case of smaller sources, is not required.

E. Practicably Enforceable Averaging Times

The averaging time for all limits must be practicably enforceable. In other words, the averaging time period must readily allow for determination of compliance. EPA policy expresses a preference toward short term limits, generally daily but not to exceed one month. However, EPA policy allows for rolling limits not to exceed 12 months or 365 days where the permitting authority finds that the limit provides an assurance that compliance can be readily determined and verified. See June 13, 1989 "Guidance on Limiting Potential to Emit," February 24, 1992 memorandum "Use of Long Term Rolling Averages to Limit Potential to Emit" from John Rasnic to David Kee and March 13 1992 "Policy Determination on Limiting Potential to Emit for Koch Refining Company Clean Fuels Project" from John B. Rasnic to David Kee, stating that determinations to allow an annual rolling average versus a shorter term limit must be made on a case by case basis. Various factors weigh in favor of allowing a long term rolling average, such as historically unpredictable emissions. Other factors may weigh in favor of shorter term limit, such as the inability to set interim limits during the first year. The permitting agency must make a determination as to what monitoring and averaging period is warranted for the particular source-category in light of how close the allowable emissions would be to the applicability threshold.

F. Clearly Recognized Enforcement

Violations of limits imposed by the rule or general permit that limit potential to emit constitute violations of major source requirements. In other words the source would be violating a "synthetic minor" requirement which may result in the source being treated as a major source under Titles I and V. The 1989 Federal Register Notice provides for separate enforcement

and permitting treatment depending on whether the source subsequently chooses to become a major or remain minor. Thus violations of the rule or general permit or violation of the specific conditions of the rule or general permit subjects the source to potential enforcement under the Clean Air Act and state law. The operating permit rule states that notwithstanding the shield provisions of part 70, the source subject to a general permit may be subject to enforcement action for operating without a part 70 permit if the source is later determined not to qualify or the conditions and terms of the general permit. Moreover, violation of any of the conditions of the rule or general permit may result in a different determination of the source's potential to emit and thus may subject the source to major requirements and to enforcement action for failure to comply with major source requirements from the initial determination.

G. Rule Requirements for State General Permit Programs

As discussed above, general permit programs must be submitted to EPA for approval under SIP authority or under section 112(1), or both, depending on its particular pollutant application. SIP and §112(1) approval and rulemaking procedures must be met, including public notice and comment. The specific application of the enforceability principles for establishing State SIP or §112(1) general permit programs require that the rule establishing the program set out these principles as rule requirements. In other words, these principles must be specific rule requirements to be met by each general permit.

The rule establishing the program must require that (1) general permits apply to a specific and narrow category of sources; (2) sources electing coverage under general permits where coverage is not mandatory, provide notice or reporting to the permitting authority; (3) general permits provide specific and technically accurate(verifiable) limits that restrict the potential to emit; (4) general permits contain specific compliance requirements; (5) Limits in general permits are established based on practicably enforceable averaging times; and (6) violations of the permit are considered violations of the state and federal requirements and result in the source being subject to major source requirements.

In addition, since the rule establishing the program does not provide the specific standards to be met by the source, each general permit, but not each application under each general permit, must be issued pursuant to public and EPA notice and comment. The 1989 Federal Register notice covering enforceability of operating permits requires that SIP operating permit programs issue permits pursuant to public and EPA notice and comment. Title V requires that permits, including general permits, be issued subject to EPA objection.

Finally, sources remain liable or compliant with major source requirements if the specific application of a general permit to the source does not limit the source's potential to emit below major source or major modification thresholds. (The limits provided in these mechanisms may actually limit the potential to emit of sources but may not limit the potential to emit for some sources to below the threshold necessary to avoid major source requirements. For example, a general permit for industrial boilers may in fact provide limits that are sufficient to bring a source with only two or three boilers to below the subject thresholds but a source with more than three boilers may have a limited PTE but not limited below the major source threshold.) Also, where the source is required to use another mechanism to limit potential to emit, i.e., a construction permit, the general permit may not be relied upon by the source or the State, to limit potential to emit.

Permits issued pursuant to the approved program, meeting the above requirements, are adequate to provide federally enforceable limits on potential to emit for New Source Review, title V, and §112 programs as long as they are approved pursuant to SIP (section 110) and section 112(1) authorities.

ATTACHMENT 10

“LETTER TO DAN EDEN, TCEQ, DEPUTY DIRECTOR” FROM CARL EDLUND, EPA REGION 6, DIRECTOR MULTIMEDIA PLANNING AND PERMITTING DIVISION (MARCH 12, 2008).



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

MAR 12 2008

Mr. Dan Eden
Deputy Director
Office of Permitting, Remediation, and Registration (MC 122)
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, TX 78711

Dear Mr. Eden:

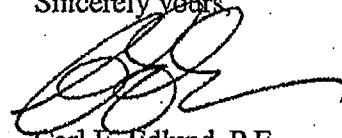
At the conclusion of our meeting on July 23, 2007, the U.S. Environmental Protection Agency (EPA) agreed to provide the State with a thorough listing of clarifications that would be needed for Federal approval of Texas' Flexible Permit rules. We appreciate your letter of August 30, 2007, providing information about the Flexible Permit program. The two purposes of this letter are to transmit EPA's comments on the measures necessary for Federal approval of the Flexible Permit rules and to request a response as to whether the Texas Commission on Environmental Quality (TCEQ) will recommend adoption of those measures. The EPA also notified all Flexible Permit holders of our concerns by letter dated September 25, 2007.

The enclosed analysis includes the comments from all EPA offices with review responsibilities. We would appreciate knowing whether all rule revisions and clarifications are acceptable by the end of March. If TCEQ commits to propose the necessary revisions to the Flexible Permit program, we request that TCEQ work with EPA in partnership to share draft revisions of the Flexible Permit rules during the rule development process. If the revised regulations address our concerns, we believe we could propose approval of the Texas Flexible Permit program.

We are willing to meet with you and members of your staff to discuss the necessary revisions and recommendations detailed in the enclosure. Should new facts or information become available during our discussions of the revisions, we will attempt to work with TCEQ to reach a mutual decision about whether the revisions, or any other additional revisions identified during our discussions, are necessary for the proposed

approval of the rules. If you have questions or need clarification of any of the revisions detailed in the enclosure, or if you would like to arrange a meeting to discuss the revisions we believe are necessary to propose approval of the Texas Flexible Permits program, please feel free to contact me at (214) 665-8014 or you may contact Jeff Robinson, Air Permits Section Chief, at (214) 665-6435.

Sincerely yours,



Carl E. Edlund, P.E.
Director
Multimedia Planning and
Permitting Division

Enclosure

ENCLOSURE

Introduction: The EPA has reviewed the Texas Flexible Permit Program State Implementation Plan (SIP) revision and many Flexible Permits issued under those rules. We understand that the aim of the Texas Flexible Permit Program is to establish an aggregated Best Available Control Technology emission limit for a group of individual facilities within a stationary source. This would enable an owner or operator of the source to operate those facilities with less technical and administrative effort than would be required under air permits which impose unit-specific mass emission limits. We have reviewed these provisions of your rule for consistency with 40 Code of Federal Regulations (CFR) Part 51. We have identified concerns related to public participation and air quality analysis for initial issuance and modifications which increase the site wide cap..

Unlike flexible permit programs in other States, the Texas Flexible Permit Program is not limited to minor sources. Because the program applies to major sources, we have reviewed these provisions for consistency with your approved Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR) rules. We identified concerns related to applicability of your major NSR program requirements and for ensuring that any project that would be a major new stationary source or major modification is reviewed to ensure compliance with the permitting requirements applicable for such project. We also identified problems with how major NSR netting will be accomplished under a Flexible Permit. We also believe changes are required to the State's preliminary analysis to incorporate existing major NSR permit requirements into the Flexible Permit.

Other major concerns identified below relate to practical enforceability of an emission limitation cap which applies to a very large number of emission sources. We believe changes are required for monitoring, recordkeeping, reporting and testing, as well as considerations for sub-caps or bubbles applied to smaller groups of units. We have also identified changes necessary to ensure that all Flexible Permit terms and conditions remain enforceable after modifications authorized under the permit are made. We believe changes that conflict with terms and conditions of the Flexible Permit require a permit amendment, rather than an alteration or Permit by Rule (PBR) authorization.

RULE REVISIONS AND CLARIFICATIONS

I. Establishing the Flexible Permit Emission Cap.

A. Addition of 9% of total emissions to the Flexible Permit emission cap

Delete Section 116.716(d)¹ from Subchapter G. As submitted, the rules are unclear as to whether adjustments to the emissions cap or individual emission limitation by an "insignificant emissions factor" could cause or contribute to a violation of a NAAQS or, perhaps, trigger major NSR requirements.

B. Best Available Control Technology (BACT) Determinations

1. Revise Section 116.711(3) to indicate that current BACT technology will be required, consistent with Section 116.716(a)(1). For example,

(3) Best available control technology (BACT). The proposed facility, group of facilities, or account will utilize current BACT, with consideration given to the technical practicability and economic reasonableness of reducing or eliminating the emissions from the facility on a proposed facility, group of facilities, or account basis.

2. Revise Section 116.716 to require that any BACT or lowest achievable emission rate (LAER) control technology and the related mass emission rates in major NSR permits which are incorporated into the Flexible Permit remain enforceable and shall be retained or appropriately streamlined through a SIP-approved NSR permit revision process as described below.
3. Are BACT determinations under Section 116.716 required to be based on the State or Federal definition? Please clarify the definition of BACT and which definition applies (i.e., when is a source required to use the State definition versus the Federal definition....PSD, minor NSR, etc.).

¹ Section 116.716 (d) states:

Insignificant emission factor. The emission caps and individual emissions limitation calculated pursuant to this section may include an Insignificant Emissions Factor which does not exceed 9.0% of the total emission cap or individual emission limitation.

C. Emission Limitations

1. Add a provision to Subchapter G to state that a Flexible Permit will contain, at a minimum, an annual emission limitation in tons per year, based on a 12-month rolling average (or other time period that is at least as stringent) that is enforceable as a practical matter for each pollutant regulated under the Flexible Permit. Revise Section 116.715(c)(6),² Recordkeeping, to clarify that emission cap and individual emission limitation calculations shall, be based, at a minimum, on a 12-month rolling basis (or other time period that is at least as stringent) that is enforceable as a practical matter for each pollutant at the source. The rule should also be written broad enough to require more stringent limitation periods when necessary (e.g., during the ozone season).
2. Add a provision to Section 116.715(c)(6) to state that a Flexible Permit will include a short-term emission limitation cap (or other reasonable cap or reasonable time period with monitoring and recordkeeping that ensures practical enforceability) for each pollutant regulated under the Flexible Permit that is enforceable as a practical matter. See Number I under Implementation Issues for further information concerning practical enforceability.
3. Add a provision to Section 116.715 that emission calculations for purposes of compliance with emission caps include emissions resulting from maintenance, startup, and shutdown (MSS).³
4. Please explain how TCEQ will ensure that emission limitations adopted pursuant to 40 CFR 52.21(r)(4), incorporated into the Texas SIP at Section 116.160(a), will not be relaxed by the Flexible Permit process.

² For example, Section 116.715(c)(6), the third sentence could be revised as follows: This information shall include, but is not limited to, emission cap and individual emission limitation calculations based on a 12-month rolling basis and production records and operation hours.

³ For EPA's policy on compliance with SIP emission limitations during periods of maintenance, see Policy on Excess Emissions during Startup, Shutdown, Maintenance and Malfunction, from Kathleen Bennett to Regional Administrators, February 15, 1983: "... scheduled maintenance is a predictable event which can be scheduled at the discretion of the operator, and which can, therefore, be made to coincide with maintenance on excess emissions during periods of scheduled maintenance should be treated as a violation unless a source can demonstrate that such emissions could have been avoided through better scheduling for maintenance or through better operation and maintenance practice."

II. Identification of modifications authorized by Section 116.718, Significant Emission Increase⁴ and Major NSR applicability.

The rule is vague as to what modifications are authorized by Subchapter G. Section 116.710 states: A person may obtain a flexible permit which allows for physical or operational changes as provided by this subchapter as an alternative to obtaining a new source review permit under §116.110 of this title (relating to Applicability), or in lieu of amending an existing permit under §116.116 of this title (relating to Amendments and Alterations). Section 116.718 grants an exemption from "state new source review" for operational or physical changes which result in an emission increase. "State new source review" is not defined. Section 116.711 requires sources to demonstrate compliance with major NSR requirements at the time of initial issuance or amendment. However, the rule does not require such a demonstration for modifications that are authorized by Subchapter G. The following changes are intended to ensure that a major new stationary source or a significant increase in emissions from a major stationary source is reviewed to ensure compliance with the permitting requirements applicable for such projects.

- A. Revise Section 116.718 or provide a definition of "state new source review." Such definition must exclude authorization of modifications, or a series of modifications, which trigger major NSR applicability. The rule should note that the Flexible Permit does not authorize projects to be segregated into smaller projects which are physically or economically dependent on one another in order to avoid major NSR applicability.
- B. Include a provision in Section 116.710, Applicability, to clarify the scope of the rule, such as: Any facility or group of facilities, which constitutes a new major stationary source or a major modification as defined under the applicable permitting requirements of Chapter 116, Subchapter B, Division 5 or Division 6 of this title (relating to Nonattainment Review and Prevention of Significant Deterioration Review) must meet the applicable permitting requirements of Chapter 116, Subchapter B, Division 5 or Division 6.
- C. Revise Section 116.711 to provide that any application for an initial flexible permit or for an amendment to a flexible permit must include all information (including calculations) which demonstrates that the proposed project will not be a major stationary source or major modification as used

⁴ Section 116.718 states: An increase in emissions from operational or physical changes at an existing facility covered by a flexible permit is insignificant, for the purposes of State new source review under this subchapter, if the increase does not exceed either the emission cap or individual emission limitation. This section does not apply to an increase in emissions from a new facility nor to the emission of an air contaminant not previously emitted by an existing facility.

under the applicable permitting requirements of Chapter 116, Subchapter B, Division 5 or Division 6.

- D. Revise Section 116.711(13) to require the permittee to comply with any representations in the permit application of the underlying permits that are incorporated into the Flexible Permit (as required under §116.116(a)(1) in the approved SIP), unless those requirements are specifically amended by the permitting process as described below. Revise Subchapter G to clarify that authorization of future changes under the Flexible Permit may not include changes subject to major NSR unless the permit undergoes the major NSR process and is incorporated into the amended Flexible Permit.

III. Removal of terms and conditions of existing permits.

The permit application and the State's preliminary analysis, including the air quality analysis, must ensure that all terms and conditions of existing permits remain enforceable unless such terms and conditions are superseded or subsumed by the flexible permit conditions through proper streamlining procedures as described below. Texas should revise Section 116.711(13), Application content, to require the permittee to identify terms and conditions (including representations in permit applications) in existing permits which will be superseded or subsumed under the Flexible Permit. Furthermore, any such term or condition of an existing permit (including representations in the applications) which will be superseded or subsumed by the flexible permit must be accompanied with a demonstration that the revision will not violate applicable portions of the control strategy and will not interfere with attainment or maintenance of the ambient air quality standards as required under 40 CFR 51.160.

IV. Public Participation Requirements.

A. For initial issuance of a Flexible Permit or an Amendment to the Flexible Permit that increases the emission limitation(s)

Revise Chapter 39⁵ and Sections 116.721 (Flexible Permit Amendments) and 116.740 (Public Notice and Comment) to require 30-day public notice and comment on the draft permit and the State's preliminary decision, which includes the State's analysis of the effects on ambient air quality

⁵ Section 39.403(b) states: As specified in those subchapters, Subchapters H - M of this chapter apply to notices for: . . .

(8) applications for air quality permits under THSC, §382.0518 and §382.055. In addition, applications for permit amendments under §116.116(b) of this title (relating to Changes to Facilities), *initial issuance of flexible permits under Chapter 116, Subchapter G of this title* (relating to Flexible Permits), amendments to flexible permits under §116.710(a)(2) and (3) of this title (relating to Applicability) when an action involves:

(A) construction of any new facility as defined in §116.10 of this title (relating to General Definitions);

(B) modification of an existing facility as defined in §116.10 of this title which result in an increase in allowable emissions of any air contaminant emitted equal to or greater than the emission quantities defined in §106.4(a)(1) of this title (relating to Requirements for Permitting by Rule) and of sources defined in §106.4(a)(2) and (3) of this title; or

(C) other changes when the executive director determines that:

(i) there is a reasonable likelihood for emissions to impact a nearby sensitive receptor;
(ii) there is a reasonable likelihood of high nuisance potential from the operation of the facilities;

(iii) the application involves a facility or site for which the compliance history contains violations which are unresolved or constitute a recurring pattern of conduct that demonstrates a consistent disregard for the regulatory process; or

(iv) there is a reasonable likelihood of significant public interest in a proposed activity;

Note that emission quantities defined in §106.4(a)(1) are: (1) Total actual emissions authorized under PBR from the facility shall not exceed 250 tons per year (tpy) of carbon monoxide (CO) or nitrogen oxides (NO_x); or 25 tpy of volatile organic compounds (VOC) or sulfur dioxide (SO₂) or inhalable particulate matter (PM₁₀); or 25 tpy of any other air contaminant except carbon dioxide, water, nitrogen, methane, ethane, hydrogen, and oxygen.

Note also that Region 6 has not approved Chapter 39 into the Texas SIP. We informed TCEQ in 2006 that certain provisions may not be approvable, but we have received no response to our letter. Our comments stated: We interpret §§39.403(b)(8) (A) and (B) to state an amendment of a flexible permit and/ or an NSR permit under §116.116(b), is not required to comply with public participation requirements of Chapter 39 unless the action involves an increase in allowable emissions equal to or greater than 250 tpy of CO or NO_x; or 25 tpy of VOC or SO₂ or inhalable PM₁₀; or 25 tpy of any other air contaminant except carbon dioxide, water, nitrogen, methane, ethane, hydrogen, and oxygen. Please provide a rationale for how exemptions from these requirements are consistent with 40 CFR 51.160 and 51.161 and address issues raised in previous comments.

and its proposed approval or disapproval.⁶

A. Amendment of a Flexible Permit

1. We recommend a revision to Section 39.403 (Public Notice Applicability) and 116.740 (Public Notice and Comment) to require 30-day public notice and comment on the draft permit and the State's preliminary decision, which includes the State's analysis of the effects on ambient air quality and its proposed approval or disapproval, for amendment of a Flexible Permit for the following types of changes:
 - a. Changes that result in a significant net increase in actual emissions resulting from a physical or operational change, (i.e., changes which trigger major NSR applicability),
 - b. Changes that require netting to avoid major NSR applicability,
 - c. Changes to the method of control,
 - d. Changes in the character of emissions authorized under the existing permit,
 - e. Changes to ambient air quality impacts,
 - f. Changes which decrease the frequency or stringency of monitoring, type of monitoring, recordkeeping, and/or reporting.
2. At a minimum, revise Section 116.721, Amendments and Alterations, as follows:
 - a. Revise Section 116.721 to require that amendments and alterations must comply with the existing Flexible Permit cap unless the permit is amended, subject to public participation requirements, including 30-day notice and comment period on the draft permit and the State's preliminary analysis, which includes the State's analysis of

⁶ See 40 CFR 51.161 for public participation requirements for minor and major new sources and modifications. Please note that other Federal actions have required similar minimum public participation requirements. See the Federal Plantwide Applicability Limit (PAL) rule, which establishes a sitewide emission limitation, requires public participation equivalent to Part 51.

the effects on ambient air quality and its proposed approval or disapproval.

- b. Revise Section 116.721(a) to change "will result in a significant increase in emissions" to "will result in a significant net increase in actual emissions" and define the term "significant" consistent with the definition of "significant" at 40 CFR 51.165(a)(1)(x) and 51.166(b)(23).
- c. Revise Section 116.721(c) to require a permit amendment for changes that vary from permit terms and conditions related to a change in throughput or a change in feedstock.
- d. Section 117.721(d) allows Flexible Permit holders to obtain a PBR in lieu of a permit amendment or alteration. We understand that PBRs are used in Texas to authorize narrow categories of emission sources, such as a storage tank. We recognize that these PBRs may be appropriate for Flexible Permit holders where the new emission source does not cause an exceedance of the emission cap(s). However, EPA has consistently expressed concerns about PBRs that authorize a category of emissions, such as startup or shutdown emissions, or that modify an existing NSR permit. Please acknowledge that a source cannot vary from a Flexible Permit term or condition or permit application representation under a PBR.
- e. The EPA also has concerns about how modifications authorized under a Flexible Permit at sources subject to Title V are incorporated into a Federal Operating Permit (FOP). Please explain how the FOP is amended to incorporate modifications authorized by a Flexible Permit and whether further public participation is required to amend the FOP.

V. Monitoring, Recordkeeping, Reporting and Testing (MRRT)

A. Monitoring

The monitoring requirements in the Subchapter G, Section 116.715(5) are vague. Revise this provision to require each flexible permit to contain specific requirements for monitoring compliance with the emission cap and with individual emission limits. Provide guidance on appropriate

monitoring for individual units under the Flexible Permit. See further discussion of minimum MRRT requirements on page 10-12.

B. Recordkeeping

Revise Section 116.715(a)(6) recordkeeping to require retention of compliance records for five years and to require a copy of the Flexible Permit application, amendments, and any permit application incorporated by reference into the Flexible Permit to be maintained at the site. See further discussion of minimum MRRT requirements on page 10-12.

- VI. We recommend revision of Section 116.715 to state that an exceedance of the Flexible Permit cap is a violation of the permit, subject to enforcement action and, for major sources, reportable as an FOP deviation. To ensure practical enforceability of the permit and consistency with 40 CFR 51.211 and 51.212, we strongly recommend that the State require semi-annual reporting of exceedances of the Flexible Permit cap.

VII. Major NSR Netting.

Because all units at a site may not be subject to a Flexible Permit and because all units under the Flexible Permit may not have a unit specific emission limitation, the rule should contain provisions on how to conduct major NSR netting at the site for units in the Flexible Permit and for units outside the Flexible Permit. Revise the rule to provide requirements for major sources subject to major NSR netting to determine the net emissions increase under Subchapter B with the following minimum considerations for Flexible Permits:

- A. Emission increases and decreases must be considered on a site wide basis under a site wide or partial Flexible Permit.
- B. Emission increases resulting from a physical change or change in the method of operation of any emission unit which were authorized by the Flexible Permit must be considered where the unit's projected actual emissions exceed the baseline actual emission rate.
- C. A decrease in emissions at a unit under the Flexible Permit is creditable if the unit's baseline actual emissions exceed the unit's new level of emissions, meets all the criteria of 40 CFR 51.165(1)(1)(vi) and 51.166(b)(3), and the decrease is made practically enforceable by permanently removing the unit from the Flexible Permit cap and establishing a new enforceable unit specific emission limitation.

- D. The Flexible Permit cap must be adjusted downward by the amount of that unit's contribution to the cap.

VIII. Air Quality Analysis.

Revise Section 116.711(10) to require an air quality analysis for initial issuance of all Flexible Permits or amendments which increase the Flexible Permit cap to ensure that the proposed flexible permits will not violate the approved control strategy and will not interfere with attainment and maintenance of the NAAQS (as required under 40 CFR 51.160(a)) or the PSD increments (under 40 CFR 51.166(a)).

IX. Maintenance, Startup, and Shutdown (MSS) emissions.

The potential to emit should include emissions that occur during maintenance⁷, startups, and shutdowns (MSS). The MSS emissions should be subject to BACT, and reviewed in the air quality analysis for all emission units under the Flexible Permit. Revise Section 116.711, Flexible Permit Application, to require information related to startup, shutdown and maintenance emissions, including adequate monitoring and recordkeeping. We understand that Texas is incorporating these emissions into permits, including existing Flexible Permits. We recommend that new Flexible Permits include a review of MSS emissions and include appropriate monitoring, recordkeeping, and reporting.

X. Implementation Schedule for Additional Controls.

We understand that TCEQ provides an implementation schedule for Flexible Permit holders to install control technology required by the permit. The schedule may be up to 10 years. Section 116.717 states:

If a facility requires the installation of additional controls to meet an emission cap for a pollutant, the flexible permit shall specify an implementation schedule for such additional controls. The permit may also specify how the emission cap will be adjusted if such facility is taken out of service *or fails to install the additional control equipment as provided by the implementation schedule.*

⁷ For EPA's policy on compliance with SIP emission limitations during periods of maintenance, see Policy on Excess Emissions during Startup, Shutdown, Maintenance and Malfunction, from Kathleen Bennett to Regional Administrators, February 15, 1983: "... scheduled maintenance is a predictable event which can be scheduled at the discretion of the operator, and which can, therefore, be made to coincide with maintenance on excess emissions during periods of scheduled maintenance should be treated as a violation."

We recommend that TCEQ delete this italicized phrase and insert new regulatory language to require a permit amendment for sources that fail to install control equipment required by the permit. Please confirm that failure to install control equipment required by the Flexible Permit would be a violation of the permit. Please confirm that BACT/LAER control technology that is required under major NSR must be operational at start of operation and is not subject to this implementation schedule.

XI. Other Suggested Changes.

- A. §116.711(2) – provides for measuring the emissions of air contaminants “as determined by the director.” Texas should revise this provision to establish a replicable standard rather than granting discretion to the director – e.g., “measurement and frequency sufficient to demonstrate on-going compliance with specified emission limitations.”
- B. §116.716(a)(1) – Define the term “maximum expected capacity.”
- C. §116.715(b) – Define the term “multiple emissions cap.”
- D. §116.716(c) – The rule is vague concerning how the emission cap will be adjusted for the addition of new facilities. Texas should amend the permit to adjust the cap for new facilities. Texas’ rules should be clear on the process.
- E. §116.721(c)(1) – Texas needs to add an additional exception “or conflicts with an existing permit limit.” There may be permit limits expressed as throughput limits or feedstock requirements and this paragraph appears to authorize changes in a source’s obligations to comply with those terms without a permit amendment or alteration.

IMPLEMENTATION ISSUES

I. Practical Enforceability of Flexible Permit Emission Cap.

A. What is practical enforceability?

The TCEQ must consider whether a Flexible Permit emissions cap is truly and practically enforceable. The EPA guidance states that practical enforceability for an emission limitation which applies to a unit or small group of units is achieved if the permit's provisions specify:⁸

1. A limitation and the emissions unit(s) at the source subject to the limitation;
2. The time period for the limitation (e.g., hourly, daily, monthly, and/or annual limits such as rolling annual limits); and
3. The method to determine compliance, including appropriate monitoring, recordkeeping, reporting, and testing.

- B. However, where EPA has established emission limitations for large groups of emissions sources subject to a site wide cap, additional requirements were considered to ensure practical enforceability. For example, the Federal PAL rule, which requires only long-term (ton per year) emission limitation(s), sets minimum requirements for MRRT in return for increased operational flexibility.⁹ The EPA's proposed Flexible Air Permitting Rule requires MRRT equivalent to the PAL rule for groups of units.¹⁰ The EPA also evaluated appropriate MRRT mechanisms where emission limits applied to a group of units or the permit allowed for increased operational flexibility to ensure that regulatory requirements were met in its study of flexible permits.¹¹
- C. The EPA has reviewed Texas Flexible Permits in which one short-term (lb/hr) emission limitation is applied to hundreds of dissimilar emission

⁸ See memorandum, "Release of Interim Policy on Federal Enforceability of Limitations on Potential to Emit," signed by John Seitz and Robert Van Heuvelen, January 22, 1996, at 5-6 and Attachment 4, available on the Web as <http://www.epa.gov/rgytgrnj/programs/artd/air/title5/t5memos/pottoemi.pdf>. More detailed guidance on practical enforceability is contained in the memorandum.

⁹ See 67 *Federal Register* (FR) 80186

¹⁰ See 72 FR 52206 (September 2007) for the proposed Federal Flexible Air Permitting Rule

¹¹ See *Evaluation of Implementation Experiences with Innovative Air Permits, Summary Report*, prepared by Office of Air Quality Planning and Standards and OPEI, at www.epa.gov/ttn/oarpg/t5/memoranda/iap_eier.pdf.

units. Because emissions units can vary in size and type or operation as well as having widely different regulatory, monitoring, and compliance requirements, EPA has serious concerns that such a short-term limit can be practically enforced. An approvable Flexible Permit Program must:

1. Set minimum replicable standards for MRRT equivalent to the PAL rule or demonstrate how MRRT in the revised Flexible Permit rule is at least as stringent as those requirements.
2. Address how the number of units and the potential to emit (PTE) of units subject to a single emission limitation under a cap is reasonable and practically enforceable. The revised Flexible Permit rule (and guidance) should address how this determination is made. One approach would be to adopt emission limitation sub-caps for related groups of units that are vented to a common control device or where a group of similar emission units have common operations, monitoring, recordkeeping, reporting and testing. Another approach is to require more effective MRRT requirements for significant emission units that have the potential to emit pollutants in amounts in excess of threshold levels. For example, units with PTE greater than major source thresholds would require more stringent MRRT than sources with PTE greater than major NSR significant thresholds, but less than major source thresholds.
3. Demonstrate that required control technology achieves the level of emissions reductions required under the applicable BACT or LAER requirements. MRRT of pollution control equipment must be sufficient to determine compliance with the mass emission unit or work practice requirements adopted in conjunction with BACT or LAER. The MRRT should also demonstrate that the capacity range demonstrated to achieve BACT or LAER for the control device was not exceeded (absent a monitoring system demonstrating compliance with BACT or LAER at that level).

II. Preliminary Analysis.

A. Rationale for BACT determinations

The State's preliminary analysis must include a rationale for the BACT determination for each unit under the Flexible Permit, in addition to any analysis provided in the Flexible Permit application.

B. Tracking of major NSR terms of conditions in existing permits incorporated into the Flexible Permit

The State's preliminary analysis must provide a true crosswalk that identifies each term and condition in an existing permit that will not be incorporated into the Flexible Permit and a rationale for removing the term or condition. Also see item II.B above and item III under RULE REVISIONS AND CLARIFICATIONS.

C. Process for superseding or subsuming permit application representations in existing permits

Because Texas uses a streamlined approach to NSR permitting which incorporates permit application representations as enforceable terms and conditions of a permit, those representations must be carried forward in the Flexible Permit, or the permittee in its application and the State in its preliminary analysis must provide a rationale for why those representations may be eliminated. See White Paper #1, White Paper for Streamlined Development of Part 70 Permit Applications, 1995 for additional details. Any change of modification to any term or condition must be authorized as described in item III under RULE REVISIONS AND CLARIFICATIONS.

D. Identification of approved physical or operational changes authorized by the Flexible Permit

The Flexible Permit should identify the types of physical or operational changes that are authorized by the permit and the expected time of construction for pre-approved construction activities.

III. Re-issuance of Existing Flexible Permits under a SIP-approved Permit Rule.

We recommend that existing Flexible Permits be reissued under a SIP-approved rule to ensure the permits are federally enforceable and enforceable as a practical matter. If TCEQ revises a Federal Operating Permit (Title V) permit which contains a Flexible Permit which was not issued under a SIP-approved rule, those Flexible Permits are considered State-only requirements in the Federal Operating Permit and should be designated as such. The reissuance of permits should be further discussed by TCEQ and EPA, and a mutually agreed schedule should be developed to address how and when such permits can be reissued under federally approved SIP provisions. Until such time as Flexible Permits are issued under a SIP-approved program, the existing federally approved SIP requirements remain effective.

IV. When Texas revises the Flexible Permit SIP submittal to address the revisions, we strongly recommend that TCEQ withdraw the earlier SIP submittals relating to Flexible Permits.

ATTACHMENT 11

“LETTER TO RICHARD HYDE, TCEQ, DIRECTOR, AIR PERMITS DIVISION” FROM JEFF ROBINSON, EPA REGION 6, CHIEF, AIR PERMITS SECTION (NOVEMBER 16, 2007).

Attachment J

NOV 16 2007

Mr. Richard Hyde
Director
Air Permits Division
Texas Natural Resource
Conservation Commission
P.O. Box 13087
Austin, TX 78711-3087

RE: Comments on Proposed Amendments to Chapter 106, 116 for Maintenance, Startup and Shutdown (MSS) Chapter 106, Subchapter K

Dear Mr. Hyde:

The U.S. Environmental Protection Agency (EPA), Region 6 appreciates the opportunity to comment on the above proposed amendments to Chapter 106 and Chapter 116 to accommodate a Permit by Rule and Standard Permit for MSS Emissions as part of the New Source Review (NSR) and Prevention of Significant Deterioration (PSD) permitting program in Texas. It is EPA's policy that all potential to emit (PTE) emissions, including quantifiable MSS, be included in both NSR and PSD applicability determinations and air quality permits. We are aware that Texas Commission of Environmental Quality (TCEQ) has a plan to permit all MSS emissions for major sources in Texas. We understand that the inclusion of MSS in the air permitting program will not only give TCEQ a better accounting basis for the emissions inventory, but will also demand accountability from its permitted facilities, especially those in the non-attainment areas.

EPA policy and guidance allows Permit by Rule (PBR) and Standard Permits (SP) as exemptions from applicable permitting requirements for minor sources or insignificant emission increases. The EPA recognizes that TCEQ has several PBR and SP for minor new source review (NSR) permits. The EPA recognizes that permitting authorities may develop a PBR or standard NSR permit for a category of emissions units or stationary sources that are similar in nature, have substantially similar emissions, and would be subject to the same or substantially similar requirements governing operations, emissions, monitoring, reporting, and recordkeeping. "Similar in nature" may refer to size, processes, and operating conditions. However, the PBR and SP for MSS can be used by any source for any activity by meeting the specific criteria and limits in the permit. Our comments below are specific to the PBR and SP for MSS.

Braganza/bb:6PD-R:x7340/11/16/07\pbr-spcomments1107.doc(Braganza #3 Disk)

1. Since the PBR and SP can be used by any source for any activity, for the record please explain how this is consistent with 40 Code of Federal Regulations Subpart G that the State must provide a demonstration of the relationship between the production and emission related limits chosen for the rule and the air quality modeling showing that the rule is protective of the National Ambient Air Quality Standards. Region 6 is concerned about cumulative impacts from numerous PBRs and SPs at major sources. Please provide locations and estimates of numbers of sources that will be subject to PBRs, SP and individual authorizations necessary for EPA to determine whether the State Implementation Plan (SIP) revisions are consistent with § 110(l) of the Act.
2. The EPA recognizes that the conditions in the PBR and SP are restrictive based on pollutant concentration determinations. The EPA is requesting that TCEQ provides examples where major sources may use the PBR and SP for predictable, planned MSS activities and a technical analyses that it meets the EPA approval of the existing SIP Chapter 106 rules (*68 Federal Register (FR) 64543*). Section 106.1 provides that only certain types of facilities or changes within facilities which do not make significant contribution of air contaminants to the atmosphere are eligible for a PBR. This satisfies the requirements of 40 CFR 51.160(a) which provides that the SIP must include procedures that enable the permitting authority to determine whether the construction or modification will result in a violation of applicable portions of the control strategy or interfere with attainment or maintenance of an NAAQS.
3. 40 CFR 51.166 (a)(3) and (4) requires that the permitting agency must ensure that increments are not exceeded even for the minor NSR program. For the record, TCEQ should indicate the number of sources or potential emissions expected from such sources for the PBR and SP.
4. The PBR does not require notification to the agency prior to coverage or even after they used. The rule only requires sources to roll in these authorizations at permit renewals or after a two year period. The PBR therefore does not have practical enforceability for emission limits or for the number of events that a PBR was utilized.
5. The PBR and SP should have sufficient monitoring and recordkeeping to meet the limits in 106.4(a)¹. The rule should be clarified such that the cumulative

¹ "Total actual emissions authorized under permit by rule from the facility shall not exceed 250 tpy NOx or CO, 25 tpy VOCs, SO₂, PM or [combined HAPs]."

emissions of the PBR and SP not exceed the major and significant emission levels. The PBR and SP should have provisions for notification to the Agency whenever the conditions contained in the rule have been exceeded or otherwise violated.

7. The PBR and SP allow facilities to preconstruct (temporary facilities) prior to the agency's review. The rule should provide TCEQ the opportunity to evaluate the MSS PBR and SP for major sources or for sources that already have MSS in the permit to determine activities that should have been appropriately aggregated so as not to circumvent the PSD/Nonattainment New Source Review (NNSR) regulations.
8. The rule should require some type of affirmative action by the State on notification by the permittee - at a minimum, a written record of acknowledgment of receipt of the notification and date coverage began and the rule must allow the State to deny coverage at any time for cause. The EPA's final rulemaking (71 FR 14439, March 22, 2006) conditionally approving Missouri PBR provisions stated that the rule did not clearly authorize Missouri to prevent construction or modification where necessary. Please clarify how TCEQ will be able to track sources operating under this PBR.
9. The EPA has historically approved "prohibitory" or "exclusionary" rules such as PBR or general permitting rules (SP) where the primary purpose is to provide practically enforceable PTE limits to avoid Federal requirements applicable to major sources and/or to streamline permitting processes for "numerous similar sources" where the quantity of emissions is insignificant. The MSS SP requires the facilities in the application to indicate specific emission limits similar to a site-specific permit, in addition to having site specific MSS emissions in a PSD/NNSR permit. It is not clear that these emissions meet the "exemptions" of the Texas Clean Air Act 382.057.
10. 106.4(a) 2 refers to netting by major sources. Please clarify if major sources are allowed to use netting to qualify for a PBR and/or SP and how the netting decreases are made practically enforceable.
11. Section 116.10(11)E also refers to net emission increases. Please indicate how this meets current PSD requirements. The EPA has provided comments regarding this concern in a letter dated September 15, 2006, from David Neleigh to Steve Hagle.
12. 106.268(c) refers to "production emissions". Please identify where this term has been defined in Chapter 106.

13. We request further clarification of TCEQ's authority to deny or revoke a registration for a PBR or SP for cause.
14. We encourage that TCEQ evaluate all previous comments from EPA and the public regarding the PBR and SP for MSS submitted in early 2006.²

Once again, EPA Region 6 commends TCEQ on taking the initiative for permitting of all MSS emissions, which provides mechanisms to monitor air quality that will safeguard the health and the environment for all Texans. If you have any questions regarding the above comments, please contact Bonnie Braganza at (214) 665-7340.

Sincerely yours,

[Signature] Bonnie Braganza for

Jeff Robinson
Chief
Air Permits Section

cc via email: Mr. Steve Hagle
Texas Commission on
Environmental Quality
Mr. Blake Stewart
Texas Commission on
Environmental Quality

² EPA's letter dated February 3, 2006, to Ms Lola Brown regarding comments on Proposed Rule Revisions to 30 Texas Administrative Code Chapter 106 and to the SIP – Rule Project Number 2005-016-106-PR and EPA's supplemental comments to Mr. Steve Hagle from David Neleigh dated March 30, 2006.

ATTACHMENT 12

“LETTER TO STEVE HAGLE, TCEQ, SPECIAL ASSISTANT, AIR PERMITS DIRECTOR” FROM DAVID NELEIGH, EPA REGION 6, CHIEF, AIR PERMITS SECTION (MARCH 30, 2006).

MAR 30 2006

Mr. Steve Hagle
Special Assistant
Air Permits Director
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, TX 78711-3087

RE: Comments on Proposed Rule Revisions to 30 Texas Administrative Code Chapter 106 and 116 and to the State Implementation Plan-B Rule Project Number 2005-016-106-PR; Comments on Proposed Standard Permit for Maintenance, Startup, and Shutdown (MSS) Emission Releases

Dear Mr. Hagle:

Please find attached supplemental comments on the above proposed revisions to Chapters 106 and 116 concerning the inclusion of MSS Emissions as part of the nonattainment new source review and prevention of significant deterioration (PSD) and minor new source review (NSR) permitting program in Texas. We appreciate your assistance during recent conference calls to answer our questions and provide further information related to the rulemaking. We submit these supplemental comments as further clarification of our February 3, 2006, comments. We request that the Texas Commission on Environmental Quality (TCEQ) provide further information or revisions to the rules to address these concerns before adopting final rules. Our review of the proposed revisions identifies the following major issues related to approval of the proposed changes:

Section 106.4(a)(1)

1. The proposed rule eliminates the applicability threshold limiting Permits by Rule (PBRs) to small or minor emission facilities, which is inconsistent with Environmental Protection Agency (EPA) guidance for general permits, such as PBRs, and approval of the existing State Implementation Plan (SIP).
2. The proposed rule allows PBRs to authorize emission increases at minor and major emission facilities, which is inconsistent with EPA guidance for general permits and approval of the existing SIP.
3. The proposed rule allows site-specific netting to qualify for a PBR to authorize new construction or modification, which is inconsistent with EPA regulations for public participation and EPA policy and guidance for general permits.

4. The proposed rule allows major Qualified Facilities to qualify for a PBR based on net allowable, rather than actual, emission increases, which is inconsistent with EPA regulations and Texas' PSD and NSR SIP.
5. Please clarify how compliance with Federal requirements such as Title V, Maximum Achievable Control Technology, National Emission Standards for Hazardous Air Pollutants (NAAQS), New Source Performance Standards for new major sources authorized by a PBR or standard permit are ensured, where no registration is required or where the registration is kept on site.

Draft PBRs and Standard Permits

6. The proposed PBRs and Standard Permit are inconsistent with EPA policy, guidance and final rulemakings in that they do not apply to specific and narrow categories of sources and do not contain specific and technically accurate emission limits and specific compliance requirements.
7. The proposed PBRs and Standard Permit fail to comply with public participation requirements of 40 Code of Federal Regulations Part 51 because they do not contain all terms and conditions applicable to the source.
8. In addition, the PBR for QUAN is not practically enforceable as required by EPA policy and guidance for general permits.
9. Please provide further clarification of TCEQ's authority to deny or revoke a registration for a PBR or Standard Permit for cause.
10. Please provide further information necessary to determine whether authorized emissions from PBRs will interfere with attainment or maintenance of the NAAQS. Please clarify how TCEQ identifies and tracks sources operating under PBRs and Standard Permits.

Chapter 116 Revisions/Permitting Issues

11. Chapter 116.111(m) is not an approvable SIP revision because it provides an exemption from NSR and PSD applicability.
12. The revisions to Chapter 116, the PBRs, and Standard Permit allow authorization of maintenance emissions without a demonstration of inability to comply with existing emission limits, which is inconsistent with EPA policy, guidance and final rulemakings.
13. Please provide further information about existing permit conditions which exempt sources from compliance with permit emission limits during periods of startup, shutdown, maintenance, and malfunctions.

The EPA continues to support Texas' initiative to authorize appropriate permit allowable limits for startup, shutdown, and maintenance emissions through permitting rules in Chapters 106 and 116, rather than Chapter 101 general rules. We are also reviewing the State's recent SIP submittal which revises Chapter 101 to remove the affirmative defense for planned maintenance, startup, or shutdown activities on the schedule in Section 101.222(h). We will work with you to implement the changes necessary to support approval of the proposed rules. Please contact me at (214) 665-7250 or Bonnie Braganza of my staff at (214) 665-7340 if you have further questions.

Sincerely yours,

David Neleigh
Chief
Air Permits Section

Enclosure

cc: Mr. Blake Stewart
Texas Commission on Environmental Quality

bcc: Victoria Johnson (6RC-M)
Thomas Diggs (6PD-L)

Supplemental Comments on Proposed Rule Revisions to 30 Texas Administrative Code Chapter 106 and 116 and to the State Implementation Plan – Rule Project Number 2005-016-106-PR and the Draft Standard Permit for Maintenance, Startup, and Shutdown Emission Releases.

These comments supplement our February 3, 2006, comment letter following several conference calls with Texas Commission on Environmental Quality (TCEQ) staff to answer our questions and provide additional information about the proposed rule revisions. Our review of the proposed changes to Chapters 106, 116, related Permits by Rule (PBR) and Standard Permit raise the following issues that must be resolved in order to propose approval of rules into the Texas State Implementation Plan (SIP). We request that TCEQ provide further information or revisions to the rules to address these concerns before adopting final rules. Our review of the proposed revisions identifies the following major issues related to approval of the changes:

Section 106.4(a)(1)

1. The proposed rule eliminates the applicability threshold which limits PBRs to small or minor emission facilities. If the proposed rule is adopted, PBRs will authorize construction or modifications where the emission increase is below applicability thresholds. The current rule requires total actual emissions authorized under PBR from the facility must be below the applicability threshold. This change allows emission increases and minor modifications at a major facility to be authorized by the PBR. We find the revision to § 106(4)(a)(1) broadens the scope of the PBR rules beyond the approved SIP.¹

U.S. Environmental Protection Agency (EPA) policy and guidance allows PBRs as an exemption from applicable permitting requirements for minor or insignificant emission sources. The EPA has historically approved "prohibitory" or "exclusionary" rules such as PBR or general permitting rules where the primary purpose is to provide practically enforceable potential to emit (PTE) limits to avoid Federal requirements applicable to major sources and/or to streamline permitting processes for "numerous similar sources" where the quantity of emissions is insignificant. The EPA has recognized that permitting authorities may develop a PBR or general permit for a category of emissions units or stationary sources that are similar in nature, have substantially similar emissions, and would be subject to the same or substantially similar requirements governing

The existing SIP at §106.4(a)(2) limits applicability of PBRs to small (minor) facilities: "Total actual emissions authorized under permit by rule from the facility shall not exceed 250 tpy NOx or CO, 25 tpy VOCs, SO₂, PM or [combined HAPs]." The proposed revision expands applicability of PBRs to all facilities and allows netting: Total actual net emissions increases authorized under PBR from the proposed facility, group of related facilities, and related increases shall not exceed 100 tpy NOx or CO, 25 tpy VOCs, SO₂, PM or [combined HAPs].

operations, emissions, monitoring, reporting, and recordkeeping. "Similar in nature" may refer to size, processes, and operating conditions. A general permit contains all elements of a site-specific permit. Where the general permit is subject to public participation and the opportunity for administrative and judicial review, a grant of authority to operate under the general permit is not subject to further public participation and the approval is not a final permit action for purposes of judicial review.

The EPA based its approval (68 *Federal Register* (FR) 64543) of existing SIP Chapter 106 rules, in part, on the limited scope of the rule:

Section 106.1 provides that only certain types of facilities or changes within facilities which do not make a significant contribution of air contaminants to the atmosphere are eligible for a PBR. This satisfies the requirements of 40 CFR 51.160(a) which provides that the SIP must include procedures that enable the permitting authority to determine whether the construction or modification will result in a violation of applicable portions of the control strategy or interfere with attainment or maintenance of a national ambient air quality standard. Chapter 106 provides an alternative process for approving the construction of new and modified facilities or changes within facilities which TCEQ has determined will not make a significant contribution of air contaminants to the atmosphere. These provisions provide a streamlined mechanism for approving the construction of certain small sources which would otherwise be required to apply for and receive a permit before commencing construction or modification.

2. The revisions to § 106.4(a)(1) allow PBRs to authorize emission increases for Maintenance, Startup, and Shutdown (MSS) activities and minor modifications at major emission facilities.

The EPA has issued numerous guidance documents and final rulemakings outlining requirements for a PBR or general permit.² These documents set out specific guidelines for PBR development:

- 1) General permits apply to a specific and narrow category of sources,
- 2) For sources electing coverage under general permits where coverage is not mandatory, provide notice or reporting to the permitting authority, reporting or notice to permitting authority,
- 3) General permits provide specific and technically accurate (verifiable) limits that restrict potential to emit,
- 4) General permits contain specific compliance requirements,
- 5) Limits in general permits are established based on practicable enforceable averaging times, and
- 6) Violations of the permit are considered violations of State and Federal requirements and may result in the source being subject to major source requirements.

The proposed revisions would allow PBRs which authorize emission increases at major facilities, providing an exemption from SIP approved permitting processes for minor modifications. The PBR rules in the Texas SIP were approved by EPA as applicable to small sources that are generally below major source thresholds.

While we realize that your rule requires major new sources or major modifications to comply with applicable rules, the revision allows netting to qualify for the PBR, bypasses public participation for sources that net out of major New Source Review (NSR) requirements, and may circumvent approved SIP procedures, including title V requirements.

3. The revision allows netting to qualify for a PBR. The TCEQ proposes to amend §106.4(a)(1) to provide that a facility qualifies for a PBR if the total net emissions increases authorized under the PBR do not exceed specified thresholds for

² *Guidance on Enforceability Requirements for Limiting Potential to Emit through SIP and section 112 rules and General permits*, Memorandum from Kathie A. Stein, Office of Enforcement and Compliance Assurance, January 25, 1995, *Options for Limiting the Potential to Emit (PTE) of a Stationary Source under Section 112 and Title V of the Clean Air Act*, Memorandum from John S. Seitz, Office of Air Quality Planning and Standards (OAQPS), January 25, 1995, *Approaches to Creating Federally-Enforceable Emissions Limits*, Memorandum from John S. Seitz, OAQPS, November 3, 1993, *Potential to Emit (PTE) Guidance for Specific Source Categories*, Memorandum from John S. Seitz, OAQPS and Eric Schaeffer, Office of Enforcement and Compliance Assurance, April 14, 1998, *EPA Region 7 Permit by Rule Guidance for Minor Source Preconstruction Permits*. See also, rulemakings related to PBRs and general permits: 61 FR 53633, final approval of Tennessee SIP Revision, October 15, 1996; 62 FR 2587, final approval of Florida SIP revision, January 17, 1997; 71 FR 5979, final approval of Wisconsin SIP revision, February 6, 2006; 71 FR 14439, proposed conditional approval of Missouri SIP revision, March 22, 2006.

particular air pollutants, §106.4(a)(2)(C) provides that decreases in emissions relied upon for the project must be actual, practical, and federally enforceable. However, site-specific netting in a general permit such as a PBR cannot meet the public participation requirements of 40 Code of Federal Regulations 51.161. A general permit, such as a PBR or Standard Permit, must contain all terms and conditions and cannot, therefore, provide for site-specific determinations such as netting. Our initial review of §106.4(a)(1) indicates that it is not consistent with Federal requirements and is not an approvable SIP revision.

4. The proposed revision allows emission increases at major qualified facilities to be determined based on allowable emissions. §106.4(a)(2) provides that the net emissions increases authorized under PBR are the difference between the projected new emission rate and the previous allowable emission rate for changes at a qualified facility.³ For major sources, this definition is inconsistent with Federal NSR requirements that emission increases be determined on the basis of actual emissions.⁴ Emission increases at major qualified facilities must be calculated in accordance with TCEQ's Prevention of Significant Deterioration (PSD) and NSR requirements. The EPA cannot approve an alternative method to calculate emission increases at major qualified facilities.
5. Region 6 requests further information necessary to determine whether authorized emissions will interfere with attainment or maintenance of the National Ambient Air Quality Standards (NAAQS). Region 6 is concerned about cumulative impacts from numerous PBRs and Standard Permits. Please provide locations and estimates of numbers of sources which will be subject to PBRs, Standard Permits and individual authorizations necessary for EPA to determine whether the SIP revisions are consistent with § 110(l) of the Act. See EPA Region 7 guidance requiring a mechanism for preconstruction review of applications from facilities registering for coverage under a PBR in order to determine compliance with 51.160(b). The guidance also provides the rule should require some type of affirmative action by the State on notification by the permittee - at a minimum, a written record of acknowledgment of receipt of the notification and date coverage

3

The EPA has not yet approved Texas provisions for qualified facilities that TCEQ authorizes under §116.116(e). Any action by EPA to approve any provisions that reference the provisions for qualified facilities cannot be approved prior to EPA's final decisions whether to approve the provisions for qualified facilities.

4

Parts C and D of title I (major NSR program) of the Act refer to the definition of "modification" in §111(a)(4) of the Act. The D.C. Circuit Court of Appeals in *State of New York, et al., v U.S. EPA*, 413 F3d 3 (D.C.Cir. 2005), ruled that applicability of major NSR to modifications must be based on actual emissions.

began and the rule must allow the State to deny coverage at any time for cause. EPA's final rulemaking (71 FR 14439, March 22, 2006) conditionally approving Missouri PBR provisions stated that the rule did not clearly authorize Missouri to prevent construction or modification where necessary. Please clarify how TCEQ identifies and tracks sources operating under PBRs.

Draft PBRs and Standard Permits

6. The proposed PBRs and Standard Permit are inconsistent with EPA policy, guidance and final rulemakings in that they do not apply to specific and narrow categories of sources and do not contain specific and technically accurate emission limits and specific compliance requirements as outlined above.
7. The proposed PBRs and Standard Permit fail to comply with public participation requirements of 40 CFR Part 51 because they do not contain all terms and conditions applicable to the source. For example, emission limits and monitoring may be determined when the permit registers for coverage under the rule.
8. The PBR for QUAN also does not apply to specific and narrow categories of sources and does not contain specific and technically accurate emission limits and specific compliance requirements as outlined above. In addition, the PBR for QUAN is not practically enforceable. The category of emissions is not defined in §116.10, General Definitions. It is described in the rule only by very general terms. The category of emissions is not clearly distinguished from emission events. It also appears that these are the types of events anticipated by EPA's affirmative defense policy and the State's SIP-approved affirmative defense for emissions events. As previously stated, exceptions from compliance with Best Available Control Technology, Lowest Achievable Emission Rate or minor NSR emission limits must be specific, well-defined and tied to a specific narrow event of limited duration. The rule could be open to a number of interpretations. We find the rule, as currently written, to be vague and potentially unenforceable. The QUAN PBR provides a relaxation of existing BACT, LAER or minor NSR emission limitations. Emissions from QUAN events must be authorized through a permit amendment.
9. Provide further information necessary to determine whether authorized emissions will interfere with attainment or maintenance of the NAAQS, including cumulative impacts from numerous PBRs and Standard Permits. Please provide locations and estimates of numbers of sources which will be subject to PBRs, Standard Permits and individual authorizations. Please clarify whether TCEQ has a mechanism for preconstruction review of applications from facilities registering for coverage under a PBR in order to determine compliance with 51.160(b) and whether affirmative action by the State to determine coverage under a PBR or standard permit is required. Also, cite the State's authority to deny coverage under a PBR

or standard permit at any time for cause. Please clarify how TCEQ identifies and tracks sources operating under PBRs and standard permits.

Chapter 116 /Permitting Issues

10. Section 116.111(m) is not an approvable SIP revision because it provides an exemption from NSR and PSD applicability which is not consistent with EPA regulations and the Texas PSD and NSR SIP. Section 116.111, General Application, states:

"Existing emissions from MSS activities may be added to the permit as allowable emissions under this subchapter without being subject to subparagraphs (H) [NSR] or (I) [PSD] of this paragraph if previously submitted as part of an emissions inventory accepted by the executive director."
11. The revisions allow authorization of maintenance emissions without a demonstration of inability to comply with existing emission limits.

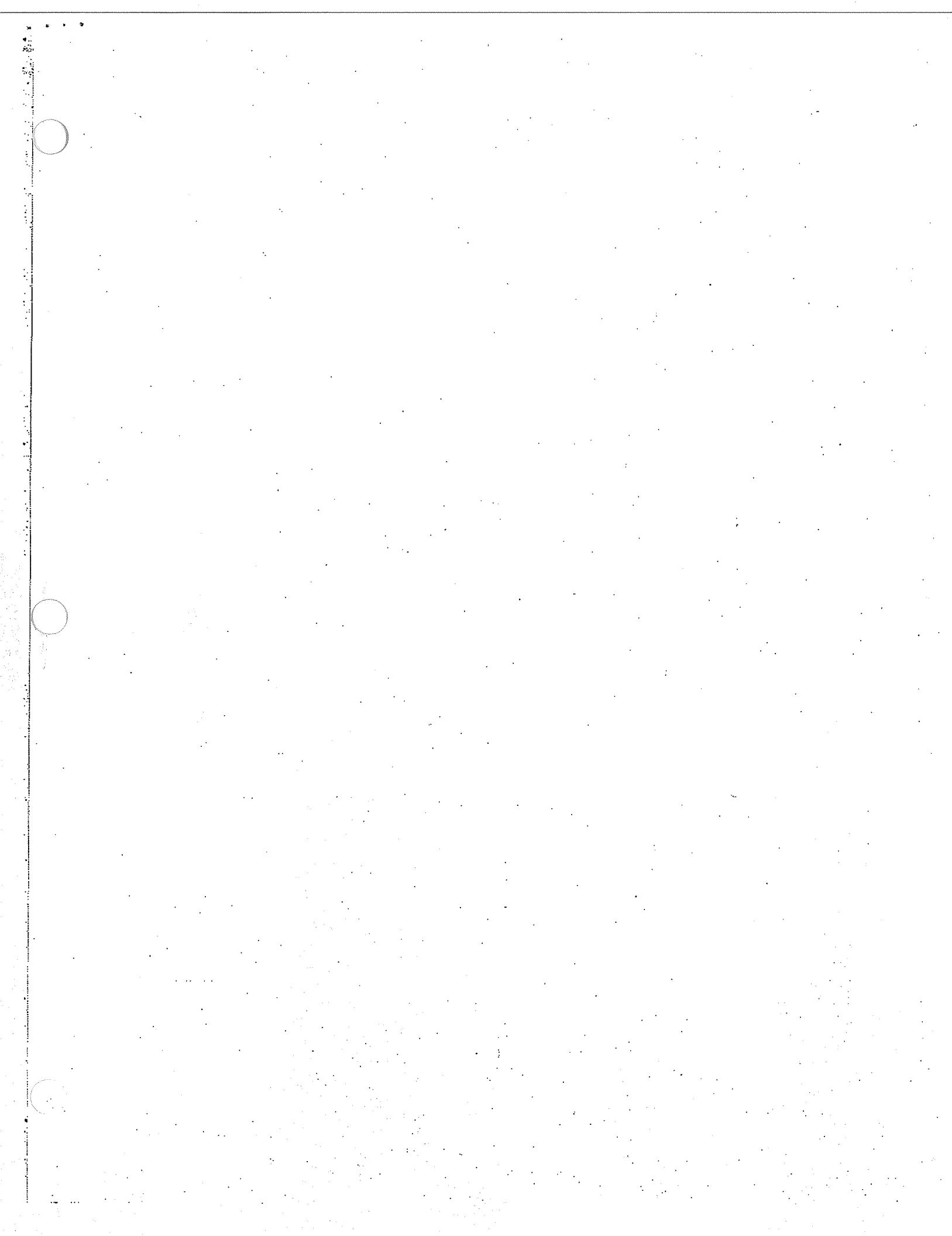
In guidance documents and other final rulemakings, EPA has stated that scheduled maintenance is a predictable event which can be scheduled at the discretion of the operator, and which can therefore be made to coincide with maintenance on production equipment or other source shutdowns.⁵ The EPA's policy is that excess emissions during periods of scheduled maintenance should be treated as a violation unless a source can demonstrate that such emissions could not have been avoided through better scheduling for maintenance or through better operation and maintenance practices. See January 30, 2006, Disapproval of Montana SIP revision. See also Region 6's Limited Approval of Texas Chapter 101, Excess Emissions Rule, 70 FR 16129, March 30, 2005, (one basis for limited, rather than full, approval was: Sections 101.222(c) and (e) might be interpreted to provide an affirmative defense for excess emissions from scheduled maintenance activities).
12. We request further clarification of TCEQ's authority to deny or revoke a registration for a PBR or Standard Permit for cause.
13. We request further information about existing permits that contain conditions which exempt sources from compliance with permit emission limits during periods of startup, shutdown, maintenance, and malfunctions. Will TCEQ revise these

⁵See Memorandum from Steven A. Herman and Robert Perciasepe to Regional Administrators, September 1999, *State Implementation Plans (SIPs): Policy Regarding Excess Emissions During Malfunctions, Startup, and Shutdown*, Memorandum from John B. Rasnic to Linda M. Murphy, January 28, 1993, *Automatic or Blanket Exemptions for Excess Emissions During Startup and Shutdowns Under PSD*, Memorandum from Kathleen M. Bennett to Regional Administrators

permit provisions in coordination with authorizing limited MSS activities? We are concerned that these permit provisions may bar enforcement actions by EPA and citizens. Please explain how this practice is consistent with the Clean Air Act (CAA) and EPA policy and guidance. Please explain what provision of the SIP is violated if a source exceeds authorized permit limitations during a malfunction.

Recommended Changes:

1. Do not adopt changes to § 106.4(a)(1) which extend the applicability of PBRs to emission increases and authorizes minor modifications at major sources and allow netting to qualify for a PBR.
2. Revise existing PBRs (other than those the State has already determined are expected to operate within normal operating emissions) to include appropriate authorization of MSS activities (asphalt concrete plants, cooling towers, industrial gas handling, uranium recover facilities, storage, handling, loading and unloading of liquids, incinerators and heat cleaning devices, flares).
3. Clarify that major Qualified Facilities must determine emission increases based upon actual emissions increases consistent with Texas PSD and NSR SIP.
4. Do not adopt the PBR at § 106.268, MSS Emission Releases unless the rule is revised to address narrow source categories and include technically accurate emission limits, monitoring, recording and recordkeeping requirements applicable to the source category. Do not adopt the Standard Permit for MSS emissions unless the rule is revised to address narrow source categories and include technically accurate emission limits, monitoring, recording and recordkeeping requirements applicable to the source category.
5. Do not adopt the PBR at § 106.269 QUAN Emission Releases. The rule is not practically enforceable. It may bar EPA and citizen enforcement and may relax existing permit limits. QUAN emissions must be authorized through a site-specific permit amendment.
6. Do not adopt § 116.111(m) because this provision provides an exemption from PSD and NSR applicability.
7. Do not authorize maintenance emissions through a PBR or Standard Permit. Maintenance emissions must be authorized through case-by-case determinations where the source can demonstrate that it is infeasible to comply with existing SIP limits.
8. Provide information requested above to determine that the proposed rule will meet all Federal SIP requirements, maintain NAAQS and meet the CAA and the EPA guidances.



ATTACHMENT 13

**“LETTER TO LOLA BROWN, TCEQ, OFFICE OF LEGAL SERVICES” FROM
DAVID NELEIGH, EPA REGION 6, CHIEF, AIR PERMITS SECTION
(FEBRUARY 3, 2006).**

FEB - 3 2006

Ms. Lola Brown
MC 205
Texas Register Team
Office of Legal Services
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, TX 78711-3087

RE: Comments on Proposed Rule Revisions to 30 Texas Administrative Code Chapter 106 and 116 and to the State Implementation Plan – Rule Project Number 2005-016-106-PR; Comments on Proposed Standard Permit for Maintenance, Startup, and Shutdown Emission Releases

Dear Ms. Brown:

The Environmental Protection Agency (EPA), Region 6 appreciates the opportunity to comment on the above proposed rule and the above standard permit concerning the inclusion of Maintenance, Startup and Shutdown (MSS) Emissions as part of the nonattainment new source review and prevention of significant deterioration (PSD) and minor new source review (NSR) permitting program in Texas. The EPA supports Texas' initiative to authorize appropriate permit allowable limits for startup, shutdown, and maintenance emissions through permitting rules in Chapters 106 and 116, rather than Chapter 101 general rules. We also acknowledge the State's recent State Implementation Plan (SIP) submittal which revises Chapter 101 to remove the affirmative defense for planned maintenance, startup, or shutdown activities on the schedule in Section 101.222(h).

The EPA's long-standing policy is that all potential to emit emissions, including quantifiable MSS emissions, be included in both NSR and PSD applicability determinations and air quality permits. The EPA recognizes that these emissions are part of normal operations which should be accounted for in planning, design, and implementation of operating procedures for process and control equipment. We commend the Texas Commission on Environmental Quality for proposing the revisions to review these emissions during the permitting process. However, we have concerns regarding appropriate technology review, air quality

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impacts, public participation, applicability of Federal requirements, permitting quantifiable, anticipated emissions, and issues related to permits by rule and standard permits in the rules as they are currently proposed. Our comments are enclosed.

We believe that these changes are an important improvement to your SIP air permitting programs which have potential to improve air quality in Texas. We will work with you to identify ways to implement the changes necessary to authorize appropriate permit limitation allowables for MSS emissions. Please contact me at (214) 665-7250 or Bonnie Braganza of my staff at (214) 665-7340 if you have further questions.

Sincerely yours,

Originally Signed
by David Neleigh

David Neleigh
Chief
Air Permits Section

Enclosure

cc: Mr. Steve Hagle
Special Assistant
Air Permits Director
Texas Commission on Environmental Quality
Mr. Blake Stewart
Texas Commission on Environmental Quality

bcc: Victoria Johnson (6RC-M)
Thomas Diggs (6PD-L)

Comments on Proposed Rule Revisions to 30 TAC Chapter 106 and 116 and to the State Implementation Plan Rule Project No. 2005-016-106-PR

Comments on the Draft Standard Permit for Maintenance, Startup, and Shutdown Emission Releases

TCEQ is proposing to make fundamental changes to its air permitting program which will more closely track federal requirements for inclusion of MSS emissions in air quality permits. We generally support the proposed changes and make recommendations which will help to ensure SIP-approval of the final rules. These changes recommend that authorization of MSS require best efforts to minimize MSS emissions, provide adequate public participation and safeguards to minimize MSS below existing levels.

I. Applicability of Federal Requirements

The Environmental Protection Agency's (EPA's) long-standing policy is that all potential to emit (PTE) emissions, including quantifiable emissions associated with startup and shutdown must be included in both new source review (NSR) and prevention of significant deterioration (PSD) applicability determinations and air quality permit reviews. EPA defines "potential to emit" as the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Please confirm that, under the proposed rules, the Texas Commission on Environmental Quality (TCEQ) includes maintenance, startup and shutdown (MSS) emissions in calculating PTE to determine applicability of federal standards such as Title V, NSR, new source performance standards (NSPS), national emission standards for hazardous air pollutants (NESHAP), and maximum achievable control technology (MACT) for all stationary sources. Please explain how TCEQ will ensure that emissions from all MSS activities are included in federal applicability determinations.

We understand that TCEQ proposes to authorize existing MSS emissions under Chapter 116 without retroactive PSD or nonattainment new source review (NNSR) review if the emissions were previously submitted as a part of the emissions inventory accepted by the Executive Director. However, certain MSS authorizations will require additional permit amendment. For example, if a permitted entity did not include MSS emissions in determining PTE in its existing permit and now will be a major source by inclusion of the MSS either by permit by rule (PBR) or standard permit (SP), EPA believes that, at a minimum, this source must amend its existing permit to document the new major source status. EPA recommends revisions to the notification requirements for PBRs and SPs to identify such sources, as described in more detail below.

2. Technology Review and Impacts Analysis

Please explain how TCEQ will ensure that authorization of MSS emissions in PBRs, SPs and individual permits will provide technology review and impacts analysis similar to those requirements which would have been imposed if the emissions had been reviewed in the original construction or modification permitting action. We understand that TCEQ intends to authorize existing MSS emissions under Chapter 116 without retroactive PSD or nonattainment new source review (NNSR) review if the emissions were previously submitted as a part of the emissions inventory accepted by the Executive Director. Texas has stated that permit amendments to authorize MSS emissions will be subject to best available control technology (BACT) and impacts analysis. Please explain the regulatory requirement that triggers these requirements for a permit amendment to allow for an increase in emissions. Also, please explain how TCEQ will ensure that authorized MSS emissions will not exceed the emissions inventory MSS levels. EPA recommends that notification or certification requirements for the PBR and SP be revised to include the facilities' emission inventory emission rates.

EPA is concerned that the MSS permitting rules may provide a blanket authorization for emissions which should be defined as emissions events (or upsets). Only emissions that are predictable, quantifiable, tied to a specific narrow event of limited duration, and are part of normal operation of a source should be considered in the permit review. MSS emissions from normal operation must be accounted for in the design, planning, and operating procedures for the facility. Without clear definitions and permitting requirements, the source could effectively shield excess emissions arising from poor operation, maintenance or design. See January 28, 1993 Memo from John B. Rasnic, Automatic or Blanket Exemptions for Excess Emissions during Startup and Shutdowns under PSD:

Startup and shutdown as part of the normal operation of a source and should be accounted for in the planning, design and implementation of operating procedures for the process and control equipment. Accordingly, it is reasonable to expect that careful and prudent planning and design will eliminate violations of emission limitations during this time. As the 1982 memoranda states, without clear definition and limitations, these automatic exemptions or even secondary limits could effectively shield excess emissions arising from poor operation and maintenance or design, thus precluding attainment.

SIP emission limitations, such as PSD and NNSR permit allowables, are ambient-based standards designed to protect the NAAQS and the increments. EPA views all excess emissions above those applicable emission limitation as violations which may aggravate air quality so as to prevent attainment or interfere with maintenance of the ambient air quality standards. Compliance with BACT and lowest achievable emission rate (LAER) emission limits includes periods of startup and shutdown¹. In other words, BACT and LAER limits apply at all times.

¹ See Memorandum from Steven A. Herman and Robert Perciasepe to Regional Administrators, September 1999, State Implementation Plans (SIPs): Policy Regarding Excess Emissions During Malfunctions, Startup, and Shutdown, Memorandum from John B. Rasnic to

However, EPA has recognized that, for some source categories, the best available emissions control systems might not be consistently effective during startup and shutdown periods, despite best efforts regarding planning, design, and operating procedures. States have always had authority to exercise enforcement discretion for these events. In 1999, EPA developed guidance to allow sources to assert an affirmative defense for startup and shutdown (but not maintenance) periods or for the State to develop technological limitations in the underlying standards².

EPA guidance further indicates that if emission limits specified for normal operation are not feasible under startup or shutdown, permits may specify startup and shutdown emission limits that are protective of the national ambient air quality standards (NAAQS). For PSD and NNSR permits, the permitting authority must make an on-the-record determination as to whether compliance with existing permit limitations is infeasible, despite best efforts, during startup and/or shutdown, and if so, what design, control, methodological or other changes are appropriate for inclusion in the permit to minimize the excess emissions during those periods. The permitting authority must also determine that those changes are in compliance with applicable requirements, including NAAQS and increment provisions. The permitting authority's determination of the startup and/or shutdown terms and conditions must also be subject to public notice and comment consistent with the requirements of 40 CFR 51.161. A secondary limit, such as TCEQ is proposing, may be considered provided it is made part of the PSD or NNSR permit and justified as BACT or LAER.³

Please explain how TCEQ will ensure the following determinations have been made prior to authorization of MSS emissions above existing SIP emission limitations.

- A. Are actual emissions from the source below existing emission limitations as evidenced by emissions inventory, compliance reporting, emissions event reporting data?
- B. Is compliance with existing permit emission limitations infeasible?
- C. Are the MSS emissions part of normal operations and not emissions events? Are the MSS emissions predictable, quantifiable, tied to a specific narrow event of

Linda M. Murphy, January 28, 1993, Automatic or Blanket Exemptions for Excess Emissions During Startup and Shutdowns Under PSD, Memorandum from Kathleen M. Bennett to Regional Administrators, February 15, 1983, Memorandum from Kathleen M. Bennett to Regional Administrators, September 28, 1982, Policy on Excess Emissions During Startup, Shutdown, Maintenance, and Malfunctions.

² See September 20, 1999 Memorandum from Steven A. Herman, State Implementation Plans: Policy Regarding Excess Emissions During Malfunctions, Startup, and Shutdown

³ See *In re: Tallmadge Generating Station*, PSD Appeal No. 02-12, (EAB, May 22, 2003), *In re: Rockgen Energy Center*, PSD Appeal No. 99-1, (EAB August 25, 1999).

limited duration?

- D. Can MSS emissions above existing permit emission limitations be eliminated or reduced through planning, design and implementation of operating procedures for the process and control equipment, including BACT or LAER?
- E. Are the changes in compliance with applicable requirements, including NAAQS and PSD increment provisions?
- F. For sources subject to PSD and NNSR emission limitations, has the State made an on-the-record determination which is subject to public participation in accordance with 40 CFR 51.161.
- G. For major sources, determine whether a site-specific amendment is required instead of a PBR or SP.

EPA recommends that TCEQ revise the SPs and the PBRs to require a notification of actual MSS emissions submitted in an emission inventory, over a specified time period; a determination that compliance with existing emission limitations is infeasible and a requirement to minimize MSS emissions prior to authorizing MSS emissions by a PBR or SP, and to make the same determinations in individual permit reviews. EPA also recommends that sources certify to an emission limitation equivalent to actual existing MSS emissions be required. Also, please confirm that sources with permits authorizing MSS emissions cannot qualify for the PBR or SP.

No double
lapping

EPA recommends that a provision prohibiting sources that currently have MSS authorized in the permits be added to the SP and PBR section 106.4 (f). These changes are necessary to ensure PBR and SP's authorizations are protective of the NAAQS and increments.

EPA recommends that amendments to incorporate MSS emissions follow these guidelines:

SIP emission limitations (such as BACT) must apply at all times, including periods of startup, shutdown, malfunction and scheduled maintenance. Exceptions may be established for necessary and justified startup and/or shutdown events, but may not be appropriate for scheduled maintenance. It should be possible to schedule maintenance of control equipment to occur during unit outage, or else plan for control equipment redundancy, spare parts, etc, therefore establishment of an exception to a SIP limitation should rarely be necessary.

Authorization of MSS emissions must follow the same step-by-step technology review process in determine the SIP limit. The duration of MSS emissions must be justified and documented in the permit. The technology review should include consideration of any specific operating practices and available control technologies to minimize emissions during startup and shutdown.

The permit should include an enforceable permit condition that requires the owner/operator will minimize the frequency and duration of operation in startup or shutdown mode, including careful and prudent planning, operation, and maintenance to avoid unnecessary, preventable, or

unreasonably frequent or lengthy startups and shutdowns. Where a MSS limit is established, the permit should include a limit on the number of hours for which the MSS limit may apply.

EPA will review TCEQ's revisions for consistency with 40 CFR part 51 and § 110(l) of the Clean Air Act (CAA). EPA may not approve a state implementation plan (SIP) revision that would interfere with attainment, reasonable progress or any other applicable requirement of the Act. We are requesting further information necessary to determine that the MSS permitting rules will not increase emissions beyond historic levels and that short-term emissions will not aggravate air quality. EPA anticipates that many Texas sources are in compliance with existing permit limits during periods of startup, shutdown and maintenance. TCEQ must ensure that authorizing MSS emissions will not relax existing BACT, LAER and minor NSR permit limitations.

3. Public Participation

Please explain how TCEQ will ensure that authorization of MSS emissions in PBRs, SPs and individual permits will provide public participation similar to those requirements which would have been imposed if the emissions had been reviewed in the original construction or modification permitting action. We understand that TCEQ proposes to authorize existing MSS emissions under Chapter 116 without retroactive PSD or nonattainment new source review (NNSR) review if the emissions were previously submitted as a part of the emissions inventory accepted by the Executive Director. MSS emissions related to existing the PSD and NNSR permits which authorized the construction or modification would have been subject to public participation requirements consistent with Texas' approved SIP, which requires a 30-day public comment period, availability of the State's air quality analysis, preliminary decision to approve or disapprove the permit and the draft permit, and the opportunity for a public hearing. We believe permit amendments to authorize MSS emissions in PSD or NNSR permits must receive the same public participation. Please clarify whether the proposed rules will provide opportunity for public participation on the draft permit and the State's preliminary analysis to authorize MSS emissions in PSD or NNSR permits.

Proposed changes to §116.116(d)(2)(A)(iii) and §116.116(d)(3)(A)(iii) require a PBR or SP for new facilities that result in increases in production, changes to method of control changes to method of operation or that change the type or increase the quantity of emissions to be rolled into a permit as amendment. The rule also requires BACT and impact analysis at the time of the amendment. However, the rule does not require public participation for these changes. EPA believes that the public should have an opportunity to comment on the changes. Although notice requirements were met when the source acquired the SP or PBR or the new facility, the requirements from the PBR or SP will be revised during the amendment process. EPA believes the site-specific determinations during this reauthorization process should be subject to public participation requirements.

4. Quantifiable, Anticipated (QUAN) PBR

Our review of §106.269 - Quantifiable, Anticipated (QUAN) Emission Releases raises a number of concerns. The category of emissions is not defined in §116.10, General Definitions. It is described in the rule only by very general terms. The category of emissions is not clearly distinguished from emission events. It also appears that these are the types of events anticipated by EPA's affirmative defense policy and the State's SIP-approved affirmative defense for emissions events. As previously stated, exceptions from compliance with BACT, LAER or minor NSR emission limits must be specific, well-defined and tied to a specific narrow event of limited duration. We are concerned that the rule could be open to a number of interpretations. We find the rule, as currently written, to be vague and potentially unenforceable. We are also concerned that the rule may provide a relaxation of existing BACT, LAER or minor NSR emission limitations. Also, it is unclear how TCEQ will quantify emissions authorized under this rule for SIP planning purposes. For these reasons, we recommend that TCEQ withdraw this PBR.

We understand that review of these types of events presents an administrative burden for TCEQ which rarely results in an enforcement action or the opportunity to reduce these types of emissions. We recommend that TCEQ review this category of emissions on a case-by-case basis rather than adopt a general rule. We also recommend that TCEQ consider revised reporting rules which would clearly identify these excess emission reports to minimize the administrative burden for your staff.

5. Revisions to Chapter 106 General Rules

EPA supports revisions to §106.4 (a)(1) - Requirements for Permitting by Rule- that reduce the total actual emissions that may be authorized under a single PBR claim.

- A. Netting The TCEQ proposes to amend §106.4(a)(1) to provide that a facility qualifies for a PBR if the total net emissions increases authorized under the PBR do not exceed specified thresholds for particular air pollutants. §106.4(a)(2) further provides that the net emissions increases authorized under PBR are either: (A) the difference between the projected new emission rate and the previous allowable emission rate for changes at a qualified facility or (B) the difference between the projected new emission rate and the previous actual emission rate for increases at other than qualified facilities.⁴ Furthermore, §106.4(a)(2)(C) provides that decreases in emissions relied upon for the project must be actual, practical, and federally enforceable. The TCEQ needs to address the following items of concern:

⁴ EPA has not yet approved Texas provisions for qualified facilities that TCEQ authorizes under §116.116(e). Any action by EPA to approve any provisions that reference the provisions for qualified facilities cannot be approved pending EPA's final decisions whether to approve the provisions for qualified facilities.

- i. TCEQ needs to specify the time period over which the increases and decreases will occur in order to be creditable.
- ii. TCEQ needs to identify the criteria used to determine which increases and decreases are used in the netting calculation and the basis for each criterion.
- iii. TCEQ needs to specify how the decreases used in the netting will be made practical and federally enforceable.
- iv. TCEQ needs to explain how site-specific netting in a general permit such as a PBR can meet the public participation requirements of 40 CFR 51.161.

Generally, EPA does not believe a general permit, such as a PBR or SP, can provide for site-specific determinations such as netting.

Changes to § 106.4(a)(2)(A) require emission increases at qualified facilities to be determined as the difference between the projected new emission rate and the previous allowable emission rate of each air contaminant at each facility. For major sources, this definition is inconsistent with federal NSR requirements that emission increases be determined on the basis of actual emissions. Parts C and D of title I (major NSR program) of the Act refer to the definition of "modification" in § 111(a)(4) of the Act. The D.C. Circuit Court of Appeals in State of New York, et al., v U.S. EPA, June 24, 2005, ruled that applicability of major NSR to modifications must be based on actual emissions. EPA recommends revisions to provide an alternative calculation method for major qualified facilities based upon actual emissions.

B. References to Changes at a Facility, Group of Related Facilities, and Related Increases:

Several sections in this proposed rule refer to "changes at a facility, group of related facilities, and related increases."⁵ We do not see a definition of the terms "group or related facilities" and "related increases." The TCEQ needs to define these terms in order to ensure with certainty the criteria that are used to determine how facilities or increases are related and how such facilities or increases are to be grouped.

C. Standard Permit for Maintenance, Startup, and Shutdown Emission Releases

Paragraph (b)(4) refers to any air contaminant from a facility located in an area designated on the Air Pollutant Watch List as maintained by the TCEQ Toxicology Section, Office of Chief Engineer. Texas needs to discuss the Air Pollutant Watch List and include its purpose, how an area is designated, and how it is implemented and enforced. Texas can address this by referring to a web site or otherwise identify where this information can be obtained.

⁵ The term "changes at a facility, group of related facilities, and related increases" occurs in the following, but not limited to the following sections: §106.4(a)(1), (a)(4) through (7), (e), (f)(1) through (7), and (g); and §116.615(a) and (2)(A).

Paragraph (c)(2) of this standard permit provides for protection public health, welfare, and physical property, including the submittal of an air quality modeling analysis that meets the requirements and guidelines of the TCEQ. The TCEQ needs to address that the air quality modeling is based upon applicable models, data bases, and other requirements specified in 40 CFR part 51, appendix W (Guideline on Air Quality Models) as required under 40 CFR 51.160(f)(1). If TCEQ is using models that differ from 40 CFR part 51, appendix W, it must receive written approval from EPA, and must meet the requirements in 40 CFR 51.160(f)(2), including the notice and opportunity for public comment under procedures set forth in 40 CFR 51.102. See 40 CFR 51.160(f)(2). If TCEQ has received written approval from EPA for the models that it uses, please provide the date when the such written approval was issued by EPA.

6. Changes to Chapter 116

A. Section 116.10(2): - General Definitions

EPA supports TCEQ in identifying each of the noble gases as air contaminants in §116.10(2). EPA recommends TCEQ maintain a similar definition of "air contaminants" as a "regulated air pollutant" in 40 CFR 70.2 and an EPA guidance – (Memorandum on the Definition of Regulated Air Pollutant for Purposes of Title V from Lydia Wegman to the Air Division Directors dated October 16, 1995). EPA further recommends that TCEQ maintain a definition equivalent to the definitions of "regulated NSR pollutant" in 40 CFR 51.165(a)(1)(xxvii) and 51.166(b)(49). In addition to the criteria pollutants, this definition includes any pollutant for which a national ambient air quality standard has been promulgated, the pollutants that are subject to the NSPS under Section 111 of the Act, pollutants subjected to Section 112 including the pollutants listed in 112(g)(2), (j), and (r) and any of the ozone depleting substances under title VI of the Act. Even though ethane is not specified as a VOC by EPA, this pollutant is regulated under 40 CFR 60 and therefore should be included in the definition of an air contaminant.

B. EPA supports TCEQ in clearly defining startup, shutdown and maintenance emissions and normal operations. A definition for "production operations" and "group of related facilities" is also needed to clarify the rule language.

C. §116.111. Please clarify language in the Background and Summary of the Factual Basis for the Proposed Rule §116.111 (a)(2) that gives an owner or operator the ability to authorize MSS emissions in a permit. The actual rule states that "the owner or operator may obtain authorization...."

D. §116.111(a)(2)(M). Please clarify if the Emission inventory accepted by the Executive Director has been used in the recent SIP attainment demonstration and how the EI in the attainment areas are being used to determine compliance with NAAQS.

E. Section 116.116 - Changes to Facilities

§116.116(d)(2) of the Texas SIP requires:

All changes authorized under Chapter 106 of this title to a permitted facility shall be incorporated into that facility's permit when the permit is amended or renewed.

§116.615(3) of the Texas SIP provides:

All changes authorized by standard permit to a facility previously permitted under §§116.110 of this title (relating to Applicability) shall be administratively incorporated into that facility's permit at such time as the permit is amended or renewed.

The proposed §116.116(d) limits changes authorized under a PBR or SP that will be incorporated into a permit. TCEQ clarifies that BACT and off-property analysis of the emissions authorized by the PBR or Standard Permit will be reviewed at amendment or renewal.

Under the proposed changes, MSS emissions authorized under §§106.268 and 106.269 will not be incorporated into a permitted facility's permit when the permit is amended or renewed. Therefore no further BACT or off-property review will be conducted beyond the requirements of the PBR and SP rules. The preamble explains any MSS emissions that qualify under those sections will be in small quantities due to the emission limitations in these sections. EPA is concerned that TCEQ will not have authority to evaluate the cumulative impacts of numerous such authorizations that may occur at major sources.

Please provide a rationale for the proposed change and explain how cumulative impacts from numerous PBRs will be evaluated. Please explain how TCEQ can ensure that multiple PBRs will not interfere with attainment, reasonable progress or any other applicable requirement of the Act. EPA recommends that TCEQ review the proposed revisions to the PBR and SP for MSS emissions to include provisions that require a cumulative impacts analysis or continue to incorporate all PBRs and Standard Permits into a permit in accordance with the existing SIP.

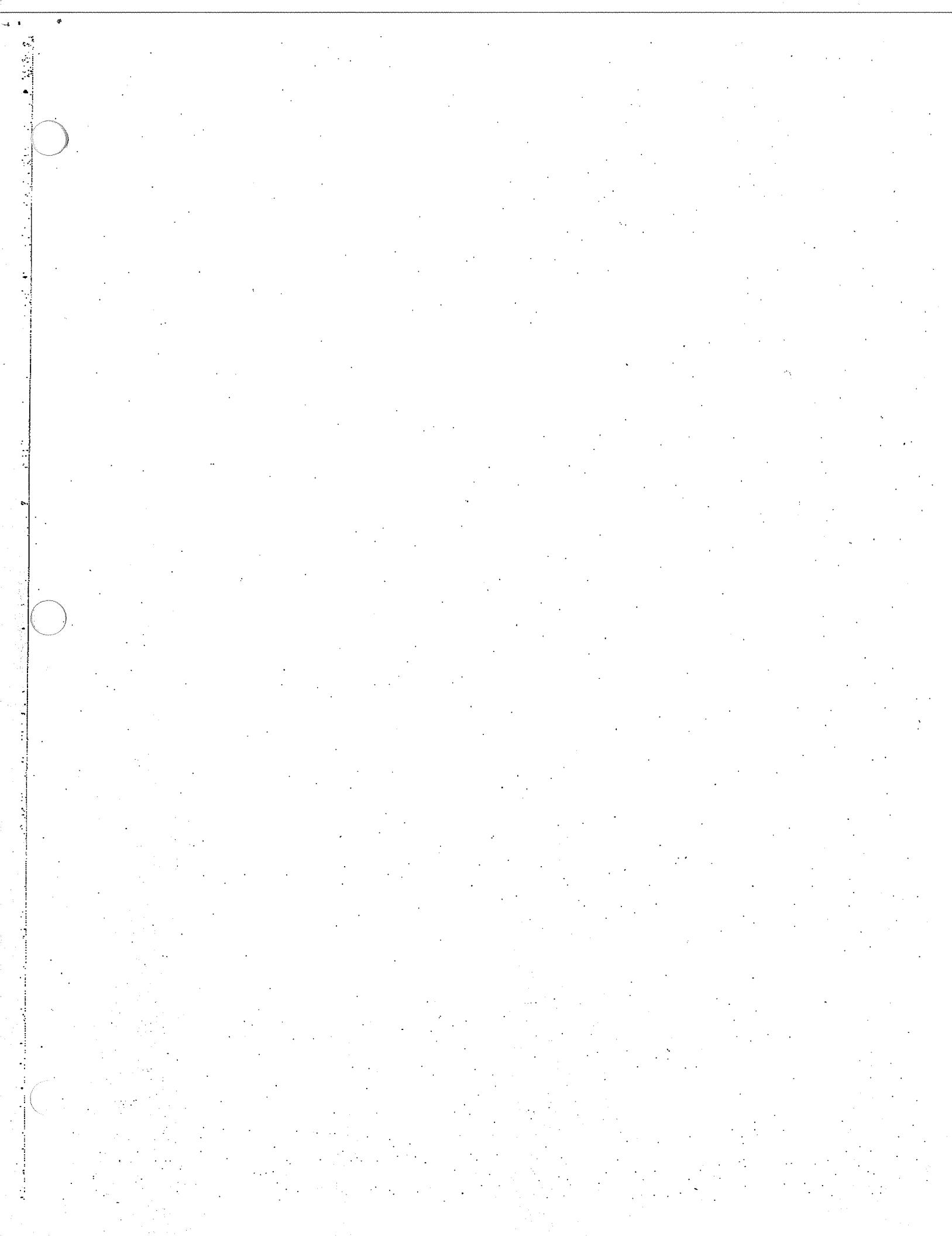
7. Emission Trading

EPA supports the change to section 116.116(e)(1)(C) that will prohibit trading between MSS/QUAN emissions and "production" emissions. While the rule language does not explicitly state that reductions in MSS emissions from PBRs or SPs can be used to generate emission reduction credits (ERCs) and/or discrete emission reduction credits (DERCs), EPA concludes it would be inappropriate to allow this to occur. Emission reductions that can be creditable as ERCs or DERCs must be surplus, enforceable, permanent, real, and quantifiable, as outlined in the Division 1 and 4 regulations, EPA's Economic Incentive Program Guidance, 40 CFR 51.165(a)(1)(E), and section 173 of the CAA. It is EPA's opinion, among other reasons, that the MSS emissions are not available for the generation of emission credits since the PBR and SP rule do not require a facility to have enforceable emission limits, the facility is not required to monitor actual emissions by an EPA approved method, and MSS emissions are not part of the facility's original NSR permit.

8. Section 116.710 Applicability

TCEQ proposes to establish an emission cap for MSS activities at sources with a flexible permit. EPA has not approved the underlying flexible permit rules into the SIP. Further review is necessary to determine whether an MSS emission cap is consistent with the Federal PAL rule⁶.

⁶ Federal regulations at 40 CFR 52.21 (1)(aa)Applicability, (iii) state: Except as provided under paragraph (aa)(1)(ii)(c) of this section, a major stationary source shall continue to comply with all applicable Federal or State requirements, emission limitations, and work practice requirements that were established prior to the effective date of the PAL.



ATTACHMENT 14

PAL PERMITS ISSUED OR PENDING IN THE STATE OF TEXAS

Issued and Pending Texas PALs

Permit Number	Permit Status	Project Number	Company Name	TCEQ Received Date	Project Complete Date	Renewal Date	Project Name	Regulated Entity	Region Name
PAL4	ISSUED	127559	3M COMPANY	3/31/2004	6/22/2006	6/22/2016	REFLECTIVE SHEETING MANUFACTURING FACILITY PAL 4	RN100219005	REGION 03 - ABILENE
PAL11	ISSUED	128029	CITY PUBLIC SERVICE	9/22/2006	6/13/2007	6/13/2017	CALAVERAS LAKE PLANT	RN100217975	REGION 13 - SAN ANTONIO
PAL5	ISSUED	127557	COBISA-GREENVILLE LIMITED PARTNERSHIP	4/2/2004	6/3/2005	6/3/2015	ELECTRIC POWER GENERATION FACILITY	RN104222278	REGION 04 - DFW METROPLEX
PAL7	ISSUED	127522	EXXON MOBIL CORPORATION	5/24/2005	10/30/2006	10/30/2016	BAYTOWN REFINERY PAL 7	RN102579307	REGION 12 - HOUSTON
PAL6	ISSUED	127553	EXXON MOBIL CORPORATION	12/10/2004	8/24/2005	8/24/2015	BAYTOWN REFINERY PAL 6	RN102212925	REGION 12 - HOUSTON
PAL3	ISSUED	127252	HUNTSMAN CORPORATION	7/17/2002	3/16/2004	3/16/2014	PAL 3	RN101618759	REGION 05 - TYLER
PAL2	ISSUED	127556	LOWER COLORADO RIVER AUTHORITY	7/3/2002	10/10/2002	10/10/2012	SAM SEYMOUR (FAYETTE POWER PROJECT) PAL 2	RN100226844	REGION 11 - AUSTIN
PAL9	ISSUED	127565	NRG TEXAS LP	10/31/2006	7/26/2007	7/26/2017	CEDAR BAYOU ELECTRIC GENERATING STATION PAL 9	RN100825371	REGION 12 - HOUSTON
PAL9	ISSUED	131874	NRG TEXAS POWER LLC	7/25/2007	8/24/2007	7/26/2017	NAME CHANGE	RN100825371	REGION 12 - HOUSTON
PAL14	ISSUED	133469	NRG TEXAS POWER LLC	10/11/2007	9/19/2008	9/19/2018	PH ROBINSON ELECTRIC GENERATING STATION	RN101062826	REGION 12 - HOUSTON

Issued and Pending Texas PALs

PAL1	ISSUED	127555	THE GOODYEAR TIRE & RUBBER COMPANY	1/25/2000	4/13/2000	4/13/2010	SYNTHETIC RUBBER & LATEX FACILITIES PAL 1	RN100870898	REGION 12 - HOUSTON
PAL31	PENDING	141163	CHANNEL ENERGY CENTER LP	9/22/2008			PLANT-WIDE APPLICABILITY LIMIT (PAL)	RN100213107	REGION 12 - HOUSTON
PAL16	PENDING	136440	EXXON MOBIL CORPORATION	12/28/2007			BAYTOWN CHEMICAL PLANT	RN102574803	REGION 12 - HOUSTON
PAL13	PENDING	133233	EXXONMOBIL CHEMICAL COMPANY	9/20/2007			MONT BELVIEU PLASTICS PLANT	RN102501020	REGION 12 - HOUSTON
PAL15	PENDING	136325	EXXONMOBIL OIL CORPORATION	12/27/2007			BEAUMONT CHEMICAL PLANT	RN100542844	REGION 10 - BEAUMONT
PAL41	PENDING	143351	LAS BRISAS ENERGY CENTER LLC	5/19/2008			LAS BRISAS ENERGY CENTER LLC	RN105520779	REGION 14 - CORPUS CHRISTI
PAL21	PENDING	140173	NAVARRO GENERATING LLC	8/8/2008			POWER PLANT	RN105572895	REGION 04 - DFW METROPLEX
PAL17	PENDING	139794	NRG TEXAS POWER LLC	7/21/2008			SR BERTRON ELECTRIC GENERATING STATION	RN100825389	REGION 12 - HOUSTON
PAL10	PENDING	127554	VALERO REFINING-TEXAS LP	12/1/2006			VALERO HOUSTON REFINERY	RN100219310	REGION 12 - HOUSTON
PAL26	PENDING	140750	WHITE STALLION ENERGY CENTER LLC	9/5/2008			ELECTRIC GENERATION FACILITY	RN105616148	REGION 12 - HOUSTON