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

APPLICATION OF LAS BRISAS ENERGY CENTER, LLC FOR STATE AIR QUALITY PERMIT; NOS. 85013, HAP48, PAL41, AND PSD-TX-1138.	§ § § § §	**BEFORE THE STATE OFFICE OF ADMINISTRATIVE HEARINGS**

APPLICANT LAS BRISAS ENERGY CENTER LLC'S EXCEPTIONS TO THE ADMINISTRATIVE LAW JUDGES' PROPOSAL FOR DECISION

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TO THE COMMISSIONERS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY:

COMES NOW Applicant Las Brisas Energy Center, LLC ("***Applicant***" or "***Las Brisas***") and, pursuant to 30 Tex. Admin. Code § 80.257(a), files these exceptions to the Administrative Law Judges' ("***ALJs***") Proposal for Decision ("***PFD***") in the above-captioned matter. The ALJs' recommendation that the Texas Commission on Environmental Quality ("***TCEQ***" or the "***Commission***") deny or remand Las Brisas's Application is factually and legally flawed and cannot be supported. Because Las Brisas proved compliance with all applicable statutory and regulatory requirements, its permit Application to construct the Las Brisas Energy Center ("***LBEC***") should be granted by the Commission without further delay.

The ALJs' recommendations are based on a failure to consider and properly apply Commission rules and policy, as required by law.[1] The ALJs' confusion over proper application and interpretation of the Texas Clean Air Act ("***TCAA***") and federal Clean Air Act ("***CAA***") requirements[2] is apparent in the PFD, as highlighted by the ALJs'

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1 *See* TEX. GOV'T CODE § 2001.058(b), (e)(1).

2 *See* TEX. HEALTH & SAFETY CODE § 382.0518(b).

request for additional briefing regarding the actions available to the Commission in considering Las Brisas's Application. Accordingly, the ALJs' recommendation to deny or remand Applicant's Application cannot stand and should not be followed by the Commission.

For the foregoing reasons, as set forth more fully below, Las Brisas takes exception to the ALJs' failure to consider and apply the Commission's regulations and policies. Moreover, Las Brisas disputes the ALJs' recommendations on the issues emphasized in the PFD but, should the Commission accept those recommendations, the remedy provided by statute is not denial of Las Brisas's Application. Instead, by law, the Commission must first set forth its specific objections to the plans for the proposed facility and allow Las Brisas the opportunity to alter those plans to address the Commission's objections.[3] Additionally, if concerned by any issued discussed in the PFD, the Commission may order the ALJs to reopen the record for further proceedings on specific issues in dispute or otherwise instruct the ALJs to prepare supplemental materials or revised orders based upon those proceedings for the Commission's adoption.[4]

I.
ARGUMENT

A. THE LBEC CFB BOILERS ARE NOT SUBJECT TO CASE-BY-CASE MACT

According to the PFD, under the ALJs' "strict construction approach" the petroleum coke-fired LBEC circulating fluidized bed ("***CFB***") boilers would not be fossil fuel-fired boilers and, thus, would not be considered electric utility steam generating units

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[3] *See* TEX. HEALTH & SAFETY CODE § 382.0518(d), (e). This statute is applicable and absolutely clear. Therefore, it is unclear why the ALJs' PFD does not embrace it and dispel any suggestion that denial of the application is an option at this stage.

[4] *See* 30 TEX. ADMIN. CODE § 80.265.

("***EUSGUs***"). Instead, according to the ALJs, the petroleum coke-fired LBEC boilers would be industrial, commercial, or institutional boilers, for which a case-by-case MACT analysis is required. While the ALJs' "strict construction approach" suggests a basis in legal theory, as explained below, the conclusion to which this approach has led the ALJs – that the petroleum coke-fired LBEC boilers are subject to case-by-case MACT requirements as industrial, commercial, or institutional boilers – is directly at odds with EPA's very own MACT standard for industrial boilers, which explicitly exempted petroleum coke-fired boilers like those proposed for the LBEC from MACT review. Accordingly, the conclusion reached by the ALJs' "strict construction approach" does not establish a valid basis for subjecting the petroleum coke-fired LBEC CFB boilers to case-by-case MACT review in theory or otherwise.

Using a second, "technical engineering approach," the ALJs conclude that there is no technical reason to exempt petroleum coke-fired EUSGUs from case-by-case MACT requirements. As explained below, however, the ALJs "technical engineering approach" is seriously flawed and, therefore, leads the ALJs to reach a conclusion that is directly contrary to both EPA's 2000 Listing Decision and EPA's proposed MACT standards for coal- and oil-fired EUSGUs. Therefore, the ALJs' alternate conclusion that petroleum coke-fired EUSGUs were covered by EPA's decision to regulate coal- and oil-fired EUSGUs also is invalid.

As set forth below, there is simply no need for the ALJs to have concocted their novel "strict construction" and "technical engineering" approaches. This false dichotomy is discredited by a review of the most relevant EPA actions – EPA's MACT standard for industrial boilers, EPA's 2000 Listing Decision, and EPA's proposed MACT standards

for coal- and oil-fired EUSGUs – which clearly evidences that the petroleum coke-fired LBEC CFB boilers are not subject to case-by-case MACT requirements either as industrial boilers or coal- or oil-fired EUSGUs.

1. The ALJs' "Strict Constructionist" Approach Is Fatally Flawed As Evidenced By The Fact That EPA's MACT Standards For Industrial, Commercial, and Institutional Boilers Would Not Have Applied To The Petroleum Coke-Fired LBEC CFB Boilers

According to the ALJs' "strict constructionist approach," petroleum coke is not a fossil fuel, thus meaning that petroleum coke-fired boilers cannot be EUSGUs and, instead, are classified as industrial, commercial, or institutional boilers, for which a case-by-case MACT analysis is required. Obviously, if this were the case, then petroleum coke-fired boilers like the ones proposed for the LBEC would have been subject to the MACT standards for industrial, commercial, and institutional boilers adopted by EPA in 2004. As explained below, however, they were not. Accordingly, the result of the ALJs' "strict constructionist approach" is counter to EPA's own MACT rulemaking and, as a result, should be ignored.

In 2004, EPA first adopted MACT standards for industrial boilers ("***Industrial Boiler MACT***").[5] Those standards specifically exempted EUSGUs from the Industrial

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[5] See National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters, 69 Fed. Reg. 55,218, 55,218 (Sept. 13, 2004) (codified at 40 C.F.R. Part 63, Subpart DDDDD, amended in response to petitions for reconsideration by 71 Fed. Reg. 70,651, 70,651 (Dec. 6, 2006)). Despite the fact that EPA developed MACT standards for industrial boilers, such boilers are now subject to case-by-case MACT because EPA's Industrial Boiler MACT was later vacated. Specifically, the U.S. Court of Appeals for the D.C. Circuit vacated EPA's Industrial Boiler MACT on June 8, 2007. *See NRDC v. EPA*, 489 F.3d 1250, 1262 (D.C. Cir. 2007). The court issued its mandate effectuating the vacatur on July 30, 2007. See 75 Fed. Reg. 15,655, 15,657 (Mar. 30, 2010). The D.C. Circuit's decision to vacate the Industrial Boiler MACT was in no way related to the exemption for EUSGUs. *See NRDC*, 489 F.3d at 1262 ("In light of the need for wholesale revision on remand of both the CISWI Definitions Rule [regarding solid waste] and the Boilers Rule and the effect

Boiler MACT. As initially adopted in 2004, 40 CFR § 63.7491(c) provided that the following were not subject to the Industrial Boiler MACT:

> An electric utility steam generating unit that is a fossil fuel-fired combustion unit of more than 25 megawatts that serves a generator that produces electricity for sale. A fossil fuel-fired unit that cogenerates steam and electricity, and supplies more than one-third of its potential electric output capacity, and more than 25 megawatts electric output to any utility power distribution system for sale is considered an electric utility steam generating unit.[6]

Recognizing that the scope of the above exclusion was unclear, in December 2006 EPA revised its Industrial Boiler MACT rules to, among other things, clarify the exemption for EUSGUs. EPA did so by revising § 63.7491(c) to exclude the following EUSGUs: "An electric utility steam generating unit (including a unit covered by 40 CFR part 60, subpart Da) or a Mercury (Hg) Budget unit covered by 40 CFR part 60, subpart HHHH."[7] At that time, the applicability provisions of 40 CFR Part 60, Subpart Da provided as follows:

> (a) The affected facility to which this subpart applies is each electric utility steam generating unit:
>
> (1) That is capable of combusting more than 73 megawatts (250 million Btu/hour) heat input of *fossil fuel* (either alone or in combination with any other fuel); and
>
> (2) For which construction, modification, or reconstruction is commenced after September 18, 1978.[8]

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that leaving the Boilers Rule in place would have on the Municipal Petitioners, we believe the appropriate course is to vacate the Rules in their entirety.").

6 69 Fed. Reg. 55,254, 55,254 (Sept. 13, 2004).

7 71 Fed. Reg. 70,660, 70,660 (Dec. 6, 2006).

8 40 C.F.R. § 60.40Da(a) (2006) (emphasis added).

Furthermore, Subpart Da included the following definitions:

> *Fossil fuel* means natural gas, *petroleum*, coal, and any form of solid, liquid, or gaseous fuel derived from such material for the purpose of creating useful heat.
>
> *Petroleum* means crude oil or petroleum or a fuel derived from crude oil or petroleum, including distillate, residual oil, and *petroleum coke*.[9]

Accordingly, at the time EPA clarified the exemption from its Industrial Boiler MACT rules, petroleum coke-fired EUSGUs were subject to NSPS Subpart Da. As a result, EPA's revision made it clear that it intended for petroleum coke-fired EUSGUs to be exempted from Industrial Boiler MACT. Accordingly, the ALJs' contention that the petroleum coke-fired LBEC boilers should be subject to case-by-case MACT review as industrial boilers is counter to EPA's own Industrial Boiler MACT rule. As a result, the ALJs' "strict constructionist approach" provides no valid basis for subjecting the LBEC boilers to case-by-case MACT review.

2. The ALJs' "Technical Engineering Approach" Fails to Apply a "Technical Engineering Approach" To The Question of Whether Petroleum Coke is Appropriately Considered Coal

Throughout the ALJs' MACT applicability analysis, they repeatedly emphasize that the answer to the question of whether the LBEC petroleum coke-fired CFB boilers should be subject to case-by-case MACT is the same "so long as the approach remains consistent when considering both questions raised."[10] Furthermore, according to the ALJs, "if one takes a *technical engineering approach to understanding the definitions* . . . then there would be absolutely no technical reason to exempt pet coke boilers from the

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9 40 C.F.R. § 60.41Da (2006) (emphasis added).

10 PFD at 14 (alteration in orginal).

MACT analysis . . . ."[11] As set forth below, despite their emphasis on consistency, the ALJs' "technical engineering approach" was not consistent and, as a result, led the ALJs to reach an improper and unsupportable conclusion.

According to the ALJs, the two questions raised are: (1) is petroleum coke a fossil fuel, and (2) are petroleum coke-fired boilers subject to EPA's 2000 Listing Decision? Under the ALJs' "technical engineering approach," they first consider whether it is appropriate to consider petroleum coke to be a fossil fuel and "find it reasonable to conclude now that pet coke is a fossil fuel."[12] However, while the ALJs stress the need for consistency, as explained below, their approach to the second question is anything but a "technical engineering" one.

The fact that EPA's 2000 Listing Decision only applies to coal- and oil-fired EUSGUs is obvious because the listing decision states:

> Based on the available information, the Administrator finds that regulation of HAP emissions *from coal- and oil-fired electric steam generating units* is appropriate and necessary."[13]
>
> . . . .
>
> EPA is adding *coal- and oil-fired electric utility steam generating units* to the list of source categories under Section 112(c) of the Clean Air Act.[14]

Given that EPA's 2000 Listing Decision clearly covered only coal- and oil-fired EUSGUs, under a "technical engineering" or any other approach the appropriate second

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11 PFD at 7 (emphasis added).

12 PFD at 7.

13 65 Fed. Reg. at 79,826, 79,826 (Dec. 20, 2000) (emphasis added).

14 *Id.* at 79,830 (emphasis added).

question is: Is petroleum coke a coal?[15] Inexplicably, however, the ALJs never ask this question from a technical engineering perspective and, instead, deem it appropriate to turn to policy considerations and ask whether EPA "intended to subject pet coke-fired boilers to a MACT analysis."[16] As explained below, not only do the ALJs answer the EPA intent question incorrectly, as an initial matter it is critical to point out that the ALJs' question is not the correct one to ask if, in fact, as the ALJs claim, consistency is important.

Had the ALJs asked the appropriate second question – Is petroleum coke a coal? – as part of their "technical engineering analysis," the answer clearly would have been – "No." Simply put, from a "technical" perspective petroleum coke is not a coal, but is instead a fuel that is generated from crude oil as part of the refining process.[17] Coal, on the other hand, is "a solid black organic substance *found in layers underground* in most parts of the world, burnt to provide heat or power."[18] Furthermore, American Society of Testing and Materials ("***ASTM***") D-388, Standard Classification of Coals by Rank, which is incorporated by reference into EPA's New Source Performance Standards,[19] establishes the following categories of coal "based on degradation properties that depend

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[15] Although EPA's 2000 Listing Decision also covered oil-fired EUSGUs, none of the Protestants have argued that petroleum coke, which is a solid material, should be considered oil.

[16] PFD at 22. Note, however, that earlier in the PFD the ALJs do recognize that the appropriate second question is whether petroleum coke "is included under the definitions of coal or oil in EPA's 2000 listing decision requiring a MACT analysis for coal-fired and oil-fired EGUs." PFD at 10.

[17] *See* Trial Tr. 330:1 to 331:2 (DiSorbo); Trial Tr. 1461:12-20 (Sahu); Trial Tr. 1878:8-11, 1937:16-18 (Hamilton).

[18] Science-Dictionary.com, Coal, http: /www.science-dictionary.com/definition/coal.html (last visited Apr. 18, 2010) (emphasis added).

[19] *See* 40 C.F.R. § 60.17(a)(13). A copy of ASTM D-388 is provided as Attachment A.

principally on the degree of metamorphism to which the coal was subjected *while buried*": anthracite, bituminous, subbituminous, and lignite.[20] Obviously, therefore, according to ASTM D-388, petroleum coke is not a category of coal. Moreover, ASTM D-121,[21] Standard Terminology of Coal and Coke, which is referenced in ASTM D-388, provides further proof that, from a "technical" perspective, petroleum coke is not a coal. Specifically, ASTM D-121 defines coal as:

> [A] brown or black combustible *sedimentary rock* (in the geological sense) composed principally of consolidated and chemically altered plant remains.
>
> DISCUSSION—Conditions required for formation of coal are believed to include accumulation of plant remains and their partial decomposition under moist conditions, followed by *sedimentary burial* and subjection to increased pressure and temperature according to the geological history of the seam. Coals exhibit a wide range of properties as a result of in the differences is the kinds and relative amounts of different plant materials and intermixed mineral matter, the amount of alteration of the plant remains achieved before burial, and especially the degree of physical and chemical alteration *after burial*.[22]

ASTM D-121 separately defines coke as:

> [A] carbonaceous solid product from coal, petroleum, or other materials by thermal decomposition with passage through a plastic state.[23]

Accordingly, from a "technical" perspective, petroleum coke and coal clearly are not the same.

Furthermore, while EPA has admittedly included petroleum coke within certain, but not all,[24] definitions of coal, this should not be relevant to the ALJs' "technical"

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20 Att. A at 2 (emphasis added).

21 A copy of ASTM D-121 is provided as Att. B.

22 Att. B at 3 (emphasis added).

23 Att. B at 4 (emphasis added).

analysis. Instead, what is very relevant is the fact that EPA itself has relatively recently recognized that, from a technical perspective, petroleum coke is not coal. Specifically, in a 2005 Clean Air Mercury Rule rulemaking, EPA explained as follows:

> In defining "coal" we indicate that "coal" includes "petroleum coke" while in defining "coal-fired electric utility steam generating unit" we identify "petroleum coke" as an example of a supplemental fuel (i.e., a fuel that is burned with coal). We propose to correct this inconsistency by removing "petroleum coke" from the definition of "coal" *as we do not think "petroleum coke" is properly classified as "coal."*[25]

In summary, a "technical" analysis of the relevant second question – Is petroleum coke a coal? – reveals that petroleum coke is not a coal. As a result, petroleum coke-fired EUSGUs are not covered by EPA's 2000 Listing Decision and, therefore, also are not subject to case-by-case MACT.

3. A Review of EPA's 2000 Listing Decision Indicates That EPA Did Not Intend For The Listing Decision to Cover Petroleum Coke-Fired EUSGUs

As previously explained, the fact that EPA's 2000 listing decision only applies to coal- and oil-fired electric utility steam generating units is indisputable. Nevertheless, the ALJs conclude that: "Given the history of EPA's handling of pet coke, *it is easy to conclude*, from a common sense standpoint, [that] pet coke-fired boilers were intended to be included within the coal-fired and oil-fired boilers that EPA determined should be subject to a case-by-case MACT analysis in its 2000 listing decision."[26] Not only is it unclear how it could have been "easy" for the ALJs to reach this conclusion based on

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[24] As discussed below, EPA did not include petroleum coke within the definition of coal that is, by far, most relevant to the MACT applicability question – the definition of coal in EPA's proposed MACT standards for EUSGUs.

[25] 70 Fed. Reg. 62,218, 62,218 (Oct. 28, 2005) (emphasis added).

[26] PFD at 21 (emphasis added).

their review of EPA's history of handling of petroleum coke, a history which the ALJs themselves describe as inconsistent,[27] but a review of EPA's actual listing decision and its background clearly indicates that the ALJs' conclusion is incorrect.

As explained in EPA's 2000 Listing Decision, EPA's decision to list coal- and oil-fired electric utility steam generating units was based on:

> [T]he results of EPA's February 1998 "Study of Hazardous Air Pollutant Emissions from Electric Utility Steam Generating Units—Final Report to Congress' [sic] (utility RTC), and on information obtained subsequent to the utility RTC concerning HAP emissions to the atmosphere from electric utility steam generating units.[28]

EPA's 2000 Listing Decision further explains how the utility RTC was developed and what further information EPA collected pursuant to federal Clean Air Act ("***CAA***") § 114.

> In developing the utility RTC, the EPA examined HAP emissions test data acquired by the DOE, electric utility companies and organizations, and EPA itself. Further, using section 114 authority, the EPA obtained data from each coal-fired electric utility unit to update and refine the information on mercury emissions from such units.[29]

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[27] It is difficult to see how EPA's history of handling petroleum coke could make it easy to determine whether EPA intended to cover petroleum coke-fired boilers under its 2000 Listing Decision when the ALJs describe that history as follows: "In fact, it appears that EPA has wrestled with the correct treatment of pet coke over the years. In numerous proposed revisions to 60.41Da (and as seen in other rules), the EPA has modified its proposed treatment of pet coke, explicitly including it within the definition of coal at times and then including it within the definition of petroleum at other times—and then removing it from each at times." PFD at 20-21. Additionally, the statement that follows is simply incorrect. That is, the ALJs go on to state that "At the times relevant to this hearing, pet coke was not explicitly included in either of those definitions." PFD at 21. In fact, from the time Las Brisas submitted its permit application to TCEQ on May 19, 2008, throughout the TCEQ's review of that application, and up until the time TCEQ issued the Draft Permit on January 7, 2009, petroleum coke was included in the definition of petroleum under 40 C.F.R. § 60.41a. *See* 72 Fed. Reg. 32,710, 32,722 (June 13, 2007), later amended by 74 Fed. Reg. 5072, 5079 (Jan. 28, 2009) (removing petroleum coke from the definition of petroleum).

[28] 65 Fed. Reg. 79,825, 79,825-56 (Dec. 20, 2000).

[29] *Id.* at 79,827.

The utility RTC describes the first two steps of EPA's study as follows:

> The study included numerous separate and interrelated analyses. First, HAP emissions test date were gathered from 52 utility units (i.e., boilers), including a range of coal- oil-, and natural gas-fired utility units. Second, the emissions test data along with facility specific information (e.g., boiler type, control device, fuel usage) were used to estimate HAP emissions from all 684 utility plants in the United States (U.S.).[30]

Table B-2 in Appendix B of the utility RTC "shows the emission test sites whose data were used to develop the Report to Congress."[31] Of the coal-fired units tested, all list either bituminous coal, subbituminous coal, or lignite coal as the fuel.[32] None list petroleum coke. Therefore, the coal unit emission testing data relied on in the first step of the utility RTC analysis was clearly limited to data from bituminous, subbituminous, and lignite coal-fired units. Furthermore, a review of Appendix D to the utility RTC entitled "Discussion of the Methodology Used to Develop Nationwide Emission Totals" clearly indicates that the only forms of coal considered in the second (HAP emission estimate) step of the utility RTC analysis were bituminous, subbituminous, and lignite.[33] Accordingly it also is clear that emission estimates performed for coal-fired units as part of the utility RTC covered bituminous, subbituminous, and lignite as the only forms of coal.

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30 1 U.S. EPA, EPA-453/R-98-004a, STUDY OF HAZARDOUS AIR POLLUTANT EMISSIONS FROM ELECTRIC UTILITY STEAM GENERATING UNITS – FINAL REPORT TO CONGRESS ES-1 (1998), http://www.epa.gov/ttn/atw/combust/utiltox/eurtc1.pdf [hereinafter UTILITY RTC].

31 2 U.S. EPA, EPA-453/R-98004b, UTILITY RTC app. B, tbl.B-2, http://www.epa.gov/ttn/atw/combust/utiltox/eurtc2.pdf.

32 *See Id.*

33 2 UTILITY RTC fig. D-1 (Trace Elements in Coal, lists bituminous, subbituminous, and lignite), fig. D-3 (Organic Emissions, lists coal type as bituminous, subbituminous, and lignite), tbl.D-3 (Fuel Consumption by Type of Boiler, lists coal type as bituminous, subbituminous, and lignite), tbl.D-6 (Average Higher Heating Values of Coal, lists bituminous, subbituminous, and lignite), tbl.D-8a (Trace Element Concentrations in Coal, lists bituminous, subbituminous, and lignite).

EPA's CAA § 114 information request, which EPA used to refine the mercury emissions data for coal-fired units, was in no way focused on petroleum coke-fired units. Specifically, when seeking approval from the Office of Management and Budget to pursue its information request, EPA indicated that:

> For the purposes of this information collection, "coal" includes anthracite, bituminous, subbituminous, lignite, and waste coal (generally termed culm or gob).[34]

Accordingly, like the utility RTC, EPA's study of HAP emissions from coal-fired EUSGUs, which served as the basis for EPA's 2000 Listing Decision, was not focused on petroleum coke-fired EUSGUs.

As explained in EPA's 2000 Listing Decision, through the utility RTC and its CAA § 114 information request EPA developed the following information regarding mercury emissions from coal-fired EUSGUs:

> For mercury, it was estimated in the utility RTC that the industry emitted approximately 46 tons in 1990 (51 tons in 1994) and was projected to emit approximately 60 tons in 2010 from 1,026 units at 26 coal-fired plants. The new information obtained under section 114 corroborates the emissions estimates.[35]

Based on these nationwide mercury emission estimates for coal-fired plants, EPA concluded that listing coal-fired units under CAA § 112 was appropriate. Specifically, EPA stated:

> It is appropriate to regulate HAP emissions from coal- and oil-fired electric utility steam generating units under section 112 of the CAA because, *as documented in the utility RTC and stated above*, electric utility steam generating units are the largest domestic source of mercury

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[34] EMISSION STANDARDS DIVISION, U.S. EPA, INFORMATION COLLECTION REQUEST FOR ELECTRIC UTILITY STEAM GENERATING UNIT MERCURY EMISSIONS INFORMATION COLLECTION EFFORT 14-15 (1998), http://www.epa.gov/ttn/atw/combust/utiltox/114_ss19.pdf.

[35] 65 Fed. Reg. at 79,828.

> emissions, and mercury in the environment presents significant hazards to the public health and environment.[36]

Clearly, therefore, EPA's decision to list coal-fired EUSGUs under CAA § 112(c) and thereby subject such units to MACT regulation was based on the emissions estimates developed through EPA's utility RTC and CAA § 114 request. As evidenced by the above discussion, those emission estimates were used to determine total mercury emissions from bituminous, subbituminous, and lignite coal-fired EUSGUs. Because those emission estimates did not consider petroleum coke-fired EUSGUs, it is illogical to conclude that EPA intended for its listing decision to cover such units.[37] As explained below, this fact is further evidenced by EPA's proposed MACT standards that followed EPA's 2000 Listing Decision.

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[36] *Id.* at 79,830 (emphasis added).

[37] According to the ALJs, "it would not make any sense to exempt pet coke-fired EGUs from the same requirement as coal-fired and oil-fired EGUs." PFD at 21. This statement, however, also is inconsistent with the basis of EPA's 2000 Listing Decision. Specifically, as discussed in the utility RTC, "[o]nly coal-fired, oil-fired, and natural gas-fired units were included in the [emission factor program]. This decision was made because units using these fuels make up the overwhelming majority of the fossil-fuel-fired electric utility units with a capacity >25 MWe." 1 UTILITY RTC at 3-8. Accordingly, it is clear that, in arriving at its decision to list coal- and oil-fired EUSGUs, EPA focused on the fuel types (i.e., coal, oil, and natural gas) that make up the overwhelming majority of the EUSGUs. Petroleum coke was not one of them. Additionally, EPA's 2000 Listing Decision makes it clear that the decision to list coal-fired units was based on the level of mercury emissions "the industry emitted . . . from 1,026 units at 426 coal-fired plants." 65 Fed. Reg. at 79,828. There simply is no evidence in the record that there is anywhere near this number of petroleum coke-fired EUSGUs in the U.S. Furthermore, EPA's listing decision was based on the fact that, according to its estimates at the time, the coal-fired EUSGUs would collectively emit 60 tons/year of mercury in 2010. *Id.* In comparison, the LBEC will be permitted to emit 0.16 tons/year of mercury based on the 2.0×10^{-6} lb/MMBtu performance standard proposed by Las Brisas or approximately 0.048 tons/year of mercury if the performance standard is lowered to 6.0×10^{-7} lb/MMBtu as suggested by the ALJs ($0.16 \text{ tons/yr} \times 6.0 \times 10^{-7}/2.0 \times 10^{-6} = 0.048$ tons/year). As a result, there is absolutely no basis for the ALJs' conclusion that "pet coke-fired boilers are significant emitters of HAPs, just like coal-fired and oil-fired boilers" because there is no evidence that total mercury emissions from petroleum coke-fired EUSGUs are anywhere close to the 60 tons/year emitted by the 1026 coal-fired EUSGUs. PFD at 22.

Subsequent to the 2000 Listing Decision, EPA commenced a notice-and-comment rulemaking process to develop MACT standards for coal-fired and oil-fired EUSGUs under CAA § 112 "to carry out the fourth of the four instructions in [CAA] section 112(n)(1)(A)."[38] Unlike most proposed rules, EPA's MACT standards were not proposed in response to statutory requirements enacted by Congress, but were instead proposed in response to EPA's own 2000 Listing Decision. Accordingly, it is entirely appropriate to rely on EPA's proposed MACT rules to determine what EUSGUs EPA itself intended to include within the scope of its 2000 Listing Decision.

Amazingly, rather than defer to EPA's interpretation of its own 2000 Listing Decision as expressed by EPA's propose MACT standard, the ALJs attempt to discern EPA's intent on their own. To justify this approach the ALJs rely on EDF's argument that proposed rules do not represent an agency's considered interpretation of its statute and are entitled to no deference.[39] EDF, however, failed to note that the cases it cited for this argument considered the "distinction between proposed and *adopted* rules."[40] Specifically, the courts found that the "inconsistencies between an agency's proposed rule and *a later-adopted rule* [we]re not a valid basis for refusing to defer to an agency's official interpretation of a statute it administers."[41] In this case, not only was EPA's

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38 69 Fed. Reg. at 4660.

39 *See* PFD at 22-23 & n.37.

40 *Clay v. Johnson*, 264 F.3d 744, 749 (7th Cir. 2001) (citing *Commodity Futures Trading Comm'n v. Schor*, 478 U.S. 833, 845 (1986) (assuming that a final rule exists to guide the decision in observing that "[i]t goes without saying that a proposed regulation does not represent an agency's considered interpretation of its statute and that an agency is entitled to consider alternative interpretations before settling on the view it considers most sound")) (emphasis added).

41 *Id.* (emphasis added).

MACT standard proposed in response to its own 2000 Listing Decision rather than a statute, but at this time, there is no promulgated rule to guide the discussion. In a case such as this, the "[p]roposed [r]egulations . . . qualif[y] as pre-existing guidance . . . even if they [a]re not final."[42] Accordingly, the ALJs' failure to consider EPA's proposed MACT standards as guidance was improper. Furthermore, as explained below, those rules clearly indicate that EPA's 2000 Listing Decision did not encompass petroleum coke-fired EUSGUs.

EPA's proposed MACT standards defined coal as "all solid fuels classified as anthracite, bituminous, subbituminous, or lignite . . ."[43] Clearly, petroleum coke does not fall under that definition. Additionally, it is clear from the rule preamble that EPA did not overlook petroleum coke, because the agency specifically referenced petroleum coke as a "non-regulated fuel" to which EPA's proposed MACT standards would not apply.[44]

> Further, EPA is aware that several units burn a supplementary fuel (e.g., petroleum coke . . .) in addition to a primary coal fuel . . . . Because this rule does not apply to non-regulated supplementary fuels, the rule does not apply an emission limitation for those fuels. . . . The other scenarios discussed above involve blending a regulated fuel (e.g., coal or coal refuse) with a supplementary, non-regulated fuel (e.g., petroleum coke . . .).[45]

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42 *Kraft Foods N. Am., Inc. v. United States*, 58 Fed. Cl. 507, 512 (Fed. Cl. 2003) (finding that the claimants "ignored the most authoritative guidance available – the Proposed Regulations. . . . [Claimants] argue[d] that ignoring the 1996 Proposed Regulations was reasonable because the Regulations were not binding and they were subject to comment before becoming effective. *The Regulations qualified as pre-existing guidance, however, even if they were not final.*") (emphasis added).

43 69 Fed. Reg. at 4727.

44 *See id.* at 4674.

45 *Id.* (emphasis added).

In summary, a review of the EPA's 2000 Listing Decision and its proposed MACT rules indicates that EPA's listing of coal-fired EUSGUs did not include petroleum coke-fired EUSGUs.

4. Whether the LBEC Petroleum Coke-Fired CFB Boilers Are Subject to Case-By-Case MACT Is a Decision That Has Been Assigned to TCEQ, Not EPA

In Texas, TCEQ has the authority to make case-by-case MACT determinations. Specifically, EPA, in adopting its CAA § 112(g), or case-by-case MACT, implementing regulations, stated: "The EPA interprets section 112(g) as assigning to the permitting authority of each State, whether it be the State or the EPA Regional Office acting on behalf of the Administrator, the responsibility for making 112(g) determinations."[46] Accordingly, TCEQ has adopted regulations to carry out this assignment, and included among them is the very exemption upon which TCEQ relied in determining that the petroleum coke-fired LBEC CFB boilers are not subject to a case-by-case MACT determination.[47] Unquestionably, TCEQ has the authority to exercise its reasonable judgment in deciding when this exemption applies, as EPA has gone so far as to provide the following instructions to potentially regulated entities: "If you have questions regarding the applicability of [Section 112(g)] to a particular entity, contact your state or local air permitting authority."[48] Rather than acknowledge that TCEQ has the authority to make case-by-case MACT determinations and, as recognized by EPA, to determine

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46 *See Hazardous Air Pollutants: Regulations Governing Constructed or Reconstructed Major Sources; Final Rule*, 61 Fed. Reg. 68,384, 68,390 (Dec. 27, 1996) (emphasis added).

47 *See* 30 TEX. ADMIN. CODE § 116.402(a) ("The requirements of this subchapter do not apply to electric steam generating units unless and until such time as these units are added to the source category list under Federal Clean Air Act, § 112(c)(5).").

48 61 Fed. Reg. at 68,385-86.

whether a case-by-case applicability determination is required, the ALJs focus on "EPA's recent memo indicating that a MACT analysis was required for the pet coke-fired boilers proposed in LBEC's application."[49] Presumably, the ALJs are referencing EPA Region 6's comments regarding Las Brisas's Application that it provided to TCEQ. A review of those comments reveals, however, that EPA never directly indicated that the petroleum coke-fired LBEC boilers are subject to case-by-case MACT review. Furthermore, as explained above, even if EPA had, the ultimate applicability determination is to be made by TCEQ.

B. SECONDARY EMISSIONS FROM MATERIAL HANDLING

1. Applicable Rules

The legal analysis of this issue begins with TCEQ's incorporation by reference of the Prevention of Significant Deterioration ("***PSD***") permitting regulations found in 40 C.F.R. § 52.21(k) concerning source impacts analyses, which provide that "the owner or operator of the proposed source or modification shall demonstrate that allowable emissions increases from the proposed source or modification, *in conjunction with all other applicable emissions increases or reductions (including secondary emissions)*, would not cause or contribute to air pollution in violation" of any National Ambient Air Quality Standards ("***NAAQS***") or PSD increment.[50]

The applicable definition of "secondary emissions" is in TCEQ rules, not 40 C.F.R. § 52.21(b)(18), as stated in the PFD. According to TCEQ rules, secondary emissions are:

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[49] PFD at 23.

[50] Incorporated by reference at 30 TEX. ADMIN. CODE § 116.160(c)(2)(B) (emphasis added).

> Emissions that would occur as a result of the construction or operation of a major source or major modification, but do not come from the source or modification itself. *Secondary emissions must be specific, well-defined, quantifiable*, and impact the same general area as the stationary source or modification that causes the secondary emissions. Secondary emissions include emissions from any off-site support facility that would not be constructed or increase its emissions, except as a result of the construction or operation of the major stationary source or major modification. Secondary emissions do not include any emissions that come directly from a mobile source such as emissions from the tail pipe of a motor vehicle, from a train, or from a vessel.[51]

2. Las Brisas's Application Contained All Required Information

The ALJs misunderstand or, understand and mischaracterize, the only evidence in the record regarding Las Brisas Terminal Company ("***LBTC***") and, consequently, begin their analysis of secondary emissions under the misimpression that plans materially changed, in the sense that any change would have altered the relevant modeling analysis, for meeting the material handling needs for the LBEC.

First, because the ALJs seem concerned with the timing of when Protestants learned more detail regarding the plans for LBTC,[52] the ALJs should recall that Environmental Defense Fund, Inc. ("***EDF***"), the Protestant that is primarily responsible for raising the issue of secondary emissions, elected to wait ***more than four months*** after the commencement of discovery to even propound requests for disclosure on Las Brisas pertaining to LBTC[53] and ***more than seven months*** to take the deposition of Kathleen

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[51] 30 TEX. ADMIN. CODE § 116.12(32) (emphasis added). Section 116.12(32) is substantially the same as 40 C.F.R. § 52.21(b)(18), but is TCEQ's interpretation of its own rule, as evidenced in part by past practices that are in issue in this case.

[52] *See* PFD 25.

[53] Applicant Las Brisas Energy Center, LLC's Response to Protestant Environmental Defense Fund, Inc.'s and Protestant Sierra Club's Joint Motion for Extension of Prefile Testimony Deadlines at 3.

Smith, President and Chief Operating Officer of Las Brisas.[54] Second, if they truly are concerned that information was withheld from Protestants, the ALJs should not have overlooked that discovery responses served on all parties on July 30, 2009, made the plans for LBTC plain.[55] Third, there simply is no evidence in the record to contradict the fact that LBTC was the proposed name for a proposed entity that was part of a plan to privatize the existing bulk terminal operations at the Port of Corpus Christi Authority ("***POCCA***").[56]

Citing Applicant's Consolidated Response to Protestants' Motions for Summary Disposition (see Attachment C),[57] the ALJs explain to the Commissioners that Chase Power Development, LLC (Las Brisas's parent company) and Chase Terminal Company "planned to develop and operate a commercial bulk terminal facility,"[58] but by quoting only this snippet from Las Brisas's response to a prehearing motion, the ALJs incompletely and, therefore, incorrectly describe early plans for the LBTC.

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54 EDF took the deposition of Kathleen Smith on September 29, 2009.

55 *See* EDF Ex. 301 at 8-11.

56 *See* Trial Tr. at 887:20 to 889:12 (agreeing that the "*ambition* of LBTC, or the applicant, was to upgrade Port of Corpus Christi [A]uthority existing bulk handling terminal facilities") (emphasis added); EDF Ex. 100 at 8:24-25 (Hunt) ("Further, according to LBEC's discovery responses, LBTC was 'formed to explore the potential upgrade of the existing bulk terminal operations at the Port of Corpus Christi.'"); EDF Ex. 301 at 8-11.

57 *See* PFD at 25 n.43; Applicant's Consolidated Response to Protestants' Motions for Summary Disposition at 2 ("There are currently no active plans to develop or use a site operated by LBTC. Las Brisas does not plan to utilize LBTC for any material handing or storage. In fact, LBTC has never been formed as a corporation."), Ex. A (Affidavit of Kathleen Smith ¶¶ 9-11).

58 *See* PFD at 25.

The ALJs apparently fail to appreciate that LBTC's plan to privatize the POCCA would have transferred the permits that are currently held by the POCCA to LBTC.[59] Therefore, whether they are held by POCCA or LBTC, the discussion of off-site material emissions is the same; namely, the adequacy of currently allowable emission rates from the POCCA permits to accommodate the material handling needs for the LBEC. Yet, in the context of secondary emissions, the ALJs repeatedly state that there was a late change in Las Brisas's plans and that the change is somehow significant.[60] This is simply wrong or at best an unexplained overemphasis on a change in business plans that makes no difference whatsoever in determining whether the Application meets all applicable requirements. Moreover, the ALJs complain that Las Brisas failed to address the issue of secondary emissions in its prefiled testimony submitted on July 10, 2009,[61] more than six weeks before Protestants' prefiled testimony was submitted,[62] but do not explain to the Commission the timing of the submittal of Applicant's prefiled testimony or the fact that the ALJs precluded rebuttal testimony on this issue.[63]

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[59] *See* Trial Tr. at 853:7-12 (agreeing that hypothetical represented in Las Brisas Ex. 40 describes the relative relationship of the LBEC and surrounding properties); 861:24 to 863:22 (agreeing that POCCA as it exists today encompasses Mr. Hunt's perception of the LBTC property). At a minimum, even Mr. Hunt acknowledged that not only does the LBTC not exist, but also that the LBTC has no air permit or other application and there would have to be additional permitting action to authorize any new source located on POCCA property. *See* Trial Tr. at 809:18-22, 882:1-24 (Hunt).

[60] *See* PFD at 44. The ALJs apparently are persuaded by Protestants' claims that there was some nefarious purpose behind and dramatic consequence to whether LBTC or POCCA provide material to the LBEC, but fail to explain what the consequences would be.

[61] *See* PFD at 44.

[62] *See* Order No. 2 (setting Protestants' deadline to prefile as August 14, 2009), Order No. 12 (extending deadline for Protestants to prefile to August 21, 2009).

[63] The ALJs ignore Las Brisas's permit application as evidence of its position in its direct case. *See* Las Brisas Ex. 7 at 99-104 ('Table A-1 Air Quality Analysis Reporting Checklist), 148-84 (POCCA Permits 9498 and 47881); Executive Director's Reply to Closing Arguments at 2

Ultimately, the ALJs declare that Las Brisas's assertion that plans for the off-site material handling have been consistent throughout the application process is "inexplicable"[64] but, to reach this conclusion, the ALJs must believe that LBTC was contemplated as an entity separate from POCCA – again, a proposition for which there is no evidentiary support.[65]

Furthermore, the ALJs grossly oversimplify Las Brisas's arguments pertaining to secondary emissions and miss the fundamental point that increases in emissions, which may or may not be necessary to meet the LBEC's material handling needs, are not specific, well-defined, or quantifiable. This oversimplification is discussed below. However, before discussing ***off-site*** secondary emissions, which to be secondary emissions the emissions in question must be from ***off-site*** sources, a few issues pertaining to ***on-site*** sources must be discussed because it appears that the ALJs completely misunderstood certain testimony.

("the record reflects that the Applicant submitted the information typically required for the impacts analysis: air dispersion modeling showing impacts from the proposed LBEC, which includes the surrounding sources.").

[64] PFD at 37 n.69.

[65] *See* EDF Ex. 100 at 7:1-9 (Hunt). Only Mr. Hunt provides testimony pertaining to the construction of LBTC on adjacent tract that Mr. Hunt believes would be separate from the existing POCCA operation. *See id.* at 8:22-23. Yet, Mr. Hunt's exclusive basis for his conclusion are some schematics produced by Applicant in response to written discovery requests that even Mr. Hunt acknowledges were never finalized. *See id.* at 16:10 to 17:24, 18:15-21. There is absolutely no evidence that these schematics were ever considered by Las Brisas or Chase Power for construction. In fact, according to Ms. Smith, no one related to the LBEC or LBTC considered these conceptual designs or construction or operation of the LBEC and the relationship with the author of these designs was terminated before Applicant prefiled its direct case. *See* Applicant's Consolidated Response to Protestants' Motions for Summary Disposition Ex. A ¶¶ 11, 12 (Att. C).

Obviously, there will be material handling on-site. These operations are depicted in the diagram cited by the ALJs,[66] but these diagrams relate to *on-site* material handling, including the Material Transfer Tower.[67] Shanon Disorbo's testimony regarding a tube or otherwise enclosed conveyor, which will still feed the Material Transfer Tower, was that there need not be and will not be emissions from the conveyor feeding into the identified emission points.[68] This testimony, elicited on re-direct examination, was in response to cross-examination by Mr. Baab, on behalf of EDF, suggesting that Las Brisas had failed to include emissions from this ***on-site*** conveyor and transfer point, which is simply erroneous.[69] The Material Transfer Tower transfer point is controlled by baghouses and the emissions are accounted for in the Maximum Allowable Emission Rate Table ("***MAERT***") as Emission Point Numbers ("***EPNs***") SILO-COKE 1 through SILO-COKE8.[70] Because they are on-site, they are part of the proposed LBEC source and were properly modeled.[71] They are not properly considered "secondary emissions" and in a discussion of secondary emissions any reference to them is misplaced.[72]

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66 *See* PFD at 25 (citing Las Brisas Ex. 3 at 23).

67 *See* Las Brisas Ex. 3 at 29 (Figure 4-1); Trial Tr. at 249:25 to 250:5 (DiSorbo) ("[A]ny emissions from the . . . material transfer tower would be collected and pneumatically sent to the baghouses for control, and those baghouses would be the same emission points that are designated SILO-COKE1 through COKE8."). Each CFB boiler will be equipped with five petroleum coke silos. *See* Las Brisas Ex. 3 at 25. Each CFB boiler petroleum coke silo group will be equipped with two fabric filters, i.e., baghouses (EPNs SILO-COKE1 through SILO-COKE8). *See id.*

68 *See* Trial Tr. at 250:10 to 252:24 (DiSorbo). *See also* Las Brisas Ex. 3 at 25 (explaining that the conveyors will be "equipped with hoods to reduce the particulate emissions").

69 *See, e.g.,* Trial Tr. at 95:10-25 (DiSorbo).

70 *See* Trial Tr. at 252:2-15 (DiSorbo); Ex. 31 at 33-34 (MAERT).

71 *See* Trial Tr. at 2092:2-11 (Jamieson); 857:4-23, 860:10 to 861:10 (Hunt) (agreeing that Mr. Kupper correctly modeled on-site sources at the LBEC).

72 *See* 30 TEX. ADMIN. CODE § 116.12(32).

Furthermore, in each diagram, the Application clearly indicates that the material feeding into the Material Transfer Tower will come "From Storage and Processing (By Others)."[73] Oddly, the ALJs cite the White Stallion application, also prepared by Mr. Disorbo, to suggest that there must be emissions from conveyors despite the fact that Mr. Disorbo testified that there need not be if an applicant utilizes a tube conveyor.[74] It is curious that the ALJs struggle to apply the White Stallion proposed limits when they are lower, but discredit Las Brisas when it proposes to employ controls that limit potential emissions to greater degree than that proposed by White Stallion.[75]

Furthermore, the ALJs' statement in the portion of the PFD entitled "b. Protestants' arguments and evidence of the PFD" points out: "The Application establishes that the LBTC and LBEC sites are located on adjacent property with LBTC material handling and storage activities connected to the LBEC facilities with a conveyor system."[76] Because it appears in the description of the Protestants' arguments, it is unclear whether the ALJs intended this sentence to be a declarative statement reflecting their findings, but, either way, the citation to the record (Figure 3-2) does not support the conclusion in the sentence. Specifically, Figure 3-2 only shows a conveyor coming on site to the Material Transfer Tower from "Others."[77]

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[73] Las Brisas Ex. 3 at 29 (Figure 4-1); *see also* Las Brisas Ex. 3 at 23 (Figure 3-2 referring to the "conveyor from off-site material storage (by others)").

[74] *See* Trial Tr. at 250:10-22 (DiSorbo).

[75] *See* PFD at 46. *But see* Trial Tr. at 251:9 to 252:15 (DiSorbo) (stating that no emissions are authorized for this conveyor in the Draft Permit MAERT).

[76] *See* PFD at 32 (citing Las Brisas Ex. 7 at 16 (Figure 3-2)). The same Figure 3-2 also appears in Las Brisas Ex. 3 on page 23.

[77] *See* Las Brisas Ex. 3 at 23.

Nonetheless, the application does clearly state: "The materials will be transported to the adjacent site operated by [LBTC]. The materials from the LBTC stockpiles will be delivered to the LBEC material handling systems via conveyors, equipped with hoods to reduce the particulate emissions."[78] And the ALJs correctly conclude that this reference does not create an unalterable obligation for LBTC to supply the LBEC.[79] Thus, at the time of the hearing and presently, for reasons explained in detail below, there simply is not and cannot be a specific description in the Application as to where off-site material handling sources would be located, despite the numerous suggestions by Protestants and the ALJs that such a description is a deficiency in the application. Furthermore, to the extent that the ALJs have noted the use of the word "adjacent" in the Application when it mentions LBTC and seemingly concluded that the reference means something more than "nearby," if LBTC successfully privatized POCCA, as it always intended to do, the result would have been that the tracts were adjacent, as the POCCA bulk material handling operations property surrounds LBEC.[80] At the time of the hearing and now, LBTC will not be located anywhere at all.[81]

Acknowledging that LBTC planned to acquire the POCCA operations is essential when contemplating the property boundaries of the once-considered LBTC, which are extremely important when considering any of EDF's purported modeling results that, for at least two reasons not highlighted in the PFD, should be completely dismissed from any consideration. First, Mr. Hunt's placement of receptors in his purported LBTC modeling

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78 *Id.* at 25.

79 *See* PFD at 32.

80 *See id.* at 7, 11.

81 Trial Tr. at 811:19-24 (Hunt); PFD at 38.

neglected the proper property boundaries that would have accompanied LBTC's privatization of POCCA.[82] Subdividing the POCCA/LBTC property has the direct effect of over-predicting values at what Mr. Hunt considered "off-site" receptors based on the false premise that LBTC and POCCA material handling operations would be located on separate properties.[83] This discrepancy is likely the main cause of Mr. Hunt's exaggerated modeling results and was fully explored and debunked on cross-examination of Mr. Hunt.[84] Repeating one of Mr. Hunt's many charts in the PFD has the potential to attach unwarranted significance to the purported findings and, given that Mr. Hunt acknowledged his mistaken premise,[85] the ALJs should acknowledge and report that Mr. Hunt's modeling is indicative of nothing.

Moreover, the PFD should acknowledge that Mr. Hunt's modeling is also flawed for at least two other significant reasons: (1) his modeled emission rates do not reflect Best Available Control Technology ("***BACT***"); and (2) Mr. Hunt follows no guidance other than his own. To the first point, even if the LBTC were to be built in the configuration suggested in one of many conceptual designs,[86] the Hunt modeling chart[87] copied into the PFD[88] is extremely misleading,[89] in part because Mr. Hunt's LBTC

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82 This particular modeling run is even more suspect as Mr. Hunt purports to have used the same receptors as Mr. Kupper for his analysis, which would be inappropriate. EDF Ex 100 at 16:10-12 (Hunt).

83 *See* Las Brisas Ex. 40 and related testimony at Trial Tr. 840:7 to 890:15 (Hunt).

84 *See* Trial Tr. 840:7 to 890:15 (Hunt).

85 *See id.* at 876:3-18.

86 *See* EDF Ex. 100 at 16:10 to 17:24 (Hunt).

87 *See* EDF Ex. 109.

88 *See* PFD at 34.

modeled emission rates are too high according to Dr. Phyllis Fox – another Protestant witness. While it was probably inadvertent, Dr. Fox testified on direct that the schematic relied upon by Mr. Hunt for off-site material handling was clearly not BACT. Specifically, Dr. Fox testified that

> BACT analyses are usually performed for these types of sources, resulting in controls such as enclosures for the storage piles, covered conveyors, and water sprays. The conceptual design suggests these storage piles would not be covered. This would not satisfy BACT, which typically requires that coke storage piles be enclosed within a barn or dome to control emissions. The coke storage pile at the JEA Northside facility, which LBEC relies on as a similar source, for example, is enclosed.[90]

Additionally, Mr. Hunt did not rely on the same modeling guidance as Mr. Kupper.[91] In fact, Michael Hunt does not rely on any particular guidance and dismisses it any time he disagrees with it[92] (e.g., his relentless insistence that road emissions must be modeled).[93] Given Mr. Hunt's long-held[94]position that he is the best and sole arbiter of

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89 *See* Trial Tr. at 826:16 to 827:17 (Hunt) (agreeing that his table could be misleading "to the layperson").

90 Sierra Club Ex. 300 at 47:33 to 49:4 (Fox). While Dr. Fox fails to appreciate that BACT is applied to minor new sources in Texas, her testimony makes the point that Mr. Hunt's hypothetical LBTC emissions rates have not been reviewed by the proper permitting authority.

91 *See* Trial Tr. at 907:9 to 916:8 (Hunt) (describing some TCEQ guidance that Mr. Hunt does not rely on); Trial Tr. at 1288:11 to 1290:17 (Sears) (explaining that Mr. Kupper relied on TCEQ modeling guidance).

92 *See* Trial Tr. at 911:7 to 912:10 (Hunt) ("I follow the guidance I think is appropriate in [each] situation. . . . I don't ignore [TCEQ guidance.] I don't use it because I don't believe it's correct.").

93 *See* Trial Tr. at 794:25 to 795:12, 805:4-11 (Hunt) (agreeing that he has maintained for approximately the last 10 years that road emissions must be modeled despite having never been accepted by TCEQ as a valid method for evaluating emissions impacts from roads).

94 Mr. Hunt has been conducting air dispersion modeling for approximately the last 40 years. *See* Trial Tr. at 858:2-4 (Hunt).

emission rates, even when the TCEQ Commissioners believe them too high,[95] no attention, much less weight, should be given to his modeling results.

As stated above, the ALJs apparently miss, or at least fail to mention, the legal significance and import for PSD modeling purposes of the only evidence in the record describing the intent of Chase Power pertaining to the LBTC and its former plans to privatize the existing operations at POCCA.[96] The ALJs clearly fail to appreciate that, if the plan for the LBTC had been carried out, POCCA material handling operations and the permits authorizing those operations would have been transferred to LBTC along with POCCA property.[97] Thus, whether operated by the POCCA or by the LBTC, the off-site material handling for the LBEC was always to be provided under the existing POCCA authorizations for Bulk Materials Docks 1 and 2. Any suggestion that there has been a change in that approach, no matter how many times it is repeated, is not supported by any evidence.[98]

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95 *See, e.g., id.* at 794:25 to 795:12, 805:4-11.

96 *See* Trial Tr. at 887:20 to 889:12 (Hunt) (agreeing that the "ambition of LBTC, or the applicant, was to upgrade Port of Corpus Christi [A]uthority existing bulk handling terminal facilities"); EDF Ex. 100 at 8:24-25 (Hunt) ("Further, according to LBEC's discovery responses, LBTC was 'formed to explore the potential upgrade of the existing bulk terminal operations at the Port of Corpus Christi.'"); EDF Ex. 301 at 8, 11; Applicant's Consolidated Response to Protestants' Motions for Summary Disposition at 2 ("There are currently no active plans to develop or use a site operated by LBTC. Las Brisas does not plan to utilize LBTC for any material handing or storage. In fact, LBTC has never been formed as a corporation."), Ex. A (Affidavit of Kathleen Smith ¶¶ 9-11).

97 *See* Trial Tr. at 853:7-12 (Hunt) (agreeing that hypothetical represented in Las Brisas Ex. 40 describes the relative relationship of the LBEC and surrounding properties); *id.* 861:24 to 863:22 (agreeing that POCCA as it exists today encompasses Mr. Hunt's perception of the LBTC property).

98 The ALJs should revise their PFD to remove all references to changes in off-site material handling plans and suggestions that the Protestants were prejudiced by the purported switch. Per the ALJs' first order setting the schedule in the case, discovery began on April 3, 2009, when Applicant provided to each party a written copy of the application, yet no written discovery was served by EDF (the principal party pushing the secondary emissions issue) until June 26, 2009,

Contrary to the ALJs' claims, Las Brisas is not attempting to back into a secondary emissions analysis.[99] There can be no dispute that, from the outset, Las Brisas's position has been that there would be no secondary emissions.[100] Unless the ALJs think that Las Brisas falsified its Application, nothing else makes sense, because as all parties acknowledge, new or increased emissions must be accounted for in the PSD process, either as part of the same proposed source (i.e., the LBEC) or as secondary emissions. This was not lost on Las Brisas in the application process and the ALJs should not presume that Las Brisas misrepresented the matter in its Application.

In their final analysis, the ALJs summarize Las Brisas's argument as: "[LBEC's] material handling may be wholly and completely processed by the POCCA docks without any increase in emissions over those approved by the present permits for the POCCA docks and already included in LBEC's modeling."[101] The ALJs "do not understand the secondary source rule [sic] to contemplate that an applicant would ever seek approval or authorization in its permit for additional secondary sources [sic] at another facility [sic]." Thus, the ALJs admit that consideration of secondary emissions does not – indeed, could not – require an applicant to obtain authorization for the secondary sources in its permit.[102] And herein lies one of Applicant's main points, which the ALJs curiously do

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and the deposition of Kathleen Smith was not taken until September 28, 2009. The Protestants' failure to probe Applicant's plans for material handling until late in the case was a product of the Protestants' own making; the Protestants did not timely take advantage of the discovery opportunities provided them.

99 *See* PFD at 37.

100 *See* Las Brisas Ex. 7 at 101 (answering not applicable to requirement to provide a list of secondary emissions "if applicable").

101 PFD at 38.

102 *See* PFD at 39.

not discuss in the "secondary emissions" section of the PFD and only reach much later in an isolated context when discussing conveyor emissions.[103] Specifically, by definition, secondary emissions "must be specific, well-defined, [and] quantifiable."[104] If the specificity, definition, or quantity of the emissions are unknown by the applicant, then those emissions are not and cannot be "secondary emissions."

The ALJs find this point interesting but, without citation, "caution that it is not their understanding that an applicant may avoid secondary emissions simply by failing to quantify or specify emissions that may be readily defined."[105]

The ALJs do not seem to appreciate that each new or modified source of air contaminants in Texas is subject to a BACT analysis and, therefore, a case-by-case determination of allowable emission rates from proposed sources.[106] Thus, despite their statements to the contrary, the ALJs seek to make it part of Las Brisas's burden to speculate as to the design and siting of material handling equipment and associated emission rates that might be allowed under an appropriate BACT analysis – assuming it could get the TCEQ to even engage in "setting" such emission rates – when Las Brisas cannot ensure that POCCA would ever apply for the facilities described by Las Brisas or

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103 *See* PFD at 57.

104 30 TEX. ADMIN. CODE § 116.12(32); 40 C.F.R. § 52.21(b)(18).

105 PFD at 57.

106 *See* TEX. HEALTH AND SAFETY CODE § 382.0518(b); 30 TEX. ADMIN. CODE 116.111(a)(2)(C).

build them before the BACT analysis is moot. TCEQ rules and practices simply do not allow for speculative permitting.[107]

Furthermore, although the quarry example in federal guidance may be pertinent, it is very simplistic.[108] Specifically, it presumes an emission increase to explain that the increased emissions must be considered even though the source of the increased emissions is not part of the stationary source seeking a permit. Alone, it provides no insight as to how one might treat the increased quarry emissions. Fortunately, although not cited or apparently understood by Mr. Hunt, there is another example in the same federal guidance document[109] that explains the issue further and confirms that Las Brisas properly considers secondary emissions as increases above what was modeled in its compliance demonstration.[110] In that example, after describing for purposes of the example that a power plant and a mine are "neither under the same SIC major group

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107 30 TEX. ADMIN. CODE § 116. 120(a)(1) (providing that permit or permit amendment under this chapter is void if the permit holder fails to begin construction within 18 months of issuance).

108 *See* EDF Ex. 102 at A.18 ("An example is the emissions from an existing quarry owned by one company that doubles its production to supply aggregate to a cement plant proposed for construction as a major source on adjacent property by another company. The quarry's increase in emissions would be secondary emissions which the cement plant's ambient impacts analysis must consider.").

109 While the ALJs gratuitously and disparagingly find irony in Las Brisas citing federal guidance for PSD modeling references related to increment, the distinguishing feature in this regard from other references to TCEQ guidance is that, in this instance, the TCEQ guidance specifically references EPA's 1990 Guidance as follows: "If the increment is not exceeded, the demonstration is complete. Otherwise, continue to refine increment emission rates or demonstrate that the project's impact will not be significant (EPA, 1990)." Las Brisas Ex. 102 at 52.

110 *See* Sierra Club Ex. 205 at A.31.

number nor have the same owners, so they constitute separate sources,"[111] the guidance explains treatment of the fugitive emissions from the mine as follows:

> The only emissions at the existing mine, and consequently the only emissions increase that will occur from the expansion to serve the power plant, are fugitive PM/PM-10 emissions from mining operations. The mine's potential to emit, for PSD applicability purposes, is zero and the mine is not subject to a PSD review. The increase in fugitive emissions from the mine, however, will be classified as secondary emissions with respect to the power plant and, therefore, must be considered in the air quality analysis and additional impacts analysis for the proposed power plant if the power plant is subject to PSD review.[112]

Thus, secondary emissions are only considered in the air quality analysis and additional impacts for the proposed power plant ***if*** the power plant is subject to PSD review.[113] In other words, secondary emissions are not considered in determining if the proposed source is major or in determining the area of impact ("***AOI***").[114]

Additionally, the ALJs appear not to understand that, unlike most other sources, it is legally possible to increase quarry and mine emissions without regulatory oversight because they are not subject to a permit or a permit allowable. TCEQ permits the emissions from a "facility."[115] Under the law, neither a quarry nor a mine is a facility. Therefore, a quarry's emissions are not required to be permitted and fugitive emissions

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111 *See id.* at A.29.

112 Federal NSR Guidance at A.31

113 The ALJs incorrectly conclude that "secondary emissions should be considered as if they were emissions from the stationary source itself." PFD at 43.

114 *See* Sierra Club Ex. 205 at C.27.

115 *See* TEX. HEALTH & SAFETY CODE § 382.003(6) ("'Facility' means a discrete or identifiable structure, device, item, equipment, or enclosure that constitutes or contains a stationary source, including appurtenances other than emission control equipment. A mine, quarry, well test, or road is not considered to be a facility.").

can increase without TCEQ approval. Such is not the case with the POCCA sources, which are all facilities with legally limited particulate matter emissions.[116]

It appears to be no accident that EPA's guidance refers only to emission sources with fugitive emissions that would not be legally limited and, while the ALJs scoff at Las Brisas's argument regarding the legal limitations of the POCCA permits preventing secondary emissions,[117] those limitations are real, enforceable, and under the control of TCEQ. The limitations of the POCCA permits do not forever prevent increases in emissions from the POCCA sources, but how and whether emission increases will be granted to the POCCA in the future is clearly within the TCEQ's control. TCEQ permits limit emissions from facilities and the TCEQ can require air dispersion modeling whenever the agency perceives that an issue may exist with respect to air quality.[118] Furthermore, to the extent that there is any concern raised in this proceeding regarding increment consumption from the POCCA sources alone, that concern is not an impediment to TCEQ's issuance of the LBEC permit. TCEQ may issue the LBEC permit and take steps to investigate and address any increment issue.[119]

To further explain and demonstrate Las Brisas's position in this case regarding secondary emissions, consider one additional fact added to EPA's quarry hypothetical: a competitor quarry is located on the other side of the property where the concrete plant is

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116 *See* Las Brisas Ex. 7 at 148-84.

117 *See* PFD at 39.

118 *See* 30 TEX. ADMIN. CODE § 116.111(a)(2)(J).

119 *See* Sierra Club Ex. 240 at 2 ("[If] a modeled violation of a NAAQS or PSD increment may be predicted within the impact area, but . . . it is determined that the proposed source will not have a significant impact . . . the proposed source may be issued a permit . . ., but the State must also take steps" to correct the predicted exceedance.); Sierra Club Ex. 205 at C.52 (same); 40 C.F.R. 51.165(b).

proposed to be located. If there is no contract between the proposed plant and either quarry for material, are there "secondary emissions" – i.e., are there specific, well-defined, and quantifiable emissions from one or both quarries that are attributable to the construction or operation of the concrete plant? Presumably, the ALJs would say that there were, but what would the hypothetical applicant model and where? Would the ALJs require the applicant to choose a supplier or just model the infinite number of scenarios that might develop if the applicant decides to play the spot market?

Mysteriously, the ALJs conclude that Las Brisas does not have to permit off-site facilities, but a few paragraphs later the ALJs take the position that Las Brisas cannot meet it burden of proof without "plans, process flow diagrams, or emissions calculations"[120] for off-site material handling emissions that cannot be specified or quantified and that Las Brisas could not authorize in its permit. The ALJs fail to explain how an applicant can exercise control over off-site sources sufficient to assure the ALJs of the location of hypothetical facilities based on the applicant's proposed emission rates for sources it does not control and cannot permit.[121] In short, the ALJs' approach would require an applicant to prove the specificity and quantity of secondary emissions – per the regulatory definition – from facilities that it does not control and cannot permit and then model speculative emissions scenarios. Such an approach is neither sound nor required, particularly when TCEQ must authorize any change to the existing facilities and can take

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120 PFD at 41.

121 The ALJs morph the requirements pertaining to consideration of secondary emissions in PSD modeling into "secondary sources" and "background sources," but Applicant is unaware of any regulatory definition for these terms in this context. *See* PFD at 45.

into account the concerns raised by the Protestants in this case if any change or increase in emissions is ever necessary and requested.[122]

It is indisputable that Las Brisas does not control the POCCA, the POCCA's material handling facilities, or the POCCA permits for those facilities. Accordingly, Las Brisas cannot commit the POCCA to any specific sources, controls, or emission rates. Las Brisas can say definitively that, if changes to the POCCA facilities or the construction of new facilities are necessary to supply the LBEC, the POCCA will have to apply to the TCEQ and any such changes or new facilities will be subject to a BACT analysis. The result of the BACT analysis (which, as stated above, is case-by-case and cannot be plucked from some other application that has yet to be approved and is being protested by some of the same parties in this case, including EDF) cannot be determined without TCEQ analysis and, therefore, the emission rates resulting are not known or, in other words, quantifiable. However, the ALJs and the Commission can be assured that PM_{10} emissions from future material handling facilities will not be higher than those authorized by other similar issued permits and, according to Dr. Fox at least, will be significantly lower than those modeled by Michael Hunt. In the end, the ALJs seemingly acknowledge that Mr. Hunt, who likely over predicted emission rates, calculated the total emissions (based on one engineering diagram produced in discovery, over objection of Las Brisas as to relevance, and handpicked from thousands of pages by EDF's counsel, including other possible material handling configurations)[123] at 2.35 lbs/hr.[124]

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122 *See* 30 TEX. ADMIN. CODE § 116.111(a)(2)(J).

123 *See* Trial Tr. at 873:21 to 874:16 (responding to questions about his reliance on diagrams of LBTC that "[t]here were many schematics, but there was that one particular one that shows the way out of the plant") (Hunt).

The ALJs inexplicably and incorrectly refer to the White Stallion application modeling as more refined.[125] The record in this case is devoid of any such expert opinion and it is a mystery as to how the ALJs reach this remarkable conclusion absent any testimony. Moreover, comparing Las Brisas's Application to the White Stallion application is an apples-to-oranges comparison. White Stallion plans to construct new material handling facilities – not rely on existing sources – for all of the operations prior to its Material Transfer Tower or equivalent.[126] Emissions from these While Stallion facilities are not "secondary emissions" – they are proposed as part of the same source. As explained above, secondary emissions are not treated as part of the source itself; even Mr. Hunt testified that "same source emissions" and "secondary emissions" are treated differently in modeling.[127] Same-source emissions are utilized to determine if a proposed source is major and to determine the AOI, while secondary emissions are considered in the modeling after the AOI and receptors have been determined.[128] In other words, secondary emissions are modeled the same as "background emissions," to use the ALJs' curious terminology.

Furthermore, the ALJs fail to appreciate that Las Brisas's calculations regarding the POCCA's hourly throughput were not cobbled together or ignorant of the annual

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124 *See* PFD at 46. Mr. Hunt, unlike when he is working for an applicant, took no steps to consider controls on these hypothetical sources to reduce off-site impacts. *See* Trial Tr. at 917:15 to 923:12 (Hunt) (explaining that, if he were representing an applicant, he would recommend additional controls if an exceedance were predicted, but he did not depart from information found in discovery when preparing to testify).

125 *See* PFD at 41.

126 *See* EDF Ex. 307 at 6-1, 6-9, 6-10; EDF Ex. 310.

127 *See* Trial Tr. at 872:18 to 873:1 (Hunt) (explaining that there are no secondary emissions when facilities are considered the same source).

128 *See* Las Brisas Ex. 102 at 38-40.

throughput limitation. Las Brisas's simple calculation should have demonstrated to the ALJs that 1,500 tons per hour throughput can provide almost twice the amount necessary to supply the LBEC with the materials it needs when considered on an hourly basis.[129] Because the metric of concern is the 24-hour PM_{10}[130] increment, the calculation demonstrates that the existing POCCA facilities are not constrained on an hourly basis and, consequently, on an hourly emission rate basis. Perhaps the ALJs would have preferred Las Brisas to divide the 7.2 million tons per year by 8,760 hours per year (i.e., 365 days per year times 24 hours per day), which yields a need for 821.9 tons per hour or only 55% of the POCCA's currently authorized hourly throughput capacity for Dock 2 only (i.e., without considering authorized throughput for Dock 1). Obviously, if the POCCA's existing hourly emission rates contemplate moving 1,500 tons per hour and are calculated on that basis – which they are – the POCCA can move much more material through the sources authorized in its Dock 2 permit alone than it currently is authorized to move annually.[131] Regardless of the vocabulary confusion, the ALJs seem to agree that if no emissions occur on an hourly basis above emissions Las Brisas modeled, then the 24-hour PM_{10} increment modeling is acceptable.[132] Thus, because the hourly emission rates are much greater than what the POCCA can move annually (dividing annual authorized tons in Dock 2, or 2.8 million tons,[133] by 8,760 hours equals 320 tons per hour), there is sufficient room in the existing Dock 2 permit to move the material

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129 *See* Applicant's Response to Closing Arguments at 19.

130 Particulate matter with a diameter less than or equal to 10 micrometers.

131 *See* Las Brisas Ex. 7 at 148-56.

132 *See* PFD at 37.

133 *See* Las Brisas Ex. 7 at 156.

needed to supply Las Brisas. This argument is not cobbled together; it is simple math and requires only an appreciation that the hourly emission rate of PM_{10} corresponds to the analysis of compliance for the PM_{10} 24-hour increment.

The ALJs appear to lose track of the main Protestant claim that Las Brisas's modeling shows it to be close to violating the 24-hour PM_{10} increment and detour into a discussion of the annual throughput limitations.[134] Las Brisas's modeling demonstrates that its maximum annual impact is 4.44 $\mu g/m^3$ or only 26% of the annual allowable increment of 17 $\mu g/m^3$.[135] Similar to the ALJs' reasoning regarding the SO_2 increment,[136] there is no reason for concern that changes to the annual throughput will alter the results of the modeling, particularly given the fact that annual throughput does not necessarily translate into increased emissions once current BACT is applied.[137]

Finally, the ALJs have apparently interpreted the Executive Director's request for remand on the secondary emissions point to be a request for remand to the Executive Director, as opposed to reopening the record of the hearing for the taking of additional evidence. The Executive Director admits that this Application supplied the information

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134 *See* PFD at 42-44.

135 *See* Las Brisas Ex. 7 at 62.

136 *See* PFD at 68.

137 *See* Trial Tr. at 2027:23 to 2028:17 (Hamilton) (referring to CEC Ex. No. 17 and testifying that, based on those photos, current operation of existing POCCA sources "do[] not look like BACT"); Sierra Club Ex. 300 at 47:33 to 49:4 (Fox) ("BACT analyses are usually performed for these types of sources, resulting in controls such as enclosures for the storage piles, covered conveyors, and water sprays. The conceptual design suggests these storage piles would not be covered. This would not satisfy BACT, which typically requires that coke storage piles be enclosed within a barn or dome to control emissions. The coke storage pile at the JEA Northside facility, which LBEC relies on as a similar source, for example, is enclosed.").

typically required of Applicant[138] and, therefore, if the Commissioners determine that reopening the hearing record on this or any other issue is appropriate, they may do so without sending the matter back to the Executive Director.[139]

C. AIR DISPERSION MODELING

1. Mislocated Sources

Contrary to the ALJs' description of events, LBEC did not "locate" the off-site sources in its original modeling and, therefore, did not mislocate the sources in question. They were modeled in the locations provided in the TCEQ point source database ("***PSDB***").[140] However, once these discrepancies were pointed out, Las Brisas corrected the coordinates in its modeling, remodeled, and introduced the new modeling on rebuttal. Indeed, both ALJs acknowledged on the record at the hearing that rebuttal modeling of this sort is common in contested case hearings and would be allowed.[141] In fact, to accommodate complaints of the Parties that there was an inadequate time to review the rebuttal modeling, the ALJs adjourned the hearing to allow all parties to review the modeling inputs, which were only minimally revised. Despite this history, the ALJs now

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138 *See* Executive Director's Reply to Closing Arguments at 2 ("the record reflects that the Applicant submitted the information typically required for the impacts analysis: air dispersion modeling showing impacts from the proposed LBEC, which includes the surrounding sources.").

139 *See* 30 TEX. ADMIN. CODE § 80.265.

140 *See* Trial Tr. at 417:12 to 418:7, 430:6-8 (Kupper) (explaining that the sources of his modeled emission points were directly from the PSDB retrieval provided by TCEQ).

141 *See* Trial Tr. at 543:23 to 544:3 (Broyles) ("[O]n direct, protestants will come in and say the applicant's modeling was insufficient because of this. I want the protestants to know the applicant, then, can come in on rebuttal and bring in their application and . . . modeling. At that point, it's in on rebuttal . . . ."); *id.* at 546:14-23 (Bennett) ("[W]hen we talk about modeling, they may have to do modeling for the application, but if you come in and you say the modeling is deficient, and they come back with modeling says [it doesn't matter], that's properly responsive, even though that may be new modeling. . . . [Applicant] may bring in new modeling if it's responsive.").

seem to recommend that the Commission overrule the decision they made at the hearing and further seem suggest that rebuttal modeling necessarily must result in a remand to the Executive Director in this case because the Executive Director has requested such.[142] In light of their statements on the record at the hearing The ALJs' recommendation in the PFD is surprising.

Certainly, the Executive Director has no different rights from any other Party, such that he may object after the ALJs have ruled on other Parties objections raising the same point and well after the hearing. It is unquestionable that the Executive Director did not object at the time the rebuttal modeling was offered into the record and, consequently, should not be allowed to object after the hearing adjourned. Furthermore, much time has passed since the hearing and, if the Executive Director disagrees with the inputs to the rebuttal modeling or outputs reported in the rebuttal testimony of Mr. Kupper, certainly the Executive Director should make the specifics of his concerns known. The Commission should not remand this matter back to SOAH simply to find out that the Executive Director has no concerns with the rebuttal modeling or testimony related thereto. Furthermore, as with any party to a contested case, the Executive Director can withdraw his concern based on a review of the modeling that has occurred since the hearing. In short, a remand to is not required, much less a remand to the Executive Director.

Furthermore, while the ALJs lack confidence in the original modeling, their concerns stem, in part, from speculation as to why Applicant made adjustments to the

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142 PFD at 55.

Citgo permit.[143] On this point, there is no evidence in the record, or even a suggestion, that contradicts the TCEQ-authorized adjustment of Citgo's permit allowable to a value more than four times less than what Applicant initially modeled.[144] Therefore, this adjustment improved the accuracy of the model in that it simply replaced a higher input that was no longer valid. Presumably, the ALJs would have preferred that the Applicant remove only inaccuracies that were to the Applicant's disadvantage on rebuttal.

The ALJs conjecture as to the motives of LBEC in making this correction is not supported by any evidence and is simply wrong.[145] Similarly, the ALJs also incorrectly report that Mr. Kupper admitted mislocating sources in the rebuttal modeling.[146] In fact, he admitted that he could not verify that they were actually in the place identified in the database,[147] but that is different from saying they are mislocated.

Finally, the ALJs' reference to Mr. Kupper's use of the "days" analysis in his rebuttal modeling as indication of a significant change in the modeling results[148] further highlights the ALJs' confusion. Frankly, there is no basis for such a conclusion. Based on the testimony by Mr. Kupper and Mr. Hunt at the hearing, the ALJs seemed to appreciate that the number generated while proving compliance with the standard bears

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143 *See* PFD at 52.

144 *See* Trial Tr. at 562:10-13, 563:11 to 564:16 (Kupper) (explaining that his research regarding the PSDB retrieval revealed revised PM10 emission rates for Permit No. 2523C (the Citgo permit) that reduced the permitted allowable total pounds per hour from 4.1 to 0.854).

145 *See* PFD at 55.

146 *See* PFD at 51-52.

147 *See* Trial Tr. at 433:12 to 434:2, 624:5 to 625:16 (Kupper) (explaining that, for increment analysis, once the model predicts emissions that are less than the applicable standard at a receptor that is determined to be significant, the analysis stops); 856:6 to 857:12 (Hunt) (agreeing with Mr. Kupper's method).

148 *See* PFD at 55.

no relation to the "actual" value that might be determined if one were engaged in solving to the ultimate conclusion of what was the second highest high at a receptor at the time the proposed source was significant.[149] Las Brisas agrees that the regulatory guidance requires such action,[150] and Las Brisas complied, but that should not be mistaken for an actual conclusion as to the absolute result. The direction in the guidance is to solve until the application shows compliance and there is no logical or supportable conclusion other than the absolute value for the LBEC is somewhere between 5 and 29.7 $\mu g/m^3$. Any other conclusion distorts the extremely conservative methodology employed in evaluating the modeled results.[151]

Ultimately, the ALJs inaccurately extrapolate from the Executive Director's request for remand that the remand requested is to the Executive Director for technical

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149 *See* Trial Tr. at 509:22 to 510:3 (Kupper)

150 *See* Las Brisas Ex. 102 at 50-52 ("If the increment is not exceeded, the demonstration is complete. Otherwise, continue to refine increment emission rates or demonstrate that the project's impacts will not be significant.").

151 *See* Las Brisas Ex. 100 at 27:8-14,33:16-18, 37:21 to 38:5 (Kupper); Trial Tr. at 186:17 to 187:13 (DiSorbo testifying that the modeling used the highest concentration of sulfur in any potential source of petroleum coke); 419:19 to 420:7 (Kupper testifying that collocating all of the sources at one point would over predict a receptor downwind); 509:16 to 510:22 (Kupper testifying that some operations were modeled as operating daily instead of assuming a more realistic operating scenario); 525:4 to 526:15 (Kupper testifying that the model used a 100-km radius of impact rather than the TCEQ guidance recommended radius of approximately 55 km); 579:7 to 592:5 (Kupper elaborating on additional modeling assumptions that do not reflect realistic operating scenarios); 595:25 to 607:25 (Kupper testifying that he modeled a moisture content value smaller than the lowest possible moisture content for any of the materials that could be handled at the LBEC); 693:6 to 695:10 (Kupper explaining that "because moisture tends to reduce the dust emission, . . . the more moisture, the less the concentration [of dust emissions];" 911:7 to 912:10 (Hunt testifying that TCEQ's methodology for estimating emissions from storage piles is more conservative); 2089:22 to 2091:11 (Jamieson acknowledging that one method of modeling conservatively includes assuming exaggerated operations than what can reasonably be expected in realistic operating scenarios); 2313:23 to 2319:22 (Kupper summarizing the conservative assumptions in the modeling; 2332:22 to 2333:7 (Kupper testifying that TCEQ guidance allows for less conservative modeling than that prepared for the LBEC).

review, as opposed to SOAH, for more evidence.[152] This is presumptuous and belied by the fact that all the Executive Director wanted is more time to review the modeling. Certainly, the several months since replies to closing arguments were submitted have provided the Executive Director the opportunity requested.

2. Modeling Of Material Handling Sources

For some unknown reason, the ALJs think that the conveyor depicted in the Application is no longer applicable.[153] This is wrong and evidences the problem that the ALJs manifest in their secondary emissions analysis. If the conveyor cannot be represented and emissions cannot be zero according to Applicant's expert because of another application that is incompletely provided in the record,[154] of what value would it be to extend the line to an existing conveyor and say that it will be covered and controlled to zero? Why would any other schematic representation or emissions analysis be better received? How would an applicant prove that the predicted emission rates would be approved by the TCEQ as BACT and built as planned on an unrelated supplier's property?

In this section, the ALJs seem to be uncertain as to whether Las Brisas is claiming that material handling emissions from a conveyor are so uncertain that they do not constitute secondary emissions.[155] Applicant apologizes for not being clearer, but that is exactly the point – there are no secondary emissions unless they are specific and

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152 *See* PFD at 54.

153 *See* PFD at 57.

154 *See* EDF Exs. 114, 115, 116, 305, 306, 308, 309 (assorted excerpts of White Stallion Energy Center, LLC's application for Texas air quality permits).

155 *See* PFD at 57.

quantifiable. Applicant cannot design and authorize a system on another entity's property, but the ALJs claim that is essentially what Applicant must do to satisfy them that either there will be no secondary emissions or that secondary emissions will not result in an exceedance of a standard.

Consider this scenario and determine whether the chicken or the egg came first. Suppose the Commission adopts the ALJs' recommendation and remands the Application back to the Executive Director. Without any greater control over the POCCA facilities, Applicant shows that with the application of some additional controls to existing sources, POCCA could easily make head room for the amount of emissions that the LBEC would need for its material handling. To complete the picture, Las Brisas draws some facilities on POCCA's property that it would like POCCA to authorize and build at the appropriate time.[156] First, how would LBEC get TCEQ to review and approve the emission rates proposed by LBEC for POCCA sources? What public participation process would TCEQ follow for a non-existent application to authorize those sources that Las Brisas proposes POCCA build? Wouldn't the ALJs' first question be "How can you prove that POCCA will permit the facilities you propose"? And what response would Las Brisas give other than economics are a powerful motivator, which is exactly what is being said in the present case. POCCA will rise to the occasion at the appropriate time to move material to the LBEC because that is what it is in the business to do. And if emission controls on existing sources are necessary to accomplish its goals, it is reasonable to expect that they

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[156] Timing of construction is regulated under Chapter 116. Failure to begin construction authorized by any Chapter 116 permit within 18 months of the date of issuance will automatically void the permit. *See* 30 TEX. ADMIN. CODE § 116.120(a). Likewise, discontinuance of construction for a period of 18 months or more or failure to complete construction within a reasonable time will also automatically void the permit. *See id.*

will be applied. But even if one is skeptical about the economic motivation, the regulatory requirements to apply BACT to affected facilities will kick in.[157]

Finally, if one is still unconvinced, consider that the TCEQ has more than adequate authority and, some in this case would argue,[158] the present duty to reduce PM_{10} emissions in the area. Fortunately, the job is done and POCCA has reduced its allowable emissions to a fraction of its allowables at the time of the hearing and about 56% of what Mr. Kupper modeled from the Dock 2 permit in the original modeling (see Attachment D).

3. Moisture Content Of Materials Handled At POCCA

The goal of increment modeling is to consider actual emissions. TCEQ reviewed and allowed the moisture content adjustment and the ALJs' presumption that the moisture content adjustment was improper contradicts the Executive Director's interpretation of the guidance, despite the fact that staff work with it every day. Furthermore, representations in the POCCA permit application are as binding on POCCA as any other permit applicant and having been incorporated into POCCA's permit, there should be even greater confidence in their enforceability.[159] Moreover, the reference to 4.8%[160] moisture content is the lowest value represented in the POCCA application and, notably, if one wished to be specific, because the movement of petroleum coke is the primary

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157 *See* TEX. HEALTH & SAFETY CODE § 382.0518(b).

158 *See* Sierra Club Ex. 200 at 19:24-28 (Sears).

159 *See* Las Brisas Ex. 7 at 150, 151, 159 (renewing and revising POCCA Dock 2 Permit No. 9498 to include additional Special Conditions 6 and 8 that authorize removal of specific control technologies because the "facility will no longer be able to handle dry materials such as cement, clinker, clay, sand, and alumina," i.e., low-moisture materials).

160 *See* Las Brisas Ex. 7 at 44, 159, 166.

material to be moved through the POCCA Bulk Dock 2 permit in this case, the representation of the moisture content in the application is 8% but, Mr. Kupper did not overreach and simply took the lowest moisture content represented by the POCCA in its application.[161]

In any event, the issue is more than moot because on March 11, 2010, POCCA altered Permit No. 9498's maximum PM_{10} permit allowable to 12.79 lbs/hour based on a moisture content of 4.8% and, on April 12, 2010, POCCA further altered its permitted maximum PM_{10} permit allowable to account for physical constraints in its system to 7.85 lbs/hour (see Attachment D). Therefore, adding even Mr. Hunt's exaggerated hourly emission rate number to the new POCCA maximum yields an hourly maximum PM_{10} emission rate of 10.2 lbs/hour or almost 4 lbs/hour less than what Mr. Kupper modeled for the application from Dock 2.

With this change, certainly no remand to the Executive Director is necessary and no further process should be required.

D. BACT

1. Mercury

As discussed in Las Brisas's Closing Arguments, both the suite of mercury controls and the mercury emission limit proposed by Las Brisas and accepted by the Executive Director as BACT for the LBEC CFB boilers are significantly more stringent than those accepted as BACT for the two permits most recently issued by TCEQ for

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[161] *See* Las Brisas Ex. 7 at 166; Trial Tr. at 595:25 to 597:24 (explaining that although Applicant could have used a moisture content of 8% to reflect the petroleum coke needs of the LBEC, Las Brisas chose the lowest moisture content of coal to be more conservative in its modeling).

petroleum coke-fired CFB boilers – the Formosa Plastics Corporation (***"Formosa"***) permit issued in December 2006 and the Calhoun County Navigation District (***"CCND"***) permit issued in August 2007. Specifically, Las Brisas proposes to use an activated carbon system, a control technology *not* required for either the Formosa or CCND projects, to achieve a mercury emission limit of 2.0×10^{-6} lb/MMBtu, a limit that is *33% lower* than the 3.0×10^{-6} lb/MMBtu limit recently established as BACT for both the Formosa and CCND projects.

Not only do the ALJs largely ignore the fact that Las Brisas has proposed additional mercury control technology and a substantially lower emission limit than accepted as BACT by TCEQ in its most recently issued permits, they also have deviated both from TCEQ guidance and the evidentiary record to arrive at the improper and unsupportable position that the BACT emission limit for mercury should be 6.0×10^{-7} lb/MMBtu. As explained below, consideration of the record evidence in accordance with TCEQ's BACT guidance fully supports the conclusions of both Las Brisas and the TCEQ Executive Director that the proposed 2.0×10^{-6} lb/MMBtu mercury emission limit, when coupled with the permit's continuous mercury monitoring and optimization provisions, meets BACT.

a. The ALJs' Basis For Proposing A Lower Mercury Emission Limit Is Contrary To TCEQ's BACT Guidance

By law, the ALJs were required to consider and properly apply Commission rules and policy.[162] While the ALJs purport to apply TCEQ's BACT guidance, for the reasons set for below, they have failed to do so with respect to mercury.

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[162] See Tex. Gov't Code § 2001.058(b), (e)(1).

TCEQ's BACT guidance describes the Tier I BACT review process as follows:

> ***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 review. . . .[163]

Accordingly, a Tier I BACT review requires consideration of "emission *reduction* performance levels" accepted as BACT in recent permit reviews. Usually, a simple comparison of emissions limits proposed by an applicant to those established in recent permit reviews is consistent with the direction to consider "emission reduction performance levels" because, in most cases, uncontrolled emission rates are assumed to be identical and, thus, emission limits directly translate to "emission reduction performance levels." However, when comparing the Las Brisas and White Stallion BACT proposals for mercury this is not the case because Las Brisas and White Stallion did not use the same inlet mercury concentrations to arrive at their proposed limits. As explained below, because TCEQ's BACT guidance calls for a comparison of "emission reduction performance levels" and not inlet pollutant concentrations or even emission limits, the White Stallion application actually supports the finding of Las Brisas and the TCEQ Executive Director that the LBEC CFB boilers will satisfy BACT with respect to mercury emissions.

As an initial matter, there is simply no dispute that the mercury "emission reduction performance level" required to meet BACT for petroleum coke-fired CFB

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[163] Las Brisas Ex. 28 at 6 (bold emphasis added).

boilers is a mercury reduction level of 90%. Not only is this the "emission reduction performance level" proposed for the White Stallion project,[164] but it also is the "emission reduction performance level" supported by Sierra Club's witness, Dr. Phyllis Fox.[165] Furthermore, there is no dispute that Las Brisas's BACT proposal for the CFB boilers reflects a mercury reduction level of 88%.[166] Accordingly, consideration of the record evidence consistent with TCEQ's BACT guidance can only justify, at the very most, requiring Las Brisas to increase its mercury "emission reduction performance level" from 88 to 90%, a change that would reduce the mercury emission limit from 2.0×10^{-6} lb/MMBtu to 1.67×10^{-6} lb/MMBtu.[167]

The ALJs, however, did not recommend making the above-described adjustment. Instead, the ALJs chose to deviate from TCEQ's BACT guidance and proceeded to critique the petroleum coke mercury concentrations used by Las Brisas to arrive at its proposed mercury emission limit. Not only is there no evidence in the record to support the ALJs' critique of the petroleum coke mercury content data used by Las Brisas, as discussed above, the mercury content data simply is not relevant to the "emission reduction performance level" proposed by Las Brisas. Therefore, according to TCEQ guidance, it also is not relevant to the BACT determination.

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164 See Trial Tr. 220:25, 257:15-17 (DiSorbo); Las Brisas Ex. 32.

165 *See* Trial Tr. 1625:13-17, 1626:9-24 (Fox); Sierra Club Ex. 300 at 50:16-17 (Fox).

166 *See* Trial Tr. 220:6-21 (DiSorbo); Las Brisas Ex. 32.

167 2.0×10^{-6} lb/MMBtu x (1 – 0.90/1 – 0.88) = 1.67×10^{-6} lb/MMBtu.

b. The Record Contains No Evidence That The Mercury Content Data Or Las Brisas's Use Of That Data Was, In Any Way, Inappropriate

As the ALJs explain in their PFD, in its Application, Las Brisas provided mercury concentration data from eleven separate petroleum coke samples,[168] and used the complete set of data to estimate the average mercury concentration of the petroleum coke to be burned in the LBEC CFB boilers.[169] Specifically, Las Brisas took the average mercury concentration for the eleven petroleum coke samples, calculated the average of those values, and added a 25% "safety factor" to arrive at the average mercury concentration of the petroleum coke to be burned in the LBEC CFB boilers.[170] As explained below, without any credible justification, the ALJs find that this approach was improper.

The ALJs contention with the methodology employed by Las Brisas to estimate the average mercury content of the petroleum coke to be fired in the LBEC CFB boilers, while misguided, is fairly straightforward. That is, the ALJs take issue with the fact that Las Brisas failed to exclude the two highest values, the 0.84 part per million by weight ("***ppmw***") value for the Star refinery petroleum coke sample and the 0.53 ppmw value for the Shell refinery sample. Significantly, the ALJs do, however, indicate that inclusion of these higher mercury concentration values might have been appropriate had Las Brisas not chosen to also include the 25% "safety factor." As explained below, the ALJs'

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168 See Las Brisas Ex. 3 at 83.

169 *See* Las Brisas Ex. 3 at 83; Trial Tr. 227:23 to 228:17 (DiSorbo).

170 *See* Las Brisas Ex. 3 at 83; Trial Tr. 268:4-7 (DiSorbo).

concern regarding the inclusion of the Star and Shell refinery sample values is not supported by the evidentiary record.

The only support for the ALJs' theory that Las Brisas should have excluded the higher mercury values from the Star and Shell refinery petroleum coke samples is the fact the White Stallion chose to do so in its application.[171] However, there is no evidence in the record to support the presumption made by the ALJs that White Stallion's exclusion of the higher values was appropriate. In fact, despite a two-week evidentiary hearing involving numerous protestants, no party even questioned whether the mercury concentrations provided for the Star and Shell refinery petroleum coke samples were accurate, or whether Las Brisas will utilize petroleum coke with mercury concentrations in line with the concentrations reflected by these samples.[172] Instead, without citing any supporting evidence (because none exists), the ALJs somehow found it appropriate to step out of their appropriate role of triers of fact and into the role of fuel analysis "experts" and, based on the mere observation that the Star and Shell refinery values "appear to be outliers," conclude that they "can understand why the engineers in White Stallion chose to exclude them."[173] In essence, the ALJs unsubstantiated theory is – because the values are higher, they must not be correct.

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171 *See* Trial Tr. at 254:22 – 255:7 (DiSorbo).

172 Although Sierra Club's witness, Dr. Fox, testified that the level of mercury contained in petroleum coke is lower than assumed by Las Brisas, she provided no specific data to support her claim. *See* Sierra Club Ex. 300 at 50:11-14 (Fox). Nor did she testify that she was familiar with the specific sources of petroleum coke that will be burned in the LBEC boilers. *See* Sierra Club Ex. 300 at 50:11-14 (Fox). In fact, Dr. Fox could not because those specific sources have not yet been identified. As Ms. Smith explained, petroleum coke is generally sold on a very short-term basis, on a spot market, generally thorough commitments that last for one quarter in time. *See* Trial Tr. 2138:1-4 (Smith). Accordingly, the specific petroleum coke supplies that will be used as fuel for the LBEC cannot be known at this time.

173 PFD at 93.

The flaw in the ALJs' "outlier" theory is obvious once the complete set of petroleum coke data used by Las Brisas in its Application is analyzed. Despite the absence of any evidence indicating that the Shell and Star refinery mercury concentration values were in any way inaccurate or unrepresentative, the ALJs explain that they can "understand" why White Stallion chose to exclude the Shell and Star refinery values because they are, respectively, "at least ten and 20 times more than the mercury content for eight of the other nine samples."[174] While the ALJs' understanding may appear justified based on the discussion provided in the PFD, examination of the entire petroleum coke data set reveals that the ALJs' reasoning is fatally flawed. Specifically, the ALJs completely ignore the Marathon Ashland mercury value of 0.001 ppmw, a value that is *twenty times lower* than the next lowest value, and thus ever so much an "outlier" as the Shell and Star refinery values. Yet the ALJs don't question why this outlier was not excluded by White Stallion. Clearly the fact that it was not excluded exposes the fact that the ALJs are unfit to serve in the role as fuel data analysis experts and that their unsupported conclusions regarding the appropriateness of considering all available petroleum coke samples should be disregarded.

Furthermore, even the ALJs themselves concede that leaving in the Star and Shell refinery values "might be reasonable."[175] However, they also opine that "adding another safety margin of 25%" was "unreasonable."[176] Las Brisas stands behind the methodology it used to calculate the average petroleum coke mercury concentration, including the use

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174 PFD at 93.

175 *Id.* at 92-93.

176 *Id.* at 93.

of the 25% safety factor, given (1) the fact that the precise sources of petroleum coke simply cannot be know at this time, and (2) the substantial variability in petroleum coke characteristics depending on the source of crude oil and the coking method used to generate the petroleum coke.[177] Nonetheless, it is important to note that eliminating the 25% safety factor as suggested by the ALJs would not result in a mercury emission limit anywhere close to the 6.0 x 10^{-7} lb/MMBtu limit recommended by the ALJs. Instead, reducing the proposed emission limit by 25% would result in a limit of 1.5 x 10^{-6} lb/MMBtu[178] or, alternatively, 1.25 x 10^{-6} lb/MMBtu if combined with the slight increase in removal efficiency from 88 to 90%.[179] Accordingly, the lowest possible mercury limit that is consistent with the ALJs analysis, albeit flawed, is a limit of 1.25 x 10^{-6} lb/MMBtu.

The ALJs further explain that, in their opinion, "the record in not entirely clear that the differences in the data relied upon are the reason for the differing emission limits between White Stallion and LBEC."[180] While Las Brisas concedes that there was some initial confusion surrounding Mr. DiSorbo's explanation regarding the "output-based" nature of the proposed mercury emission limit,[181] as evidenced by the following excerpts from the hearing transcript, a complete and objective review of Mr. DiSorbo's testimony clearly indicates that the amount of mercury presumed to be in the petroleum coke was

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177 *See* Sierra Club Ex. 320 at 5 ("In reality, even within fuel grade petroleum coke there are substantial differences in fuel characteristics depending on source of crude oil and coking method.").

178 2.0 x 10^{-6} lb/MMBtu x (1 – 0.25) = 1.5 x 10^{-6} lb/MMBtu.

179 2.0 x 10^{-6} lb/MMBtu x (1 – 0.90/1 – 0.88) x (1 – 0.25) = 1.25 x 10^{-6} lb/MMBtu.

180 PFD at 93.

181 See Trial Tr. 258:18 – 259:9, 262:3 - 11 (DiSorbo).

very relevant to Las Brisas's establishment of a proposed mercury emission limit and that White Stallion's exclusion of certain mercury concentration data is the reason that its proposed mercury limit is lower.

> Q: Okay. So I understand that then. So then my next question is, what justifies the difference between the output standards between White Stallion Energy Center and the output standards for the Las Brisas Energy Center on your calculations?
>
> A: Okay. I think I can explain that. If you look on the "input" lines on both of these, you see that the – there's two differences. Right?
>
> The first difference would be the concentration of mercury in the input, and White Stallion, in their application, said on an annual basis the annual concentrations – the maximum annual concentration was .08. On Las Brisas, we said it was .23.
>
> Both applications represented the same data set of potential petroleum coke supplies. All the numbers were the same. The only difference was in White Stallion, to come up with a maximum annual number, White Stallion chose to exclude the two – two data points that they felt skewed the data. So by taking out two of the data points which were higher, it resulted in having a lower annual maximum number.[182]
>
> . . . .
>
> Judge Broyles: In the permit – the Las Brisas permit, the limit for mercury is what?
>
> A. The proposed limit is two times ten to the negative six pounds per MMBtu; yes, sir.
>
> Judge Broyles: So that comes from the representations from the design engineers on what you can – on the removal efficiency, and it comes from the concentration of the mercury –
>
> A. Correct.
>
> Judge Broyles: -- that Las Brisas is considering?
>
> A. Yes, sir. My understanding is that they would look at the assumptions of how much mercury is in the input, what they believe that

[182] Trial Tr. 260:14 – 261:10 (DiSorbo).

the pollution control equipment can achieve, and that's what they would guarantee.[183]

. . . . .

Q. And you mentioned earlier that certain fuel values were dropped or taken out of consideration in the White Stallion matter. Would you explain that?

A. Yes. The footnote – there's a footnote there under the mercury column that says, "Shell and [Star] outliers for mercury excluded from use." So if you look at the two columns that under – on the row for mercury – in the two columns, one under Shell and one under Star, those values were excluded from the average that ultimately resulted in the .08 value.

Q. In each case, in the White Stallion application and the Las Brisas application, was this information provided to the design engineers?

A. Yes.

Q. And is it the design engineers that relayed back to you the performance standard that's reflected in Las Brisas Exhibit 32 as the first factor in the input calculation – I'm sorry – first factor in the output calculation?

A. Yes.[184]

. . . .

Q. I'm sorry. That's a poorly worded question. I'll try again. You provided the fuel data information we've been discussing to design engineers, did you not?

A. Yes, we did.

Q. And did the design engineers provide you an output value? Yes or no?

A. Yes.

Q. And is that what you used in the permit application in each case?

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183 Trial Tr. 262:12 – 263:2 (DiSorbo).

184 Trial Tr. 273:23 – 274:18 (DiSorbo).

A. Yes, it was.[185]

. . . .

Q. Can you explain that to the Judges?

A. The concept is you put some in, you remove some, and you get less out. That's the concept. So I think part of the concept is knowing what's going in to begin with, coming up with a number that you believe is representative going in, then applying an engineering estimate assumption based on the facts as you know them for the control equipment and getting a number out. So one of the factors that's considered is the amount of mercury going in.[186]

Rather than focus on the repeated clarifications provided by Mr. DiSorbo clearly indicating that the amount of mercury in the petroleum coke did play an important factor in arriving at both the Las Brisas and White Stallion mercury limits, testimony that is supported by EDF's witness, Dr. Sahu,[187] the ALJs attempt to discredit Mr. DiSorbo by quoting a single answer he provided to a "question" presented by Judge Bennett. Judge Bennett's rather lengthy and convoluted "question," which is noticeably absent from the PFD, is provided below.

Q. (By Judge Bennett) Yeah, but then that brings me back, I guess, to my original question, and that is, the calculation of this number takes into account your input when you determine what you expect your input is going to be. *That's why I'm trying to put this together, because objectively, I guess, I'm having conceptual trouble with the concept that engineers have, in a vacuum, without taking into account what the input is going to be, said that is what we can achieve as an output.* If that is true, it seems to me that objectively two facilities should have the exact same output number that's only, then, affected by the input or other factors on the size of the boiler and so on.[188]

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185 Trial Tr. 275:8 – 19 (DiSorbo).

186 Trial Tr. 276:12 – 21 (DiSorbo).

187 Dr. Sahu explained that "it is customary that . . . vendor guarantees would be based on what they would obtain with different fuels." Trial Tr. at 1403:22-25 (Sahu).

188 Trial Tr. 263:3 – 17 (DiSorbo).

In essence, Judge Bennett apparently was asking how the design engineers could possibly have determined an appropriate mercury emission limit without taking into account the mercury concentration in the petroleum coke. Consistent with Mr. DiSorbo's above-cited testimony, he responded that it was more complicated than that. Specifically, he responded:

> A. Your honor, I can't speak to all the technical considerations that go into arriving at a performance standard for mercury, *but I assume it's complicated and not as straightforward as that* . . . .[189]

Mr. DiSorbo's answer that the process of arriving at the output-based mercury limit was more complicated than the engineers operating "in a vacuum" without considering the amount of mercury contained in the petroleum coke is entirely consistent with his above-cited responses – that the amount of mercury in the petroleum coke was a factor in determining the technically feasible emission limit. Unfortunately, rather than objectively reviewing the entirety of Mr. DiSorbo's testimony on this topic, the ALJs inappropriately hone in on Mr. DiSorbo's admission that he cannot speak to all the technical considerations that go into arriving at the performance standard for mercury. This criticism of Mr. DiSorbo is, however, entirely misplaced, as Mr. DiSorbo was never held out as a design engineer for the LBEC. Instead, as the air permitting and BACT expert, it was entirely appropriate for Mr. DiSorbo, when establishing BACT, to relay the petroleum coke characteristics to the LBEC design engineers and to rely on the

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189 Trial Tr. 263:18 – 21 (DiSorbo) (emphasis added).

information they provided in return regarding the lowest technically feasible performance standard for mercury.[190]

In summary, a complete and objective review of the evidentiary record reveals that White Stallion, without explanation, selectively excluded some, but not all, of the mercury sample "outliers" from the petroleum coke fuel analyses that have consistently been used by applicants seeking to permit petroleum coke-fired boilers. The record further reflects that this unexplained and unjustifiable adjustment is the only reason White Stallion's proposed permit limit is lower than the limit proposed by Las Brisas. Accordingly, contrary to the ALJs' conclusion, the evidence in the record does provide a legitimate reason why Las Brisas's proposed mercury limit is higher than White Stallion's.

c. The Requirement To Continuously Monitor Mercury Emissions Coupled With The Draft Permit's Optimization Provision Will Address Any Conservatism That Might Exist In Las Brisas's Proposed Mercury Limit

As explained above, the mercury "emission reduction performance level" proposed by Las Brisas for the LBEC petroleum coke-fired CFB boilers is consistent with the "emission reduction performance level" accepted as BACT by TCEQ in recent

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[190] Texas Rule of Evidence 703 permits an expert to base his opinion on facts or data perceived by, reviewed by, or made to known to him at or before the hearing if of a type "reasonably relied upon by experts in the particular field in forming opinions or inferences on the subject," even if the facts or data are inadmissible. "What is necessary is that the expert arrived at his . . . opinion by relying upon methods that other experts in his field would reasonably rely upon in forming their own, possibly different opinions, about [the subject issue.]" *Osburn v. Anchor Lab., Inc.*, 825 F.2d 908, 915 (5th Cir. 1987) (citations omitted). As demonstrated in this case, information provided by design engineers and equipment vendors was reasonably relied on by many of the testifying experts offered by both Applicant and Protestants. *See, e.g.,* Trial Tr. at 1709:24 to 1710:4 (Fox) ("A design engineer designs pollution control equipment. A regulatory permitting engineer uses the information available from design engineers, vendors, publications and other sources to assess what's feasible within the meaning of a regulation or statute.").

permit reviews, including White Stallion. While, pursuant to TCEQ guidance, this alone is sufficient to satisfy BACT, Las Brisas notes that any concern that the proposed 2.0 x 10^{-6} lb/MMBtu mercury emission limit is overly conservative is addressed by the monitoring and optimization provisions of the Draft Permit.

First, Special Condition 33 of the Draft Permit requires Las Brisas to continuously monitor mercury emissions from the CFB boilers and to use the monitoring data to demonstrate compliance with the 2.0 x 10^{-6} lb/MMBtu performance standard in Special Condition 11A.[191] Second, Special Condition 50, also called the "Optimization Provision," requires Las Brisas to submit a request to adjust the performance standard for mercury if the monitoring results are 50% or less of the 2.0 x 10^{-6} lb/MMBtu performance standard.[192] Accordingly, the continuous monitoring requirements of Special Condition 33 coupled with the optimization provision of Special Condition 50 will ensure that the performance standard for mercury is lowered if the mercury content of the petroleum coke ends up being substantially less than predicted by Las Brisas or even if the activated carbon injection system performs better than expected. Therefore, when the proposed permit limit is considered in conjunction with the continuous mercury monitoring and optimization provisions of the Draft Permit, there simply is no basis for the ALJs' concern that the permit limit is not sufficiently stringent.

d. The ALJs' Proposed Mercury Limit Is Based On Non-Existent "Permit Limits"

Although not specifically stated in their PFD, the ALJs' basis for proposing a mercury limit of 6.0 x 10^{-7} lb/MMBtu for the LBEC CFB boilers appears to be their

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191 *See* Las Brisas Ex. 31 at 72.

192 *See* Las Brisas Ex. 31 at 80.

mistaken belief that the White Stallion draft permit includes a mercury limit of 5.7 x 10^{-7} lb/MMBtu and that the CCND permit contains a mercury limit of 6.0 x 10^{-7} lb/MMBtu. As explained below, neither limit exists. Clearly, therefore, justification for the ALJs' proposed mercury limit is completing lacking.

Although Mr. DiSorbo testified during the hearing that White Stallion had represented in its permit application a mercury emission rate of 5.7 x 10^{-7} lb/MMBtu for petroleum coke firing,[193] the ALJs appear to have mistakenly understood that to mean that a 5.7 x 10^{-7} lb/MMBtu limit is contained in the White Stallion draft permit.[194] Had the ALJs actually reviewed the White Stallion draft permit, which was included as part of EDF's pre-filed testimony, they would have seen that no such limit exists in the permit. Instead, the White Stallion draft permit only contains a higher mercury limit of 8.6 x 10^{-7} lb/MMBtu in Special Condition 6A.[195]

The ALJs also are mistaken when it comes to the mercury limit in the CCND permit. In their PFD, the ALJs indicate that the CCND permit contains a mercury limit of 6.0 x 10^{-7} lb/MMBtu.[196] Here again, and as pointed out in Las Brisas's Response to Closing Arguments,[197] no such permit limit exists.

The ALJs' confusion regarding the CCND permit limit appears to stem from the statement in the Executive Director's Response to Public Comments that the "annual

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193 See Trial Tr. 257:1-5 (DiSorbo).

194 See PFD at 90 ("If burning pet coke alone, the White Stallion mercury limit is even lower: 5.7 x 10^{-7}.").

195 *See* EDF Ex. 7 at 2.

196 *See* PFD at 90 ("Further, Protestants note that another recent permit for a pet coke-fired CFB [sic] has similarly low mercury limits – namely, the CCND permit has mercury limits [sic] of 6.0 x 10^{-7} lb/MMBtu.").

197 *See* Applicant's Response to Closing Arguments at 65-66.

mass emission limit" for mercury in the CCND permit was revised to 14 pounds per year based on an agreement reached between the applicant and protestants[198] and the explanation that the 14 pounds per year limit "calculates to 0.60 lb Hg/TBtu," or 6.0×10^{-7} lb/MMBtu. However, nowhere in the Response to Comment does it state that the 6.0×10^{-7} lb/MMBtu value was included in the permit.[199] That is because it was not. Instead, a review of the revised CCND permit, a certified copy of which is included as Attachment E, reveals that while the annual ton per year mercury emission rate was lowered,[200] the performance standard contained in Special Condition 11A remains 3.0×10^{-6} lb/MMBtu, a value that is 33% higher than the mercury limit proposed by Las Brisas. Accordingly, there is simply no support in the record for the 6.0×10^{-7} mercury emission limit proposed by the ALJs.

2. Total PM/PM_{10}

At the outset of the ALJs' BACT discussion they state: "[I]t is important to identify two key factors *that must be considered at all times* in the BACT analysis: (1) the type of fuel to be used; and (2) the type of boiler to be used."[201] However, despite the ALJs' recognition that both fuel and boiler type are critical to the BACT analysis, they disregard these factors in recommending that the total PM/PM_{10} emission limit for the LBEC CFB boilers be lowered from the proposed rate of 0.033 lb/MMBtu to 0.025 lb/MMBtu, the rate established for a *pulverized-coal boiler that will burn coal.* As

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198 Las Brisas Ex. 31 at 40.

199 *Id.*

200 *See* Att. E.

201 PFD at 73 (emphasis added).

set forth below, the record evidence clearly establishes that, for petroleum coke-fired CFB boilers, Las Brisas's proposed total PM/PM_{10} limit of 0.033 lb/MMBtu is BACT.

As explained by Randy Hamilton, "[b]ecause few states regulate total PM, the EPA RBLC contains few entries for total PM and there are fewer permit examples on which to base a BACT decision compared to filterable PM, NO_X, SO_2, CO, or VOC."[202] In fact, the Executive Director's review of the RBLC did not reveal a single total PM/PM_{10} emission limit for a petroleum coke-fired CFB boiler.[203] Although ignored by the ALJs, the record evidence does indicate the following with respect to TCEQ's recent establishment of BACT for total PM/PM_{10} emissions from petroleum coke-fired CFB boilers. First, that the total PM/PM_{10} emission limit proposed for the LBEC CFB boilers is lower than the limits approved as BACT for the recently permitted Formosa and CCND projects, projects that do involve petroleum coke-fired CFB boilers. Specifically, BACT for total PM/PM_{10} emissions established for the most recently permitted project, the CCND project, was established at 0.0514 lb/MMBtu,[204] a limit that is *more than 50% higher* than the 0.033 lb/MMBtu limit proposed for the LBEC CFB boilers. Second, that the White Stallion draft permit, which the ALJs cite extensively in their discussion of BACT for mercury, contains a proposed total PM limit of 0.031 lb/MMBtu for petroleum coke firing,[205] a limit that is almost identical to the limit proposed for the LBEC CFB boilers. Accordingly, the record evidence supports, at the very lowest, a total PM emission limit of 0.031 lb/MMBtu.

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202 Exhibit ED-1 at 21:12-14.

203 Exhibit ED-1 at 21:18-21; Las Brisas Ex. 31 at 37.

204 *See* Las Brisas Ex. 35 at 4; Las Brisas Ex. 34 at 6.

205 *See* EDF Ex. 308 at 171.

Despite the above evidence, the ALJs deviate from their own direction that both the fuel and boiler type *must be considered at all times* in establishing BACT emission limits and, as a result, reach the improper conclusion that the total PM/PM_{10} emission limits proposed by Las Brisas "are significantly higher than the most-recently permitted limits for other facilities."[206] The ALJs' conclusion is improper because, as even they recognize, neither of the two "other facilities" they reference are CFB boilers firing 100% petroleum coke. Because the ALJs recognize that these "other facilities," specifically the Santee Cooper and NRG units, are not CFB boilers firing 100% petroleum coke, they attempt to justify the consideration of the emission limits for these units by claiming that the record evidence does not demonstrate that the differences in boiler and fuel type alone justify a difference in total PM/PM_{10} permit limits.[207]

The record evidence does, however, support the difference in total PM/PM_{10} emission limits. Specifically, as Mr. Hamilton testified, "total PM/PM_{10} reflects the contribution of condensables, or so-called back half catch, and includes H_2SO_4 and HCl."[208] And as he further explained:

> Combustion of petroleum coke has a higher potential to produce H_2SO_4 than coal because of its higher sulfur and vanadium content. Vanadium present in coke ash, promotes the conversion of SO_2 to SO_3. Because of these properties, comparison of BACT limits for H_2SO_4 should be limited to CFBs with petroleum coke as the fuel.[209]

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206 PFD at 89.

207 *Id.*

208 Ex ED-1 at 19:11-12.

209 *See* Ex. ED-1 at 20:17-21 (Hamilton).

Moreover, Mr. Hamilton's testimony regarding the fact that petroleum coke contains higher levels of both sulfur and vanadium than coal is supported by other evidence in the record.[210]

In summary, the record evidence does support the need to distinguish between petroleum coke- and coal-fired boilers when establishing total PM/PM_{10} emission limits. Accordingly, pursuant to the ALJs own directive, it was improper to consider the Santee Cooper and NRG coal-fired units in establishing BACT for total PM/PM_{10} emissions from the petroleum coke-fired LBEC CFB boilers. As the record reflects, the total PM/PM_{10} emission limit proposed by Las Brisas is significantly lower than the limits accepted as BACT by TCEQ when recently issuing the Formosa and CCND permits and almost identical to the limit contained in the White Stallion draft permit. Accordingly, the total PM/PM_{10} emission limit of 0.033 lb/MMBtu satisfies BACT.

3. Carbon Monoxide ("*CO*")

The ALJs recommend that the emission limit for CO be lowered from 0.11 lb/MMBtu to 0.10 lb/MMBtu based on the 0.10 lb/MMBtu CO limits established for the CLECO Rodemacher 3 and Entergy Little Gypsy 3 facilities in Louisiana. As explained in Las Brisas's closing briefs, however, the 0.10 lb/MMBtu limit is not the only CO limit that applies to these Louisiana CFB boilers and, therefore, is not directly comparable to the 0.11 lb/MMBtu limit proposed for the LBEC CFB boilers, which applies for all loads. Specifically, at reduced loads, the Louisiana units are subject to a significantly higher

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[210] See Las Brisas Ex. 4 at 8 ("Further, for the Las Brisas project, petroleum coke is planned as the primary fuel choice, which typically contains high sulfur . . . ."); Las Brisas Ex. 5 at 3 ("[T]here can be high quantities [of vanadium pentoxide] present in flue gas when Petcoke with relatively high vanadium content is burned.").

limit than the CO limit proposed for the LBEC CFB boilers[211] because, as Sierra Club explained in its closing brief, "[a]t lower loads, combustion can potentially be more incomplete resulting in higher CO emissions."[212] For example, the CO limits for the Rodemacher CFB boilers are: "0.10 lb/MMBtu on a thirty-day rolling average basis when operating at or near base load, and 0.15 lb/MMBtu on a thirty-day rolling average when operating at less than base load (75% or less)."[213]

While the ALJs claim that "LBEC has given no explanation why the permitted limits for full capacity should not be a fair comparison to LBEC's proposed limits,"[214] that simply is not the case. In fact, the explanation is obvious – because the Louisiana facilities have a significantly higher CO emission limit (0.15 lb/MMBtu) that applies at reduced loads, they are not required to comply with the 0.10 lb/MMBtu limit for all load ranges. However, this is not the case with the 0.11 lb/MMBtu CO emission limit proposed for the LBEC CFB boilers as that limit will apply for all load ranges including reduced load ranges "where combustion can potentially be more incomplete resulting in higher CO emissions."[215]

The ALJs appear to have disregarded this obvious distinction based on the fundamental misunderstanding that "LBEC is not seeking to operate or be permitted for periods of less than full capacity."[216] This simply is not an accurate statement as there is

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211 *See* Las Brisas Ex. 500 at 19:33-36 (Hamilton).

212 Sierra Club's Closing Argument at 36.

213 *See* Las Brisas Ex. 49 at 7 (marked page 8).

214 PFD at 96.

215 Sierra Club's Closing Argument at 36.

216 PFD at 96.

absolutely no evidence in the record that the Draft Permit limits the LBEC CFB boilers to full capacity operation. Instead, while the LBEC CFB boilers will operate at base load units and, therefore, will operate a majority of the time at full load, Las Brisas has made no representation that operations will be limited to full load. In fact, the presumption that base load units only operate at full load has no basis in reality. Accordingly, there is an important distinction between the 0.11 lb/MMBtu CO emission limit proposed for the LBEC CFB boilers and the 0.10 lb/MMBtu limit in the Louisiana permits. As a result, there is no valid basis for lowering the CO emission limit proposed for the LBEC CFB boilers.

E. PLANT-WIDE APPLICABILITY LIMITS ("*PALS*")

Special Condition 44 of the Draft Permit contains the proposed PALs for the LBEC.[217] As indicated by the ALJs, there is currently no authority that would prohibit the Commission from granting the requested PALs.[218] Although the ALJs recommend the "PAL issue" be remanded, their reasons are unclear.[219] As discussed more fully in Applicant's Response to Closing Arguments (see Section VII.A) there is no issue at this time that prevents the Commission from issuing Las Brisas's Draft Permit with Special Condition 44. However, if the Commission determines, for whatever reason, that Las Brisas's PAL permit, PAL41, should not issue, the uncontroverted evidence provides that Special Condition 44 is severable and can be removed from Las Brisas's permit without

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217 *See* Las Brisas Ex. 31 at 75-77 (Executive Director's Response to Public Comment and revised Draft Permit); *see also* Las Brisas Ex. 3 at 57-59.

218 *See* PFD at 110; *see also* Applicant's Response to Closing Arguments at 78.

219 *See* PFD at 110.

any other changes or revisions.[220] No remand or other additional consideration is required.

II.
CONCLUSION

As set forth more fully above, Las Brisas proved compliance with all applicable statutory and regulatory requirements. Accordingly, its permit application to construct the LBEC should be granted by the Commission without further delay. Therefore, Las Brisas respectfully requests that the Commission issue an order adopting Las Brisas's proposed findings of facts and conclusions of law as filed with SOAH on February 1, 2010, and granting TCEQ State Air Quality Permit Nos. 85013, HAP48, PAL41, and PSD-TX-1138, as drafted by the Executive Director.

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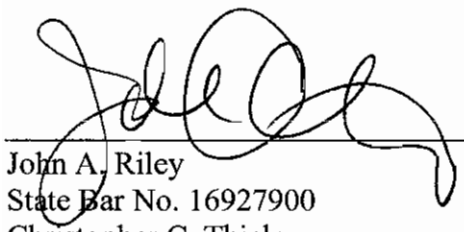
220 *See* Trial Tr. at 280:10-18 (DiSorbo).

Respectfully submitted,



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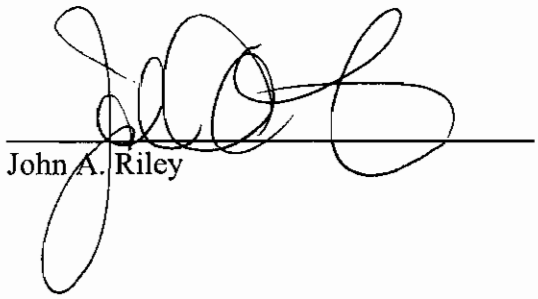
CERTIFICATE OF SERVICE

I certify that a true and correct copy of the foregoing Applicant Las Brisas Energy Center, LLC's Exceptions to the Administrative Law Judges' Proposal for Decision has been served on the following via hand delivery, facsimile, electronic mail, first class mail, and/or overnight mail on this the 19th day of April, 2010.



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ATTACHMENT A

Designation: D 388 – 05

Standard Classification of Coals by Rank[1]

This standard is issued under the fixed designation D 388; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This standard covers the classification of coals by rank, that is, according to their degree of metamorphism, or progressive alteration, in the natural series from lignite to anthracite.

1.2 This classification is applicable to coals that are composed mainly of vitrinite.

NOTE 1—Coals rich in inertinite or liptinite (exinite), or both, cannot be properly classified because, in those macerals, the properties that determine rank (calorific value, volatile matter, and agglomerating character) differ greatly from those of vitrinite in the same coal. Often such coals can be recognized by megascopic examination. In North America, these coals are mostly nonbanded varieties that contain only a small proportion of vitrain and consist mainly of attrital materials. The degree of metamorphism of nonbanded and other vitrinite-poor coals can be estimated by determining the classification properties of isolated or concentrated vitrinite fractions, or by determining the reflectance of the vitrinite (see Test Method D 2798 and Appendix X1 of this classification). However, in the use of these vitrinite-poor coals, some properties normally associated with rank, such as rheology, combustibility, hardness, and grindability (as well as the rank determining properties) may differ substantially from those of vitrinite-rich coals of the same degree of metamorphism.

The precision of the classification of impure coal may be impaired by the effect of large amounts of mineral matter on the determination of volatile matter and calorific value, and on their calculation to the mineral-matter-free basis.

1.3 The values stated in British thermal units per pound are to be regarded as the standard. The SI equivalents of British thermal units per pound are approximate. All other values in SI units are to be regarded as standard.

2. Referenced Documents

2.1 *ASTM Standards:* [2]

D 121 Terminology of Coal and Coke

D 720 Test Method for Free-Swelling Index of Coal

D 1412 Test Method for Equilibrium Moisture of Coal at 96 to 97 Percent Relative Humidity and 30°C

D 1757 Test Method for Sulfur in Ash from Coal and Coke

D 2013 Method of Preparing Coal Samples for Analysis

D 2234/D 2234M Practice for Collection of a Gross Sample of Coal

D 2798 Test Method for Microscopical Determination of the Vitrinite Reflectance of Coal [2]

D 3172 Practice for Proximate Analysis of Coal and Coke

D 3173 Test Method for Moisture in the Analysis Sample of Coal and Coke

D 3174 Test Method for Ash in the Analysis Sample of Coal and Coke from Coal

D 3175 Test Method for Volatile Matter in the Analysis Sample of Coal and Coke

D 3177 Test Methods for Total Sulfur in the Analysis Sample of Coal and Coke

D 3302 Test Method for Total Moisture in Coal

D 4239 Test Methods for Sulfur in the Analysis Sample of Coal and Coke Using High Temperature Tube Furnace Combustion Methods

D 4596 Practice for Collection of Channel Samples of Coal in the Mine

D 5016 Test Method for Sulfur in Ash from Coal, Coke, and Residues from Coal Combustion Using High-Temperature Tube Furnace Combustion Method with Infrared Absorption

D 5192 Practice for the Collection of Coal Samples from Core

D 5865 Test Method for Gross Calorific Value of Coal and Coke

3. Terminology

3.1 *Definitions*—For additional definitions of terms used in this classification, refer to Terminology D 121.

3.1.1 *agglomerating, adj*—as applied to coal, the property of softening when it is heated to above about 400°C in a nonoxidizing atmosphere, and then appearing as a coherent mass after cooling to room temperature.

3.1.2 *apparent rank, n*—of coal, the rank designation obtained on samples other than channel samples or core samples with 100 % recovery, but otherwise conforming to procedures of Classification D 388.

[1] This classification is under the jurisdiction of ASTM Committee D05 on Coal and Coke and is the direct responsibility of Subcommittee D05.18 on Classification of Coals.

Current edition approved Sept. 15, 2005. Published September 2005. Originally approved in 1934. Last previous edition approved in 2004 as D 388 – 99(2004)ε1.

[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

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3.1.3 *coal seam, n*—the stratum, layer, or bed of coal that lies between two other rock layers whose compositions differ significantly from that of coal.

3.2 *Abbreviations:Abbreviations*—Where it is desired to abbreviate the designation of the ranks of coal, the following abbreviations shall be used:

ma—meta-anthracite
an—anthracite
sa—semianthracite
lvb—low volatile bituminous
mvb—medium volatile bituminous
hvAb—high volatile *A* bituminous
hvBb—high volatile *B* bituminous
hvCb—high volatile *C* bituminous
subA—subbituminous *A*
subB—subbituminous *B*
subC—subbituminous *C*
ligA—lignite *A*
ligB—lignite *B*

4. Significance and Use

4.1 This classification establishes categories of coal based on gradational properties that depend principally on the degree of metamorphism to which the coal was subjected while buried. These categories indicate ranges of physical and chemical characteristics that are useful in making broad estimates of the behavior of coal in mining, preparation, and use.

5. Basis of Classification

5.1 Classification is according to fixed carbon and gross calorific value (expressed in British thermal units per pound) calculated to the mineral-matter-free basis. The higher-rank coals are classified according to fixed carbon on the dry basis; the lower-rank coals are classified according to gross calorific value on the moist basis. Agglomerating character is used to differentiate between certain adjacent groups.

6. Classification by Rank

6.1 *Fixed Carbon and Gross Calorific Value*—Coals shall be classified by rank in accordance with Table 1. Classify coals having gross calorific values of 14 000 Btu/lb or more on the moist, mineral-matter-free basis, and coals having fixed carbon of 69 % or more on the dry, mineral-matter-free basis, according to fixed carbon on the dry, mineral-matter-free basis. Classify coals having gross calorific values less than 14 000 Btu/lb on the moist, mineral-matter-free basis according to gross calorific value on the moist, mineral-matter-free basis, provided the fixed carbon on the dry, mineral-matter-free basis is less than 69 %.

6.2 *Agglomerating Character*—Classify coals having 86 % or more fixed carbon on the dry, mineral-matter-free basis, if agglomerating, in the low volatile group of the bituminous

TABLE 1 Classification of Coals by Rank[A]

Class/Group	Fixed Carbon Limits (Dry, Mineral-Matter-Free Basis), %		Volatile Matter Limits (Dry, Mineral-Matter-Free Basis), %		Gross Calorific Value Limits (Moist,[B] Mineral-Matter-Free Basis)				Agglomerating Character
					Btu/lb		Mj/kg[C]		
	Equal or Greater Than	Less Than	Greater Than	Equal or Less Than	Equal or Greater Than	Less Than	Equal or Greater Than	Less Than	
Anthracitic:									
Meta-anthracite	98	...	...	2	...	...	...	...	nonagglomerating
Anthracite	92	98	2	8	...	...	...	...	
Semianthracite[D]	86	92	8	14	...	...	...	...	
Bituminous:									
Low volatile bituminous coal	78	86	14	22	...	...	...	...	commonly agglomerating[E]
Medium volatile bituminous coal	69	78	22	31	...	...	...	...	
High volatile *A* bituminous coal	...	69	31	...	14 000[F]	...	32.557	...	
High volatile *B* bituminous coal	...	...	...	...	13 000[F]	14 000	30.232	32.557	
High volatile *C* bituminous coal	...	...	...	...	11 500	13 000	26.743	30.232	
					10 500	11 500	24.418	26.743	agglomerating
Subbituminous:									
Subbituminous *A* coal	...	...	...	...	10 500	11 500	24.418	26.743	nonagglomerating
Subbituminous *B* coal	...	...	...	...	9 500	10 500	22.09	24.418	
Subbituminous *C* coal	...	...	...	...	8 300	9 500	19.30	22.09	
Lignitic:									
Lignite *A*	...	...	...	...	6 300[G]	8 300	14.65	19.30	
Lignite *B*	...	...	...	...	...	6 300	...	14.65	

[A] This classification does not apply to certain coals, as discussed in Section 1.
[B] Moist refers to coal containing its natural inherent moisture but not including visible water on the surface of the coal.
[C] Megajoules per kilogram. To convert British thermal units per pound to megajoules per kilogram, multiply by 0.0023255.
[D] If agglomerating, classify in low volatile group of the bituminous class.
[E] It is recognized that there may be nonagglomerating varieties in these groups of the bituminous class, and that there are notable exceptions in the high volatile *C* bituminous group.
[F] Coals having 69 % or more fixed carbon on the dry, mineral-matter-free basis shall be classified according to fixed carbon, regardless of gross calorific value.
[G] Editorially corrected.

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class. Classify coals having gross calorific values in the range from 10 500 to 11 500 Btu/lb on the moist, mineral-matter-free basis according to their agglomerating character (Table 1).

6.3 *Supplemental Information*—A correlation of the ranking property, volatile matter (100—fixed carbon), with the mean-maximum reflectance of the vitrinite group macerals in coals tested in one laboratory over a period of several years is shown in Appendix X1.

7. Sampling

7.1 *Samples*—Classify a coal seam, or part of a coal seam, in any locality based on the average analysis and gross calorific value (and agglomerating character where required) of not less than three and preferably five or more face channel samples or core samples taken in different and uniformly distributed localities, either within the same mine or closely adjacent mines representing a continuous and compact area not greater than approximately four square miles in regions of geological uniformity. In regions in which conditions indicate that the coal probably varies rapidly in short distances, the spacing of sampling points and grouping of analyses to provide average values shall not be such that coals of obviously different rank will be used in calculating average values.

7.1.1 Take channel samples by excluding mineral partings more than 1 cm (⅜ in.) and lenses or concretions (such as sulfur balls) more than 1.25 cm (½ in.) thick and 5 cm (2 in.) wide, as specified in Practice D 4596.

7.1.2 A drill core sample may be used provided it was collected as specified in Practice D 5192 and meets the following provisions: core recovery is 100 % of the seam, the major mineral partings and concretions are excluded as specified in 7.1.1, and drilling mud is removed from the core (see also 7.1.6).

7.1.3 Place all samples in metal or plastic cans with airtight lids, or heavy vapor impervious bags, properly sealed to preserve inherent moisture.

7.1.4 Analyses of samples from outcrops or from weathered or oxidized coal shall not be used for classification by rank.

7.1.5 In case the coal is likely to be classified on the *moist* basis, that is, inclusive of its natural complement of inherent moisture, take samples in a manner most likely to preserve inherent moisture for purposes of analysis. Because some of the moisture in a freshly collected sample condenses on the inside of the sample container, weigh both the container and the coal before and after air drying, and report the total loss in weight as air-drying loss.

7.1.6 If the sample is a core or if it is impossible to sample the coal without including visible surface moisture, or if there may be other reasons to question the accuracy of inherent moisture content determinable from the sample, and the coal is likely to be classified on the *moist* basis, the sampler shall include the following statement in the description: *Moisture questionable*. Samples so marked shall not be used for classification on a moist basis unless brought to a standard condition of moisture equilibrium at 30°C in a vacuum desiccator containing a saturated solution of potassium sulfate (97 % humidity) as specified in Test Method D 1412. Analyses of such samples that have been treated in this manner shall be designated as *samples equilibrated at 30°C and 97 % humidity*.

7.2 *Other Types of Samples*—A standard rank determination cannot be made unless samples have been obtained in accordance with 7.1. However, the relation to standard determinations may be usefully given for other types of samples taken under unspecified conditions, providing the same standards of analysis and computation are followed. Designate these comparative indications as *apparent rank*, which indicates the correct relative position for the sample analyzed but does not imply any standards of sampling. Whenever apparent rank is stated, give additional information as to the nature of the sample.

7.2.1 The apparent rank of the coal product from a mine shall be based on representative samples taken in accordance with the Organization and Planning of Sampling Operations section (Section 7) of Practice D 2234/D 2234M.

7.2.2 In case the coal is likely to be classed on the *moist* basis, take samples at the tipple or preparation plant and seal the sample to prevent loss of moisture.

8. Methods of Analysis and Testing

8.1 *Laboratory Sampling and Analysis*—Prepare coal in accordance with Method D 2013 and analyze it in accordance with Test Methods D 3173, D 3174, D 3175, D 3177 or D 4239, D 3302, and Practice D 3172. Determine its gross calorific value in accordance with Test Method D 5865. Determine the sulfur trioxide (SO_3) retained in the ash in accordance with Test Method D 1757 or D 5016 and express the result on a dry basis. Inherent moisture is reported as as-received moisture if the sample was collected according to 7.1.1 or as equilibrium moisture if 7.1.6 (Test Method D 1412) applies.

8.2 Adjust the ash value determined in accordance with Test Method D 3174 to be free of sulfate as follows:

$$A = A_d\left(1 - \frac{SO_3}{100}\right)\left(1 - \frac{M}{100}\right) \quad (1)$$

where:

A = adjusted ash value on the inherent moist basis,
A_d = ash yield, dry basis, determined in accordance with Test Method D 3174,
SO_3 = in the ash determined in accordance with Test Method D 1757 or D 5016, and
M = inherent moisture.

Add to the value of fixed carbon that is determined in accordance with Practice D 3172 the value of the SO_3 determined in the ash to obtain the value FC to be used in Eq 2.

8.3 *Agglomerating Character*—The test carried out by the examination of the residue in the platinum crucible incident to the volatile matter determination shall be used.[3] Coals which, in the volatile matter determination, produce either an agglomerate button that will support a 500-g weight without pulverizing, or a button showing swelling or cell structure, shall be considered agglomerating from the standpoint of classification. In addition, a result of 1.0 or more on the Free Swelling Index

[3] Gilmore, R. E., Connell, G. P., and Nicholls, J. H. H., "Agglomerating and Agglutinating Tests for Classifying Weakly Caking Coals," *Transactions*, American Institute of Mining and Metallurgical Engineers, Coal Division, Vol 108, 1934, p 255.

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test (Test Method D 720) may also be used to indicate the coal is agglomerating; a result of 0.5 or 0 indicates the coal is nonagglomerating.

9. Calculation to Mineral-Matter-Free Basis

9.1 *Calculation of Fixed Carbon and Calorific Value*—For classification of coal according to rank, calculate fixed carbon and gross calorific value to the mineral-matter-free (Mm-free) basis in accordance with the Parr formulas,[4] Eq 2-4. Background information concerning the development of the Parr formulas as well as other ranking considerations and examples of the calculations (Table 1) are provided in Appendix X2.

9.2 Calculate to Mm-free basis as follows:

9.2.1 *Parr Formulas*:

$$\text{Dry, Mm-free FC} = 100(\text{FC} - 0.15S)/(100 - (M + 1.08A + 0.55S)) \quad (2)$$

$$\text{Dry, Mm-free VM} = 100 - \text{Dry, Mm-free FC} \quad (3)$$

$$\text{Moist, Mm-free Btu} = 100(\text{Btu} - 50S)/(100 - (1.08A + 0.55S)) \quad (4)$$

where:

Btu = gross calorific value, Btu/lb,
FC = fixed carbon, %,
VM = volatile matter, %,
M = moisture, %,
A = ash, %, and
S = sulfur, %.

In Eq 2 and Eq 4, the quantities are all on the inherent moisture basis. Fixed carbon (FC) and ash (A) are both adjusted to the SO_3-free basis in accordance with 8.2.

10. Keywords

10.1 anthracite; bituminous; coal; lignite; rank

[4] Parr, S. W., "The Classification of Coal," *Bulletin No. 180*, Engineering Experiment Station, University of Illinois, 1928.

APPENDIXES

(Nonmandatory Information)

X1. CORRELATION OF VOLATILE MATTER WITH MEAN-MAXIMUM REFLECTANCE OF VITRINITE

X1.1 The reflectance of vitrinite in a sample of coal, as determined by Test Method D 2798, provides a useful guide to the rank of the coal. The correlation of the mean-maximum reflectance of all varieties of vitrinite with volatile matter, expressed on a dry and mineral-matter-free basis, is given in Fig. X1.1. Data are plotted for 807 coal samples that contained less than 8 % ash from many different coal fields in North America. All data were determined by a single laboratory, with several different analysts over a period of several years. The plot shows a range of reflectances for three important rank groups:

Reflectance Range in Oil, Mean-Max, %	Distribution Midpoints	Rank
<1.15	<1.1	hvb
1.02–1.55	1.10–1.45	mvb
1.35–2.0 (?)	1.45–2.0 (?)	lvb

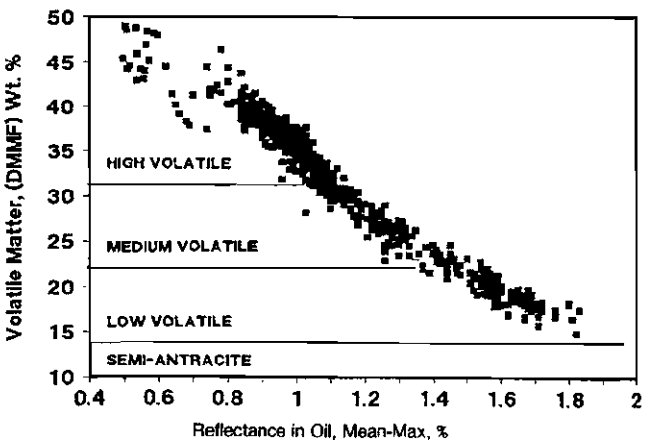

FIG. X1.1 Relation Between the Rank of U.S. Coals and Vitrinite Reflectance

NOTE X1.1—Coals with the same vitrinite reflectance and similar maceral compositions may have different rheological and fluorescence properties and even burn and carbonize differently. These differences may be due to such diverse factors as their geologic age, environment, or mode of accumulation (time, temperature, and pressure), or a combination thereof, and even differences in the plants that contributed to their formation. Thus, the use of vitrinite reflectance for selecting coals for use may need additional qualifications to predict their utilization potential. This is particularly important in selecting coals for coke production since vitrinites with the same reflectance but different fluorescence properties are known to produce different carbon forms that have different physical (strength) and chemical (reactivity) properties.

X1.2 The midpoints given above are the midpoints of the distribution for the lower and upper boundary points on the reflectance scale for the indicated rank. Of the 807 coals, those that contain greater than 25 volume % inertinites tend to plot on the lower side of the distribution range than do the others that contain more vitrinites and liptinites.

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X2. BACKGROUND INFORMATION ON THE PARR EQUATIONS AND OTHER RANKING CONSIDERATIONS

X2.1 *Introduction*—Coals are ranked according to Classification D 388 on a mineral matter-free basis, dry or moist, depending on the parameter that applies. The rank parameters—either volatile matter (or fixed carbon) or gross calorific values—are commonly reported by laboratories on the as-received, dry-and-ash-free basis. These reported values must be converted to the mineral-matter-free basis for ranking purposes. Thus converted, the properties of the maceral (carbonaceous) material are used as ranking criteria, and the effects of variable mineral matter contents, which are unrelated to rank, are eliminated. In essence, only the "pure coal" fraction of a given sample is being ranked. The Parr formula is used to estimate the original mineral matter in the coal by using the ash yield and total sulfur content determined on that coal as follows:

$$\mathrm{Mm} = 1.08A + 0.55S$$

where:

A = ash yield (ASTM Test Method D 3174) and

S = total sulfur content (ASTM Test Methods D 3177 or D 4239).

This formula assumes that clay minerals, with an average water of hydration content of 8 %, and pyrite, which contains essentially all the sulfur, are the only mineral groups present. Furthermore, the following reactions are assumed to occur during ashing: (1) the hydroxyl groups from the clay minerals are lost to the atmosphere; (2) the sulfur converts to sulfur dioxide, which also is lost; and (3) pyrite decomposes to iron oxide and iron is retained in the ash. The Parr formula attempts to correct the measured ash and sulfur for these reactions by adjusting their mass back to that of the original minerals in the coal. By using this formula, the varying amounts of mineral matter can be factored out of the ranking of coals. For example, Samples A and B in Table X2.1 are both ranked as Lignite A because they have similar gross calorific values when calculated to a moist, mineral-matter-free basis (gross calorific value$_{m,mmf}$), in contrast to their gross calorific values which are quite different on an as-received basis. In this example, differing mineral contents are thus factored out for the purposes of ranking.

Section X2.3 provides useful equations that enable the ranking parameters to be calculated from laboratory results on the dry basis for volatile matter, ash, and sulfur.

X2.2 *Explanation of Analytical Bases for Ranking Properties:*

X2.2.1 *Dry, Mineral-Matter-Free Basis*—The basis to which chemical properties are to be calculated for samples of coal of ranks medium volatile bituminous and higher. Mineral matter (Mm, noncoal) in North American coals is best approximated by the Parr formula[4]

$$\mathrm{Mm} = A_d + (5/8)S_d + 0.08(A_d - (10/8)S_d) \qquad \text{(X2.1)}$$

where:

A_d = ash content, dry basis (possibly sulfate-bearing) and

TABLE X2.1 Example Calculations of Coal Rank According to Classification D 388[A]

	Sample A	Sample B	Sample C	Sample D	Sample E	Sample F
As-Received (AR) Basis[B]						
Moisture % (inherent moisture)	34.79	32.45	14.94	9.85	9.20	1.88
Ash %	5.65	11.93	7.57	6.00	7.54	11.86
Volatile matter %	30.32	28.07	33.89	32.81	31.69	25.27
Fixed carbon %	29.24	27.55	43.60	51.34	51.57	60.99
Sulfur %	0.71	1.15	0.66	3.07	1.14	0.33
Gross calorific value, Btu/lb	7676	7093	10 178	10 178	12 077	13 045
Dry Basis						
Ash %	8.66	17.66	8.90	6.66	8.30	12.09
Volatile matter %	46 50	41.55	39 84	36.39	34.90	25.75
Fixed carbon %	44.84	40.78	51.26	56 95	56.80	62.16
Sulfur %	1.09	1.70	0.78	3.41	1.26	0.34
Gross calorific value, Btu/lb	11 771	10 500	11 966	11 290	13 301	13 295
Other Results						
Free swelling index (FSI)	0	0	0	2	4	2.5
SO_3 % of ash	11.00	10.57	9.75	2.17	2.18	2.27
SO_3 in ash, % of coal (AR basis)	0.62	1.26	0.74	0.13	0.16	0.27
SO_3-free ash (SFA)% (AR basis)[C]	5.03	10.67	6.83	5.87	7.38	11.59
Mineral matter, Parr % (SFA, AR basis)	5.82	12.16	7.74	8.03	8.59	12.70
FC (SFA, AR basis)[B]	29.86	28 81	44.34	51.47	51.73	61.26
Rank Determining Values[D]						
Gross calorific value, Btu/lb (moist *mmf*)	8113	8009	10 996	10 899	13 150	14 924
Volatile matter % (dry *mmf*)	49.90	48.30	42.78	37.89	37.28	28.34
Fixed carbon % (dry *mmf*)	50.10	51.70	57.22	62.11	62.72	71.66
Agglomerating character	non.	non.	non	aggl.	aggl.	aggl.
Rank (Classification D 388)	lig A	lig A	sub A	hvCb	hvBb	mvb

[A] Footnote[6].

[B] The as-received basis is equivalent to the inherent-moisture-containing basis only for samples collected and preserved as described in Section 7. For samples not meeting those criteria, data should be adjusted from the as-received basis to the inherent-moisture-containing basis.

[C] Values corrected to sulfate-free ash basis per Classification D 388, Section 8.2. These adjusted parameters are used to calculate rank-determining values.

[D] Parameters used for ranking each sample using Classification D 388 Table 1 are shown in bold type. The other values are shown for informational and comparison purposes only.

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S_d = sulfur content, dry basis.

Quoting Parr[4] (except for the subscript $_d$ and parentheses around the fractions, added for clarity):

"$(5/8)S_d$ restores the Fe_2O_3 as weighed in the ash to FeS_2, as weighed in the coal, 3 oxygens or 48 in the ash having been originally 4 sulfurs or 128 in the coal;

$(10/8)S_d$ represents the equivalent of Fe_2O_3 as weighed in the ash, that is, the Fe_2O_3 molecule, 160, is 10/8 of the sulfur present in the coal;

$(A_d - (10/8)S_d)$ is the ash as weighed minus the Fe_2O_3;

0.08 is a constant applied to the iron free ash to restore the water of hydration to the earthy matter less iron pyrites, thus representing the true amount of earthy constituent as weighed in the original coal."

The above reduces to: $Mm = 1.08A_d + 0.525S_d$
and simplifies to: $Mm = 1.08A_d + 0.55S_d$

where the coefficient of sulfur is arbitrarily adjusted up by the value 0.025 (to give results that do not statistically differ from those of other proposed formulas[5]).

X2.2.2 *Moist, Mineral-Matter-Free Basis*—The basis to which calorific value is calculated for determining coal rank for samples of coal of ranks high volatile *A* bituminous and lower.[5] This is the mineral-matter-free, inherent-moisture-containing basis, which is equivalent to the as-received basis for samples collected and preserved as described in 7. In Eq 4, the calorific value is corrected for the estimated heat of combustion of pyrite (–50*S*), and then calculated to the moist, mineral-matter-free basis by the factor (100 - Mm), equivalent to (100 – (1.08*A* + 0.55*S*)). All data are on the inherent-moisture-containing basis.

X2.3 Useful Equations—The ranking equation (Eq 3 of 9.2.1) can be simplified for cases when data are available on the dry basis: dry ash (A_d), volatile matter (VM_d), sulfur (S_d), and the sulfate ($SO_{3,d}$) content of the ash.[6] In such cases, Eq 3 of 9.2.1 can be expressed so as to yield the ranking parameter directly, the volatile matter on the dry, mineral-matter-free basis (VM_{dmmf}):

$$VM_{dmmf} = \frac{VM_d - 0.08A_d\left(1 - \frac{SO_{3,d}}{100}\right) - 0.4S_d}{1 - 0.0108A_d\left(1 - \frac{SO_{3,d}}{100}\right) - 0.0055S_d}$$

For a coal of rank—high volatile *A* bituminous or lower and for which the inherent moisture (M_i, or equivalent as-received moisture) and dry values for gross calorific value in Btu/lb (Btu_d), and the ash and sulfur contents are given, the ranking equation (Eq 4, 9.2.1)—gross calorific value on the moist, mineral-matter-free basis ($Btu_{m,mmf}$) is equivalent to:

$$Btu_{m,mmf} = \frac{100(Btu_d - 50S_d)}{100\left(\frac{100}{100 - M_i}\right) - 1.08A_d\left(1 - \frac{SO_{3,d}}{100}\right) - 0.55S_d}$$

Table X2.1 provides helpful example calculations for samples with widely different ranks to demonstrate some of the important considerations for classifying coals. These examples also demonstrate the effects of the correction factor for sulfur retained in the ash during the ashing process per 8.2 and its importance to rank determination.

Samples A and B are both ranked as Lignite A because they have similar gross calorific values when calculated to a moist, mineral-matter-free basis (gross calorific $value_{m,mmf}$), in contrast to their gross calorific values, which are quite different on an as-received basis. In this example, differing mineral contents are thus factored out for the purposes of ranking.

Samples C and D have essentially the same gross calorific $value_{m,mmf}$, but are not ranked the same because of their differing agglomerating properties. An important, but sometimes unclear consideration with higher rank coals is their agglomerating character. Since 1934, the agglomerating character of the sample has been used to distinguish subbituminous A from high volatile C bituminous coals. It was recognized that the calorific value of the two ranks overlapped. In earlier versions of the standard, "examination of the residue in the platinum crucibles incident to the volatile matter determination..." was the required procedure to determine agglomerating character. These versions go on to read "Coals which, the volatile matter determination, produce either an agglomerate button that will support a 500–g weight without pulverizing, or a button showing swelling or cell structure, shall be considered agglomerating... ." However, for over 25 years, the standard test for the Free-Swelling Index (Test Method D 720) has included the provision to test the pulverizing nature of the button under a 500–g weight. It has been the practice for many years to use the results of the Free-Swelling test to determine the agglomerating character of a coal as outlined in 8.3 of this standard.

Sample F demonstrates the need to use fixed carbon and volatile matter contents (on a dry, mineral-matter-free basis) since the fixed carbon exceeds 69 % irrespective of the gross calorific $value_{m,mmf}$. In Samples E and F, gross calorific values on a dry basis are very similar, but because Sample F contains greater than 69 % fixed carbon on a dry, *mmf* basis, these two samples are not given the same rank. Sample E is a high volatile B bituminous coal and Sample F is ranked as a medium volatile bituminous coal

[5] Fieldner, A. C., Selvig, W. A., and Gibson, F. H., "Application of Ash Corrections to Analyses of Various Coals," *Transactions*, American Institute of Mining and Metallurgical Engineers, Coal Division, Vol 101, 1932, pp. 223-246.

[6] Hoeft, A. P., Harvey, R. D., and Luppens, J. A., "Notes on the Determination of ASTM Coal Rank," *Journal of Coal Quality*, Vol 12, No. 1, 1993, pp. 8-13.

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ATTACHMENT B

Designation: D 121 – 09a

Standard Terminology of Coal and Coke[1]

This standard is issued under the fixed designation D 121; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This terminology defines the technical terms used in standards that are the responsibility of Committee D05 on Coal and Coke. The terms are used in:

1.1.1 The sampling of coal and coke under conditions required for most commercial and technical purposes related to coal and coke.

1.1.2 Bias and related statistical testing,

1.1.3 The description of coal, both visually in the field and microscopically in the laboratory,

1.1.4 Chemical and physical analyses of coal and coke,

1.1.5 Classification of coal, and

1.1.6 Certain other related practices and guides applicable to the coal and coke industries.

2. Referenced Documents

2.1 *ASTM Standards:*[2]

D 388 Classification of Coals by Rank

D 720 Test Method for Free-Swelling Index of Coal

D 1412 Test Method for Equilibrium Moisture of Coal at 96 to 97 Percent Relative Humidity and 30°C

D 1857 Test Method for Fusibility of Coal and Coke Ash

D 2013 Practice for Preparing Coal Samples for Analysis

D 2234/D 2234M Practice for Collection of a Gross Sample of Coal

D 2361 Test Method for Chlorine in Coal[3]

D 2795 Test Methods for Analysis of Coal and Coke Ash[3]

D 2798 Test Method for Microscopical Determination of the Vitrinite Reflectance of Coal

D 2961 Test Method for Single-Stage Total Moisture Less than 15 % in Coal Reduced to 2.36-mm (No. 8 Sieve) Topsize

D 3172 Practice for Proximate Analysis of Coal and Coke

D 3173 Test Method for Moisture in the Analysis Sample of Coal and Coke

D 3174 Test Method for Ash in the Analysis Sample of Coal and Coke from Coal

D 3175 Test Method for Volatile Matter in the Analysis Sample of Coal and Coke

D 3176 Practice for Ultimate Analysis of Coal and Coke

D 3180 Practice for Calculating Coal and Coke Analyses from As-Determined to Different Bases

D 3302 Test Method for Total Moisture in Coal

D 4371 Test Method for Determining the Washability Characteristics of Coal

D 4596 Practice for Collection of Channel Samples of Coal in a Mine

D 4749 Test Method for Performing the Sieve Analysis of Coal and Designating Coal Size

D 4916 Practice for Mechanical Auger Sampling[3]

D 5061 Test Method for Microscopical Determination of the Textural Components of Metallurgical Coke

D 5114 Test Method for Laboratory Froth Flotation of Coal in a Mechanical Cell

D 5192 Practice for Collection of Coal Samples from Core

D 5263 Test Method for Determining the Relative Degree of Oxidation in Bituminous Coal by Alkali Extraction

D 5515 Test Method for Determination of the Swelling Properties of Bituminous Coal Using a Dilatometer

D 5865 Test Method for Gross Calorific Value of Coal and Coke

D 6316 Test Method for Determination of Total, Combustible and Carbonate Carbon in Solid Residues from Coal and Coke

3. Terminology

air-dried moisture—this term has been used inappropriately to refer to both residual moisture and air-dry loss. Because of the potential for confusion, this term shall not be used.

air drying, *n*—a process of partial drying of coal to bring its moisture near to equilibrium with the atmosphere in the

[1] This terminology is under the jurisdiction of ASTM Committee D05 on Coal and Coke and is the direct responsibility of Subcommittee D05.30 on Quality Assurance.

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[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

[3] Withdrawn. The last approved version of this historical standard is referenced on www.astm.org.

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room in which further reduction and division of the sample will take place. **D 2013; D 2234/D 2234M**

air-dry loss, *n—in coal*, the loss in mass, expressed as a percentage, resulting from each air-drying stage or the sum of all sequential air-drying stages in which the results from each stage are adjusted to the as-received basis.

DISCUSSION—Air-dry loss is neither a standard state nor a characteristic property of a coal. Air drying only removes water that can evaporate at or near ambient laboratory conditions, leaving in the coal some fraction of the inherent moisture that is more tightly bound in the pores (residual moisture). Different laboratory environments or different drying temperatures or both will result in significant differences in air-dry loss and residual moisture. **D 3302**

agglomerating, *adj—as applied to coal*, the property of softening when it is heated to above about 400°C in a nonoxidizing atmosphere, and then appearing as a coherent mass after cooling to room temperature.

alginite—See *alginite* under **maceral.**

analysis sample—See *analysis sample* under **sample.**

angle of repose, *n*—the greatest angle, measured from horizontal, attained by a coal so that material on the sides of top of the inverted cone or trench created in car top sampling remains stable, that is, will not shift or slide. Coal size and moisture content are contributing factors to this angle. In all cases, the coal shall be dug so that the physical angle is less than the angle of repose.

anisotropic, *adj—as used in Test Method D 5061*, exhibiting optical properties of different values when viewed with an optical microscope having mutually exclusive polarized light, for example, crossed nicols. **D 5061**

anthracite—See *anthracite* under **rank.**

anthracitic class—See *anthracitic class* under **rank.**

apparent rank, *n—of coal*, the rank designation obtained on samples other than channel samples, but otherwise conforming to procedures of Classification D 388.

as-analyzed moisture—synonym for *as-determined moisture.*

as-determined basis—See *as-determined basis* under **reporting bases.**

ash, *n*—inorganic residue remaining after ignition of combustible substances, determined by definite prescribed methods.

DISCUSSION—Ash need not be identical, in composition or quantity, with the inorganic substances present in the material before ignition.

In the case of coal and coke, the methods used shall be those prescribed in Test Method D 3174.

as-mined coal—*for the purpose of Test Method D 4749*, same as **run-of-mine (ROM) coal.** **D 4749**

as-received basis—See *as-received basis* under **reporting bases.** **D 3180**

as-shipped or produced coal—*for the purpose of Test Method D 4749*, raw or prepared coal in any state or condition at which it leaves the mine property or loading facility. **D 4749**

attrital coal—See *attrital coal* under **coal.**

auger increment, *n*—the retained portion of one extraction operation of the auger. **D 4916**

banded coal—See *banded coal* under **coal.**

basis—See **reporting bases.**

bed moisture—synonym for *inherent moisture.*

beehive coke—See *beehive coke* under **coke.**

binder phase, *n—as used in Test Method D 5061*, a continuous solid carbon matrix formed during the thermoplastic deformation of those coal macerals that become plastic during carbonization.

DISCUSSION—The binder phase material is formed from the thermoplastic deformation of reactive (vitrinite and liptinite) and semi-inert (semifusinite) coal macerals of metallurgical bituminous coals. During thermoplasticity, the inert coal maceral and mineral are partly or wholly incorporated into the binder phase. Also, most of the coke pores are located in the binder phase. **D 5061**

bituminous class—See *bituminous class* under **rank.**

boghead coal—See *boghead coal* under **coal.**

bone coal—See *bone coal* under **coal.**

borehole, *n*—the circular hole through soil and rock strata made by boring.

bottomsize, nominal—*for the purpose of Test Method D 4749*, the sieve designating the lower limit or bottomsize shall be that sieve of the series given in the Standard Series of Sieves section with the largest openings through which passes a total of less than 15 % of the sample. This defined bottomsize is not to be confused with the size of the smallest particles in the lot.

DISCUSSION—(**Warning**—In the case of a commercial, double-screened product, for example, 37.5 by 9.5 mm (1½ by ⅜ in.), this designation may *not* be valid. In such commercial or contractual situations, the amount of allowable material smaller than the bottomsize (for example, 9.5 mm) must be specified by the contract under which the coal is bought and solid.) **D 4749**

briquette, *n*—a cylindrical block composed of granulated coal or coke particles compressed and embedded with an epoxy binder.

by-product coke—See *by-product coke* under **coke.**

C test, *n*—a standard statistical test for homogeneity of variance.

calorific value, *n*—the heat of combustion of a unit quantity of a substance.

DISCUSSION—It is expressed in ASTM test methods in British thermal units per pound (Btu/lb). Calorific value can also be expressed in calories per gram (cal/g) or in the International System of Units, joules per gram (J/g), when required. **D 5865**

calorimeter, *n—as used in Test Method D 5865*, the bomb and its contents, the calorimeter vessel with stirrer, the water in which the bomb is immersed, and the portions of the thermometer and the ignition leads within the calorimeter vessel. **D 5865**

calorimeter jacket, *n*—the insulating medium surrounding the calorimeter.

cannel coal—See *cannel coal* under **coal.**

carbonate carbon, *n*—the carbon content present in the solid products derived from the combustion or reaction of coal, coal by-products, or coke as carbonates and which is noncombustible in standard industry practice. **D 6316**

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carbon form, *n—as used in Test Method D 5061*, microscopically distinguishable carbonaceous textural components of coke, but excluding mineral carbonates.

DISCUSSION—Carbon forms are recognized on the basis of their reflectance, anisotropy, and morphology. They are derived from the organic portion of coal and can be anisotropic or isotropic. **D 5061**

caves or washouts, *n*—zones of increased hole diameter caused by rock fragments that fall from the walls of a borehole and can block the hole or contaminate the cuttings and which erode or abrade the sidewall of the borehole by the action of the drilling. These zones can affect the accuracy of certain geophysical logs (especially density). Corrections to other geophysical logs can be made if a caliper log is available. The most common causes of caves or washouts include soft or fractured lithologies, the presence of water-producing zones, and the downhole pressure of the drilling medium (fluid or air) that often causes differential erosion of various strata within the borehole.

chance error, *n*—error that has equal probability of being positive or negative. The mean of the chance errors resulting from a series of observations tends toward zero as the number of observations approaches infinity.

circular anisotropic phase, *n—as used in Test Method D 5061*, a group of binder-phase anisotropic carbon textures that are distinguished by approximately circular domains (that is length equals width) and composed of fine circular (0.5- to 1.0-μm), medium circular (1.0- to 1.5-μm), and coarse circular (1.5- to 2.0-μm) size categories. **D 5061**

cleat, *n*—the joint system of coal seams, usually oriented normal or nearly normal to the bedding.

DISCUSSION—Cleat is most commonly found in bituminous coal, being most prominently developed in vitrain bands and bright layers. Some cleat, especially the more widely separated joints, extend through all or a large part of the seam. Cleat surfaces are commonly coated with minerals such as calcite, kaolinite, and pyrite.

coal, *n*—a brown to black combustible sedimentary rock (in the geological sense) composed principally of consolidated and chemically altered plant remains.

DISCUSSION—Conditions required for formation of coal are believed to include accumulation of plant remains and their partial decomposition under moist conditions, followed by sedimentary burial and subjection to increased pressure and temperature according to the geological history of the seam. Coals exhibit a wide range of properties as a result of differences in the kinds and relative amounts of different plant materials and intermixed mineral matter, the amount of alteration of the plant remains achieved before burial, and especially the degree of physical and chemical alteration after burial. See Classification D 388 for classification of coal in accordance with its degree of alteration or rank. The moisture content and the kind, amount, and mode of occurrence of mineral matter also vary greatly.

lithotype, n— any of the constituents of banded coal: vitrain, fusain, clarain, durain, or attrital coal or a specific mixture of two or more of these.

banded coal, n—coal that is visibly heterogeneous in composition, being composed of layers of vitrain and attrital coal, and, commonly, fusain.

attrital coal, n—the ground mass or matrix of banded coal in which vitrain and, commonly, fusain layers as well, are embedded or enclosed.

DISCUSSION—Layers in banded coal, often referred to as bands, are commonly 1 to 30 mm thick. Attrital coal in banded coal is highly varied in composition and appearance, its luster varying from a brilliance nearly equal to that of the associated vitrain to nearly as dull as fusain; it exhibits striated, granulose, or rough texture. In a few cases, relatively thick layers of such attrital coal are found that contain no interbedded vitrain. Nonbanded coal also is attrital coal but is not usually referred to as such. In contrast to the coarser and more variable texture of attrital coal in banded coal, nonbanded coal is notably uniform and fine in texture, being derived from size-sorted plant debris.

The luster of attrital coal, which ranges from bright (but less than that of associated vitrain) to dull, is commonly used to describe and characterize attrital coal. As an alternative, some petrographers subdivide attrital coal into clarain and durain. Clarain has bright luster and silky texture, being finely striated parallel to the coal bedding. Durain has dull luster and sometimes is referred to as dull coal. Similarly, coal consisting of vitrain or clarain or a mixture of the two is sometimes referred to as bright coal.

fusain, n—coal layers composed of chips and other fragments in which the original form of plant tissue structure is preserved; commonly has fibrous texture with a very dull luster.

DISCUSSION—Fusain is very friable and resembles charcoal. Commonly, it is concentrated in bedding layers or lenses that form planes of weakness in coal and thus is often exposed on bedding surfaces of broken coal. The many pores (cell cavities and cracks) of fusain are sometimes filled with mineral matter.

vitrain, n—shiny black bands, thicker than 0.5 mm, of subbituminous and higher rank banded coal.

DISCUSSION—Vitrain, attributed to the coalification of relatively large fragments of wood and bark, may range up to about 30 mm (approximately 1 in.) thick in eastern North American coals, but may be much thicker in the younger western deposits. Vitrain is commonly traversed by many fine cracks oriented normal to the banding.

In lignite, the remains of woody material lack the shiny luster of vitrain in the higher rank coals and may instead be called previtrain. It is differentiated from attrital bands of lignite by its smoother texture, often showing the grain of wood. Previtrain may be several inches thick.

nonbanded coal, n—consistently fine-granular coal essentially devoid of megascopic layers.

DISCUSSION—Nonbanded coal may be interbedded with common banded coal, or form a discrete layer at the top or at the bottom of the seam, or may compose the entire seam. It is formed from natural accumulations of finely comminuted plant detritus and commonly includes a significant amount and variety of remains of pollen grains, spores, planktonic algae, wax and resin granules, as well as other fragments of plants. These materials, containing markedly higher amounts of volatile matter than vitrain and some other attrital components, are more abundant in this variety of coal than they are in common types of banded coal. Also, nonbanded coal may contain more disseminated detrital mineral matter, chiefly clay, than associated banded coals, and in the field it may be difficult to distinguish from bone coal. Nonbanded coal is much less common than banded coal in North America.

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cannel coal, n—nonbanded coal in which the liptinite is predominantly sporinite.

DISCUSSION—Transitions between cannel and boghead, that is, coals containing both types of liptinite, are also known. Microscopic examination is essential for differentiation of the two kinds of nonbanded coal and their transitions.

boghead coal, n—nonbanded coal in which the liptinite (the waxy component) is predominantly alginite.

impure coal, n—coal having 25 weight % or more, but less than 50 weight %, of ash on the dry basis.

DISCUSSION—Bone coal with more than 50 weight % ash is properly called coaly or carbonaceous shale or siltstone. Types of impure coal other than bone coal and mineralized coal sometimes occur, for example, sandy coal.

bone coal, n—impure coal that contains much clay or other fine-grained detrital mineral matter.

mineralized coal, n—impure coal that is heavily impregnated with mineral matter, either dispersed or discretely localized along cleat joints or other fissures. Pyritic or calcareous mineralized coal is most common.

coal seam, *n*—the stratum, layer, or bed of coal that lies between two other rock layers whose compositions differ significantly from that of coal.

coal washability, *n*—the determination of the theoretical limits for the removal of mineral impurities from coal by beneficiation processes that rely on specific gravity separations. **D 4371**

coarse coal, n—that portion of a coal sample being subjected to a washability study that is larger than a specific predetermined particle size, generally between 2.36 mm (No. 8 USA Standard Sieve Series) and 9.5 mm (⅜ in.) round in diameter.

DISCUSSION—This same particle size breakpoint should then be used in subsequent washability studies of the same material sampled from the same location for the same application. This breakpoint is determined by the analyst or the person designing the test procedure as the point that best suits the application. This coarse-coal fraction may be further sieved (generally by dry sieving) to produce additional size fractions, each of which may be processed through the desired specific gravity solutions. **D 4371**

coke—a carbonaceous solid produced from coal, petroleum, or other materials by thermal decomposition with passage through a plastic state.

beehive coke, n—coke manufactured in beehive, rectangular, or similar forms of ovens in a horizontal bed, where heat for the coking process is secured by combustion within the oven chamber.

by-product coke, n—coke manufactured with attendant recovery of by-products, in ovens that are heated externally.

coke breeze, n—the fine screenings from crushed coke or from coke as taken from the ovens, of a size varied in local practice but usually passing a 12.7-mm (½-in.) or 19.0-mm (¾-in.) screen opening.

dry coke, n—a laboratory term applied to coke that has been dried to constant weight in accordance with definite prescribed methods.

DISCUSSION—The methods used shall be those for the determination of moisture prescribed in Test Method D 3302. In the case of lump coke, the temperature shall be not less than 104°C nor more than 200°C; in the case of coke passing a 250-μm (No. 60) sieve, the temperature shall be not less than 104°C nor more than 110°C for a period of 1 h.

coke pore, *n—as used in Test Method D 5061*, a microscopically distinguishable void that is a structural element of coke. **D 5061**

DISCUSSION—Coke pores are considered to be nearly spherical-shaped voids created by the entrapment of gaseous volatiles during the solidification of thermoplastic coal. However, other types of voids can be distinguished in coke that include fractures or cracks, interconnected and elongated pores, and the open cell lumens of fusinite and semifusinite. The size and shape of the voids are coal rank and grade, and to some degree, process dependent. Pore sizes vary from tens of angstroms to tens of millimetres in any given coke. **D 5061**

coke reactivity, *n—as used in Test Method D 5061*, a measure of the mass loss when coke, held at a designated temperature, is contacted with gaseous carbon dioxide over a specific time interval. **D 5061**

coke wall, *n—as used in Test Method D 5061*, a predominantly carbonaceous layer that encloses a coke pore and which is a structural element and essence of coke. **D 5061**

collector, *n*—a reagent used in froth flotation to promote contact and adhesion between particles and air bubbles. **D 5114**

combustible carbon, *n*—carbon content remaining in the solid products derived from the combustion or reaction of coal, coal by-products, or coke, exclusive of carbonate in any form. **D 6316**

combustibles, *n*—the value obtained by subtracting the dry weight (in percent) of the ash (as determined in Test Method D 3174) from 100 % representing original weight of analyzed sample. **D 5114**

concentrate, *n*—the froth product recovered in coal froth flotation. **D 5114**

concretion, *n—in a geological sense*, a mass of mineral matter found in rock of a composition different from its own and produced by deposition from aqueous solution in the rock.

conditioning agents, *n*—all chemicals that enhance the performance of the collectors or frothers. Conditioning agents change the characteristics of the surface of the minerals or the environment. There are many subgroups according to their function: activators, depressants, emulsifiers, dispersants, flocculants, chelating reagents, froth depressants, pH modifiers, etc. **D 5114**

core, *n—in drilling*, a cylindrical section of rock (coal) that is usually 5 to 10 cm in diameter, taken as part of the interval penetrated by a core bit and brought to the surface for geologic examination, representative sampling and laboratory analyses.

core barrels, *n*—two nested tubes above the bit of a core drill, the outer rotating with the bit, the inner receiving and preserving a continuous section or core of the material penetrated. The following two types of inner barrels are commonly used.

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split-tube barrel, n—a type of inner barrel consisting of two longitudinal halves of pipe bound together by reinforced tape at intervals along the barrel length that allows easy access to a relatively intact core (by cutting the tape). (This is the preferred barrel type for coal exploration, where available.)

solid-tube barrel, n—a type of inner barrel consisting of a single solid-walled length of pipe in which removal of the core is accomplished by mechanical or hydraulic pressure at one end of the pipe thus extruding the core onto a core tray. (The core is likely to be less intact than when a split-tube barrel is used.)

core sample, *n*—that part of a core of rock or coal obtained so as to represent accurately a thickness of a unit penetrating by drilling. **D 5192**

corrected temperature rise, *n*—the temperature of the calorimeter, caused by the process that occurs inside the bomb; that is, the observed temperature change corrected for various effects.

DISCUSSION—Temperature is measured in either degrees Celsius or degrees Fahrenheit. Thermometer corrections should be applied. Temperatures may be recorded in ohms or other arbitrary units instead of degrees. Consistent units must be used in standardization and the actual calorific value determination. If arbitrary units other than degrees Celsius or Fahrenheit are used, the temperature interval over which all tests are made must not vary so much that an error greater than 0.001°C would be caused. **D 5865**

cutinite—See *cutinite* under **maceral**.

depositional carbon, *n—as used in Test Method D 5061*, a group of carbon forms that are formed from cracking and nucleation of gas-phase hydrocarbon molecules during coal carbonization. **D 5061**

pyrolytic carbon, n—as used in Test Method D 5061, an anisotropic carbon form that is formed by the deposition of carbon parallel to an inert substrate causing the resulting texture to appear ribbon-like. **D 5061**

sooty carbon, n—as used in Test Method D 5061, an isotropic carbon form comprised of approximately spherical particles of less than 1-μm diameter sometimes referred to as combustion black. **D 5061**

spherulitic carbon, n—as used in Test Method D 5061, a spherical anisotropic carbon form sometimes referred to as thermal black that is formed by the deposition of carbon concentrically around a nucleus. **D 5061**

divided sample—See *divided sample* under **sample**.

domain, *n—as used in Test Method D 5061*, a region of anisotropy in a carbon form that is distinctively marked by its isochromatic boundary and cleavage. **D 5061**

dry, ash-free basis—See *dry, ash-free basis* under **reporting bases**.

dry basis—See *dry basis* under **reporting bases**.

dry coke—See *dry coke* under **coke**.

dry sieving—*for the purpose of Test Method D 4749*, the test method for the sieving of coal after the sample has been airdried under prescribed conditions; this is generally used when testing with coal particles larger than 600 μm (No. 30 U.S.A. Standard Sieve Series.) **D 4749**

easily oxidized coals, *n*—low rank coals such as subbituminous or lignitic coals. **D 3302**

energy equivalent, heat capacity, or water equivalent, *n*—the energy required to raise the temperature of the calorimeter an arbitrary unit. This is the quantity that, when multiplied by the corrected temperature rise, then adjusted for extraneous heat effects, and divided by the weight of the sample, gives the gross calorific value.

DISCUSSION—Energy units for quantities listed throughout this test method are such that the number of energy units per gram of sample corresponds exactly to the number of British thermal units per pound of sample. For brevity, these are referred to as British thermal units. The actual energies are smaller than those stated by the ratio of the number of pounds per gram (1/453.59). The energy equivalent of the calorimeter has the units (British thermal units per pound) times (grams per degree). Time is expressed in minutes. Mass is expressed in grams. **D 5865**

equilibrium, *n*—condition reached in air drying in which change in weight of the sample, under conditions of ambient temperature and humidity, is no more than 0.1 %/h or 0.05 %/½ h. **D 3302**

equilibrium moisture basis—See *equilibrium moisture basis* under **reporting bases**.

error—difference of an observation from the best obtainable estimate of the true value. **D 2234/D 2234M; D 4916**

excess moisture—synonym for *surface moisture*.

exinite—See *exinite* under **maceral**.

extraneous moisture—synonym for *surface moisture*.

filler phase, *n—as used in Test Method D 5061*, a discontinuous solid formed from coal macerals and minerals that do not deform thermoplastically during carbonization. **D 5061**

DISCUSSION—The filler phase material is formed from coal macerals that are inert with respect to development of thermoplasticity (inertinite), the inorganic components of coal (minerals), as well as normally reactive coal entities that are noncoking or have been rendered inert by thermal oxidation, natural weathering, or brecciation. These inert materials possess their original morphologies, but their reflectance and chemical properties have been altered prior to or during carbonization. **D 5061**

fine coal, n—that portion of a coal sample being subject to a washability study that is smaller than the predetermined particle size, generally between 2.36 mm (No. 8 USA Standard Sieve Series) and 9.5 mm (⅜ in.) round in diameter, which is specified in Test Method D 4371.

DISCUSSION—This same particle size breakpoint should then be used in subsequent washability studies of the same material samples from the same location for the same application. This breakpoint is determined by the analyst or the person designing the test procedure as the point that best suits the application. This fine-coal fraction may be

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further sieved (generally by wet sieving) to produce additional size fractions, each of which is processed through the desired specific gravity solutions. **D 4371**

fixed carbon, *n—in the case of coal, coke, and bituminous materials*, the solid residue other than ash, obtained by destructive distillation, determined by definite prescribed methods.

DISCUSSION—It is made up principally of carbon but may contain appreciable amounts of sulfur, hydrogen, nitrogen, and oxygen.

In the case of coal and coke, the methods used shall be those prescribed in Test Method D 3172.

float/sink, *n*—a reference to the physical action that particles undergo when immersed in a liquid of a predetermined specific gravity.

DISCUSSION—A series of float/sink tests is considered as being synonymous with a washability analysis. A float fraction or float material is the material or the specific gravity fraction that floats in a certain solution of specific gravity liquids. A sink fraction or sink material is the material or the specific gravity fraction that sinks in a certain solution of specific gravity liquids. **D 4371**

floor, *n*—the rock material immediately underlying a coal bed.

flotation cell, *n*—the vessel or compartment in which the flotation test is performed. **D 5114**

fluid temperature (FT), *n—in reference to the fusibility of coal and coke ash according to Test Method D 1857*, the temperature at which the fused mass has spread out in a nearly flat layer with a maximum height of 1.6 mm (1/16 in.). **D 1857**

free impurity, *n*—the impurities in a coal that exist as individual discrete particles that are not a structural part of the coal and that can be separated from it by coal preparation methods. **D 2234/D 2234**

free moisture—synonym for *surface moisture*.

froth, *n*—a collection of bubbles and particles on the surface of a pulp in a froth flotation cell. **D 5114**

froth flotation, *n*—a process for cleaning fine coal in which hydrophobic particles, generally coal, attach to air bubbles in a water medium and rise to the surface to form a froth. The hydrophilic particles, generally the ash-forming matter, remain in the water phase. **D 5114**

frother, *n*—a reagent used in froth flotation to control the size and stability of the air bubbles, principally by reducing the surface tension of water. **D 5114**

fusain—See *fusain* under **coal.**

fusinite—see *fusinite* under **maceral.**

funginite, *n*—See *funginite* under **maceral.**

geophysical log, *n*—a graphic record of the measured or computed physical characteristics of the rock section encountered in a borehole, plotted as a continuous function of depth. Measurements are made by a sonde which contains the detectors, as it is withdrawn from the borehole by a wire line. Several measurements are usually made simultaneously, and the resulting curves are displayed side by side on the common depth scale. A common suite of logs used in coal exploration include caliper, density (gamma-gamma), natural gamma, and resistivity.

caliper log, *n*—a continuous mechanical measurement of the diameter and thus the rugosity of the borehole. The tool identifies zones where swelling or cavings (washouts) have occurred during drilling. The tool's value is in allowing qualitative or quantitative corrections to be made to other geophysical logs which are affected by borehole size (especially density).

density log (gamma-gamma log), *n*—measures electron density within lithologic units which is related to their bulk density. The wireline tool records the intensity of gamma radiation (in counts per second) from a nuclear source within the tool after it has been attenuated and backscattered by lithologies within the borehole. Due to the distinctly low density of coals, the density log is essential in coal exploration for identifying coal seams and coal-seam partings. The bias/resolution of density logs can be affected by source-detector spacing (closer spacing increases resolution), borehole size, and irregularities (see *caves* or *washouts*), and the presence of casing and logging speed.

natural gamma-ray log, *n*—a record of the natural radioactivity of the lithologies encountered in the borehole environment. During recording of geophysical logs, the amount of natural radiation is recorded and presented in either counts per second (CPS) or American Petroleum Institute (API) units. Unlike many other log types, a representative natural gamma log can be obtained where borehole or fluid conditions, or both, are not optimal or where casing is present. The natural gamma log is most often used in the coal environment for identifying clastic lithologies and differentiating coal seams and coal-seam partings.

resistivity log, *n*—a measure of the voltage differential of strata along the walls of a borehole when electrical current is passed through the strata. The resistivity log requires a fluid-filled hole to provide a conductive medium constantly between electrodes on the tool. The spacing between the electrodes determines the precision of the bed boundary relationships in much the same manner as with the density log. The resistivity log is useful primarily in conjunction with other log types. The logs are affected by casing, logging speed, electrode spacing, formation porosity, and resistivity changes in the borehole fluid. **D 5192**

grade/recovery, *n*—the relationship between quality and quantity of the clean coal product. The quality can be defined in terms of ash, sulfur, or Btu content. The quantity can be designated as yield or heating value recovery (Btu or combustibles). **D 5114**

green coke, *n—as used in Test Method D 5061*, carbonaceous binder or filler phase material that has exceeded the temperature of thermoplasticity, but has not obtained the temperature of metallurgical coke.

DISCUSSION—Green coke is recognized on the basis of relative reflectance in comparison to fully carbonized coke. Green coke exhibits varying degrees of lower reflectance than fully carbonized coke. **D 5061**

gross calorific value (gross heat of combustion at constant volume), $Q_v(gross)$, *n*—the heat produced by combustion of

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unit quantity of a solid or liquid fuel when burned at constant volume in an oxygen bomb calorimeter under specified conditions, with the resulting water condensed to a liquid.

DISCUSSION—The conditions are initial oxygen pressure of 2 and 4 MPa (20 to 40 atm), initial and final temperatures between 20 and 35°C (68 to 95°F), products in the form of ash, water (aq), and gaseous carbon dioxide, sulfur dioxide, and nitrogen.

This definition is not applied to gaseous fuels and applies to a volatile liquid fuel only if it is suitably contained during the measurement so that the vapor does not mix with the combustion oxygen before combustion.

The gross calorific value is closely related to the internal energy of combustion for the same reaction at constant standard temperature and pressure, ΔU_{c}(at t_{c}). It is of opposite sign and differs by a small amount due to energy effects resulting from compression, temperature differences from t_{c} and solution effects that vary with combustion conditions. Because of the variation of conditions allowed in the discussion above, the above definition does not lead to a unique value for any given fuel. However, the specified conditions limit the possible values to a narrow range for which approximate limits can be calculated for a given fuel.

gross sample—See *gross sample* under **sample.**

heat capacity, *n*—Synonym for **energy equivalent.**

hemispherical temperature (HT), *n—in reference to the fusibility of coal and coke ash according to Test Method D 1857*, the temperature at which the cone has fused down to a hemispherical lump at which point the height is one half the width of the base. **D 1857**

high volatile A bituminous coal—See *high volatile A bituminous coal* under **rank.**

high volatile B bituminous coal—See *high volatile B bituminous coal* under **rank.**

high volatile C bituminous coal—See *high volatile C bituminous coal* under **rank.**

impure coal—See *impure coal* under **coal.**

incipient anisotropic phase, *n—as used in Test Method D 5061*, a binder-phase carbon texture having a domain size (less than 0.5 µm) that is near the measuring resolution of the light microscope. **D 5061**

increment, *n*—a small portion of a lot collected by one operation of a sampling device and normally combined with other increments from the lot to make a gross sample. **D 2234/D 2234M; D 4916**

inertinite—See *inertinite* under **maceral.**

inertodetrinite—See *inertodetrinite* under **maceral.**

inherent ash, *n*—the residue remaining from the inherent impurities after ignition under conditions specified for the ash determination. **D 2234/D 2234M**

inherent impurity, *n*—the inorganic material in coal that is structurally part of the coal and cannot be separated from it by coal preparation methods. **D 2234/D 2234M**

inherent moisture—See *inherent moisture* under **moisture.**

initial deformation temperature (IT), *n—in reference to the fusibility of coal and coke ash according to Test Method D 1857*, the temperature at which the first rounding of the apex of the cone occurs. Shrinkage or warping of the cone is ignored if the tip remains sharp.

isoperibol, *adj*—a term used in combustion calorimetry meaning constant temperature jacket (environment).

isotropic phase, *n—as used in Test Method D 5061*, a binder-phase carbon texture that exhibits optical properties that are the same in all directions when viewed with an optical microscope having mutually exclusive polarized light, for example, crossed nicols. **D 5061**

laboratory sample—See *laboratory sample* under **sample.**

lenticular anisotropic phase, *n—as used in Test Method D 5061*, a group of binder-phase anisotropic carbon textures distinguished by their lens-shaped domains (that is, length (L) to width (W) ratio of $2W < L < 4W$) and subdivided based on domain widths as fine lenticular (1.0- to 3.0-µm), medium lenticular (3.0- to 8.0-µm), and coarse lenticular (8.0- to 12.0-µm) size categories. **D 5061**

lignite A—See *lignite A* under **rank.**

lignite B—See *lignite B* under **rank.**

lignitic class—See *lignitic class* under **rank.**

liptinite—See *liptinite*under **macerals.**

lithotype, *n—(1)* Rock form defined on the basis of certain selected physical characteristics. *(2)* One of the four macroscopically recognized constituents of banded coal: vitrain, clarain, durain and fusain. **D 4596**

lithology—*(1)* Physical character or a rock, generally as determined megascopically or with the aid of a low power magnifier. *(2)* The macroscopic study and description of rocks. **D 5192**

lot, *n*—a discrete quantity of coal for which the overall quality to a particular precision needs to be determined. **D 2234/D 2234M**

low volatile bituminous coal—See *low volatile bituminous coal* under **rank.**

maceral, *n*—an organic substance in coal that is distinguished and classified on the basis of its optical microscopic properties.

DISCUSSION—Macerals originate from plant tissues, secretions, and exudates that have been altered by geological processes and may contain up to several weight percent of inorganic elements in microscopically indistinguishable form.

alginite, n—a liptinite maceral that is generally spherical or ovoid, frequently having a crenulated border and somewhat irregular reflectance and sometimes occurring in clusters reflecting an origin from *Botryococcus* algae.

DISCUSSION—Alginite often occurs as degraded fragments derived from colonial or unicellular bodies.

cutinite, n—a liptinite maceral in the form of a sheet reflecting its origin from leaf- or twig-covering plant cuticle, frequently exhibiting reticulation in planar section and a serrated edge in cross section.

exinite—Deprecated term. Use preferred term **liptinite**; sometimes has also been used as a synonym for sporinite.

fusinite, n—an inertinite maceral distinguished principally by the preservation of some feature(s) of the plant cell wall structure, and with a particle size greater than 50 µm except when it occurs as a fragment within the binder matrix; see also **semifusinite.**

funginite, n—an inertinite maceral occurring as round or ovoid bodies, frequently containing voids, reflecting an

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origin from fungal sclerotia; also occurs (especially in lower rank coals) as interlaced, stringy materials derived from fungal hyphae.

inertinite, n—macerals that exhibit higher reflectance than other organic substances in the coal.

DISCUSSION—In any coal ranked lower than anthracitic, inertinite reflectance commonly spans the range from only slightly higher than associated vitrinite to very high reflectance (often as high as Ro > 6 %). In anthracitic rank coals, inertinite reflectance may be lower than that of vitrinite, and is then recognized by its morphology and form of anisotropy. Highly reflecting inertinite commonly exhibits relief on polished surface. Its name derives from the fact that most varieties behave inertly in the thermoplastic deformation during the coking process (except in its lowest reflecting manifestation). The volatile matter yield of inertinite is lower than that of other macerals in the same coal.

inertodetrinite, n—an inertinite maceral occurring as individual, angular, clastic fragments incorporated within the matrix of other macerals (commonly vitrinite) or minerals, and in the size range from 2 to 50 μm.

liptinite, n—macerals that exhibit lower reflectance than other organic substances in a coal, appearing black to dark gray and that fluoresce under blue to ultraviolet light in coals ranked high volatile bituminous and lower.

DISCUSSION—The fluorescence of liptinite distinguishes fine-grained liptinite from similar sized, low reflectance, nonfluorescing clay minerals. Liptinite is derived principally from lipid substances forming skins (exines) and resinous secretions or exudates of plants. Liptinite is subclassified on the basis of morphology inherited from plant structure. In coals in which vitrinite reflectance exceeds about 1.4 %, liptinite can be indistinguishable from vitrinite. Liptinite has the highest volatile matter yield of the macerals in a coal.

macrinite, n—an inertinite maceral, generally nonangular, exhibiting no relict plant cell wall structure and larger than 10 μm.

micrinite, n—an inertinite maceral, generally nonangular, exhibiting no relict plant cell wall structure, smaller than 10 μm and most commonly occurring as particles around 1- to 5-μm diameter.

resinite, n—a liptinite maceral occurring as rounded, ovoid, or rod-like bodies assuming the shape of an enclosing cell lumen or as irregular shapes filling cracks in the coal.

secretinite, n—an inertinite maceral occurring as round, ovoid, or oblong bodies, without obvious plant structure, vesicled to non-vesicled, sometimes containing characteristic fractures, slits, or a notch.

DISCUSSION—Secretinite is considered to be derived by the oxidation of plant resin secretions or humic gels. Vesicular and non-vesicular secretinite was formerly included in sclerotinite of fungal origin. Secretinite is a common maceral in medium-and high-rank Permian and Carboniferous coals

semifusinite, n—an inertinite maceral with morphology like fusinite sometimes with less distinct evidence of cellular structure, but with reflectance ranging from slightly greater than that of associated vitrinite to some value intermediate to that of the brightest fusinite. The particle size is also greater than 50 μm except when it occurs as a fragment within the binder matrix.

DISCUSSION—The precise reflectance boundary between semifusinite and fusinite has not been universally defined, although some practitioners place the division at Ro = 2.0 %; hence, semifusinite is somewhat vaguely defined as "fusinite with low reflectance."

sporinite, n—a liptinite maceral exhibiting various lenticular, oval, or round forms that reflect the cross-sectioning of a flattened, hollow, ovoid body; sometimes exhibits rod-like projections that are small relative to the size of the total body.

DISCUSSION—Sporinite originated as a lipid substance that covered, as a skin, ovoid spore or pollen grains which commonly ranged from around ten to several hundred micrometres in diameter. Sporinite often occurs as fragments derived from these initially ovoid bodies.

vitrinite, n—the predominant maceral in most coals of intermediate reflectance occurring as substantial volumes of more or less uniformly reflecting material or as a matrix enclosing particles of other macerals and mineral matter or as particles or bands intermixed with other maceral fragments.

DISCUSSION—Because most vitrinite is derived from the cellular, structural tissues of plants, it may exhibit relict cell structure. The reflectance of vitrinite is related to the rank of the coal in which it is found. Reflectance increases (from around Ro = 0.3 % in lignitic coals) in parallel with the increase in fixed carbon yield associated with increasing rank. Because many of the properties of typical coals reflect the properties of the dominating vitrinite, it is common practice to estimate coal properties and process behaviors by measuring the reflectance of a representative sampling of vitrinite in the specimen according to procedures described in Test Method D 2798. Pseudovitrinite, a certain variety of vitrinite, is differentiated by some practitioners. It exhibits slightly higher reflectance than most of the vitrinite in the coal and is commonly slitted, with indistinct remnant cell structure and angular or jagged edges. Pseudovitrinite has been postulated to be less thermoplastic in the coking process. The term vitrinite is currently used as both a maceral and maceral group.

macrinite—See *macrinite* under **maceral.**

mechanical cell, *n*—a type of flotation cell that uses mechanical agitation of a pulp by means of an immersed impeller (rotor) and stator stirring mechanism. Aeration to the cell can be from an external pressurized air source or self-induced air. **D 5114**

medium volatile bituminous coal—See *medium volatile bituminous coal* under **rank.**

meta-anthracite—See *meta-anthracite* under **rank.**

micrinite—See *micrinite* under **maceral.**

microprocessor, *n*—a central processing chip within the electronic controller section of the apparatus.

mineralized coal—See *mineralized coal* under **coal.**

mineral matter, *n*— in coal, historically considered to be the non-organic fraction composed of physically discrete particles of minerals, such as clays, quartz, pyrite, etc., and all elements other than carbon, hydrogen, oxygen, nitrogen and

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sulfur in the organic fraction.

DISCUSSION—The mineral matter content is employed in the classification of coals according to rank (Classification D 388). Since it is impractical to directly determine the proportion of mineral matter (for purposes other than scientific study of coals), it is customarily estimated from the ash residue following high-temperature combustion. A commonly used estimating technique is that attributed to S. W. Parr (Classification D 388):

Mineral Matter = 1.08 Ash % + 0.55 Sulfur %

In higher-rank coals, the non-organic fraction is composed mainly of minerals such as those named above. In lower-rank coals it is made up of both minerals and non-mineral inorganics (sometimes collectively called inorganic matter) such as alkali and alkaline-earth cations bound to carboxyl and hydroxyl functional groups, hydrogen-bonded alkali metals, and other atomically distributed species. In combustion of both higher- and lower-rank coals, much of the inorganic matter reports to the ash residue while many of the decomposition products of some species such as hydrates, carbonates, and sulfates are lost to the gaseous phase. Note that the terms mineral matter and inorganic matter are often used interchangeably, although this is technically incorrect since the latter is a more-encompassing expression which includes the mineral matter.

mineral parting, *n*—discrete layer of mineral or mineral-rich sediment interbedded within lower mineral matter content coal.

DISCUSSION—The term is generally reserved for layers that are visually distinct by virtue of their mineral content. Besides their obvious contribution to the mineral content (and ash yield) of mined coal, mineral partings frequently serve as planes of weakness upon which the coal breaks. **D 388**

moisture, *n—in coal*, that water in and on coal assayed in accordance with standard test methods in which the final step is the measurement of mass loss from a coal sample heated to 104 to 110°C at specified conditions of residence time, atmosphere, sample mass, and equipment configuration.

DISCUSSION—All coals are porous and, in their natural state, the pores are essentially full of water (inherent moisture). When coal is mined and processed, water may also be present on the surface of the pieces of coal (surface moisture). Water formed by the thermal decomposition of the organic fraction of coal or associated mineral matter is not considered part of the moisture content of coal. In some coals, a very small portion of the assayed mass loss may be volatile hydrocarbons and dissolved or adsorbed gases. ASTM-standardized procedures for the determination of moisture in coal are designed for commercial purposes to facilitate trade and resource evaluation; they may not be adequate for research or other activities with different requirements. **D 3302, D 3173, D 2961**

equilibrium moisture, *n*—the moisture in a coal sample as determined in accordance with Test Method D 1412. **D 1412**

inherent moisture, *n—in coal*, the moisture that exists as an integral part of the coal in its natural state, including water in pores, but not that present in macroscopically visible fractures.

DISCUSSION—In coal as it exists in the ground before it is disturbed, the pores are essentially filled with water (gases, for example, methane, may occupy a minor proportion of the pore volume in some coals); this pore-filling moisture is determined as total moisture and referred to as inherent moisture in a freshly collected sample that (1) does not exhibit visible water on fracture surfaces, (2) has not been allowed to dry after collection, and (3) was collected from a fresh coal face that is not dried (see Classification D 388). On samples not meeting these criteria, inherent moisture may be estimated by determining equilibrium moisture in accordance with Test Method D 1412. **D 388, D 1412**

pore moisture, *n*—moisture in the pores of coal, which may be quantitavely equivalent to or less than inherent moisture depending upon the state of dryness of the sample.

residual moisture, *n*—that moisture remaining in the sample after air drying.

DISCUSSION—Residual moisture is neither a standard state nor a characteristic property of a coal. Air drying only removes water that can evaporate at or near ambient laboratory conditions leaving in the coal water that will not evaporate at those conditions. Different laboratory environments or different drying temperature or both will produce significant differences in air-dry loss and residual moisture. Residual moisture is assayed by determining the mass lost from drying the sample at 104 to 110°C at specified conditions of residence time, atmosphere, particle size, sample mass, and equipment configuration. **D 3173, D 3302**

surface moisture, *n*—that portion of total moisture in a coal lot or sample collected from a lot, core face channel, or other source that is in excess of inherent moisture.

DISCUSSION—Surface moisture is not to be equated with mass loss upon air drying—a practice in some countries. Operationally, surface moisture is the difference between total moisture and inherent moisture. Some sources of surface moisture are: groundwater, drilling fluids, dust-suppressant sprays, preparation plant water, and precipitation. **D 388**

total moisture, *n*—all of the moisture in and on a consignment or sample of coal.

DISCUSSION—In a consignment or sample of coal in which surface moisture is present, total moisture is the sum of surface moisture and pore moisture. In consignments or samples of coal in which some portion of the as-mined moisture may have been removed by partial drying, total moisture may be less than the inherent moisture. Total moisture is commonly determined by quantitatively air drying a sample and then assaying residual moisture in the air-dried sample; thus, total moisture is the sum of the air-dry loss and the residual moisture adjusted to the as-received basis. **D 3302, D 2961**

natural pH, *n*—the measured pH of the pulp before the addition of collector, frother, or any conditioning agents. **D 5114**

net calorific value (net heat of combustion at constant pressure), *n*—the heat produced by combustion of unit quantity of a solid or liquid fuel when burned, at a constant pressure of 1 atm (0.1 MPa), under conditions such that all the water in the products remains in the forms of vapor.

DISCUSSION—The net calorific value is a lower heating value that can be calculated from the gross calorific value by making a correction for the difference between a constant volume process and a constant pressure process, and a deduction for the vaporization of the water in the combustion products, including both the water initially present as moisture and that formed by combustion. At 20°C (68°F), the total deduction is 1030 Btu/lb of water (2.395 MJ/kg) including 1055 Btu/lb of water (2.454 MJ/kg) for the enthalpy of vaporization of water.

The net calorific value is closely related to the net enthalpy change of combustion at standard temperature and pressure, ΔH_{t_C} (t_C). It is of opposite sign and differs in magnitude by a small amount due to

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enthalpy effects resulting from compression, temperature differences from *t*, and solution effects, that vary with the combustion conditions.

nonbanded coal—See *nonbanded coal* under **coal**.

nonprobability sample, *n*—a sample of which the sampling units have not been selected in a manner that satisfies the minimum requirements for probability sampling.

DISCUSSION—No meaningful statistical inference can be made with data obtained from a nonprobability sample. No meaningful statement can be made concerning the precision, standard error, or bias of the sample.

opening—*for the purpose of Test Method D 4749*, openings and apertures shall be regarded as synonomous terms. Dimensions for round and square openings shall be determined as follows: for round holes, dimensions shall refer to the opening diameter; for square holes, dimensions shall refer to the distance between parallel wires.

oxidized coal—see **weathered coal**

prepared coal—*for the purpose of Test Method D 4749*, any coal, regardless of its topsize, that has been manually or mechanically cleaned. This includes coal that has been processed over a picking table or air tables through a breaker, jig, or other device which segregates according to size or density (specific gravity).

proximate analysis, *n*—*in the case of coal and coke*, the determination, by prescribed methods, of moisture, volatile matter, fixed carbon (by difference), and ash.

DISCUSSION—Unless otherwise specified, the term *proximate analysis* does not include determinations of sulfur or phosphorus or any determinations other than those named.

pulp, *n*—a fluid mixture of solids and water, also known as slurry. **D 5114**

random variance of increment collection (unit variance)—See *random variance of increment collection (unit variance)* under **variance**.

rank, *n*—*of coal*, a classification designation that indicates the degree of metamorphism, or progressive alteration, from lignite to anthracite.

anthracite, n—the rank of coal, within the anthracitic class of Classification D 388, such that on the dry and mineral-matter-free basis, the volatile matter content of the coal is greater than 2 % but equal to or less than 8 % (or the fixed carbon content is equal to or greater than 92 % but less than 98 %), and the coal is nonagglomerating.

anthracitic class, n—a class of rank consisting of semianthracite, anthracite, and meta-anthracite.

bituminous class, n—a class of rank consisting of high volatile C bituminous coal, high volatile B bituminous coal, high volatile A bituminous coal, medium volatile bituminous coal, and low volatile bituminous coal.

high volatile A bituminous coal, n—the rank of coal, within the bituminous class of the Classification D 388, such that on the dry and mineral-matter-free basis, the volatile matter content of the coal is greater than 31 % (or the fixed carbon content is less than 69 %), and its gross calorific value is equal to or greater than 14 000 Btu/lb (32.65 Mj/kg) of coal on the moist, mineral-matter-free basis, and the coal is commonly agglomerating.

high volatile B bituminous coal, n—the rank of coal, within the bituminous class of Classification D 388, such that, on the moist, mineral-matter-free basis, the gross calorific value of the coal in British thermal units per pound is equal to greater than 13 000 (30.24 Mj/kg) but less than 14 000 (32.54 Mj/kg) and the coal commonly agglomerates.

high volatile C bituminous coal, n—the rank of coal, within the bituminous class of Classification D 388, such that, on the moist, mineral-matter-free basis, the gross calorific value of the coal in British thermal units per pound is equal to or greater than 11 500 (26.75 Mj/kg) but less than 13 000 (30.24 Mj/kg) and the coal commonly agglomerates, or equal to or greater than 10 500 (24.42 Mj/kg) but less than 11 500 (26.75 Mj/kg) and the coal agglomerates.

lignite A, n—the rank of coal, within the lignitic class of Classification D 388, such that, on the moist, mineral-matter-free basis, the gross calorific value of the coal in British thermal units per pound is equal to greater than 6300 (14.65 Mj/kg) but less than 8300 (19.31 Mj/kg), and the coal is nonagglomerating.

lignite B, n—the rank of coal, within the lignitic class of Classification D 388, such that, on the moist, mineral-matter-free basis, the gross calorific value of the coal in British thermal units per pound is less than 6300 (14.65 Mj/kg), and the coal is nonagglomerating.

lignitic class, n—a class of rank consisting of lignite A and lignite B.

low volatile bituminous coal, n—the rank of coal, within the bituminous class of Classification D 388, such that, on the dry and mineral-matter-free basis, the volatile matter content of the coal is greater than 14 % but equal to or less than 22 % (or the fixed carbon content is equal to or greater than 78 % but less than 86 %), and the coal commonly agglomerates.

medium volatile bituminous coal, n—the rank of coal, within the bituminous class of Classification D 388, such that, on the dry and mineral-matter-free basis, the volatile matter content of the coal is greater than 22 % but equal to or less than 31 % (or the fixed carbon content is equal to or greater than 69 % but less than 78 %), and the coal commonly agglomerates.

meta-anthracite, n—the rank of coal, within the anthracite class of Classification D 388, such that, on the dry and mineral-matter-free basis, the volatile matter content of the coal is equal to or less than 2 % (or the fixed carbon is equal to or greater than 98 %), and the coal is nonagglomerating.

semianthracite, n—the rank of coal, within the anthracitic class of Classification D 388, such that, on the dry and mineral-matter-free basis, the volatile matter content of the coal is greater than 8 % but equal to or less than 14 % (or the fixed carbon content is equal to or greater than 86 % but less than 92 %), and the coal is nonagglomerating.

subbituminous class, n—a class of rank consisting of subbituminous C coal, subbituminous B coal, and subbituminous A coal.

subbituminous C coal, n—the rank of coal, within the subbituminous class of Classification D 388, such that, on the moist, mineral-matter-free basis, the gross calorific value of the coal in British thermal units per pound is equal to

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greater than 8300 (19.31 Mj/kg) but less than 9500 (22.10 Mj/kg), and the coal is nonagglomerating.

subbituminous B coal, n—the rank of coal, within the subbituminous class of Classification D 388, such that, on the moist, mineral-matter-free basis, the gross calorific value of the coal in British thermal units per pound is equal to greater than 9500 (22.10 Mj/kg) but less than 10 500 (24.42 Mj/kg) and the coal is nonagglomerating.

subbituminous A coal, n—the rank of coal, within the subbituminous class of Classification D 388, such that, on the moist, mineral-matter-free basis, the gross calorific value of the coal in British thermal units per pound is equal to greater than 10 500 (24.42 Mj/kg) but less than 11 500 (26.75 Mj/kg) and the coal is nonagglomerating.

raw coal—*for the purpose of Test Method D 4749*, any coal, regardless of its topsize, that has not been manually or mechanically cleaned. Crushed coal that has not been mechanically cleaned (including coal that has not been through a breaker which normally rejects oversize) is considered to be raw coal. Coal delivered to the surface from an underground mine is considered to be raw coal even when crushing and grinding is done underground. Coal removed from the pit of a surface mine is considered to be raw coal even when breaking and crushing facilities are provided *in the pit.* **D 4749**

recovery, *n*—the percent of the valuable component (that is, Btu or combustible) from the feed that reports to the froth concentrate product. **D 5114**

reporting bases:

as-determined basis, n—analytical data obtained from the analysis sample of coal or coke after conditioning and preparation to No. 60 (250-μm) sieve in accordance with Practice D 2013. As-determined data represents the numerical values obtained at the particular moisture level in the sample at the time of analysis. These are normally converted, according to formulae contained in Practice D 3180, to conventional reporting bases.

as-received basis, n—analytical data calculated to the moisture condition of the sample as it arrived at the laboratory and before any processing or conditioning. If the sample has been maintained in a sealed state so that there has been no gain or loss, the as-received basis is equivalent to the moisture basis as sampled.

dry, ash-free basis, n—data calculated to a theoretical base of no moisture or ash associated with the sample. Numerical values as established by Test Methods D 3173 and D 3174 are used for converting the as-determined data to a moisture- and ash-free basis.

dry basis, n—data calculated to a theoretical base of no moisture associated with the sample. The numerical value as established by Test Method D 3173 is used for converting the as-determined data to a dry basis.

equilibrium moisture basis, n—data calculated to the moisture level established as the equilibrium moisture. Numerical values as established by Test Method D 1412 are used for the calculation. **D 3180**

representative sample—See *representative sample* under **sample**.

residual moisture—See *residual moisture* under **moisture**.

resinite—See *resinite* under **maceral**.

ribbon anisotropic phase, *n*—*as used in Test Method D 5061*, a group of binder-phase anisotropic carbon textures distinguished by their ribbon-like domains (that is, length (*L*) to width (*W*) ratio of $L > 4W$), and subdivided based on domain width as fine ribbon (2.0- to 12.0-μm), medium ribbon (12.0- to 25.0-μm), and coarse ribbon (>25.0-μm) size categories. **D 5061**

riffle, *n*—a hand-fed sample divider device that divides the sample into two parts of approximately the same weight. **D 2013**

roof, *n*—the rock material immediately overlying a coal bed.

run-of-mine (ROM) coal—*for the purpose of Test Method D 4749, (1) in the case of an underground mine*, it is that coal delivered to the surface by a slope belt, hoist, and so forth.

(2) *in the case of a surface mine*, it is that coal as it exists after it has been removed from the pit and placed into the initial means of transportation whether it be an on-the-road or off-the-road haul truck, dump hopper which feeds a pit-to-plant conveyor, and so forth. For both underground and surface mines, ROM coal is as-mined and has not been exposed to any treatment such as breaking, crushing, or cleaning except for that done by the normal operations used to extract the coal from the ground, that is, blasting, ripping, loading, cutting, and so forth.

sample, *n*—a quantity of material taken from a larger quantity for the purpose of estimating properties or composition of the larger quantity. **D 2234/D 2234M**

analysis sample, n—final subsample prepared from the original gross sample but reduced to 100 % through No. 60 (250-μm) sieve and divided to not less than 50 g. **D 2013; D 2234/D 2234M**

divided sample, n—See *subsample*.

gross sample, n—a sample representing one lot of coal and composed of a number of increments on which neither reduction nor division has been performed. **D 2013; D 2234/D 2234M**

laboratory sample, n—the sample, not less than the permissible weight delivered to the laboratory for further preparation and analysis. **D 2013**

representative sample, n—a sample collected in such a manner that every particle in the lot to be sampled is equally represented in the gross or divided sample. **D 2013;D 2234/D 2234M; D 4916**

subsample, n—a sample taken from another sample. **D 2013; D 2234/D 2234M; D 4916**

unbiased sample (representative sample)—a sample free of bias. **D 2013; D 2234/D 2234M; D 4916**

sample division, *n*—the process whereby a sample is reduced in weight without change in particle size. **D 2013;D 2234/D 2234M; D 4916**

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sample reduction, *n*—the process whereby a sample is reduced in particle size by crushing or grinding without significant change. **D 2013**

sample preparation, *n*—the process that may include air drying, crushing, division, and mixing of a gross sample for the purpose of obtaining an unbiased analysis sample. **D 2013**

seam moisture, n—synonym for *inherent moisture.*

semianthracite—See *semianthracite* under **rank.**

semifusinite—See *semifusinite* under **maceral.**

secretinite, n—See *secretinite* under **maceral.**

significant loss, *n*—any loss that introduces a bias in final results that is of appreciable economic importance to the concerned parties. **D 2013; D 2234/D 2234M; D 4916**

size consist, *n*—the particle size distribution of a coal. **D 2013; D 2234/D 2234M; D 4916**

softening temperature (ST), *n—in reference to the fusibility of coal and coke ash according to Test Method D 1857,* the temperature at which the cone has fused down to a spherical lump in which the height is equal to the width at the base.

solids concentration, *n*—the ratio, expressed as a percent, of the weight (mass) of solids to the sum of the weight of solids plus water. **D 5114**

sonde, *n*—an elongate cylindrical tool assembly used in a borehole to acquire a geophysical log.

spacing of increments, *n*—pertains to the kind of intervals between increments. Two spacing methods are recognized: systematic and random. Systematic spacing is usually preferable.

systematic spacing 1, n—in which the movements of individual increment collection are spaced evenly in time or in position over the lot.

random spacing 2, n—in which the increments are spaced at random in time or in position over the lot. **D 4916**

sparking fuels, *n—within the context of Test Method D 3175,* fuels that do not yield a coherent cake as residue in the volatile matter determination but do evolve gaseous products at a rate sufficient to mechanically carry solid particles out of the crucible when heated at the standard rate. Such coals normally include all low-rank noncaking coals and lignites but may also include those anthracites, semianthracites, bituminous, chars, and cokes that lose solid particles as described above. These are defined as *sparking fuels* because particles escaping at the higher temperatures may become incandescent and spark as they are emitted.

sporinite—See *sporinite* under **maceral.**

standard deviation, *n*—the most usual measure of the dispersion of observed values or results expressed as the positive square root of the variance. **D 2013; D 2234/D 2234M**

subbituminous A coal—See *subbituminous A coal* under **rank.**

subbituminous B coal—See *subbituminous B coal* under **rank.**

subbituminous C coal—See *subbituminous C coal* under **rank.**

subbituminous class—See *subbituminous class* under **rank.**

subsample—See *subsample* under **sample.**

tailings, *n*—the underflow product from coal froth flotation. **D 5114**

textural component, *n—as used in Test Method D 5061,* the collective term used to describe carbon forms and recognizable coal- and process-derived components (binder-phase, filler-phase, and miscellaneous material), in coke. **D 5061**

topsize, *n*—the opening of the smallest screen in the series upon which is retained less than 5 % of the sample (see Test Method D 4749). **D 2013; D 2234/D 2234M; D 4916**

topsize, nominal—*for the purpose of Test Method D 4749,* the sieve designating the upper limit or topsize shall be that sieve of the series given in the Standard Series of Sieves section with the smallest openings upon which is cumulatively retained a total of less than 5 % of the sample. This defined topsize is not to be confused with the size of the largest particle in the lot. **D 4749**

total carbon, *n*—carbon content remaining in the solid products derived from the combustion or reaction of coal, coal by-products, or coke, inclusive of carbonate in any form. **D 6316**

total moisture—See *total moisture* under **moisture.**

total variance—See *total variance* under **variance.**

ultimate analysis, *n—in the case of coal and coke,* the determination of carbon and hydrogen in the material, as found in the gaseous products of its complete combustion, the determinations of sulfur, nitrogen, and ash in the material as a whole, and the calculation of oxygen by difference.

DISCUSSION—The determination of phosphorus or chlorine is not by definition a part of the ultimate analysis of coal or coke. See Test Method D 2361 for the determination of chlorine and Test Methods D 2795 for the determination of phosphorus.

Moisture is not by definition a part of the ultimate analysis of coal or coke but must be determined so that analytical data may be converted to bases other than that of the analysis sample.

Inasmuch as some coals contain mineral carbonates, and practically all contain clay or shale containing combined water, a part of the carbon, hydrogen, and oxygen found in the products of combustion may arise from these mineral components. **D 3176**

unbiased sample—See *unbiased sample* under **sample.**

variance, *n*—the mean square of deviations (or errors) of a set of observations; the sum of squared deviations (or errors) of individual observations with respect to their arithmetic mean divided by the number of observations less one (degrees of freedom); the square of the standard deviation (or standard error). **D 2013; D 2234/D 2234M**

random variance of increment collection (unit variance), S_r^2, *n*—the theoretical variance calculated for a uniformly mixed lot and extrapolated to 0.5-kg (1-lb) increment size. **D 2234/D 2234M**

segregation variance of increment collection, S_s^2, *n*—the variance caused by nonrandom distribution of ash content or other constituent in the lot. For a method of estimating this variance, see Annex A1 of Test Methods D 2234/D 2234M. **D 2234/D 2234M**

total variance, S_o^2, *n*—the overall variance resulting from collecting single increments and including division and analysis of the single increments. **D 2013; D 2234/D 2234M**

variance of analysis, S_a^2, *n*—the variance caused by chance errors (deviations) of analysis. **D 2013**

variance of division, S_d^2, *n*—the variance caused by chance errors (deviations) of sample division. **D 2013**

variance of division and analysis, S_{da}^2, *n*—the variance

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caused by the combined chance errors of division and analysis. **D 2013**

vitrain—See *vitrain* under **coal**.

vitrinite—See *vitrinite* under **maceral**.

vitrinite type, *n*—*as used in Test Method D 5061*, reflectance classes of vitrinite which span 0.1 % reflectance intervals.

DISCUSSION—This term is commonly referred to as V-type. For example, V-type 6 includes vitrinite reflectance values from 0.6 through 0.69 %. **D 5061**

volatile matter, *n*—those products, exclusive of moisture, given off by a material such as gas or vapor, determined by definite prescribed methods which may vary according to the nature of the material.

DISCUSSION—In the case of coal and coke, the methods used shall be those prescribed in Test Method D 3175.

washability analysis of coal, *n*—the analysis of the specific gravity distribution of chemical and physical characteristics of coal.

DISCUSSION—The specific gravity fractions are obtained by subjecting the material being studied to a series of solutions, each with a discrete specific gravity, that cover the range of specific gravities in question. In the case of the washability analysis of coal, these solutions are obtained by the mixing of various organic liquids that are relatively inert toward the majority of coal types. The distribution, as determined by the analysis, is affected by the physical condition of the sample subjected to the washability analysis, for example, the moisture content and the size content of the material. **D 4371**

water equivalent, *n*—Synonym for **energy equivalent**.

weathered coal, *n*—coal that has been exposed to climatic conditions (precipitation, sunlight, wind, temperature variations, etc.) and sometimes ground water, such that its properties are altered compared to those in coal from the same seam that has not be so exposed.

DISCUSSION—Weathering is always accompanied by oxidation of the organic material, commonly resulting in an increased concentration of oxygenated functional groups (for example OH and COOH). More pronounced weathering is accompanied by cracking and frequently, by mineral efflorescence. Milder weathering may not be detectable by visual inspection, but all weathering is manifest by increased solubility in alkalis (see Test Method D 5263), reduced calorific value, and, for bituminous coals reduced agglutinating or agglomerating properties upon heating. **D 388, D 720, D 5515**

wet sieving—*for the purpose of Test Method D 4749*, the test method for the sieving of coal that uses water as a medium for facilitating the segregation of the sample into particle size; this is generally used when testing coal particles 600 µm (No. 30 U.S.A. Standard Series) or smaller. **D 4749**

yield, *n*—the weight percent of the feed that reports to the concentrate. **D 5114**

4. Classification and Relationship of Terms

4.1 *Terms Used to Classify Coal by Rank*:

4.1.1 *Classification*—The classification of terms used to classify coal by rank in accordance with Classification D 388 are as follows:

Class	Group
Anthracitic	meta-anthracite anthracite semianthracite
Bituminous	low volatile bituminous coal medium volatile bituminous coal high volatile A bituminous coal high volatile B bituminous coal high volatile C bituminous coal
Subbituminous	subbituminous A coal subbituminous B coal subbituminous C coal
Lignitic	lignite A lignite B

4.2 *Terms Used in Megascopic Descriptions of Coal Seams and Hand Specimens of Coal*:

4.2.1 Some relationships of terms are shown in outline form below. Defined terms are indicated by bold type. **Coal:**

banded coal:
attrital coal
fusain
vitrain
nonbanded coal:
cannel or **boghead** or transition between these varieties
impure coal:
bone coal
mineralized coal
other impure coal

4.3 *Terms Used in Microscopical Description and Analysis of Coal*:

4.3.1 *Classification*—The classification of the microscopic constituents into groups of similar properties in a given coal is as follows:

Maceral Group	Maceral
Vitrinite	vitrinite
Liptinite	alginite cutinite resinite sporinite
Inertinite	fusinite funginite inertodetrinite macrinite micrinite secretinite semifusinite

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5. Keywords

5.1 analysis; coal; coke; definitions; sampling; terminology; terms

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ATTACHMENT C

SOAH DOCKET NO. 589-09-2005
TCEQ DOCKET NO. 2009-0033-AIR

CHIEF CLERKS OFFICE
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

APPLICATION OF LAS BRISAS ENERGY CENTER, LLC FOR STATE AIR QUALITY PERMIT; NOS. 85013, HAP48, PAL41 AND PSD-TX-1138.	§ § § §	**BEFORE THE STATE OFFICE OF ADMINISTRATIVE HEARINGS**

APPLICANT LAS BRISAS ENERGY CENTER, LLC'S CONSOLIDATED RESPONSE TO PROTESTANTS' MOTIONS FOR SUMMARY DISPOSITION

The fundamental purpose of this contested case hearing is to determine whether the application submitted by Las Brisas Energy Center, LLC ("***Applicant***" or "***Las Brisas***") "complies with all applicable statutory and regulatory requirements."[1] Instead of a full evidentiary hearing on the matter, Protestants Environmental Defense Fund, Inc. ("***EDF***") and Sierra Club (collectively, "***Protestants***") would have the Administrative Law Judges ("***ALJs***") make their recommendation to the Commissioners of the Texas Commission on Environmental Quality ("***TCEQ***") in the context of a motion for summary disposition absent due consideration to witness testimony and other evidence, and without a complete administrative record. Whether the application complies with applicable Texas statutory and regulatory requirements is properly determined after a full evidentiary hearing, not at this preliminary stage of the proceeding.

Furthermore, summary disposition may be rendered only if "there is no genuine issue as to any material fact and the moving party is entitled to summary disposition as a matter of law."[2] Per this standard, Protestants' motions should be summarily denied without reaching Protestants' legal claims because material facts underlying their arguments are in dispute, despite Protestants' representations to the contrary. Moreover, even if the ALJs were to somehow move past the

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1 30 TEX. ADMIN. CODE § 55.210(b).

2 *Id.* § 80.137(c).

disputed material facts to Protestants' legal claims, the ALJs will find that Protestants' motions are legally flawed and should be denied. As demonstrated below, contrary to Protestant's assertions, Las Brisas's application complies with the applicable statutory and regulatory requirements. Accordingly, neither the facts nor the law support Protestants' attempt to derail this proceeding.

I.
ARGUMENT

A. FACTS MATERIAL TO PROTESTANTS' MOTION ARE IN DISPUTE.

Protestants' motions rest on the existence and use of a site operated by Las Brisas Terminal Company, LLC ("***LBTC***") and located adjacent to the Las Brisas Energy Center ("***LBEC***") for the handling and storage of bulk materials to be used at the LBEC. There is no LBTC site. There are currently no active plans to develop or use a site operated by LBTC.[3] Las Brisas does not plan to utilize LBTC for any material handling or storage.[4] In fact, LBTC has never been formed as a corporation.[5]

When Las Brisas submitted its application to TCEQ, Chase Power Development, LLC ("***Chase Power***") and Chase Terminal Company, LLC ("***CTC***") envisioned developing and operating a commercial bulk terminal facility, utilizing the LBTC name, which, in addition to other bulk materials, could accommodate petroleum coke and limestone for use at the LBEC;[6] hence the discussion of a LBTC material handling and storage facility in Las Brisas's application. The plans of Chase Power and CTC have since changed. Neither Chase Power, CTC, nor any related entity, as LBTC or under any other name, foresees developing or operating

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3 *See* Ex. A, Affidavit of Kathleen Smith, ¶¶ 9-11.

4 *See id.* ¶ 6, 9-11.

5 *See id.* ¶ 4.

6 *See id.* ¶ 8.

a commercial bulk terminal facility adjacent to the LBEC site or at any other location to serve the LBEC.[7]

Contrary to Protestants' claims, developing and using a site operated by LBTC for bulk material handling and storage is neither necessary nor required. While facilities will be necessary for the storage and handling of bulk materials to be used at the LBEC, those facilities need not be controlled by LBTC or any other entity affiliated with Las Brisas. The existing Port of Corpus Christi Authority ("***POCCA***") bulk terminal operations can provide off-site handling and storage, as necessary, of the materials to be used at the LBEC, in addition to the myriad of other materials that the POCCA handles for the port's other customers.[8] Las Brisas's application accounts for the material handling and storage emissions from the POCCA's existing bulk terminal operations.[9]

Protestant EDF claims – *but has not proven* – that there will be an increase in off-site material handling and storage emissions as a result of the future off-site handling and storage of materials to be used at the LBEC. Las Brisas maintains that the off-site handling and storage of materials to be used at the facility will not result in an increase in emissions from the POCCA's existing bulk terminal operations.[10] Accordingly, whether there will be an increase in off-site material handling and storage emissions is one of the many facts in dispute – a genuine issue of material fact that should only be resolved after consideration of the parties' evidence.

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7 *See id.* ¶¶ 9-11.

8 *See id.* ¶ 6.

9 *See* Ex. B, Affidavit of Joseph M. Kupper, P.E., ¶ 7; Protestant EDF's Motion for Summary Disposition at 4 n.1.

10 *See* Ex. B, Affidavit of Joseph M. Kupper, P.E., ¶ 10.

B. PROTESTANTS' ARE NOT ENTITLED TO SUMMARY DISPOSITION AS A MATTER OF LAW.

Protestants acknowledge that in order to prevail on their motions for summary disposition they must prove, as a matter of law, that the bulk material handling facilities that will be required for the LBEC (1) will be part of the same "stationary source" as the LBEC or, in the alternative, (2) will result in "secondary emissions." As explained below, Protestants have not proved either of these required elements. Accordingly, their motions for summary disposition must be denied

1. The LBEC and the Bulk Material Handling Facilities Will Not Be Part of the Same "Stationary Source."

Under TCEQ regulations, prevention of significant deterioration ("PSD") permitting requirements apply to "[e]ach proposed new *major source* or major modification in an attainment or unclassifiable area."[11] TCEQ's PSD regulations define a "major stationary source" as "[a]ny *stationary source* that emits, or has the potential to emit, a threshold quantity of emissions of any air contaminant . . . for which a national ambient air quality standard has been issued."[12] Therefore, key to determining the scope of PSD permitting requirements is determining what constitutes a "stationary source."

TCEQ's PSD regulations define a "stationary source" as "[a]ny building, structure, facility, or installation" that emits a regulated air pollutant.[13] The term "[b]uilding, structure, facility, or installation" is defined as "[a]ll 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 (or persons under common control)."[14] Accordingly, to be part of the same stationary source, pollutant-emitting activities must (1) belong to the same industrial grouping, (2) be located in one or more contiguous or adjacent properties, and (3) be

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11 30 TEX. ADMIN. CODE § 116.160(a) (emphasis added).
12 *Id.* § 116.12(17) (emphasis added).
13 *Id.* § 116.12(35).
14 *Id.* § 116.12(6) (emphasis added).

under common control. As set forth below, Protestants have failed to prove that the pollutant-emitting activities associated with the LBEC and the bulk material handling operations meet these three criteria.

a. Protestants Have Failed to Prove, As a Matter of Law, that the LBEC and the Bulk Material Handling Operations Belong to the Same Industrial Grouping.

According to TCEQ regulations, "[p]ollutant emitting activities are considered to belong to the same industrial grouping if they belong to the same 'major group' (i.e., that have the same two-digit code) as described in the Standard Industrial Classification Manual, 1972, as amended by the 1977 supplement."[15] Protestants do not argue that steam electric generating facilities and the bulk material handling operations have the same two-digit SIC code. That is because they do not.

As Protestants recognize, and as reflected in Section III.C of Las Brisas's TCEQ Form PI-1,[16] the pollutant emitting activities associated with the LBEC fall under SIC Code 4911 which covers electric power generation facilities. Thus the LBEC falls under Major Group 49: Electric, Gas, and Sanitary Services.[17] The bulk material handling operations will fall under a separate and distinct major group. As evidenced by Section III.C of the POCCA's TCEQ Form PI-1,[18] bulk material handling operations fall under SIC Code 4491 or Major Group 44: Water Transportation.[19] Accordingly, the pollutant emitting activities associated with the LBEC and the bulk material handling operations will *not* belong to the same industrial grouping and thus, according to TCEQ regulations, will *not* be part of the same "stationary source."

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15 *Id.*

16 *See* Las Brisas Pre-Filed Exhibit 3, Permit Application, p. 12.

17 *See* Protestant EDF's Motion for Summary Disposition, Exhibit I.

18 *See* Ex. C, POCCA TCEQ Form PI-1.

19 *See* Ex. D, Standard Industrial Classification Manual, 1972.

Protestants attempt to overcome this clear difference in industrial groupings by relying on preamble language from Environmental Protection Agency ("***EPA***") rulemakings and EPA guidance relating to "support facilities." However, the preamble language and the guidance relied upon by Protestants do not constitute law[20] and, furthermore, are not binding on TCEQ.[21] Accordingly, neither serves as proper support for summary disposition. Instead, pursuant to TCEQ regulations, which are controlling, the LBEC and the bulk material handling operations will not constitute a single "stationary source" because they will not belong to the same industrial grouping.

b. Protestants Have Failed to Prove, As a Matter of Law, that the LBEC and the Bulk Material Handling Operations Will Be Under Common Control.

Although the fact that the LBEC and the bulk material handling operations fall under different industrial groupings is enough, on its own, to defeat Protestants' claim that the two operations must be considered a single "stationary source," the required element of common control also is lacking.

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[20] The guidance cited by both EDF and Sierra Club clearly states that such guidance is not legally binding. For example, the Preface of EPA's Draft 1990 NSR Manual cited by EDF includes the following statement: "[This document] is not intended to be an official statement of policy and standards and *does not establish binding regulatory requirements*; such requirements are contained in the regulations and approved state implementation plan." Ex. E, Draft, October 1990, EPA New Source Review Workshop Manual, Preface (emphasis added). Additionally, the December 6, 2004 letter from EPA Region 7 referenced by Sierra Club includes the following disclaimer: "As a final note, even though we encourage SIP-approved PSD states . . . to follow EPA guidance to ensure consistency in implementation of the program, *such guidance is not legally binding and does not substitute for controlling regulations*." Protestant Sierra Club's Motion for Summary Disposition, Exhibit C (emphasis added).

[21] When approving TCEQ's PSD permitting regulations as part of the Texas State Implementation Plan in 1992, EPA, in response to comments, directly addressed the relevance of its interpretations and guidance regarding PSD regulations. EPA stated that it "did not intend to suggest that Texas is required to follow EPA's interpretations and guidance issued under the Act in the sense that those pronouncements have independent status as enforceable provisions of the Texas PSD SIP, such that mere failure to follow such pronouncements, standing alone, would constitute a violation of the Act." Ex. F, 57 Fed. Reg. 28,095 (June 24, 1992).

As explained above, when Las Brisas submitted its application to TCEQ, Chase Power envisioned developing and operating a commercial bulk terminal facility, which, in addition to other bulk materials, could accommodate the petroleum coke and limestone to be used by the LBEC.[22] In furtherance of this pursuit, Chase Power formed CTC in February 2008 and later reserved the LBTC name with the Texas Secretary of State.[23] Accordingly, when Las Brisas filed the application it referenced a LBTC material handling and storage facility. Protestants, relying on the reference to LBTC, claim that both the LBEC and the material handling operations are under the common control of Chase Power. This simply is not the case, as neither Chase Power nor CTC foresee developing or operating a commercial bulk terminal facility adjacent to the LBEC site or at any other location to serve the LBEC.[24] Furthermore, contrary to Protestants' claims, developing and using a site operated by LBTC for bulk material handling and storage is neither necessary nor required. While facilities will be necessary for the storage and handling of bulk materials to be used at the LBEC, those facilities need not be controlled by LBTC or any other entity affiliated with Las Brisas. The existing POCCA bulk terminal operations can provide off-site handling and storage, as necessary, of the materials to be used at the LBEC, in addition to the myriad of other materials that the POCCA handles for the port's other customers.[25] Therefore, the LBEC and the material handling operations will not be under common control and thus cannot be considered a single "stationary source."

2. The LBEC Will Not Result in Secondary Emissions.

Protestant EDF argues that, even if the LBEC and the bulk material handling operations are not considered to be part of the same "stationary source," the material handling operations

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22 *See* Ex. A, Affidavit of Kathleen Smith, ¶ 8.
23 *See id.* ¶¶ 3-4.
24 *See id.* ¶¶ 9-12.
25 *See id.* ¶ 6.

will necessarily result in secondary emissions that have not been considered in the Application. EDF's argument, however, is based on the unproven claim that there will be an increase in off-site material handling and storage emissions as a result of the future off-site handling and storage of materials to be used at the LBEC. In fact, there will be no such increase in emissions.

TCEQ's PSD permitting regulations incorporate by reference 40 C.F.R. § 52.21(k) concerning source impacts analyses, which provides that "the owner or operator of the proposed source or modification shall demonstrate that allowable emissions increases from the proposed source or modification, *in conjunction with all other applicable emissions increases or reductions (including secondary emissions)*, would not cause or contribute to air pollution in violation" of any national ambient air quality standard ("***NAAQS***") or PSD increment.[26] TCEQ's PSD permitting regulations also define "secondary emissions" as follows:

> Emissions that would occur as a result of the construction or operation of a major source or major modification, but do not come from the source or modification itself. Secondary emissions must be specific, well-defined, quantifiable, and impact the same general area as the stationary source or modification that causes the secondary emissions. Secondary emissions include emissions from any off-site support facility that would not be *constructed or increase its emissions*, except as a result of the construction or operation of the major stationary source or major modification. Secondary emissions do not include any emissions that come directly from a mobile source such as emissions from the tail pipe of a motor vehicle, from a train, or from a vessel.[27]

As EDF recognizes and as TCEQ's PSD source impacts analysis requirements and definition of "secondary emissions" both make clear, consideration of secondary emissions is only relevant when there will be an increase in off-site emissions, a fact that EDF has failed to prove. Contrary to EDF's claims, developing and using a site operated by LBTC for bulk material handling and storage is neither necessary nor required. Rather, the existing POCCA bulk terminal operations will provide off-site handling and storage, as necessary, of the materials

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[26] Incorporated by reference at 30 TEX. ADMIN. CODE § 116.160(c)(2)(B).

[27] 30 TEX. ADMIN. CODE § 116.12(32).

to be used at the LBEC.[28] Furthermore, the future off-site handling and storage of materials to be used at the LBEC can be accommodated without an increase in the currently authorized emissions, emissions that were considered by Las Brisas in both its NAAQS and PSD increment analyses.[29] Accordingly, EDF has failed to prove that the off-site material handling operations will result in emissions that have not been considered in the Application.[30]

II.
EVIDENCE FILED IN SUPPORT OF CONSOLIDATED RESPONSE TO PROTESTANTS MOTION FOR SUMMARY DISPOSITION

Protestants have submitted several exhibits in support of their motions for summary disposition, none of which establish their entitlement to summary disposition. In addition to relying on certain of Protestants' exhibits as set forth in this Consolidate Response, Applicant submits the following exhibits in support of this Consolidated Response, true and correct copies of which are attached hereto and incorporated herein. This evidence includes:

Exhibit A: Affidavit of Kathleen Smith.

Exhibit B: Affidavit of Joseph M. Kupper, P.E.

Exhibit C: Certified copy of TCEQ Form PI-1, Air Preconstruction Permit and Amendments, filed by Port of Corpus Christi Authority for amendment of TCEQ Permit No. 47881.

Exhibit D: Excerpt from Standard Industrial Classification Manual, 1972; Major Group 44 – Water Transportation.

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28 *See* Ex. A, Affidavit of Kathleen Smith, ¶ 6.

29 *See* Ex. B, Affidavit of Joseph M. Kupper, P.E., ¶¶ 7-10.

30 Although Sierra Club's motion does not request summary disposition based on the contention that the material handling operations will necessarily result in secondary emissions that have not been considered in the Application, it does cite a Proposal for Decision ("***PFD***") in the Matter of the Application of ASARCO, Inc. for the renewal of Air Permit No. 20345 (SOAH Docket No. 582-05-0593) as "instructive" on the issue of whether emissions from an "interconnected facility" should be considered in the "primary facility's" application. Contrary to Sierra Club's claim, the cited PFD is not "instructive" at all to a request for summary disposition because it does not reflect governing law or regulation or, in this case, even TCEQ policy. In fact, the portions of the PFD cited by Sierra Club were never adopted by the Commission. Rather, the Commission adopted an Interim Order including only those findings of fact from the PFD "which concern jurisdictional matters, designation and withdrawal of parties, and general background with regard to the El Paso Plant." *See* Ex. G, TCEQ Interim Order.

Exhibit E: Preface of Draft, October 1990, EPA New Source Review Workshop Manual.

Exhibit F: 57 Fed. Reg. 28,095 (June 24, 1992).

Exhibit G: Certified copy TCEQ Interim Order concerning Application of ASARCO, Incorporated to renew Air Quality Permit No. 20345; TCEQ Docket No. 2004-0049-AIR, SOAH Docket No. 582-05-0593.

III.
CONCLUSION

For the foregoing reasons, Applicant respectfully submits that Protestants' motions for summary disposition are factually and legally insupportable. There are genuine issues as to a number of material facts and Protestants are not entitled to summary disposition as a matter of law. Accordingly, Protestants' motions for summary disposition should be denied.

Respectfully submitted,

John A. Riley/SBN 16927900
Christopher C. Thiele/SBN 24013622
VINSON & ELKINS L.L.P.
2801 Via Fortuna, Suite 100
Austin, Texas 78746
Telephone: (512) 542-8520
Facsimile: (512) 236-3329

COUNSEL FOR APPLICANT
LAS BRISAS ENERGY CENTER, LLC

CERTIFICATE OF SERVICE

I certify that a true and correct copy of the forgoing response has been served by hand-delivery, email, facsimile or U.S. Mail to the parties listed on the attached service list on this the 18th day of September, 2009.

Christopher C. Thiele

Mailing List
LAS BRISAS ENERGY CENTER, LLC
TCEQ DOCKET NO. 2009-0033-AIR
SOAH DOCKET NUMBER: 582-09-2005

FOR SOAH:

VIA: Facsimile
The Honorable Tommy Broyles
Administrative Law Judge
The Honorable Craig R. Bennett
Administrative Law Judge
State Office Of Administrative Hearings
300 West 15th Street
Austin, Texas 78701
Tel. (512) 475-4993
Fax: (512) 475-4994

VIA: Facsimile
State Office of Administrative Hearings
Attn: SOAH Docket Clerk
P.O. Box 13025
Austin, TX 78711-3025
Tel: (512) 475-4993
Fax: (512) 475-4994

FOR THE PUBLIC INTEREST COUNSEL

VIA: Facsimile
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MC-103
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FOR THE EXECUTIVE DIRECTOR:

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Ben Rhem
TCEQ Environmental Law Division MC-173
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FOR THE CHIEF CLERK:

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Fax: (512) 482-9346

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Clean Economy Coalition
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Fax: (361) 854-5859

FOR SIERRA CLUB

VIA: Facsimile
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Ilan Levin
Environmental Integrity Project – Texas Office
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FOR ROGER LANDRESS

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FOR LEAGUE OF UNITED LATIN AMERICAN CITIZENS (LULAC)

VIA: Regular Mail
Susie Luna-Saldana, Education Chair
League of United Latin American Citizens, Council No. 1
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Corpus Christi, TX 78415
Tel: (361) 779-0939

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VIA: Facsimile
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Fax: (214) 665-0847

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

APPLICATION OF LAS BRISAS	§	**BEFORE THE STATE OFFICE**
ENERGY CENTER, LLC FOR	§	
STATE AIR QUALITY PERMIT;	§	**OF**
NOS. 85013, HAP48, PAL41	§	
AND PSD-TX-1138.	§	**ADMINISTRATIVE HEARINGS**

AFFIDAVIT OF KATHLEEN SMITH IN SUPPORT OF LAS BRISAS ENERGY CENTER, LLC'S CONSOLIDATED RESPONSE TO PROTESTANTS' MOTION FOR SUMMARY DISPOSITION

STATE OF TEXAS	§
	§
COUNTY OF HARRIS	§

BEFORE ME, the undersigned notary, personally appeared Kathleen Smith, a person whose identity is known to me. After I administered an oath to her, upon her oath, she said:

1. "My name is Kathleen Smith. I am over the age of 21, am competent to make this affidavit, have personal knowledge of the facts herein, and affirm that those facts are true and correct."

2. "I am the President and Chief Operating Officer of Chase Power Development, LLC ("Chase Power") and have held that position since the company was formed in 2007 for the purpose of developing a power generation company in Texas."

3. "I am the President of Chase Terminal Company, LLC ("CTC") and have held that position since the company was formed in February 2008 for the purpose of developing a commercial bulk terminal facility at the Port of Corpus Christi Authority ("POCCA")."

4. "The name 'Las Brisas Terminal Company, LLC' ("LBTC") was reserved with the Texas Secretary of State for potential use (see, e.g., EDF Motion for Summary Disposition Exhibit O) by Chase Power through counsel but the LBTC has never been formed as a corporation."

5. "I am the President and Chief Operating Officer of Las Brisas Energy Center, LLC ("Las Brisas"), and have held that position since the company was formed in 2007. Las Brisas was formed by Chase Power to pursue the development of the Las Brisas Energy Center ("LBEC"), a solid fuel-fired steam electric generating facility to be located in Corpus Christi, Texas. After exploring a number of fuel options, Las Brisas elected to use petroleum coke as the LBEC fuel source and applied for the air authorizations that are the

subject of the above-captioned proceeding, which is currently pending before the Texas State Office of Administrative Hearings."

6. "POCCA currently operates a bulk terminal located to the east of the proposed site of the LBEC. The POCCA bulk terminal operations consist of the storage, handling, and loading of dry bulk commodities including, but not limited to, petroleum coke. The existing POCCA bulk terminal operations can accommodate the petroleum coke and limestone to be used at the LBEC."

7. "On November 13, 2007, Chase Power and the POCCA entered into an option agreement ("Option Agreement," EDF Motion for Summary Disposition Exhibit K) whereby the POCCA granted Chase Power an option to lease approximately 170.21 acres of property ("Option Property") owned by the POCCA. Approximately 82.48 acres of the Option Property make up the proposed site of the LBEC. Chase Power was, at one time, contemplating leasing the remainder of the Option Property for the CTC's development of bulk terminal facilities for handling petroleum coke and limestone to be used at the LBEC."

8. "CTC was formed to explore the potential privatization and upgrade of the existing POCCA bulk terminal operations. When Las Brisas submitted the air permit application for the LBEC to TCEQ, Chase Power and CTC envisioned developing and operating a commercial bulk terminal facility, utilizing the LBTC name, which, in addition to other bulk materials, could accommodate petroleum coke and limestone for use at the LBEC."

9. "Although the Option Agreement remains in effect, there are no active negotiations to enter into a lease agreement between the POCCA and Chase Power, CTC, or any related entity as LBTC or under any other name, involving any property other than the approximately 82.48 acres that constitute the proposed site for the LBEC and are depicted in Exhibit A to this affidavit. Instead, Chase Power intends to exercise the Option Agreement within the next few months only with respect to the approximately 82.48 acres that constitute the proposed site for the LBEC. Chase Power currently anticipates that, prior to commencement of the evidentiary hearing in this matter on November 2, 2009, it will have entered into a term sheet or lease agreement with the POCCA for only the approximately 82.48 acres that constitute the proposed site for the LBEC."

10. "No agreement to develop or operate a commercial bulk terminal facility adjacent to the LBEC site exists between or among POCCA and Chase Power, CTC, or any related entity as LBTC or under any other name."

11. "Neither Chase Power, CTC, nor any related entity as LBTC or under any other name foresees using the Bulk Handling Equipment and Layout Conceptual Design prepared in May 2008 (EDF Motion for Summary Disposition Exhibit N) in planning for the construction and operation of the LBEC. EDF's Motion for Summary Disposition Exhibit N, dated May 8, 2008, represents one of many a commercial bulk terminal facility conceptual design drafts that Chase Power or CTC commissioned or has considered."

12. "Chase Power terminated its relationship with the author of EDF's Motion for Summary Disposition Exhibit N shortly after the conceptual design was delivered on May14, 2008."

Further affiant sayeth not."

Kathleen Smith, Affiant

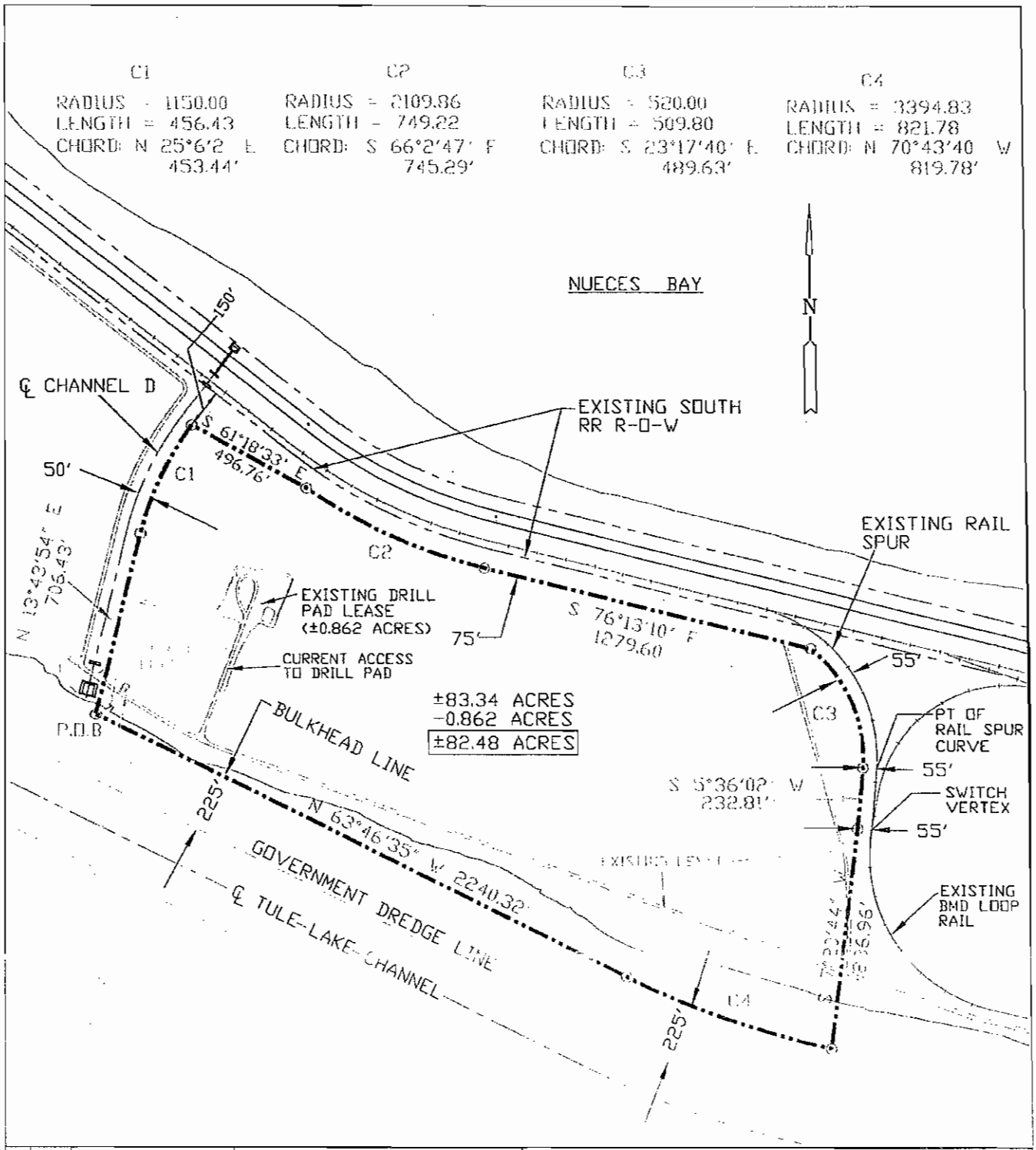
Subscribed and sworn to before me on this 18 day of September, 2009, to certify of which witness my hand and seal of office.

Notary Public – State of Texas

My Commission Expires: 12-9-2012

MARIA DOLORES GUAJARDO
NOTARY PUBLIC, STATE OF TEXAS
MY COMMISSION EXPIRES
DEC. 9, 2012

EXHIBIT A



NO.	DATE	REVISION

THE PORT OF CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

TONDU CORPORATION

SCALE: 1"=500'	±82.48 ACRE PLAT	DATE: JULY 2004
DWN. BY: RALPH		

SOAH DOCKET NO. 589-09-2005
TCEQ DOCKET NO. 2009-0033-AIR

APPLICATION OF LAS BRISAS	§	**BEFORE THE STATE OFFICE**
ENERGY CENTER, LLC FOR	§	
STATE AIR QUALITY PERMIT;	§	**OF**
NOS. 85013, HAP48, PAL41	§	
AND PSD-TX-1138.	§	**ADMINISTRATIVE HEARINGS**

AFFIDAVIT OF JOSEPH M. KUPPER, P.E. IN SUPPORT OF LAS BRISAS ENERGY CENTER, LLC'S CONSOLIDATED RESPONSE TO PROTESTANTS' MOTION FOR SUMMARY DISPOSITION

STATE OF TEXAS §
§
COUNTY OF TRAVIS §

BEFORE ME, the undersigned notary, personally appeared Joseph M. Kupper, P.E., a person whose identity is known to me. After I administered an oath to him, upon his oath, he said:

1. "My name is Joseph M. Kupper. I am over the age of 21, am competent to make this affidavit, have personal knowledge of the facts herein, and affirm that those facts are true and correct."

2. "I am a senior consulting engineer with RPS and a licensed Professional Engineer in the States of Texas and Mississippi. As a senior consulting engineer for RPS, I primarily conduct air dispersion modeling studies in support of air permit applications and conduct other tasks associated with the preparation of air permit applications, including preparing emission calculations. I have nineteen years of air dispersion modeling and air permitting experience and have prepared or assisted in preparing approximately 130 air dispersion modeling reports during my career. I have an in-depth understanding of how to perform emission calculations for sources of air emissions and air quality impacts analyses for Texas Commission on Environmental Quality ("***TCEQ***") permit applications."

3. "I performed the air dispersion modeling in connection with Las Brisas Energy Center, LLC's ("***Las Brisas***") permit application for the proposed Las Brisas Energy Center ("***LBEC***") and also assisted in preparation of emission calculations and other parts of Las Brisas' air permit application ("***Application***"). I have been offered by Las Brisas as both an expert and fact witness in this proceeding and my direct testimony has been pre-filed by Las Brisas (Las Brisas Exhibits 100 – 110)."

4. "The air quality impacts analysis that I performed in connection with the Application included National Ambient Air Quality Standard ("***NAAQS***") analyses for nitrogen

dioxide ("***NO_2***"), sulfur dioxide ("***SO_2***"), carbon monoxide ("***CO***") and particulate matter consisting of particles with diameters less than ten microns ("***PM_{10}***") and Prevention of Significant Deterioration ("***PSD***") increment analyses for NO_2, SO_2, and PM_{10}."

5. "As part of the modeling analysis that I prepared, it was necessary to determine whether emissions from the LBEC would result in off-property concentrations less than or greater than *de minimis* levels for those air contaminants that will be emitted from the LBEC and for which NAAQS and PSD increments have been established. For the subset of NAAQS pollutants for which concentrations greater than *de minimis* levels were modeled, the NAAQS analysis accounted for all emissions associated with the LBEC, off-site emission sources, and ambient background concentrations. For PSD increment pollutants for which concentrations greater than *de minimis* levels were modeled, the PSD increment analysis accounted for all emissions associated with the LBEC and contributions from other PSD-increment consuming sources in the area."

6. "Because modeling of PM_{10} emissions from the LBEC resulted in off-property PM_{10} concentrations greater than the 24-hr and annual *de minimis* levels, the PM_{10} NAAQS analysis accounted for all PM_{10} emissions associated with the LBEC, off-site PM_{10} emission sources, and ambient background PM_{10} concentrations, and the PM_{10} PSD increment analysis accounted for all PM_{10} emissions associated with the LBEC and PM_{10} contributions from other PSD-increment consuming sources in the area."

7. "PM_{10} emissions from the Port of Corpus Christi Authority ("***POCCA***") bulk materials handling facilities were among the off-site PM_{10} emission sources accounted for in the PM_{10} NAAQS and PSD-increment analyses that I performed and TCEQ reviewed in issuing the above-captioned authorizations, which are the subject of this proceeding before the Texas State Office of Administrative Hearings. Specifically, PM_{10} emissions associated with POCCA Bulk Material Handling Dock No. 1 authorized under TCEQ Permit No. 47881 (Las Brisas Exhibit 7, pp. 175 – 180) and POCCA Bulk Material Handling Dock No. 2 authorized under TCEQ Permit No. 9498 (Las Brisas Exhibit 7, pp. 148 - 156) were considered."

8. "TCEQ Permit No. 47881 authorizes the loading, unloading, and storage of petroleum coke and other materials at the POCCA Bulk Material Handling Dock No. 1. TCEQ Permit No. 9498 authorizes the load-out of petroleum coke and other materials at the POCCA Bulk Material Handling Dock No. 2."

9. "The PM_{10} NAAQS and PSD increment analyses that I performed and TCEQ reviewed in issuing the above-captioned authorizations considered PM_{10} emissions authorized under TCEQ permits held by POCCA tenants who currently operate pads where petroleum coke and other materials are stored and handled in addition to the PM_{10} emissions from the POCCA bulk materials handling facilities that are authorized by TCEQ permits held by the POCCA. Specifically, the PM_{10} NAAQS and PSD increment analyses considered PM_{10} emissions authorized under TCEQ Permits No. 35530, 9892, 23523, and 2523C."

10. "Based on my experience calculating emissions from material handling operations and my review of TCEQ Permits No. 47881, 9498, 35530, 9892, 23523, and 2523C, it is my opinion that the handling and storage of petroleum coke and limestone required for the LBEC can be performed without resulting in any increase in PM_{10} emissions compared to the levels currently authorized by these permits.

Further affiant sayeth not."

Joseph M. Kupper, P.E., Affiant

Subscribed and sworn to before me on this 14th day of September, 2009, to certify of which witness my hand and seal of office.

Notary Public – State of Texas

DEBBIE McCULLOUGH
Notary Public, State of Texas
My Commission Expires
JAN. 22, 2012

My Commission Expires: 01/22/12

Texas Commission on Environmental Quality
Form PI-1 General Application for Air Preconstruction Permits and Amendments

Update: The TCEQ **requires** that a Core Data Form be submitted on all incoming applications unless a Regulated Entity and Customer Reference Number has been issued by the TCEQ and no core data information has changed. For more information regarding the Core Data Form, call (512) 239-5175 or go to the TCEQ Web site at www.tceq.state.tx.us/permitting/central_registry/guidance.html.

I. APPLICANT INFORMATION			
A.	Company or Other Legal Name: Port of Corpus Christi Authority		
	Texas Secretary of State Charter/Registration Number (If Applicable):		
B.	Company Official Contact Name & Title: John P. LaRue, Executive Director		
	Mailing Address: P.O. Box 1541		
	City: Corpus Christi	State: Texas	Zip Code: 78403
	Telephone: 361-882-5633	Fax: 361-882-7110	E-mail: john@pocca.com
C.	Technical Contact Name and Title: Sarah L. Kowalski, Environmental Compliance Specialist		
	Company: Port of Corpus Christi Authority		
	Mailing Address: P.O. Box 1541		
	City: Corpus Christi	State: Texas	Zip Code: 78403
	Telephone: 361-885-6163	Fax: 361-881-5161	E-mail: sarah@pocca.com
D.	Facility Location Information:		
	Street Address: 4820 E Navigation Blvd		
	If no street address, provide clear driving directions to the site in writing:		
	City: Corpus Christi	County: Nueces	Zip Code: 78402
E.	TCEQ Account Identification Number (leave blank if new site or facility): NE-0095-E		
F.	Is a TCEQ Core Data Form (TCEQ Form #10400) attached?		☐ YES ☑ NO
G.	TCEQ Customer Reference Number *(leave blank if unknown)*: CN600885248		
H.	TCEQ Regulated Entity Number *(leave blank if unknown)*: RN102506250		
II. IMPORTANT GENERAL INFORMATION			
A.	Is confidential information submitted with this application?		☐ YES ☑ NO
	If "YES", is each "confidential" page marked "CONFIDENTIAL" in large red letters?		☐ YES ☐ NO
B.	Is this application in response to a TCEQ investigation or enforcement action? If "YES", attach a copy of any correspondence from the TCEQ		☐ YES ☑ NO
C.	Number of New Jobs: 0		
D.	Names of the State Senator and district number for this facility site: Senator Juan "Chuy" Hinojosa District: 20		
	Names of State Representative and district number for this facility site: Representative Abel Herrero District: 34		

SEP 16 2009

EXHIBIT C

Texas Commission on Environmental Quality
Form PI-1 General Application for
Air Preconstruction Permits and Amendments

III. FACILITY AND SOURCE INFORMATION

A. Site Name: Bulk Dock 1

B. Area Name/Type of Facility: Bulk Terminal ☑ PERMANENT ☐ PORTABLE

C. Principal Company Product or Business: Dry Bulk Materials Handling

Primary Standard Industrial Classification Code: 4491

D. Projected Start of Construction Date: N/A Projected Start of Operation Date: N/A

IV. TYPE OF PERMIT ACTION REQUESTED

A. Permit Number *(if existing)*: 47881

B. Is this an initial permit application? ☐ YES ☑ NO

If "YES", check the type of permit requested *(check all that apply)*:

☐ State Permit
☐ Flexible Permit
☐ Multiple Plant Permit
☐ Other: _____
☐ Nonattainment Federal Permit
☐ Prevention of Significant Deterioration Federal Permit
☐ Hazardous Air Pollutants Permit Federal Clean Air Act § 112(g)

C. Is this a permit amendment? ☑ YES ☐ NO

If "YES", Check the type of permit requested *(check all that apply)*:

☑ State Permit Amendment
☐ Flexible Permit Amendment
☐ Multiple Plant Permit Amendment
☐ Other: _____
☐ Nonattainment Major Modification
☐ Prevention of Significant Deterioration Major Modification
☐ Hazardous Air Pollutants Permit Federal Clean Air Act § 112(g) Modification

D. Is this application for a change in location of previously permitted facilities? ☐ YES ☑ NO

If "YES", answer D.1. and D.2.:

1. Current location of facility

Street Address *(If no street address, provide clear driving directions to the site in writing.)*:

City: County: Zip Code:

2. Will the proposed facility, site and plot plan meet all current technical requirements of the permit special conditions? If no, attach detailed information. ☐ YES ☐ NO

E. Are there any exemptions or permits by rule to be incorporated into this permit? ☐ YES ☑ NO

F. Are you permitting a grandfathered facility? ☐ YES ☑ NO

If "YES", attach information on any changes to emissions under this application.

G. Is this facility located at a site required to obtain a federal operating permit under 30 TAC Chapter 122? If "NO", go to Section V. ☐ YES ☑ NO

1. Is a site operating permit (SOP) or general operating permit (GOP) review pending for this source, area, or site? ☐ YES ☐ NO

2. Is an SOP or GOP issued for this source, area, or site? ☐ YES ☐ NO

3. List SOP or GOP number(s):

Texas Commission on Environmental Quality
Form PI-1 General Application for
Air Preconstruction Permits and Amendments

V. PERMIT FEE INFORMATION

A. Fee Paid for this application: $ 900.00

B. Is a copy of the check or money order attached to the original submittal of this application? ☑ YES ☐ NO ☐ N/A

C. Is a Table 30 entitled, "Certification of Estimated Capital Cost and Fee Verification," attached? ☑ YES ☐ NO

VI. PUBLIC NOTICE APPLICABILITY

A. Is this a new permit application? ☐ YES ☑ NO

B. Is this an application for a major modification of a PSD, NA or 30 TAC § 112(g) permit? ☐ YES ☑ NO

C. Is this a state permit amendment application? ☑ YES ☐ NO
If "YES", answer C.1. through C.3.

1. Is there any change in character of emissions or a new air contaminant in this application? ☑ YES ☐ NO

2. Do the facilities handle, load, unload, dry, manufacture, or process grain, seed, legumes, or vegetable fibers (agricultural facilities)? ☐ YES ☑ NO

3. List the total annual emission increases associated with this application *(list all that apply)*:

Volatile Organic Compounds (VOC)	0 tpy	Particulate Matter (PM)	0 tpy
Sulfur Dioxide (SO_2)	0 tpy	Lead (Pb)	0 tpy
Carbon Monoxide (CO)	0 tpy	Nitrogen Oxides (NOx)	0 tpy
Other air contaminants not listed above	0 tpy	List:	

D. Is this a change of location application? ☐ YES ☑ NO
If "YES", answer D.1. through D.3.

1. Is the new facility site located in or contiguous to the right-of-way of a public works project? ☐ YES ☐ NO

2. Is there a permitted facility occupying the new site? ☐ YES ☐ NO

If "YES", please list the permit number. Permit No.:

3. Have portable facilities occupied the new site at any time in the last two years? ☐ YES ☐ NO

VII. PUBLIC NOTICE INFORMATION *(complete if applicable)*

A. Responsible Person:

Name and Title: John P. LaRue, Executive Director

Mailing Address: P.O. Box 1541

City: Corpus Christi State: Texas Zip Code: 78403

Telephone: 361-882-5633 Fax: 361-882-7110 E-mail: john@pocca.com

B. Technical Contact:

Name and Title: Sarah L. Kowalski, Environmental Compliance Specialist

Mailing Address: P.O. Box 1541

City: Corpus Christi State: Texas Zip Code: 78403

Telephone: 361-885-6163 Fax: 361-881-5161 E-mail: sarah@pocca.com

Texas Commission on Environmental Quality
Form PI-1 General Application for
Air Preconstruction Permits and Amendments

VII. PUBLIC NOTICE INFORMATION *(complete if applicable) (Continued)*	
C. Application in Public Place:	
Name of Public Place: Corpus Christi Central Library	
Physical Address: 805 Comanche City: Corpus Christi County: Nueces	
The public place has granted authorization to place the application for public viewing and copying?	☑ YES ☐ NO
D. Small Business Classification:	
Does this company (including parent companies and subsidiary companies) employ 100 or fewer persons?	☐ YES ☑ NO
Is the site a major source under 30 TAC Chapter 122, Federal Operating Permit Program?	☐ YES ☑ NO
Are the site emissions of any individual air contaminant greater than 50 tpy?	☐ YES ☑ NO
Are the site emissions of all air contaminants combined greater than 75 tpy?	☐ YES ☑ NO
E. Bilingual notice confirmation:	
Is a bilingual program **required** by the Texas Education Code in the School District?	☑ YES ☐ NO
Are the children who attend either the elementary school or the middle school closest to your facility eligible to be enrolled in a bilingual program provided by the district?	☑ YES ☐ NO
If yes, which language is **required** by the bilingual program? Spanish	
VIII. TECHNICAL INFORMATION	
A. Is a current area map attached?	☑ YES ☐ NO
Are any schools located within 3,000 feet of this facility?	☐ YES ☑ NO
B. Is a plot plan of the plant property attached?	☑ YES ☐ NO
C. Is a process flow diagram and a process description attached?	☑ YES ☐ NO
D. Maximum Operating Schedule: 24 Hours/Day 7 Days/Week 365 Weeks/Year	
Seasonal Operation? If "YES", please describe:	☐ YES ☑ NO
E. Are worst-case emissions data and calculations attached?	☑ YES ☐ NO
1. Is a Table 1(a) entitled, "Emission Point Summary Table," attached?	☑ YES ☐ NO
2. Is a Table 2 entitled, "Material Balance Table," attached?	☑ YES ☐ NO
3. Are equipment, process or control device tables attached?	☐ YES ☑ NO
4. Are routine maintenance, start-up, or shutdown emissions included?	☐ YES ☑ NO
F. Are actual emissions for the last two years (determination federal applicability) attached?	☐ YES ☑ NO

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Texas Commission on Environmental Quality
Form PI-1 General Application for
Air Preconstruction Permits and Amendments

IX. STATE REGULATORY REQUIREMENTS

Applicants must be in compliance with all applicable state regulations to obtain a permit or amendment.

A.	The emissions from the proposed facility will comply with all rules and regulations of the TCEQ and details are attached?	☑YES ☐NO
B.	The proposed facility will be able to measure emissions of significant air contaminants and details are attached?	☑YES ☐NO
C.	A demonstration of Best Available Control Technology (BACT) is attached?	☑YES ☐NO
D.	The proposed facilities will achieve the performance in the permit application and compliance demonstration or record keeping information is attached?	☑YES ☐NO
E.	Is atmospheric dispersion modeling attached?	☐YES ☑NO
F.	Does this application involve any air contaminants for which a "disaster review" is required? If "YES", details must be attached. *Note: For a list of air contaminants for which a "disaster review" will be required, refer to the NSRPD Disaster Review Guidance Document at www.tceq.state.tx.us/permitting/air/Rules/Federal/63/63hmpg.htm.*	☐YES ☑NO
G.	Is this facility or group of facilities located at a site within the Houston/Galveston nonattainment area? (Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, or Waller Counties)	☐YES ☑NO
	Does the facility or group of facilities located at this site have an uncontrolled design capacity to emit 10 tpy or more of NO_X?	☐YES ☑NO
	Is this site subject to 30 TAC Chapter 101, Subchapter H, Division 3 (Mass Emissions Cap and Trade)?	☐YES ☑NO
	Does this action make the site subject to 30 TAC Chapter 101, Subchapter H, Division 3 (Mass Emissions Cap and Trade)?	☐YES ☑NO
	Does this action require the site to obtain additional emission allowances?	☐YES ☑NO

X. FEDERAL REGULATORY REQUIREMENTS

Applicants must be in compliance with all applicable federal regulations to obtain a permit or amendment.
If any of the following questions is answered "YES", the application must contain detailed attachments addressing applicability, identify federal regulation Subparts, show how requirements are met, and include compliance information.

A.	Does a Title 40 Code of Federal Regulations Part 60, (40 CFR Part 60) New Source Performance Standard (NSPS) apply to a facility in this application?	☐YES ☑NO
B.	Does 40 CFR Part 61, National Emissions Standard for Hazardous Air Pollutants (NESHAP) apply to a facility in this application?	☐YES ☑NO
C.	Does a 40 CFR Part 63, Maximum Achievable Control Technology (MACT) standard apply to a facility in this application?	☐YES ☑NO
D.	Does nonattainment permitting requirements apply to this application?	☐YES ☑NO
E.	Does prevention of significant deterioration permitting requirements apply to this application?	☐YES ☑NO
F.	Does Hazardous Air Pollutant Major Source [FAA § 112(g)] requirements apply to this application?	☐YES ☑NO

SEP 16 2011

AIR/PA NE 0045 E
RN# 102506256
Permit No 47891

TCEQ

Texas Commission on Environmental Quality
Form PI-1 General Application for Air Preconstruction Permits and Amendments

XI. COPIES OF THIS APPLICATION

A.	Has the required fee been sent separately with a copy of this Form PI-1 to the TCEQ Revenue Section? *(MC 214, P.O. Box 13088, Austin, Texas 78711)*	☑ YES ☐ NO ☐ N/A
B.	Are the Core Data Form, Form PI-1, and all attachments being sent to the TCEQ in Austin?	☑ YES ☐ NO
	OPTIONAL: Has an extra copy of the Core Data Form, Form PI-1 and all attachments been sent to the TCEQ in Austin? If "YES", please mark this application as "COPY".	☑ YES ☐ NO
C.	Is a copy of the Core Data Form, the Form PI-1, and all attachments being sent to the appropriate TCEQ regional office?	☑ YES ☐ NO
D.	Is a copy of the Core Data Form, the Form PI-1, and all attachments being sent to each appropriate local air pollution control program(s)?	☐ YES ☑ NO
	List all local air pollution control program(s): N/A	
E.	Is a copy of the Core Data Form, Form PI-1, and all attachments (without confidential information) being sent to the EPA Region 6 office in Dallas, Texas? (federal applications only)	☐ YES ☑ NO
F.	This facility is located within 100 kilometers of the Rio Grande River and a copy of the application was sent to the International Boundary Water Commission (IBWC):	☐ YES ☑ NO
G.	This facility is located within 100 kilometers of a federally-designated Class I area and a copy of the application was sent to the appropriate Federal Land Manager:	☐ YES ☑ NO

XII. PROFESSIONAL ENGINEER (P.E.) SEAL

Is the estimated capital cost of the project greater than $2 million dollars? If "YES", the application must be submitted under the seal of a Texas licensed Professional Engineer (P.E.)	☐ YES ☑ NO

XIII. SIGNATURE

The signature below confirms that I have knowledge of the facts included in this application and that these facts are true and correct to the best of my knowledge and belief. I further state that to the best of my knowledge and belief, the project for which application is made will not in any way violate any provision of the Texas Water Code (TWC), Chapter 7, Texas Clean Air Act (TCAA), as amended, or any of the air quality rules and regulations of the Texas Commission on Environmental Quality or any local go vernmental ordinance or resolution enacted pursuant to the TCAA. I further state that I understand my signature indicates that this application meets all applicable nonattainment, prevention of significant deterioration, or major source of hazardous air pollutant permitting requirements. I further state that I have read and understand TWC §§ 7.177-7.183, which defines CRIMINAL OFFENSES for certain violations, including intentionally or knowingly making or causing to be made false material statements or representations in this application, and TWC § 7.187, pertaining to CRIMINAL PENALTIES.

NAME: JOHN P. LARUE SIGNATURE: [signature] Original Signature Required DATE: 7/21/2006

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SEP 10 2007

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET

STANDARD INDUSTRIAL CLASSIFICATION MANUAL

1972

EXHIBIT D

Major Group 44.—WATER TRANSPORTATION [4]

The Major Group as a Whole

This major group includes establishments engaged in freight and passenger transportation on the open seas or inland waters, and establishments furnishing such incidental services as lighterage, towing, and canal operation. This major group also includes excursion boats, sightseeing boats, and water taxis. Cargo handling operations when carried on by transportation companies and separately reported are classified in Industry 4463. When separate reports for cargo handling are not available, these operations are classified with the transportation establishment. Establishments engaged in the operation of charter or party fishing boats are classified in Industry 7999.

Group No.	Industry No.	
441		**DEEP SEA FOREIGN TRANSPORTATION**
	4411	**Deep Sea Foreign Transportation**

Establishments primarily engaged in operating vessels for the transportation of freight or passengers on the deep seas between the United States and foreign ports. Establishments operating vessels which travel to foreign ports and also to noncontiguous territories are classified in this industry.

Deep sea foreign transportation

442		**DEEP SEA DOMESTIC TRANSPORTATION**
	4421	**Transportation To and Between Noncontiguous Territories**

Establishments primarily engaged in operating vessels for the transportation of freight or passengers on the deep seas between the United States mainland and Alaska, Hawaii, the Panama Canal Zone, Puerto Rico, and island possessions or protectorates and between such places.

Domestic transportation, deep sea
Water transportation to noncontiguous territories

	4422	**Coastwise Transportation**

Establishments primarily engaged in operating vessels for the transportation of freight or passengers on the deep seas between mainland United States ports, between those located solely on the Atlantic coast and Gulf coast, or between those located solely on the Pacific coast. Also included are those operations limited to the coasts of Alaska, Hawaii, or Puerto Rico. Establishments performing intracoastal transportation in inland waterway service on the intracoastal waterways paralleling the Atlantic and Gulf coasts are classified in Industry 4441.

Coastwise transportation

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[4] Supplementary code for Major Group 44.—Type of operation:

[illegible]

2 Contract Carriers—ocean shipping
Companies primarily engaged in operating vessels under special contracts or agreement for the transportation of goods of others or of passengers.

3 Contract Carriers—Inland and Great Lakes shipping
Companies primarily engaged in operating vessels [illegible] under special contracts or agreement.

Private Carriers
[illegible]

EXHIBIT D

Group No. | Industry No.

442 **DEEP SEA DOMESTIC TRANSPORTATION—Continued**

4423 **Intercoastal Transportation**

Establishments primarily engaged in operating vessels for the transportation of freight or passengers on the deep seas between ports on the United States Atlantic and Gulf coasts on the one hand, and United States Pacific coast ports on the other, via the Panama Canal.

Intercoastal transportation

443 **GREAT LAKES-ST. LAWRENCE SEAWAY TRANSPORTATION**

4431 **Great Lakes-St. Lawrence Seaway Transportation**

Establishments primarily engaged in the transportation of freight or passengers on the Great Lakes and St. Lawrence Seaway, either between United States ports or between United States and Canadian ports.

Ferries operating on the Great Lakes and St. Lawrence Seaway
Great Lakes and St. Lawrence Seaway transportation

444 **TRANSPORTATION ON RIVERS AND CANALS**

4441 **Transportation on Rivers and Canals**

Establishments primarily engaged in transporting freight or passengers on all inland waterways, including the intracoastal waterway on the Atlantic and Gulf coasts. Transportation on the Great Lakes-St. Lawrence Seaway is classified in Industry 4431; local water transportation including intraport transportation in Group 445; and the maintenance and operation of canals primarily for use by the vessels of others in Industry 4464.

Canal barge operation
Canal transportation
Intracoastal transportation
Lake transportation, other than on the Great Lakes
Log rafting and towing
River transportation, other than on the St. Lawrence Seaway
Transportation on bays and sounds of the ocean

445 **LOCAL WATER TRANSPORTATION**

4452 **Ferries**

Establishments primarily engaged in operating ferries across rivers or within harbors. Establishments operating ferries across the Great Lakes are classified in Industry 4431.

Car lighters (ferries)
Ferries operating across rivers or within harbors
Intraport transportation
Railroad ferries

4453 **Lighterage**

Establishments primarily engaged in operating lighters and other harbor vessels for transferring goods and passengers between ship and shore or from one ship to another.

Lighterage

4454 **Towing and Tugboat Service**

Establishments primarily engaged in furnishing [illegible] in performing these services do not carry cargo or passengers.

Docking of ocean vessels
Marine towing
Shifting of floating equipment within harbors
Tugboat service
Undocking of ocean vessels

4459 **Local Water Transportation, Not Elsewhere Classified**

Establishments primarily engaged in furnishing [illegible]

EXHIBIT D

Group No. Industry No.

446 SERVICES INCIDENTAL TO WATER TRANSPORTATION

4463 Marine Cargo Handling

Establishments primarily engaged in activities directly related to marine cargo handling from the time cargo, for or from a vessel, arrives at shipside, dock, pier, terminal, staging area, or intransit area until cargo loading or unloading operations are completed. Cargo handling operations carried on by transportation companies and separately reported are classified here. This industry includes the operation and maintenance of piers, docks, and associated buildings and facilities; but lessors of such facilities are classified in Industry 6512.

Docks, including buildings and facilities: operation and maintenance
Loading vessels
Marine cargo handling
Piers, including buildings, and facilities: operation and maintenance
Ship hold cleaning
Stevedoring
Terminal operation, waterfront
Unloading vessels
Waterfront terminal operation

4464 Canal Operation

Establishments primarily engaged in the maintenance and operation of canals.

Canal operation

4469 Water Transportation Services, Not Elsewhere Classified

Establishments primarily engaged in furnishing miscellaneous services incidental to water transportation, not elsewhere classified, such as boat hiring, except for pleasure; chartering of vessels; ship cleaning, except hold cleaning (Industry 4463); and steamship leasing. Establishments primarily engaged in the operation of charter or party fishing boats or rental of small recreational boats are classified in Industry 7999.

Boat hiring, except pleasure
Boat livery, except pleasure
Boat rental, commercial
Boat yards, storage and incidental repair
Boathouses, commercial
Cargo salvaging, from distressed vessels
Chartering of commercial boats
Dismantling ships
Marinas
Marine basins, renting and operating
Marine salvaging
Marine surveyors, except cargo
Marine wrecking: salvaging from sunken craft, removing underwater hazards
Marine wrecking: ships for scrap
Oil spill cleanup
Piloting vessels in and out of harbors
Ship cleaning, except hold cleaning
Ship registers: survey and classification of ships and marine equipment
Steamship leasing
Yacht basins, operation of

D R A F T
OCTOBER 1990

New Source Review Workshop Manual

Prevention of Significant Deterioration and Nonattainment Area Permitting

EXHIBIT E

PREFACE

This document was developed for use in conjunction with new source review workshops and training, and to guide permitting officials in the implementation of the new source review (NSR) program. It is not intended to be an official statement of policy and standards and does not establish binding regulatory requirements; such requirements are contained in the regulations and approved state implementation plans. Rather, the manual is designed to (1) describe in general terms and examples the requirements of the new source regulations and pre-existing policy; and (2) provide suggested methods of meeting these requirements, which are illustrated by examples. Should there be any apparent inconsistency between this manual and the regulations (including any policy decisions made pursuant to those regulations), such regulations and policy shall govern. This document can be used to assist those people who may be unfamiliar with the NSR program (and its implementation) to gain a working understanding of the program.

The focus of this manual is the prevention of significant deterioration (PSD) portion of the NSR program found in the Federal Regulations at 40 CFR 52.21. It does not necessarily describe the specific requirements in those areas where the PSD program is conducted under a state implementation plan (SIP) which has been developed and approved in accordance with 40 CFR 51.166. The reader is cautioned to keep this in mind when using this manual for general program guidance. In most cases, portions of an approved SIP that are different from those described in this manual will be more restrictive. Consequently, it is suggested that the reader also obtain program information from a State or local agency to determine all requirements that may apply in a area.

The examples presented in this manual are presented for illustration purposes only. They are fictitious and are designed to impart a basic understanding of the NSR regulations and requirements.

A number of terms and acronyms used in this manual have specific meanings within the context of the NSR program. Since this manual is intended for use by those persons generally familiar with NSR these terms are used throughout this document, often without definition. To aid users of the document who are unfamiliar with these terms, general definitions of these terms can be found in Appendix A. The specific regulatory definitions for most of the terms can be found in 40 CFR 52.21. Should there be any apparent inconsistency between the definitions contained in Appendix A and the regulatory definitions or requirements found in Part 40 of the Code of Federal Regulations (including any policy decisions made pursuant to those regulations), the regulations and policy decisions shall govern.

EPA is approving these SIP revisions without prior proposal because the Agency views these as noncontroversial amendments and anticipates no adverse comments. This action will be effective 60 days from the date of this Federal Register notice unless, within 30 days of its publication, notice is received that adverse or critical comments will be submitted. If such notice is received, this action will be withdrawn before the effective date by simultaneously publishing two subsequent notices. One notice will withdraw the final action and another will begin a new rulemaking by announcing a proposal of the action and establishing a comment period. If no such comments are received, the public is advised that this action will be effective on [60 days from today].

FINAL ACTION: EPA is approving COMAR 26.11.01.01 Z. and CC., the definitions of true vapor pressure and vapor pressure, as part of the Maryland SIP. These definitions are consistent with the Clean Air Act and EPA guidance.

The Agency has reviewed this request for revision of the federally-approved state implementation plan for conformance with the provisions of the 1990 Clean Air Act Amendments enacted on November 15, 1990. The Agency has determined that this action conforms with those requirements irrespective of the fact that the submittal preceded the date of enactment.

Nothing in this action should be construed as permitting or allowing or establishing a precedent for any future request for revision to any state implementation plan. Each request for revision to the state implementation plan shall be considered separately in light of specific technical, economic, and environmental factors and in relation to relevant statutory and regulatory requirements.

Under 5 U.S.C. 605(b), I certify that this SIP revision will not have a significant economic impact on a substantial number of small entities. (See 46 FR 8709.)

This action, pertaining to the approval of the definitions of true vapor pressure and vapor pressure for the Maryland SIP, has been classified as a Table 3 action by the Regional Administrator under the procedures published in the Federal Register on January 19, 1989 (54 FR 2214–2225). EPA has submitted a request for a permanent waiver for Table 2 and 3 SIP revisions. The Office of Management and Budget has agreed to continue the temporary waiver until such time as it rules on EPA's request.

Under section 307(b)(1) of the Clean Air Act, 42 U.S.C. 7607(b)(1), petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by August 24, 1992. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this rule for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in civil or criminal proceedings to enforce its requirements. (See 42 U.S.C. 7607(b)(2).)

List of Subjects in 40 CFR Part 52

Air pollution control, Hydrocarbons, Incorporation by reference, Intergovernmental relations, Ozone, Reporting and recordkeeping requirements, Volatile organic compounds.

Dated: May 22, 1992.

Edwin B. Erickson,

Regional Administrator, Region III.

For the reasons set out in the preamble, Chapter I, title 40 of the Code of Federal Regulations is amended as follows.

PART 52 [AMENDED]

1. The authority citation for part 52 continues to read as follows:

Authority: 42 U.S.C. 7401–7671q.

Subpart V—Maryland

2. Section 52.1070 is amended by adding paragraph (c)(89) to read as follows:

§ 52.1070 Identification of plan.

* * * * *

(c) * * *

(89) Revisions to the State Implementation Plan submitted by the Maryland Department of the Environment on June 30, 1987.

(i) *Incorporation by reference.*

(A) Letter from the Maryland Department of Environment dated June 30, 1987 submitting a revision to the Maryland State Implementation Plan pertaining to the definitions of true vapor pressure and vapor pressure.

(B) Maryland Register Volume 13, page 2048; COMAR 10.18.01.01Definitions V-1. and X-1 [Now recodified as COMAR 26.11.01 01 Z. and CC.).

[FR Doc. 92-14683 Filed 6-23-92; 8:45 am]

BILLING CODE 6560-50-M

40 CFR Part 52

[TX 4097; FRL 4137-8]

Approval and Promulgation of Implementation Plan State of Texas Prevention of Significant Deterioration

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rulemaking.

SUMMARY: This Final Rule approves a revision to the Texas State Implementation Plan (SIP) that includes amendments to the Texas Air Control Board (TACB) Regulation VI, General Rules, a Supplement, and commitment letters, all related to the Prevention of Significant Deterioration (PSD) program. This approval enables the State of Texas to issue and enforce PSD permits directly in most areas of the State without final issuance of those PSD permits by the EPA. The proposed approval notice was published in the Federal Register on December 22, 1989. The EPA has reviewed and considered the public comments it has received in taking final action to approve this SIP revision; responses to significant comments are presented in this notice.

The Texas PSD SIP revision does not apply to sources located or wanting to locate on Indian lands. Neither is it applicable to new major sources or major modifications to existing stationary sources for which applicability determinations would be affected by dockside emissions from vessels. This PSD SIP revision has been approved under the statutory requirements of Sections 110 and 160 through 169 of the Clean Air Act (the Act).

As a result of today's final action, the TACB will have direct authority on the effective date of this rule, to issue and enforce the PSD permits in most areas of Texas, with the limitations described in this rule. The PSD delegation agreement of April 23, 1981, additional authority dated December 28, 1982, and addendum dated August 21, 1988, shall remain in effect for major new sources and major modifications to existing sources for which applicability determinations would be affected by dockside emissions from vessels. Under this agreement, the TACB has administrative, technical review, and public participation authority for PSD permit applications associated with dockside vessel emissions, and the EPA has final permit approval and enforcement authority regarding such sources including oversight of PSD applicability determinations regarding such sources. All of the inquiries.

EXHIBIT F

requests, and PSD applications related to emissions from docked vessels should be directed initially to the TACB at the address given in this notice. Further rationale for this final approval action is contained in the notice of proposed rulemaking and this final action, and is further explained in detail in the Technical Support Document.

EFFECTIVE DATE: This action become effective on July 24, 1992.

ADDRESSES: Copies of the State's submittal and EPA's Technical Support Document along with other relevant information are available for inspection during normal business hours at the following locations. Interested persons wanting to examine these documents should make an appointment with the appropriate office at least twenty-four hours before the visiting day.

Chief, Planning Section (6T–AP), Air Programs Branch, Air, Pesticides, and Toxics Division, Environmental Protection Agency, Region 6, 1445 Ross Avenue, Dallas, Texas 75202, Telephone: (214) 655–7214, or.

Texas Air Control Board, Planning and Development, 12124 Park 35 Circle, Austin, Texas 78753, Telephone: (512) 908–1000.

In addition, all requests, reports, applications, and any other communications relating to PSD permits for the affected facilities in Texas, in areas outside of Indian lands, should be sent directly to the Texas Air Control Board, 12124 Park 35 Circle, Austin, Texas 78753. Sources located on Federally-designated Indian lands in the State of Texas should submit the information specified above to the Chief, Region 6 Air Programs Branch, U.S. Environmental Protection Agency, 1445 Ross Avenue, Dallas, Texas 75202–2733.

FOR FURTHER INFORMATION CONTACT: Mr. J. Behnam, P. E.; Air Programs Branch, Environmental Protection Agency, Region 6, 1445 Ross Avenue, Dallas, Texas 75202, telephone (214) 655–7214.

SUPPLEMENTARY INFORMATION:

Background

On November 10, 1980, the State of Texas requested delegation of the technical and administrative review and public participation portions of the Federal PSD program. Pursuant to 40 CFR 52.21(u), the PSD partial delegation of authority was granted on April 23, 1981, subject to certain conditions. On December 28, 1982, additional authority was granted to the State to conduct compliance inspections and to review compliance test reports for PSD sources. See 48 FR 6023 (February 9, 1983). Texas has also been delegated partial authority for the Visibility Protection New Source Review (NSR) program under the Federal PSD program within 40 CFR 52.21(p), which was revised to incorporate the visibility protection SNR requirements of 40 CFR 51.307 on July 12, 1985. See 51 FR 40072 (November 4, 1986).

On December 11, 1985, October 26, 1987, February 18, 1988, and September 29, 1988, the Governor of Texas submitted PSD SIP revisions to EPA for approval. The October 26, 1987, submittal also included revisions to meet the requirements of the stack height regulation under the Act (40 CFR 51.100). The TACB stack height regulation, Regulation VI, Section 116.3(a)(14), has been reviewed and approved by the EPA and published under a separate action. See 53 FR 47189 (November 22, 1988).

The State's Regulation VI requires review and control of air pollution from new facility construction and modification and allows the TACB to issue permits for stationary sources subject to this regulation. Section 116.3(a)(13) of the TACB Regulation VI incorporates by reference the Federal PSD regulations (40 CFR 52.21) as they existed on August 1, 1987, which include revisions associated with the July 1, 1987, promulgation of revised National Ambient Air Quality Standards for particulate matter (52 FR 24872) and the visibility NSR requirements noted above. The State explicitly excluded several sections of the Federal PSD regulation not necessary for approval of the Texas program. The reasons for these exclusions were discussed in the proposed approval notice of December 22, 1989 (54 FR 52823). Other requirements necessary for an approvable PSD SIP revision, such as enforcement by Texas of EPA-issued PSD permits, were adopted by the TACB in its General Rules. Also, the public participation requirements of the Federal PSD regulations are met by the existing SIP-approved section 116.10 of Regulation VI and the PSD Supplement as adopted by the TACB on July 17, 1987.

In developing its PSD SIP, the TACB conducted a complete public participation program pursuant to 40 CFR 51.102, and the final revisions were adopted by the Board on July 26, 1985, July 17, 1987, December 18, 1987, and July 15, 1988. In today's final action, it should be noted that EPA is not taking action on the following amendments: (1) Amendments to Sections 116.1, 116.2, and 116.10 of Regulation VI as adopted on July 26, 1985 by the TACB and submitted by the Governor on December 11, 1985; (2) amendments to section 116.10 of Regulation VI as adopted on July 17, 1987 by the TACB and submitted by the Governor on October 26, 1987; (3) amendments to sections 116.5 and 116.10 as adopted by the TACB on December 18, 1987 and submitted by the Governor on February 18, 1988; and (4) amendments to Sections 116.1 and 116.10 as adopted by the TACB on July 15, 1988 and submitted by the Governor on September 29, 1988. EPA will be taking separate action on the above amendments and other pending SIP revisions to Regulation VI at a later date.

The EPA has reviewed and evaluated the PSD SIP submittals based on the criteria specified in the Federal regulations at 40 CFR 52.21, 40 CFR 51.166, and the Act. The EPA's review also included other relevant SIP-approved TACB regulations and the Texas Clean Air Act. A discussion of this evaluation, as of that date, is included in EPA's proposed approval notice of December 22, 1989 (54 FR 52823). This evaluation has continued through the public notice and comment process.

Public Comments

The EPA received comments from the Texas Utility Service, Texas Chemical Council, American Paper Institute, National Forest Products Association, MacMillan Bloedel, Inc., Champion International Corporation, Utility Air Regulatory Group, International Paper and the law firm of Brown, Maroney and Oaks Hartline, on behalf of a variety of Texas industrial and manufacturing companies. All of the commenters supported EPA's final approval of the Texas PSD SIP. The commenters objected, however, to certain language in the preamble of the proposed notice. A summary of the significant public comments and EPA's response is narrated below.

Comment 1: The commenters expressed concern with the preamble language in the proposal notice, suggesting that final approval would require that the State follow EPA's current and future interpretations of the Act's PSD provisions and EPA regulations as well as EPA's operating policies and guidance. The commenter contended that such a condition would be unlawful, unnecessary, unreasonable, legally untenable, and would improperly limit the State's flexibility. These commenters argued that the State has primary responsibility for implementation once the SIP is approved and thus the State should be making decisions, not EPA. Also, if EPA

EXHIBIT F

wants to condition the PSD SIP approval on commitments to comply with any interpretations, policies, and guidance issued by EPA, EPA must reduce those interpretations, policies and guidance to rules, thereby giving the public opportunity to review and comment before EPA's final decision. If TACB fails to adopt any of these, once reduced to a rule, EPA can issue a SIP call pursuant to section 110(a)(2)(H).

Response 1: The EPA did not intend to suggest that Texas is required to follow EPA's interpretations and guidance issued under the Act in the sense that those pronouncements have independent status as enforceable provisions of the Texas PSD SIP, such that mere failure to follow such pronouncements, standing alone, would constitute a violation of the Act. As clarified herein, EPA's intent is merely to place the State and the public on notice of EPA's longstanding views that the Agency must continue to oversee the State's implementation of the PSD SIP. The language in question is neither a part nor a condition of EPA's approval of the Texas PSD SIP, and it has no binding effect. Rather than creating new rights or obligations, it advises the public of EPA's role in overseeing the obligations that already exist by operation of the applicable statutory and regulatory provisions.

The issuance of PSD permits and other actions by the State in the administration of the PSD program must conform to the requirements of the Act, applicable EPA regulations, and the SIP. See sections 167 and 113, 42 U.S.C. 7477 and 7413 (EPA's enforcement authority in overseeing State implementation). In making judgments as to what constitutes compliance with the Act and regulations issued thereunder, EPA looks to (among other sources) its policy statements and interpretive rulings in effect at the time of EPA's action regarding those statutory and regulatory requirements. EPA's approval of a state PSD program or some portion of it does not divest the Agency of its duty to continue a vigorous oversight and enforcement role under sections 167 and 113. For example, section 167 provides that EPA shall take whatever enforcement action may be necessary to prevent construction of a major stationary source that does not conform to the requirements of the PSD program. Thus, the purpose of the preamble language in the proposal notice was to advise Texas and the public of EPA's view that approval of a state's PSD program does not bar EPA from deciding whether the state's action in implementing its SIP conforms to the Act's PSD requirements.

Following SIP approval, then, EPA remains as the congressionally designated agency with primary responsibility to reasonably interpret the applicable Federal law under the Act, and to base its enforcement actions on those interpretations. If EPA determines that a state-issued permit does not conform to the Act's PSD requirements, EPA will decide whether to sue the state and/or the source for declaratory and injunctive relief. See, e.g., section 113(a)(5); 55 FR 23547 (notice of clarification regarding approval of Kentucky PSD SIP).

EPA acknowledges that states have the primary role in administering and enforcing the various components of the PSD program. States have been largely successful in this effort, and EPA's involvement in interpretative and enforcement issues is limited to only a small number of cases. Consequently, EPA's continuing oversight role under the Act leaves Texas and other states with considerable discretion to implement the PSD program as they see fit.

As noted in the proposed approval of Texas' program, EPA may not fundamentally change the requirements set forth in its own regulations or approved SIPs in the guise of new interpretations or policy statements. The creation of new rights or obligations can only be effected through enactment of legislation or promulgation of regulations or approval of SIP revisions, which usually must be preceded by revisions to the regulations in 40 CFR parts 51 and 52, in accordance with applicable rulemaking procedures. Second, EPA's interpretations often are intended in whole or in part to guide only EPA regional offices, and in such instances they have no implications whatsoever for a state's administration of its program. PSD–SIP approved states remain free to follow their own course, provided that state action is consistent with the letter and spirit of the SIP, when read in conjunction with the applicable statutory and regulatory provisions.

Comment 2: Another major concern was whether EPA may use section 167 of the Act to challenge State-issued PSD permits. The commenters contended that EPA already has authority under the Act to review permit applications, file written comments, present oral testimony, challenge the State's decision in the State court, take enforcement powers in the State under section 113(a)(2), or issue a SIP revision call under section 110(a)(2)(H) of the Act. The commenters stated that the EPA does not have the authority under sections 167 and 113 of the Act to sue a permittee for violating the Act.

Response 2: The EPA intends to continue its close working relationship with the State and, through informal consultation and formal comments on draft permits, to resolve any issues regarding the adequacy of PSD permits. However, as discussed above, approval of the Texas PSD program does not divest EPA of its enforcement authority. If a final permit is issued that in EPA's view still does not reflect consideration of the relevant factors, EPA may view the permit as inadequate and may consider enforcement action under sections 113 and 167 against the State and/or company to address the permit deficiency. However, in defending against such an enforcement action, a party is free to assert that EPA has not reasonably interpreted the underlying statutory and regulatory provisions.

Comment 3: Another allegation is that EPA has improperly included certain provisions in the Texas PSD SIP mandating implementation of the "Top-Down" methodology for determining BACT for PSD permits. The commenters contend that the "Top-Down" approach is inconsistent with the requirements of the Act and that EPA can not legally require that Texas follow this approach. Most commenters also stated that EPA has exceeded its statutory authority in implementing the "Top-Down" BACT approach, and they believed that this policy and guidance should be subject to appropriate rulemaking, public review and comment.

Response 3: It is not necessary to resolve the legal issues relating to the top-down approach to BACT. As discussed below in response to Comment 4, EPA agrees that the TACB letter of September 5, 1989, does not mandate the State follow a top-down approach to BACT. In addition, the commenters procedural concerns are being addressed. In 1989, industry groups petitioned EPA to conduct rulemaking to rescind the top-down policy and initiate a rulemaking on BACT determinations based on similar concerns. The EPA denied this request, explaining that the top-down approach was not at variance with, nor a revision of, the PSD regulations, and that no rulemaking was required. Litigation was commenced, resulting in a judicial settlement agreement. See 56 FR 34202 (announcing proposed settlement). In so doing, EPA has agreed to issue a proposed rule to revise or clarify the regulations defining BACT, see 40 CFR 51.166(i) and 52.21(i), and to clarify EPA policy regarding BACT determinations. EPA has decided as a matter of policy to

conduct this rulemaking in order to facilitate greater public participation concerning the issue. The proposed rule is currently being developed.

Comment 4: One commenter noted that the TACB's letter, dated September 5, 1989, can not reasonably be interpreted as a legal requirement that the State follow the EPA's present and future new source review interpretations, policies and guidance, including the BACT "Top-Down" approach, because it only commits Texas to implement properly-established EPA requirements and legally-binding EPA decisions. The commenter said that the Clean Air Act specifically requires that, if at all, any such change in EPA policy for BACT determinations be accomplished through notice and comment rulemaking, and that the EPA first prepare an economic impact assessment.

Response 4: In certain circumstances, EPA's approval of a SIP revision through notice-and-comment rulemaking procedures can serve to adopt specific interpretations or decisions of the Agency. For example, a state may commit in writing to follow particular EPA interpretations or decisions in administering the PSD program. As part of the SIP revision process, EPA may incorporate that State's commitment into the SIP by reference. This process has been followed in today's action. Of course, EPA agrees with the commenter that the Agency must act reasonably in construing the terms of a commitment letter, so as to avoid approving it in a manner that would contravene the state's intent in issuing the letter in the first place. Moreover, the State commitment must be consistent with the plain language of the applicable statutory or regulatory provisions at issue. Similarly, EPA cannot unilaterally change the clear meaning of any approved SIP provision by later guidance or policy. Rather, as stated in the proposed approval notice, such fundamental change must be accomplished through the SIP revision process.

Consistent with the terms of the TACB letter dated September 5, 1989, EPA views that letter as a commitment on the part of the TACB to "implement EPA program requirements * * * as effectively as possible," and as a commitment "to the implementation of the EPA decisions regarding PSD program requirements." EPA agrees, however, that the TACB letter need not be interpreted as a specific commitment by the State to follow a "Top-Down" approach to BACT determinations.

Comment 5: Two commenters indicated that if EPA plans to revise 40 CFR 52.2303 for anything other than approval of the Texas PSD SIP program, then EPA should have provided the public with that additional language in the proposal.

Response 5: The EPA's revision today of 52 CFR 52.2303 makes only the pertinent State's submittals part of the SIP. Nothing outside of those State submittals is made part of the Texas PSD SIP.

Comment 6: Two commenters stated that the proposed approval notice did not indicate a transition policy for pending permits.

Response 6: The EPA Region 6 Office will transfer, on the effective date of this final action, all of the pending PSD permit applications to the State of Texas for review and issuance of final PSD permits. The EPA has no authority to issue PSD permits in the State of Texas upon the effective date of this rulemaking unless Indian lands or docked vessel emissions are involved. All of the PSD permits (other than those for Indian lands and for sources with docked vessel emissions) that will be issued on or after the effective date of this final action must be issued by the TACB, not EPA.

Final Action

EPA is today taking final action to approve the following as part of the Texas PSD SIP: (1) TACB Regulation VI, § 116.3(a)(13) as adopted by the TACB on July 26, 1985 and as revised by the TACB on July 17, 1987 and July 15, 1988 and submitted by the Governor on December 11, 1985, October 26, 1987, and September 29, 1988, respectively; (2) the PSD Supplement as adopted by the TACB on July 17, 1987 and submitted by the Governor on October 26, 1987; (3) TACB General Rule, Section 101.20(3) as adopted by the TACB on July 26, 1985 and submitted by the Governor on December 11, 1985; and (4) the TACB commitment letters submitted by the Executive Director on September 5, 1989 and April 17, 1992. In addition, the existing SIP-approved Regulation VI and the Texas Clean Air Act are part of the Texas PSD SIP that is being approved today in this final rule.

This final approval is based on review and evaluation of the Governor's submissions of December 11, 1985, October 26, 1987, February 18, 1988, and September 29, 1988, the existing SIP-approved TACB regulations and Texas Clean Air Act, the TACB's September 5, 1989 letter, and the July 17, 1987 Texas PSD SIP Supplement. Thus, as of the effective date of this rule, the public and PSD applicants should be aware that the TACB will have direct authority, except as limited below, to issue and enforce the PSD permits in most areas of Texas. All PSD requests, reports, applications, and such other communications for affected facilities in Texas, in areas outside of Indian lands, should be sent directly to the Texas Air Control Board, 12124 Park 35 Circle, Austin, Texas 78753. Sources located on the Federally designated Indian lands in the State of Texas should submit the information specified above to the Chief, Region 6 Air Programs Branch, U.S. Environmental Protection Agency, 1445 Ross Avenue, Dallas, Texas 75202. The PSD delegation agreement of April 23, 1981, additional authority dated December 28, 1982, and addendum dated August 21, 1988, shall remain in effect for major new sources and major modifications to existing sources for which applicability determinations would be affected by dockside emissions from vessels. Under this agreement, the TACB has administrative, technical review, and public participation authority for the PSD permit applications associated with dockside vessel emissions, while EPA retains final permit approval and enforcement authority regarding such sources, as well as oversight of the State's final authority to determine PSD applicability. All of the inquiries, requests, and PSD applications (except the permit final approval and enforcement issues) related to emissions from docked vessels should be directed to the Texas Air Control Board at the address above.

Also, Texas' incorporation by reference of 40 CFR 52.21 includes § 52.21(p), part of which constitutes the Federal visibility NSR rules for major new sources and major modifications in attainment areas. Accordingly, EPA is also approving this SIP revision as meeting the requirements of 40 CFR 51.307 with respect to visibility NSR in attainment areas.

Today's final approval allows the TACB to issue PSD permits for a subclass of municipal incinerators (municipal waste combusters). 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 now 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 immediately effective.

In contrast to the treatment of lowered new source review applicability thresholds in certain other provisions of the 1990 Amendments, Congress did not grant states a period of time to develop SIP revisions to implement this change before making it effective. Compare, for example, new CAA sections 182(c), lowering major source thresholds for major sources in serious ozone nonattainment areas to fifty tons per year, and new section 182(a)(2)(C)(i), granting states two years from enactment to submit revised SIPs reflecting changes in new source review permitting requirements for nonattainment areas before the lowered thresholds become effective even absent a state submission, with section 165(a)(1), which flatly states that no "major emitting facility" may be constructed in a PSD area without a PSD permit.

The statutory change regarding the applicability threshold for municipal incinerators is simple and straightforward. It does not require any corresponding procedural or substantive change to the PSD permitting process in Texas or any other state. Accordingly, EPA believes it would be unnecessary and unreasonable to prohibit construction of the subclass of facilities in question pending a change in the threshold tonnage levels of applicable PSD regulations. However, because Texas's SIP consists largely of the incorporation by reference of the Federal PSD regulations at 40 CFR 52.21 as it existed on September 29, 1988, and since the definition of "major emitting facility" in those regulations at that time expressly did not include municipal incinerators charging fifty tons of refuse per day, the TACB by its letter of April 17, 1992 committed that TACB will review the municipal incinerators in accordance with the 1990 CAAA and will use the fifty-ton threshold for PSD applicability. This interpretation of the purpose and effect of the Texas plan is a part of today's SIP approval action. In contrast, EPA believes that in those states where it directly or by delegation implements the PSD program under § 52.21, it has authority to interpret its regulations in light of the statutory change to section 169(1) enabling the issuance of PSD permits to the sources in question rather than applying the prohibition on construction in section 165(a)(1). Because, as noted above, the statutory change in question is simple and straightforward, and because it would serve no purpose to prohibit construction of the sources in question pending a further SIP revision, EPA believes that it has good cause within the meaning of 5 U.S.C. 553(B)(3)(B) to find that an opportunity to comment on this aspect of today's action would be unnecessary and contrary to the public interest.

The EPA has reviewed the submissions by Texas for conformance with the provisions of the 1990 CAAA, Public Law 101–549. The EPA has determined that certain statutory changes have immediate effect on the Texas PSD SIP being approved today, although none of them require additional changes to the terms of the SIP at this time. These statutory changes include the revised applicability threshold for certain municipal incinerators, discussed above in this notice. The other statutory changes that are being addressed in this notice are discussed below.

Section 193 of the 1990 CAAA revised sections 162(a) and 164(a) of the Clean Air Act to specify that the boundaries of areas designated as Class I must 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. Prior law was unclear on this point. However, EPA interprets the current regulations at 40 CFR 52.21 as being able to accommodate these statutory changes, and no regulatory revisions are necessary at this time in order to implement these changes. For a discussion of EPA's policy regarding the implementation of the boundary change, please consult the memorandum entitled "New Source Review Program Transitional Guidance," from John S. Seitz, Director, Office of Air Quality Planning and Standards, March 11, 1991. In addition, the TACB letter of April 17, 1992 committed the TACB to interpret the PSD regulations in a manner consistent with the changes in sections 162(a) and 164(a) of the Act as interpreted by EPA.

Section 403 of the 1990 CAAA revised section 169(3) of the Act to specify that "clean fuels" should be considered in a BACT analysis, and to provide that a source utilizing clean fuels or any other means to comply with the BACT requirement shall not be allowed to increase above levels that would have been required under section 169(3) prior to the 1990 Amendments. EPA has interpreted the new statutory language regarding clean fuels as merely codifying present practice under the Act under which clean fuels are an available means of reducing emissions to be considered along with other approaches in identifying BACT-level controls. See the letter from William G. Rosenberg, Assistant Administrator, to Henry Waxman, Chairman, Subcommittee on Health and the Environment, U.S. House of Representatives, October 17, 1990. Accordingly, EPA believes that no regulatory revisions are necessary in order to implement these statutory changes. In addition, in its letter of April 17, 1992, the TACB has committed to interpreting the revised language in section 169(3) in a manner consistent with EPA's interpretation.

With respect to all of the statutory changes discussed in today's rule, EPA plans to undertake national rulemaking in the near future to adopt clarifying changes to its regulations. Upon final adoption of those regulations, EPA will call upon states with approved PSD programs, including Texas, to make corresponding changes in their SIPs.

The EPA has reviewed this request for revision of Texas' Federally-approved State Implementation Plan for conformance with the provisions of the 1990 Clean Air Act Amendments enacted on November 15, 1990. As discussed above, the EPA has determined that this action conforms with those requirements irrespective of the fact that the submittal preceded the date of enactment.

The Office of Management and Budget has exempted this rule from the requirements of Section 3 of Executive Order 12291.

Under Section 307(b)(1) of the Act, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by August 24, 1992. This action may not be challenged later in proceedings to enforce its requirements (See section 307(b)(2)).

Under 5 U.S.C. 605(b), I certify that this final SIP approval will not have a significant economic impact on a substantial number of small entities (46 FR 8709).

This final rulemaking is issued under the authority of sections 110, 160–169, and 301 of the Clean Air Act, 42 U.S.C. 7410, 7470–7479, and 7601.

List of Subjects in 40 CFR Part 52

Air pollution control, Carbon monoxide, Hydrocarbons, Incorporation by reference, Intergovernmental relations, Lead, Nitrogen-dioxide, Ozone, Particulate matter, Reporting and recordkeeping requirements, Sulfur oxides, and Volatile organic compounds

Dated: May 21, 1992.

William K. Reilly,

Administrator.

Title 40, part 52 of the Code of Federal Regulations is being amended as follows:

PART 52—[AMENDED]

1. The authority citation for part 52 continues to read as follows:

Authority: 42 U.S.C. 7401–7671q.

Subpart SS—Texas

2. Section 52.2270 is amended by adding paragraph (c)(73) to read as follows:

§ 52.2270 Identification of plan.

* * * * *

(c) * * *

(73) Revisions for Prevention of Significant Deterioration (PSD) are: Regulation VI—Section 116.3(a)(13) as adopted by the Texas Air Control Board (TACB) on July 26, 1985 and as revised by the TACB on July 17, 1987 and July 15, 1988 and submitted by the Governor on December 11, 1985, October 26, 1987, and September 29, 1988, respectively; the PSD Supplement as adopted by the TACB on July 17, 1987 and submitted by the Governor on October 26, 1987; General Rules—Section 101.20(3) as adopted by the TACB on July 26, 1985 and submitted by the Governor on December 11, 1985; and the TACB commitment letters submitted by the Executive Director on September 5, 1989 and April 17, 1992. Approval of the PSD SIP is partially based on previously approved TACB regulations and State statutes.

(i) *Incorporation by reference.*

(A) Revisions to the TACB Regulation VI (31 TAC chapter 116)—Control of Air Pollution by Permits for New Construction or Modification: Rule 116.3(a)(13) as adopted by the TACB on July 26, 1985 and as revised by the TACB on July 17, 1987 and July 15, 1988.

(B) Revision to TACB General Rules (31 TAC Chapter 101)—Rule 101.20(3) as adopted by the TACB on July 26, 1985.

(C) TACB Board Order No. 85–07, as adopted on July 26, 1985.

(D) TACB Board Order No. 87–09, as adopted on July 17, 1987.

(E) TACB Board Order No. 88–08, as adopted on July 15, 1988.

(F) The following portions of the PSD Supplement, as adopted by the TACB on July 17, 1987: 1. (2) Initial Classification of areas in Texas, pages 1-2; 2. (3) Redesignation procedures, page 2; 3. (4) plan assessment, pages 2–3; 4. (6) Innovative Control Technology, page 3; and 5. (7) Notification, (a) through (d), page 4.

(ii) *Additional material.*

(A) The PSD Supplement as adopted by the TACB on July 17, 1987.

((B) A letter dated September 5, 1989, from the Executive Director of the TACB to the Regional Administrator of EPA Region 6.

(C) A letter dated April 17, 1992, from the Executive Director of the TACB to the Division Director of Air, Pesticides and Toxics Division, EPA Region 6.

* * * * *

3. Section 52.2303 is revised to read as follows:

§ 52.2303 Significant deterioration of air quality.

(a) The plan submitted by the Governor of Texas on December 11, 1985 (as adopted by the TACB on July 26, 1985), October 26, 1987 (as revised by the TACB on July 17, 1987), and September 29, 1988 (as revised by the TACB on July 15, 1988) containing Regulation VI—Control of Air Pollution for New Construction or Modification, § 116.3(a)[13]; the Prevention of Significant Deterioration (PSD) Supplement document, submitted by the Governor on October 26, 1987 (as adopted by the TACB on July 17, 1987); and revision to General Rules, Rule 101.20(3), submitted by the Governor on December 11, 1985 (as adopted by the TACB on July 26, 1985), is approved as meeting the requirements of part C, Clean Air Act for preventing significant deterioration of air quality.

(b) The plan approval is partially based on commitment letters provided by the Executive Director of the Texas Air Control Board, dated September 5, 1989 and April 17, 1992.

(c) The requirements of section 160 through 165 of the Clean Air Act are not met for Federally-designated Indian lands. Therefore, the provisions of § 52.21 (b) through (w) are hereby adopted and made a part of the applicable implementation plan and are applicable to sources located on land under the control of Indian governing bodies.

(d) The requirements of section 160 through 165 of the Clean Air Act are not met for new major sources or major modifications to existing stationary sources for which applicability determinations would be affected by dockside emissions of vessels. Therefore, the provisions of § 52.21 (b) through (w) are hereby adopted and made a part of the applicable implementation plan and are applicable to such sources.

[FR Doc. 92–14684 Filed 6–23–92; 8:45 am]

BILLING CODE 6560–50–M

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Public Health Service

42 CFR Part 100

RIN: 0905–AD25

Vaccine Injury Compensation; Calculation of Cost of Health Insurance

AGENCY: Public Health Service, HHS.

ACTION: Final rule.

SUMMARY: Subtitle 2 of title XXI of the Public Health Service Act (PHS), as enacted by the National Childhood Vaccine Injury Act of 1986, and as amended, governs the National Vaccine Injury Compensation (NVIC) Program. The NVIC Program, administered by the Secretary, provides that a proceeding for compensation for a vaccine-related injury or death shall be initiated by service upon the Secretary and the filing of a petition with the United States Claims Court. In some cases, the injured individual may receive compensation for future lost earnings, less appropriate taxes and the "average cost of a health insurance policy, as determined by the Secretary." This final rule sets out the amount to be deducted from the award of compensation which reflects the average cost of a health insurance policy.

DATES: This regulation is effective on July 23, 1992.

FOR FURTHER INFORMATION CONTACT: Mr. Thomas E. Balbier, Jr., Director, Division of Vaccine Injury Compensation, 6001 Montrose Road, room 702, Rockville, Maryland 20852; telephone number: 301 443–6593.

SUPPLEMENTARY INFORMATION: On June 28, 1991, the Assistant Secretary for Health, with the approval of the Secretary of Health and Human Services, published in the **Federal Register** (56 FR 29608), a Notice of Proposed Rulemaking (NPRM) to establish regulations for the National Vaccine Injury Compensation Program (NVIC) to set out the method for determining the amount to be deducted from the award of compensation which would reflect the average cost of a health insurance policy. The public comment period on the proposed regulations closed on August 27, 1991

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

STATE OF TEXAS
COUNTY OF TRAVIS

I hereby certify this is a true and correct copy of a Texas Commission on Environmental Quality (TCEQ) document which is filed in the Records of the Commission. Given under my hand and the seal of office.

Rick Thomas, Chief Clerk
Texas Commission on Environmental Quality

AN INTERIM ORDER concerning Application of ASARCO, Incorporated to renew Air Quality Permit No. 20345, TCEQ Docket No. 2004-0049-AIR, SOAH Docket No. 582-05-0593

On February 8, 2006, the Texas Commission on Environmental Quality (Commission or TCEQ) considered during its public meeting the application of ASARCO, Incorporated, to renew Air Quality Permit No. 20345. The application was presented to the Commission with a Proposal for Decision by the Honorable William G. Newchurch and Veronica S. Najera, Administrative Law Judges (ALJs) with the State Office of Administrative Hearings (SOAH). The Commission then heard from various local and state officials on this matter, including officials from New Mexico and Mexico.

During its public meeting, the Commission listened to the oral argument of the parties and asked questions of the parties during and after their oral presentations. On completion of the Commission's deliberation on the evidence in the record and the applicable law, including Section 382.055 of the Texas Clean Air Act (TCAA), Chapter 382 of the Texas Health & Safety Code, the Commission determined that ASARCO, Incorporated (Applicant or ASARCO) had not met the statutory requirements for renewal of its permit. Specifically, the Commission determined that, based on the evidentiary record from SOAH and particularly, the findings of the ALJs' with regard to predicted exceedances of the significance level for PM_{10}, $PM_{2.5}$, and NO_2, and of the SO_2 area control plan compliance standard, ASARCO has failed to demonstrate the effectiveness of its existing emission control equipment and practices as provided in Section 382.055(d)(2), which is a minimum condition for renewal of its permit.

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The Commission stated that Section 382.055(d)(2) of the TCAA requires the Commission to consider both the condition and effectiveness of existing emission control equipment and practices. Given the length and scope of the shutdown, the Commission explained current modeling in accordance with applicable federal and state law and an investigation of the site by the Executive Director is needed so that the Commission may make the determination required by Section 382.055(d)(2). The Commission also explained that current modeling and an investigation by the Executive Director are needed so that the Commission may make the determination under Section 382.055(e) on what additional requirements should be imposed in light of the effect of the emissions on the surrounding area. The Commission further stated an examination by the Executive Director of the equipment and facilities on-site is necessary to determine if a renewal application is appropriate, or if instead, a permit amendment application is required. Thus, the Commission determined a remand of ASARCO's permit application to the Executive Director by interim order is required under subsections (d)(2) and (e) of Section 382.055 as well as subsections (f) and (g) of that section, which require issuance of a report on and schedule for additional requirements prior to a Commission decision denying the permit application.

The Commission also determined to include the ALJs' findings of fact in its interim order, which concern jurisdictional matters, designation and withdrawal of parties, and general background with regard to the El Paso Plant. In addition, the Commission allocated all of the transcript costs to ASARCO, and the Commission ordered ASARCO to pay all of the transcription costs. Accordingly, the ALJs' findings and conclusions with regard to transcript costs are included herein as consistent with the Commission's determination that ASARCO has failed to demonstrate the effectiveness of its existing emission control equipment and practices as provided in Section 382.055(d)(2).

THEREFORE, the Commission makes the following Findings of Fact (FOF) and Conclusions of Law (COL):

TCEQ
Commission

I. FINDINGS OF FACT

Introduction

1. On March 28, 2002, ASARCO, Incorporated, (Applicant or ASARCO) applied to the Commission to renew its Air Quality Permit No. 20345 (Permit, Current Permit, or Permit 20345).

2. The requested renewal would allow Applicant to resume its copper smelting operations, which it ceased in 1999.

3. On April 28, 2004, during its open meeting and public comment period, the Commission received a request for hearing on the renewal issue.

4. On May 14, 2004, the Commission, exercised its plenary authority to hold a hearing in the public interest and issued an interim order referring two issues to SOAH:

   a. Whether the operation of the El Paso Copper Smelter under the terms of the proposed permit will cause or contribute to a condition of air pollution; and

   b. Whether the Applicant's compliance history for the last five years of operation of the El Paso Primary Copper Smelter warrant the renewal of Air Quality Permit No. 20345.

5. The Commission also assigned the burden of proof on these issues to ASARCO.

Procedural History and Parties

6. On January 27, 2005, the ALJs held a preliminary hearing in this matter at the University of Texas at El Paso.

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7. Notice of the preliminary hearing was published in the *El Paso Times*, a newspaper generally circulated in El Paso County, on December 26, 2005, and mailed by the Commission's Chief Clerk to persons who had previously requested such notice.

8. At the preliminary hearing, parties were admitted and aligned as follows:

ADMITTED PARTIES	REPRESENTATIVE
ASARCO	Mr. Eric Groten and Mr. Patrick Lee
City of El Paso (El Paso)	Mr. Erich M. Birch
Executive Director (ED)	Mr. Daniel Long and Mr. Brian MacLeod
Office of Public Interest Counsel (PIC)	Ms. Anne Rowland
Sierra Club, *et al.* (Sierra Club) • Quality of Life El Paso • El Paso County Medical Society • Get the Lead Out Coalition • Senator Eliot Shapleigh, individually • UTEP Students Against ASARCO • UTEP Students Government Association • El Paso High Neighborhood Association • Matthew F. Carroll, individually • Debra Kelly, individually • Juan Garza, individually	Mr. Richard W. Lowerre and Ms. L. Layla Aflatooni
Sandoval, *et al.* (Sandoval or Anapra Group) • Southside Low Income Housing Development • Linda Sandoval, individually • Michelle Velasco, individually • Olga Arguelles, individually	Mr. Taylor Moore

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Sunset Heights ACORN, *et al.* (ACORN) • Henry L. Pfafflin, individually • Edward C. Patrykus, individually • Rodolfo Urias, individually • Blanca Vega de Urias, individually • Dr. Fidel Urrutia, individually • Arturo Moreno, individually	Mr. Michael R. Wyatt, Mr. Enrique Valdivia, and Ms. Veronica Carbajal

9. The PIC is currently represented by Emily A. Collins. Ms. Rowland has left the PIC.

10. On March 7, 2005, Juan Garza filed a motion to withdraw as a party. His motion was granted via Order No. 10.

11. On May 31, 2005, the El Paso Medical Society filed a motion to withdraw as a party. Its motion was granted via Order No. 24.

12. On March 31, 2005, the El Paso High Neighborhood Association filed a motion to withdraw as a party. Its motion was granted via Order No. 9.

13. On March 31, 2005, Matthew F. Carroll filed a motion to withdraw as a party. His motion was granted via Order No. 9.

14. Subsequent to the preliminary hearing, the ALJs established a docket control order designed to complete the proceeding within the maximum expected duration set by the Commission. In its Interim Order, the Commission set October 27, 2005, as the date by which the PFD would be due.

15. The following are the principal procedural events in the case:

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DATE	PROCEDURAL SCHEDULE
Jan. 27, 2005	Preliminary hearing at which parties were designated and aligned.
March 14, 2005	Deadline for each party to serve TRCP 194 disclosures. Discovery began.
March 21, 2005	ASARCO pre-filed its direct-case evidence in writing, including all testimony and exhibits.
May 6, 2005	First prehearing conference.
May 6, 2005	All parties, other than ASARCO, El Paso, and the ED, pre-filed their direct case evidence in writing, including all testimony and exhibits.
May 13, 2005	Second prehearing conference.
May 18, 2005	El Paso pre-filed its direct-case evidence in writing, including all testimony and exhibits.
May 23, 2005	Deadline to submit written discovery requests.
June 13, 2005	ED pre-filed his direct-case evidence in writing, including all testimony and exhibits.
June 27, 2005	Close of discovery/Final day to take depositions/Deadline to file objections to and motions to strike pre-filed evidence/Deadline for ASARCO to file list of rebuttal witnesses and brief summary of each's rebuttal testimony/Deadline to file dispositive motions.
July 5, 2005	Deadline to file responses to objections to pre-filed evidence and to dispositive motions.
July 8, 2005	Third Prehearing conference.
July 11- 22, 2005	Hearing on the merits.
August 19, 2005	Deadline to file closing briefs.
August 29, 2005	Deadline to file replies to closing briefs.
October 27, 2005	Deadline to issue Proposal for Decision.

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COUNTY OF TRAVIS

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General Background

16. ASARCO has operated a smelting and refining operations at its El Paso facility for over one-hundred years. The original plant was built in 1887, along the Rio Grande, to process lead ores from the mines in Mexico and the Southwest.

17. In 1899, the smelter incorporated into the American Smelting and Refining Company, and it so operated until 1975, when the company officially became ASARCO, Incorporated.

18. The ASARCO EL Paso Plant is situated at the juncture of two countries (the United States and Mexico) and three states (Texas, New Mexico, and the Mexican state of Chihuahua). The ASARCO plant is located immediately north and east of the Rio Grande. It lies in the Rio Grande Canyon between the Franklin Mountains and the Cerros del Muleros in Mexico.

19. The ASARCO EL Paso Plant is bounded by Interstate 10 on the east, Executive Center Boulevard to the north, the American Canal to the southwest, and Paisano Boulevard to the west.

20. Before closing operation, ASARCO smelted copper in El Paso using a Continuous Top-Feed Oxygen Process (ConTop).

21. Permit 20345, which this case concerns, was issued by the Texas Air Control Board (TACB) in 1992 to permit the new ConTop reactors at the ASARCO El Paso Plant.

22. The ConTop reactors replaced ASARCO's previously grandfathered copper-smelting facilities.

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COUNTY OF TRAVIS
I hereby certify that this is a true and correct copy of a document on file in the Texas Commission on Environmental Quality (TCEQ)

23. ASARCO also holds Permit No. 4151, which authorizes unloading operations, certain conveyance systems, and other operations up to and including the bedding building at the El Paso plant.

24. ConTop was implemented in March 1993, and has been the exclusive operating unit used for the production of copper anodes since then.

25. Since Permit 20345's 1992 issuance, several permit amendments and alterations have been approved by the ED without contested case hearings.

26. Applicant ceased its copper smelting operations in 1999 and remains in an extended condition of inoperation.

Transcript Costs

27. The ALJs ordered ASARCO to pay for transcripts of the hearing for the ALJs' and the Commission's use and for the Commission's record. No party requested the transcript.

28. This is not a rate case, and none of the parties who is potentially liable for transcript costs is a state or federal agency.

29. ACORN's members, who are represented by Texas Rio Grande Legal Aid, Inc., a non-profit agency that specializes in providing free civil legal services to indigents, do not have money to cover the transcript costs.

30. All of the parties actively participated in the hearing, though some far more than others. A rough count of the number of transcript pages devoted to each party's examination of witnesses shows that the parties participated to approximately the following extent:

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EXHIBIT G

PARTY	PERCENT
ASARCO	20
Sandoval	28
El Paso	32
Sierra Club	5
ACORN	6
PIC	5
ED	3

31. ASARCO and El Paso extensively used and cited to the transcript in their post-hearing arguments. Sandoval did not file an argument. The other parties used it approximately in proportion to their participation.

32. ASARCO put on a difficult to understand case primarily based on the 1992 modeling, which did not represent what would be emitted if Permit 20345 were renewed, and that contained many questionable adjustments and gaps.

33. The nature of ASARCO's case caused the hearing to take longer than it should have.

34. El Paso took the lead for the Protestants on nearly every issue.

35. The amount of time that El Paso took during the hearing was in very large part due to the odd nature of ASARCO's substantive case.

36. ASARCO's attorneys and witnesses were orderly, prepared, efficient, and professional at the hearing.

STATE OF TEXAS
CO[illegible] OF TRAVIS

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[illegible] (TCEQ)

EXHIBIT G

37. The Anapra Group took an enormous amount of time during the hearing pursuing wildly irrelevant lines of inquiry suggesting misconduct by ASARCO and nearly every other party and witness.

38. The Anapra Group offered virtually no relevant evidence, or even irrelevant evidence that supported the thrust of its irrelevant questioning.

39. The Anapra Group's representative was repeatedly instructed by the ALJs to move on the relevant evidence, but he continually failed to do so.

CONCLUSIONS OF LAW

Transcript

1. The Commission's rules provide that the Commission will not assess transcript costs against the ED or the PIC. 30 TAC § 80.23 (d)(2).

2. Under 30 TAC § 80.23 (d)(1), the Commission considers the following relevant factors in allocating reporting and transcription costs among the other parties:

- the party who requested the transcript;
- the financial ability of the party to pay the costs;
- the extent to which the party participated in the hearing;
- the relative benefits to the various parties of having a transcript;
- the budgetary constraints of a state or federal administrative agency participating in the proceeding;
- in rate proceedings, the extent to which the expense of the rate proceeding is included in the utility's allowable expenses; and
- any other factor which is relevant to a just and reasonable assessment of costs.

STATE OF TEXAS
COUNTY OF TRAVIS
of a
(TCEQ)

EXHIBIT G

3. Because ASARCO failed to prove that its operation under Permit 20345, if renewed, would meet the requirements for renewal of its permit in Section 382.055(d)(2) of the TCAA, it would be just and reasonable to allocate the entire transcript cost to ASARCO.

NOW, THEREFORE, BE IT ORDERED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY that:

1. The permit application filed by ASARCO on March 28, 2002, is remanded to the Executive Director.

2. ASARCO is directed to submit additional information regarding all emissions from and related to the El Paso Plant and their impacts on surrounding areas, including current modeling results, within six months of issuance of this Interim Order. Prevention of significant deterioration (PSD) area-wide modeling shall be conducted on a fifty-kilometer basis. However, with regard to the impacts of ASARCO's emissions from its El Paso Plant in New Mexico and Mexico only the impact of the emissions from Texas shall be considered.

3. The Executive Director is directed to conduct concurrently within the same six-month period a vigorous investigation of all air quality control equipment at the El Paso Plant, including related practices, and based on that investigation and the results of the information submitted in accordance with Ordering Provision 2 prepare his recommended Report and any related Schedule as required under Section 382.055 of the TCAA, which includes his written assessment of the sufficiency of existing plant control equipment and practices, within eight months of issuance of this Interim Order. In addition, the Executive Director is to assess the appropriateness of a permit amendment application rather than a renewal application for equipment that has not been previously authorized or that requires repair or replacement.

EXHIBIT G

4. The Applicant's modeling analyses and the summary of the modeling results and the Executive Director's recommended Report and any related Schedule, which includes his written assessment of existing plant control equipment and practices, shall be made available to all parties by filing a copy in the El Paso regional office and in the Austin Office of the Chief Clerk. In addition, a copy of the summary of the modeling results and the Executive Director's recommended Report and any related Schedule shall be mailed to all parties on the official mailing list for the Proposal for Decision Filings and mailing of documents in accordance with this ordering provision shall occur within two weeks of the end of the eighth-month period described in Ordering Provision No. 3.

5. All parties in this matter have seven weeks after the end of the eighth-month period to file in the Austin Office of Chief Clerk and mail to all other parties, their comments on the Applicant's modeling and related summary of results and the Executive Director's recommended Report and any related Schedule.

6. The Executive Director shall issue a response to all comments within six weeks of the end of the period for submitting comments. A copy of the Response to all Comments shall be filed in the Office of Chief Clerk and mailed to all parties.

7. The Executive Director's recommended Report and any related Schedule and the comments shall be scheduled for Commission consideration during a public meeting.

8. In accordance with the agreement of ASARCO's representative during the public meeting, ASARCO shall not restart operations at its El Paso Plant before the Commission's issuance of its final Report and any related Schedule as required by Section 382.055 of the TCAA.

9. ASARCO is allocated all of the transcript costs of the SOAH hearing, and accordingly, ASARCO shall pay all of the transcription costs.

This copy of a ... (TCEQ) ... Commission

10 All other motions, requests for entry of specific Findings of Fact or Conclusions of Law, and any other requests for general or specific relief, if not granted in this Interim Order are denied.

11. If any provision, sentence, clause, or phrase of this Interim Order is held to be invalid, the invalidity of any provision shall not affect the validity of the remaining portions of this Interim Order.

12. The Chief Clerk of the Texas Commission on Environmental Quality shall forward copy of this Interim Order to all parties on the official mailing list for the Proposal for Decision.

Issue date: MAR 1 0 2006

TEXAS COMMISSION ON
ENVIRONMENTAL QUALITY

Kathleen Hartnett White, Chairman

STATE OF
COUNTY OF

I hereby certify that this is a true and correct copy of a
Texas Commission on Environmental Quality (TCEQ)
document which is filed in the Records of the Commission.
Given under my hand and seal of office.

Clerk of Records
Texas Commission on Environmental Quality

EXHIBIT G

ATTACHMENT D

PORT **CORPUS CHRISTI**

April 12, 2010

Project No. 10-005A

STATE OF TEXAS §
COUNTY OF TRAVIS §

APR 16 2010

Mr. Alex Berksan
Texas Commission on Environmental Quality
P. O. Box 13087
Austin, TX 78711-3087

VIA HAND DELIVERY

Re: Port of Corpus Christi Authority
Alteration to Permit No. 9498
Corpus Christi, Nueces County
TCEQ Account ID No. NE-0095-E
Customer Reference No. CN600885248
Regulated Entity No. RN102506250

RECEIVED
APR 12 2010
AIR PERMITS DIVISION

Dear Mr. Berksan:

This correspondence is being submitted to you as an additional alteration request as part of the Permit Alteration to Air Permit No. 9498 submitted to you on March 11, 2010. We are requesting that a footnote be added to the Maximum Allowable Emission Rates Table (MAERT) stating that maximum hourly emissions will not exceed 16.56 lb/hr PM and 7.85 lb/hr PM_{10} based on maximum operating scenarios. Additionally, please include a note that even though the stockpiles do not include an hourly rate in the MAERT, the emissions are included in the maximum operating scenario. Background information is provided in Attachment A which demonstrates how these limits were calculated.

Please contact me at (361) 885-6163 or sarah@pocca.com or Ms. Sara A. Hutson, P.E., Waid Environmental, at (512) 255-9999 or shutson@waid.com if you have any questions or need additional information.

Sincerely,

Sarah L. Garza
Environmental Compliance Manager

SLG/vdm
Enclosure

cc: Frank Brogan
Greg Brubeck
Bill Green
Paul Kaup
Tony Alejandro

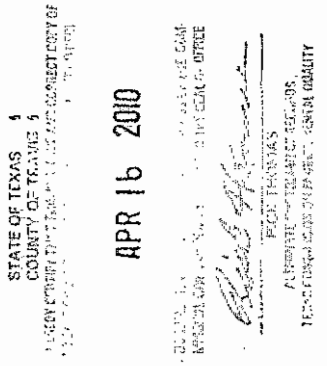
cc w/enc: Mr. David Kennebeck, TCEQ, Region 14, Corpus Christi
Ms. Sara A. Hutson, P.E., Waid Environmental, Austin

PORT OF CORPUS CHRISTI
BULK DOCK 2
ALTERATION TO PERMIT NO. 9498

APRIL 2010

ATTACHMENT A

BACKGROUND DOCUMENTATION FOR MAXIMUM HOURLY LIMITS



Waid Corporation dba Waid Environmental
Certificate of Registration No. F-58

Operating Scenarios

Scenario	Description	Group Inclusions	PM (lbs/hr)	PM_{10} (lbs/hr)
Scenario 1	Koch Sulfur Pad to Ship Loader	Group 1A to Group 1 to Group 7	10.63	5.02
Scenario 2	Citgo Pad to Ship Loader	Group 1B to Group 1 to Group 7	5.85	2.77
Scenario 3	Truck/Rail to Ship Loader	Group 2 to Group 7	2.69	1.27
Scenario 4	Truck/Rail to Ground-Truck	Group 2 to Group 6	0.92	0.43
Scenario 5	Citgo/Valero (CB-2) Pad to Ship Loader	Group 1C to Group 1 to Group 7	5.85	2.77
Scenario 6	Valero (CB-7) to Ship Loader	Group 5 to Group 7	10.64	5.04
Scenario 7	Valero (CB-7) to Rail Pad	Group 3	5.26	2.49
Scenario 8	Koch (CB-7) to Rail Pad	Group 3	5.26	2.49
Scenario 9	Koch (CB-7) to Ship Loader	Group 5 to Group 7	10.64	5.04
Scenario 10	Rail Loadout	Group 4	1.02	0.48
Scenario 11	Stockpiles	Group 8	0.67	0.34

Simultaneous Operation Scenarios

Scenario Combinations	PM (lbs/hr)	PM_{10} (lbs/hr)
Scenarios 1, 7, and 11	16.56	7.85
Scenarios 1, 8, and 11	16.56	7.85
Scenarios 1, 10, and 11	12.32	5.82
Scenarios 2, 7, and 11	11.78	5.60
Scenarios 2, 8, and 11	11.78	5.60
Scenarios 2, 10, and 11	7.54	3.57
Scenarios 3, 7, and 11	8.62	4.10
Scenarios 3, 8, and 11	8.62	4.10
Scenarios 3, 10, and 11	4.38	2.07
Scenarios 4, 6, and 11	12.23	5.81
Scenarios 4, 7, and 11	6.85	3.26
Scenarios 4, 8, and 11	6.85	3.26
Scenarios 4, 10, and 11	2.61	1.23
Scenarios 5, 7, and 11	11.78	5.60
Scenarios 5, 8, and 11	11.78	5.60
Scenarios 5, 10, and 11	7.54	3.57
Scenarios 6, 10, and 11	12.33	5.84
Scenarios 9, 10, and 11	12.33	5.84
MAX	**16.56**	**7.85**

STATE OF TEXAS §
COUNTY OF NUECES §

APR 16 2010

Groups	EPNs	Descriptions	PM (lb/hr)	PM_{10} (lb/hr)
Group 1A	TS PC-1	Transfer station connecting PC-1 to CB-1	1.63	0.77
	CB-1	Conveyor belt CB-1	4.45	2.1
	TS-1	Transfer station connecting CB-1 to CB-2	0.33	0.15
	CB-2 (from TS-1)	Conveyor belt CB-2 from TS-1 to Citgo/Valero pad loading point (TS FEL-2)	1.76	0.83
		Totals	**8.17**	**3.85**
Group 1B	TS FEL-2	Loading point to CB-2 at Citgo or Valero pad	1.63	0.77
	CB-2 (from TS FEL-2)	Conveyor belt CB-2 from TS FEL-2 loading point at Citgo/Valero pad to CB-3	1.76	0.83
		Totals	**3.39**	**1.6**
Group 1C	TS PC-2	Transfer station connecting PC-2 to CB-2	1.63	0.77
	CB-2 (from TS-1)	Conveyor belt CB-2 from TS-1 to Citgo/Valero pad loading point (TS FEL-2)	1.76	0.83
		Totals	**3.39**	**1.6**
Group 1	TS-2	Transfer station connecting CB-2 to CB-3	0.1	0.05
	TS-3	Transfer station connecting CB-4 to CB-5	0.1	0.05
		Totals	**0.2**	**0.1**
Group 2	DS-RR/TR	Dump station for railcars and trucks	0.33	0.15
	TS-3	Transfer station connecting CB-4 to CB-5	0.1	0.05
		Totals	**0.43**	**0.2**

PORT CORPUS CHRISTI

March 10, 2010

Project No. 10-005A

STATE OF TEXAS
COUNTY OF TEXAS

APR 16 2010

RECEIVED
MAR 11 2010
AIR PERMITS DIVISION

Air Permits Initial Review Team (APIRT) – MC 161
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

HAND DELIVERED

APIRT
MAR 12 2010

Subject: **Permit Alteration for Port of Corpus Christi Bulk Dock No. 2**
Air Permit No. 9498, TCEQ Account ID No. NE-0095-E,
Customer Reference No. CN 600885248,
Regulated Entity No. RN1025069250

Attention: APIRT

This permit alteration for Port of Corpus Christi Authority (PCCA) Air Permit No. 2 for our Bulk Dock 2 facility is being submitted to update the emission rate calculations to be based on current calculation methods. It is also being submitted to update the calculations to reflect current operations. The changes proposed under this permit alteration are provided in Attachment A. Due to these alterations Total PM and PM10 emission rates for the site authorized by this permit are significantly decreasing.

Please contact me at (361) 885-6163 or sarah@pocca.com or Ms. Sara A. Hutson, P.E. with Waid Environmental at (512) 255-9999 or shutson@waid.com if you have any questions.

Sincerely,

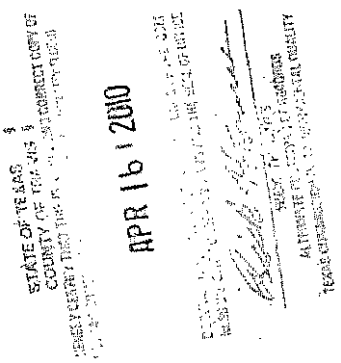
Sarah L. Garza
Environmental Compliance Manager

SLG/vdm
Enclosure

CC/Enc: Mr. David Kennebeck, TCEQ Region 14, Corpus Christi, TX
Mr. Sara A. Hutson, P.E., Waid Environmental, Austin, TX

15625

CC: John LaRue
Frank Brogan
Sandy Sanders
Skip Kaup
Tony Alejandro
Greg Brubeck
Bill Green



APIRT
MAR 12 2010

WAID ENVIRONMENTAL

Texas Commission on Environmental Quality
Permit Alteration No. 9498

PORT CORPUS CHRISTI
Bulk Dock 2

Corpus Christi, Nueces County
Air Quality Account ID No. NE-0095-E
Regulated Entity No. RN102506250
Customer No. CN600885248

March 2010

STATE OF TEXAS
COUNTY OF TRAVIS
APR 16 2010
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Prepared by:

Kris L. Kirchner

Kris L. Kirchner, P.E.
Senior Consulting Engineer

Approved by:

STATE OF TEXAS
SARA A. HUTSON
74468
LICENSED
PROFESSIONAL ENGINEER
3/11/10

Sara A. Hutson

Sara A. Hutson, P.E.
Principal Engineer

Waid Corporation dba Waid Environmental
Certificate of Registration No. F-58

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Midland, Texas 79705
432.682.9999 • 432.682.7774 FAX

ATTACHMENT A

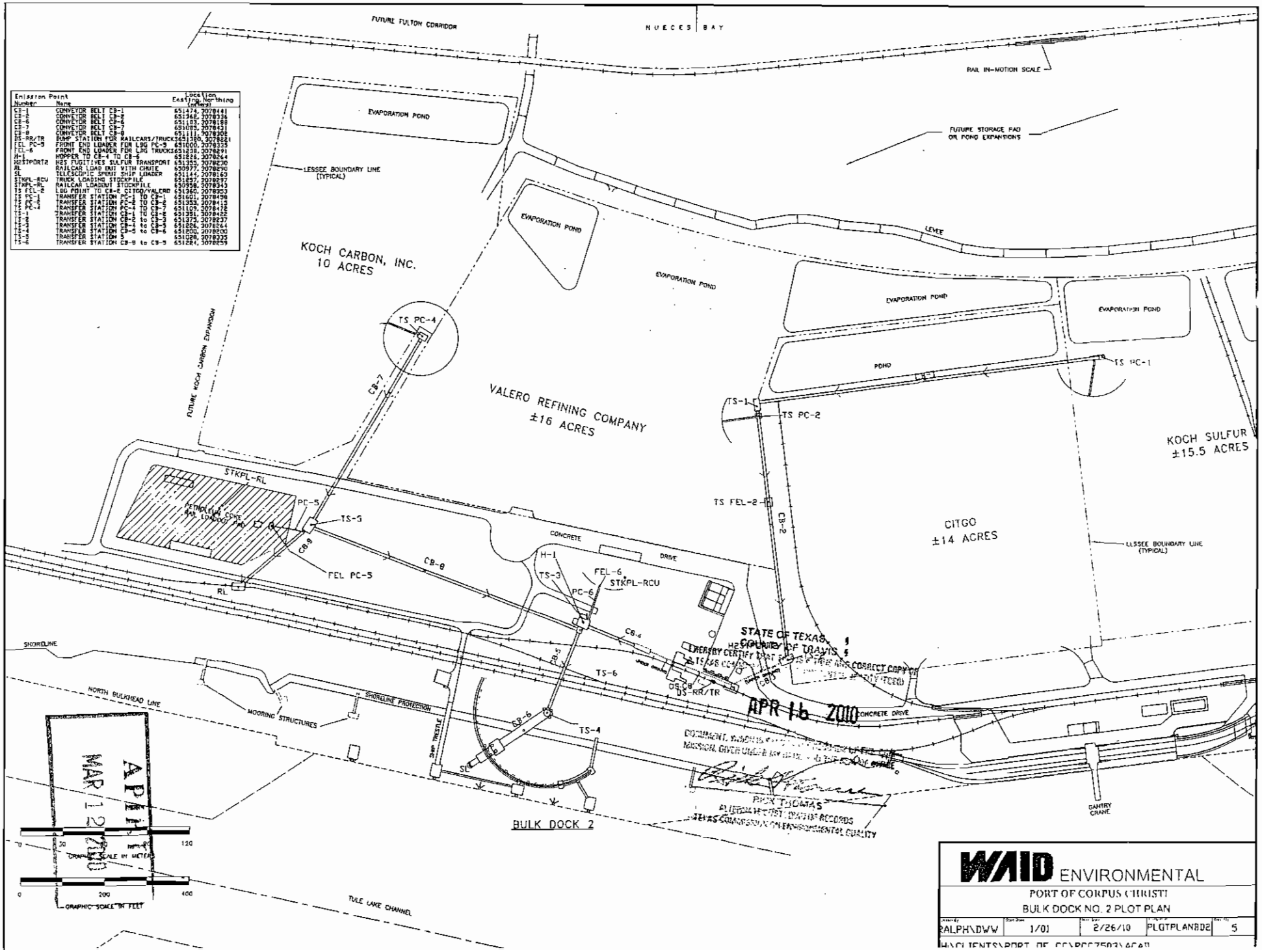
SUMMARY OF CHANGES

With this alteration, Port of Corpus Christi is proposing the following changes to Permit No. 9498:

- Update emission rate calculations for conveyance transfers based on current operations and current EPA and TCEQ calculation methods. This includes increasing the moisture content from 2% to 4.8% used in the emission rate calculations based on the fact that the Port of Corpus Christi only handles materials with a moisture content of 4.8% or greater. In 2002, the permit was revised to eliminate handling dry materials but the moisture content in the calculation was not revised. Emission rates for EPNs FEL-6, FEL PC-5, STKPL-RL, STKPL-RCU, and H2STPORT2 are remaining the same. A Table 1(a) and emission rate calculations are provided in Attachment B.
- Combine Conveyor Belt CB-1 into one EPN since there is no longer a transfer station in the middle of the conveyor belt.
- Combine EPNs DS-RR and DS-TR into one EPN DS-RR/TR since these EPNs are at the same location.
- Remove EPNs that are associated with conveyor belts less than 300 feet and those that represent emissions duplicated in NSR permits obtained by tenants. A list of sources being removed is provided in Attachment C. Documentation demonstrating that EPNs are duplicated in tenants' permits is provided in Attachment D.

APR 16 2010

APIRT
MAR 12 2010



Emission Point Number	Name	Location (Meters) Easting, Northing
CB-1	CONVEYOR BELT CB-1	651474, 3078441
CB-2	CONVEYOR BELT CB-2	651342, 3078336
CB-6	CONVEYOR BELT CB-6	651183, 3078188
CB-7	CONVEYOR BELT CB-7	651085, 3078431
CB-8	CONVEYOR BELT CB-8	651111, 3078305
DS-RR/TR	DUMP STATION FOR RAILCARS/TRUCKS	651360, 3078221
FEL PC-5	FRONT END LOADER FOR LOG PC-5	651000, 3078035
FEL-6	FRONT END LOADER FOR LOG TRUCKS	651298, 3078291
H-1	HOPPER TO CB-4 TO CB-6	651226, 3078264
H2STPORT2	H2S FUGITIVES SULFUR TRANSPORT	651355, 3078230
RL	RAILCAR LOAD OUT WITH CHUTE	650977, 3078290
SL	TELESCOPIC SPOUT SHIP LOADER	651144, 3078163
STKPL-RCU	TRUCK LOADING STOCKPILE	651257, 3078297
STKPL-RL	RAILCAR LOADOUT STOCKPILE	650956, 3078343
TS FEL-2	LOG POINT TO CB-2 CITGO/VALERO	651360, 3078253
TS PC-1	TRANSFER STATION PC-1 TO CB-1	651601, 3078498
TS PC-2	TRANSFER STATION PC-2 TO CB-6	651353, 3078415
TS PC-4	TRANSFER STATION PC-4 TO CB-7	651109, 3078478
TS-1	TRANSFER STATION CB-1 TO CB-2	651391, 3078422
TS-2	TRANSFER STATION CB-2 to CB-3	651373, 3078237
TS-3	TRANSFER STATION CB-1 to CB-5	651226, 3078264
TS-4	TRANSFER STATION CB-5 to CB-6	651000, 3078000
TS-5	TRANSFER STATION 5	651028, 3078335
TS-6	TRANSFER STATION CB-8 to CB-5	651281, 3078259

I HEREBY CERTIFY THAT THIS IS A TRUE AND CORRECT COPY OF A DOCUMENT, WHICH IS NOW OR WAS FILED OR RECORDED IN MY OFFICE.
DEAN THOMAS
ELECTRONIC POST, GRAPHIC RECORDS
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

WAID ENVIRONMENTAL

PORT OF CORPUS CHRISTI

BULK DOCK NO. 2 PLOT PLAN

Drawn By	Start Date	Rev. Date	Plot Date	Rev. No.
RALPH\DWW	1/01	2/26/10	PLOTPLANBD2	5

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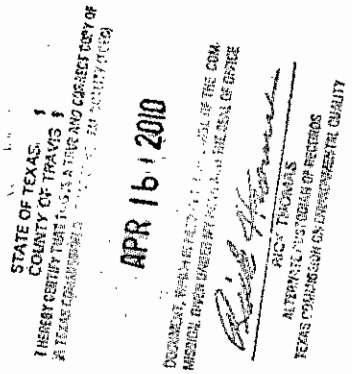
ATTACHMENT B

TABLE 1(A) AND REVISED EMISSION RATE CALCULATIONS



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Table 1(a) Emission Point Summary

Permit Number:	9498	RN Number:	RN102506250	Date:	March 2010
Company Name:	Port of Corpus Christi Authority				

Review of applications and issuance of permits will be expedited by supplying all necessary information requested on this Table.

AIR CONTAMINANT DATA					
1. Emission Point			2. Component or Air Contaminant Name	3. Air Contaminant Emission Rate	
EPN (A)	FIN (B)	NAME (C)		Pounds per Hour (A)	TPY (B)
TS PC-1	TS PC-1	Transfer station connecting PC-1 to CB-1	PM	1.63	0.54
			PM10	0.77	0.26
CB-1	CB-1	Conveyor belt CB-1	PM	4.45	1.48
			PM10	2.10	0.70
TS-1	TS-1	Transfer station connecting CB-1 to CB-2	PM	0.33	0.11
			PM10	0.15	0.05
TS PC-2	TS PC-2	Transfer station connecting PC-2 to CB-2	PM	1.63	0.27
			PM10	0.77	0.13
CB-2 (from TS-1)	CB-2 (from TS-1)	Conveyor belt CB-2 from TS-1 to Citgo/Valero pad loading point (TS FEL-2)	PM	1.76	0.88
			PM10	0.83	0.42

EPN = Emission Point Number
FIN = Facility Identification Number

STATE OF TEXAS §
COUNTY OF TRAVIS §
I HEREBY CERTIFY THAT THIS IS A TRUE AND CORRECT COPY OF
A TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
APR 16 2010
IN TESTIMONY WHEREOF, I HAVE HEREUNTO SET MY HAND AND THE SEAL OF OFFICE
RICK THOMAS
ALTERNATE CUSTODIAN OF RECORDS
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Table 1(a) Emission Point Summary

Permit Number:	9498	RN Number:	RN102506250	Date:	March 2010
Company Name:	Port of Corpus Christi Authority				

Review of applications and issuance of permits will be expedited by supplying all necessary information requested on this Table.

AIR CONTAMINANT DATA			EMISSION POINT DISCHARGE PARAMETERS											
1. Emission Point			4. UTM Coordinates of EPN			5. Building Height (Feet)	6. Height Above Ground (Feet)	7. Stack Exit Data			8. Fugitives		
EPN (A)	FIN (B)	NAME (C)	Zone	East (Meters)	North (Meters)			Diameter (Feet) (A)	Velocity (fps) (B)	Temp (°F) (C)	Length (ft.) (A)	Width (ft.) (B)	Axis Degree (C)
TS PC-1	TS PC-1	Transfer station connecting PC-1 to CB-1	14	651,601	3,078,458			0.003	0.003	Ambient			
CB-1	CB-1	Conveyor belt CB-1	14	651,474	3,078,441			0.003	0.003	Ambient			
TS-1	TS-1	Transfer station connecting CB-1 to CB-2	14	651,351	3,078,422			0.003	0.003	Ambient			
TS PC-2	TS PC-2	Transfer station connecting PC-2 to CB-2	14	651,353	3,078,415			0.003	0.003	Ambient			
CB-2 (from TS-1)	CB-2 (from TS-1)	Conveyor belt CB-2 from TS-1 to Citgo/Valero pad loading point (TS FEL-2)	14	651,362	3,078,336			0.003	0.003	Ambient			

EPN = Emission Point Number

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TCEQ-10153 (Revised 11-04)

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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Table 1(a) Emission Point Summary

Permit Number:	9498	RN Number:	RN102506250	Date:	March 2010
Company Name:	Port of Corpus Christi Authority				

Review of applications and issuance of permits will be expedited by supplying all necessary information requested on this Table.

AIR CONTAMINANT DATA					
1. Emission Point			2. Component or Air Contaminant Name	3. Air Contaminant Emission Rate	
EPN (A)	FIN (B)	NAME (C)		Pounds per Hour (A)	TPY (B)
TS FEL-2	TS FEL-2	Loading point to CB-2 at Citgo or Valero pad	PM	1.63	0.54
			PM10	0.77	0.26
CB-2 (from TS FEL-2)	CB-2 (from TS FEL-2)	Conveyor belt CB-2 from TS FEL-2 loading point at Citgo/Valero pad to CB-3	PM	1.76	1.18
			PM10	0.83	0.56
TS-2	TS-2	Transfer station connecting CB-2 to CB-3	PM	0.10	0.07
			PM10	0.05	0.03
DS-RR/TR	DS-RR/TR	Dump station for railcars and trucks	PM	0.33	0.10
			PM10	0.15	0.05
TS-3	TS-3	Transfer station connecting CB-4 to CB-5	PM	0.10	0.10
				0.05	0.045

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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Table 1(a) Emission Point Summary

Permit Number:	9498	RN Number:	RN102506250	Date:	March 2010
Company Name:	Port of Corpus Christi Authority				

Review of applications and issuance of permits will be expedited by supplying all necessary information requested on this Table.

AIR CONTAMINANT DATA			EMISSION POINT DISCHARGE PARAMETERS											
1. Emission Point			4. UTM Coordinates of EPN			5. Building Height (feet)	6. Height Above Ground (feet)	7. Stack Exit Data			8. Fugitives		
EPN (A)	FIN (B)	NAME (C)	Zone	East (Meters)	North (Meters)			Diameter (Feet) (A)	Velocity (fps) (B)	Temp (°F) (C)	Length (ft.) (A)	Width (ft.) (B)	Axis Degree (C)
TS FEL-2	TS FEL-2	Loading point to CB-2 at Citgo or Valero pad	14	651,360	3,078,353		14.5	0.003	0.003	Ambient			
CB-2 (from TS FEL-2)	CB-2 (from TS FEL-2)	Conveyor belt CB-2 from TS FEL-2 loading point at Citgo/Valero pad to CB-3	14	651,362	3,078,336			0.003	0.003	Ambient			
TS-2	TS-2	Transfer station connecting CB-2 to CB-3	14	651,374	3,078,237			0.003	0.003	Ambient			
DS-RR/TR	DS-RR/TR	Dump station for railcars and trucks	14	651,320	3,078,221		10	0.003	0.003	Ambient			
TS-3	TS-3	Transfer station connecting CB-4 to CB-5	14	651,226	3,078,264			0.003	0.003	Ambient			

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TCEQ-10153 (Revised 11-04)
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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Table 1(a) Emission Point Summary

Permit Number:	9498	RN Number:	RN102506250	Date:	March 2010
Company Name:	Port of Corpus Christi Authority				

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AIR CONTAMINANT DATA					
1. Emission Point			2. Component or Air Contaminant Name	3. Air Contaminant Emission Rate	
EPN (A)	FIN (B)	NAME (C)		Pounds per Hour (A)	TPY (B)
TS-6	TS-6	Transfer station connecting CB-8 to CB-5	PM	0.10	0.02
			PM10	0.05	< 0.01
TS-4	TS-4	Transfer station connecting CB-5 to CB-6	PM	0.10	0.09
			PM10	0.05	0.04
CB-6	CB-6	Conveyor belt CB-6 connecting CB-5 to ship loader	PM	1.75	1.69
			PM10	0.83	0.80
SL	SL	Telescopic spout-out ship loader that is lowered into the hold of the ship	PM	0.41	0.39
			PM10	0.19	0.19
TS PC-4	TS PC-4	Transfer station connecting PC-4 to CB-7	PM	1.63	0.27
			PM10	0.77	0.13

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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Table 1(a) Emission Point Summary

Permit Number:	9498	RN Number:	RN102506250	Date:	March 2010
Company Name:	Port of Corpus Christi Authority				

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AIR CONTAMINANT DATA			EMISSION POINT DISCHARGE PARAMETERS											
1. Emission Point			4. UTM Coordinates of EPN			5. Building Height (Feet)	6. Height Above Ground (Feet)	7. Stack Exit Data			8. Fugitives		
EPN (A)	FIN (B)	NAME (C)	Zone	East (Meters)	North (Meters)			Diameter (Feet) (A)	Velocity (fps) (B)	Temp (°F) (C)	Length (ft.) (A)	Width (ft.) (B)	Axis Degree (C)
TS-6	TS-6	Transfer station connecting CB-8 to CB-5	14	651,224	3,078,259			0.003	0.003	Ambient			
TS-4	TS-4	Transfer station connecting CB-5 to CB-6	14	651,200	3,078,200			0.003	0.003	Ambient			
CB-6	CB-6	Conveyor belt CB-6 connecting CB 5 to ship loader	14	651,183	3,078,188			0.003	0.003	Ambient			
SL	SL	Telescopic spout-out ship loader that is lowered into the hold of the ship	14	651,144	3,078,163			0.003	0.003	Ambient			
TS PC-4	TS PC-4	Transfer station connecting PC-4 to CB-7	14	651,109	3,078,472			0.003	0.003	Ambient			

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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Table 1(a) Emission Point Summary

Permit Number:	9498	RN Number:	RN102506250	Date:	March 2010
Company Name:	Port of Corpus Christi Authority				

Review of applications and issuance of permits will be expedited by supplying all necessary information requested on this Table.

AIR CONTAMINANT DATA					
1. Emission Point			2. Component or Air Contaminant Name	3. Air Contaminant Emission Rate	
EPN (A)	FIN (B)	NAME (C)		Pounds per Hour (A)	TPY (B)
CB-7	CB-7	Conveyor belt CB-7 from Valero pad and the Koch Carbon pad to CB-8 or CB-9	PM	2.72	0.45
			PM10	1.29	0.21
TS-5	TS-5	Transfer station connecting CB-7 to CB-8 or CB-9	PM	0.10	0.02
			PM10	0.05	0.01
CB-8	CB-8	Conveyor belt connecting CB-7 to CB-5	PM	3.83	0.64
			PM10	1.81	0.30
RL	RL	Railcar loadout point with bi-truncated chute that is lowered into the compartment for railcar loading	PM	0.81	0.19
			PM10	0.38	0.09
H-1	H-1	Hopper to connect CB-4 to PC-6	PM	0.33	0.04
			PM10	0.15	0.02

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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Table 1(a) Emission Point Summary

Permit Number:	9498	RN Number:	RN102506250	Date:	March 2010
Company Name:	Port of Corpus Christi Authority				

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AIR CONTAMINANT DATA			EMISSION POINT DISCHARGE PARAMETERS										
1. Emission Point			4. UTM Coordinates of EPN			5. Building Height (Feet)	6. Height Above Ground (Feet)	7. Stack Exit Data			8. Fugitives		
EPN (A)	FIN (B)	NAME (C)	Zone	East (Meters)	North (Meters)			Diameter (Feet) (A)	Velocity (fps) (B)	Temp (°F) (C)	Length (ft.) (A)	Width (ft.) (B)	Axis Degree (C)
CB-7	CB-7	Conveyor belt CB-7 from Valero pad and the Koch Carbon pad to CB-8 or CB-9	14	651,085	3,078,431			0.003	0.003	Ambient			
TS-5	TS-5	Transfer station connecting CB-7 to CB-8 or CB-9	14	651,028	3,078,335			0.003	0.003	Ambient			
CB-8	CB-8	Conveyor belt connecting CB-7 to CB-5	14	651,111	3,078,302			0.003	0.003	Ambient			
RL	RL	Railcar loadout point with bi-truncated chute that is lowered into the compartment for railcar loading	14	650,976	3,078,290			0.003	0.003	Ambient			
H-1	H-1	Hopper to connect CB-4 to PC-6	14	651,226	3,078,264		45	0.003	0.003	Ambient			

STATE OF TEXAS
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Emission Point	Emission Point Description	Currently Authorized Hourly Process Rate (tons/hr)	Currently Authorized Annual Process Rate (tons/yr)	Belt (ft)	Revised Calcs Using TCEQ Cheer Workshop Guidance Document (Drop Equation)								Change In Authorized Emission Rates				Comments
					PM Emission Factor (lb/ton)	PM_{10} Emission Factor (lb/ton)	Control Efficiency (%)	Control Efficiency Basis	Proposed PM Emission Rates		Proposed PM_{10} Emission Rates		PM Emission Rates		PM_{10} Emission Rates		
									Hourly (lb/hr)	Annual (tons/yr)	Hourly (lb/hr)	Annual (tons/yr)	Hourly (lb/hr)	Annual (tons/yr)	Hourly (lb/hr)	Annual (tons/yr)	
TS PC-1	Transfer station connecting PC-1 to CB-1	1,500	500,000		0.0022	0.0010	50	Partial Enclosure (enclosed on four sides, open at top)	1.63	0.27	0.77	0.13	(2.12)	(0.36)	(1.11)	(0.19)	
CB-1	Conveyor belt CB-1	1,500	500,000	820	0.0059	0.0028	50	Rain Cover	4.45	0.74	2.10	0.35	(1.71)	(0.28)	(0.98)	(0.17)	CB-1 no longer has transfer station TS FEL-1 in the middle of the conveyor. Therefore, it is now being considered one EPN.
TS-1	Transfer station connecting CB-1 to CB-2	1,500	1,000,000		0.0022	0.0010	90	Full Enclosure	0.33	0.11	0.15	0.05	(3.42)	(1.14)	(1.73)	(0.58)	
TS PC-2	Transfer station connecting PC-2 to CB-2	1,500	500,000		0.0022	0.0010	50	Partial Enclosure (enclosed on four sides, open at top)	1.63	0.27	0.77	0.13	(2.12)	(0.36)	(1.11)	(0.19)	
CB-2 (from TS-1)	Conveyor belt CB-2 from TS-1 to Citgo/Valero pad loading point (TS FEL-2)	1,500	1,500,000	325	0.0024	0.0011	50	Rain Cover	1.76	0.88	0.83	0.42	(0.59)	(0.29)	(0.35)	(0.17)	
TS FEL-2	Loading point to CB-2 at Citgo or Valero pad	1,500	500,000		0.0022	0.0010	50	Partial Enclosure (enclosed on four sides, open at top)	1.63	0.27	0.77	0.13	(2.12)	(0.36)	(1.11)	(0.19)	
CB-3 (from TS FEL-2)	Conveyor belt CB-2 from TS FEL-2 loading point at Citgo/Valero pad to CB-3	1,500	1,700,000	325	0.0024	0.0011	50	Rain Cover	1.76	1.00	0.83	0.47	(0.59)	(0.33)	(0.35)	(0.20)	
TS-2	Transfer station connecting CB-2 to CB-3	1,500	1,700,000		0.0022	0.0010	97	90% for Full Enclosure and 70% for Water Sprays	0.10	0.06	0.05	0.03	(3.65)	(2.07)	(1.83)	(1.04)	

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Emission Point	Emission Point Description	Currently Authorized Hourly Process Rate (tons/hr)	Currently Authorized Annual Process Rate (tons/yr)	Belt (ft)	Revised Calcs Using TCEQ Cheer Workshop Guidance Document (Drop Equation): PM Emission Factor (lb/ton)	PM_{10} Emission Factor (lb/ton)	Control Efficiency (%)	Control Efficiency Basis	Proposed PM Emission Rates: Hourly (lb/hr)	Proposed PM Emission Rates: Annual (tons/yr)	Proposed PM_{10} Emission Rates: Hourly (lb/hr)	Proposed PM_{10} Emission Rates: Annual (tons/yr)	Change in Authorized Emission Rates: PM Emission Rates: Hourly (lb/hr)	PM Emission Rates: Annual (tons/yr)	PM_{10} Emission Rates: Hourly (lb/hr)	PM_{10} Emission Rates: Annual (tons/yr)	Comments
DS-RR/TR	Dump station for railcars and trucks	1,500	950,000		0.0022	0.0010	90	Full Enclosure since Underground	0.33	0.10	0.15	0.05	(0.42)	(0.28)	(0.23)	(0.03)	DS-RR and DS-TR were previously two separate EPNs Now combined into one EPN since these are the same location
TS-3	Transfer station connecting CB-4 to CB-5	1,500	2,650,000		0.0022	0.0010	97	90% for Full Enclosure and 70% for Water Sprays	0.10	0.09	0.05	0.04	(3.65)	(3.22)	(1.83)	(1.62)	
TS-6	Transfer station connecting CB-8 to CB-5	1,500	300,000		0.0022	0.0010	97	90% for Full Enclosure and 70% for Water Sprays	0.10	0.01	0.05	0.005	(3.65)	(0.37)	(1.83)	(0.19)	
TS-4	Transfer station connecting CB-5 to CB-6	1,500	2,600,000		0.0022	0.0010	97	90% for Full Enclosure and 70% for Water Sprays	0.10	0.08	0.05	0.04	(3.65)	(3.17)	(1.83)	(1.59)	
CB-6	Conveyor belt CB-6 connecting CB-5 to ship loader	1,500	2,600,000	323	0.0023	0.0011	50	Partial Enclosure	1.75	1.52	0.83	0.72	(0.46)	(0.39)	(0.28)	(0.24)	
SL	Telescopic spout-out ship loader that is lowered into the hold of the ship	1,500	2,600,000		0.0022	0.0010	88	Partial Enclosure (50%), Telescopic Chute (75%)	0.41	0.35	[illegible]	[illegible]	(0.34)	(0.30)	(0.19)	(0.16)	
TS PC-4	Transfer station connecting PC-4 to CB-7	1,500	500,000		0.0022	0.0010	50	Partial Enclosure (enclosed on four sides, open at top)	1.63	0.27	0.77	0.13	(2.12)	(0.36)	(1.11)	(0.19)	
CB-7	Conveyor belt CB-7 from Valero pad and the Koch Carbon pad to CB-8 or CB-9	1,500	500,000	502	0.0036	0.0017	50	Rain Cover	2.72	0.45	1.29	0.21	(1.03)	(0.18)	(0.59)	(0.11)	

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APRIL
MAR 12 2010

Emission Point	Emission Point Description	Currently Authorized Hourly Process Rate (tons/hr)	Currently Authorized Annual Process Rate (tons/yr)	Belt (ft)	Revised Calcs Using TCEQ Cheer Workshop Guidance Document (Drop Equation)								Change in Authorized Emission Rates				Comments
					PM Emission Factor (lb/ton)	PM_{10} Emission Factor (lb/ton)	Control Efficiency (%)	Control Efficiency Basis	Proposed PM Emission Rates		Proposed PM_{10} Emission Rates		PM Emission Rates		PM_{10} Emission Rates		
									Hourly (lb/hr)	Annual (tons/yr)	Hourly (lb/hr)	Annual (tons/yr)	Hourly (lb/hr)	Annual (tons/yr)	Hourly (lb/hr)	Annual (tons/yr)	
TS-5	Transfer station connecting CB-7 to CB-8 or CB-9	1,500	500,000		0.0022	0.0010	97	90% for Full Enclosure and 70% for Water Sprays	0.10	0.02	0.05	0.01	(3.65)	(0.61)	(1.83)	(0.31)	
CB-6	Conveyor belt connecting CB-7 to CB-5	1,500	300,000	706	0.0051	0.0024	50	Rain Cover	3.83	0.38	1.81	0.18	(1.27)	(0.13)	(0.74)	(0.08)	
RL	Railcar loadout point with bi-truncated chute that is lowered into the compartment for railcar loading	1,500	700,000		0.0022	0.0010	75	50% for Partial Enclosure and 50% for Reduced Fall Distance	0.81	0.19	0.38	0.09	(2.94)	(0.69)	(1.50)	(0.35)	
H-1	Hopper to connect CB-4 to PC-6	1,500	350,000		0.0022	0.0010	90	Full Enclosure	0.33	0.04	0.15	0.02	(0.57)	(0.07)	(0.30)	(0.04)	
Total													(40.10)	(14.95)	(20.82)	(7.65)	

Emission Factor Calculation from Cheer Workshop Guidance (AP-42, Section 13.2.4.3)

$$E = k\,(0.0032)\,\frac{(U/5)^{1.3}}{(M/2)^{1.4}} \quad \text{(lb/ton)}$$

PM Particle Size Multiplier (k):	0.74
PM10 Particle Size Multiplier (k)	0.35
Moisture Content (M), %:	4.8
Mean Wind Speed (U), mph:	12
PM Emission Factor lb/ton =	0.0022
PM10 Emission Factor lb/ton =	0.0010

Aerodynamic Particle Size Multiplier (k)				
<30 µm	<15 µm	<10 µm	<5 µm	<2.5 µm
0.74	0.48	0.35	0.2	0.05

Ranges Of Source Conditions For Equation			
Silt Content (%)	Moisture Content (%)	Wind Speed m/s	mph
0.44 - 19	0.25 - 4.8	0.6 - 6.7	1.3 - 15

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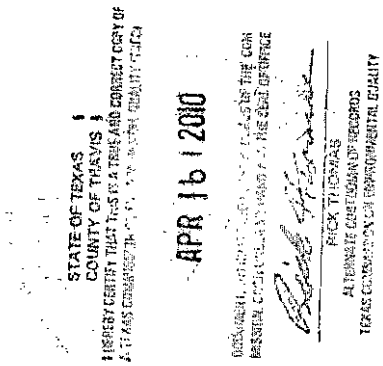
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

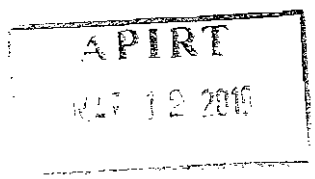
PORT OF CORPUS CHRISTI
BULK DOCK 2
ALTERATION TO PERMIT NO. 9498

MARCH 2010

ATTACHMENT C

SOURCES BEING REMOVED FROM THE PERMIT





SOURCES BEING REMOVED FROM THE PERMIT

Emission Point	Emission Point Description	Current Authorized Emission Rates Being Removed from the Permit				Reason for Removal
		PM Emission Rates		PM_{10} Emission Rates		
		Hourly (lb/hr)	Annual (tons/yr)	Hourly (lb/hr)	Annual (tons/yr)	
FEL PC-1	Front-end loader for loading at PC-1	(11.25)	(1.88)	(5.63)	(0.94)	Removing EPN because front-end loader activity performed by tenant and not PCCA and emissions from this activity are accounted for in NSR Permit No. 35530 for Koch Sulfur Products Company LLC.
PC-1	Portable conveyor at Star Fire pad connected to CB-1	(0.75)	(0.13)	(0.38)	(0.07)	Removing EPN since conveyor length is less than 300 feet and portable conveyor owned and operated by tenant and not PCCA.
TS FEL-1	Loading point to CB-1 at Citgo pad	(3.75)	(0.63)	(1.88)	(0.32)	Removing EPN due to recent process changes. This transfer station no longer exists.
CB-1 (from TS FEL-1)	Conveyor belt CB-1 from Citgo pad (TS FEL-1) to CB-2	(3.08)	(1.03)	(1.54)	(0.52)	Removing this EPN due to recent process changes. CB-1 no longer has a transfer station in the middle of the conveyor. Therefore, it can now be considered one EPN.
FEL PC-2	Front-end loader for loading at Valero Pad (PC-2)	(11.25)	(1.88)	(5.63)	(0.94)	Removing EPN because front-end loader activity performed by tenant and not PCCA and emissions from this activity are accounted for in NSR Permit No. 2937 for Valero Refining Texas LP.
PC-2	Portable conveyor at Valero pad connected to CB-2	(0.75)	(0.13)	(0.38)	(0.07)	Removing EPN since conveyor length is less than 300 feet and portable conveyor owned and operated by tenant and not PCCA.
FEL-2	Front-end loader for loading CB-2 at TS FEL-2	(11.25)	(1.88)	(5.63)	(0.94)	Removing EPN because front-end loader activity performed by tenant and not PCCA and emissions from this activity are accounted for in NSR Permit No. 2523C for Marsulex Refinery Services, L.L.C.
CB-3	Underground conveyor belt from CB-2 to DS-CB	(1.06)	(0.60)	(0.53)	(0.30)	Removing EPN since conveyor is less than 300 feet
DS-CB	Underground conveyor belt from dump stations and CB-3 to CB-4	(0.75)	(0.43)	(0.38)	(0.22)	Previously not considered a conveyor belt in past permit applications. Removing EPN since conveyor is less than 300 feet.
DS-TR	Dump station for trucks	(0.75)	(0.09)	(0.38)	(0.04)	Removing EPN since being combined with DS-RR.
CB-4	Conveyor belt CB-4 from DS-CB to CB-5	(1.31)	(1.15)	(0.66)	(0.58)	Removing EPN since conveyor is less than 300 feet
CB-5	Conveyor belt CB-5 connecting CB-4 and CB-8 to CB-6	(1.73)	(1.50)	(0.87)	(0.75)	Removing EPN since conveyor is less than 300 feet
FEL PC-4	Front-end loader for loading from the Valero pad or the Koch Carbon pad to PC-4	(11.25)	(1.88)	(5.63)	(0.94)	Removing EPN because front-end loader activity performed by tenant and not PCCA and emissions from this activity are accounted for in NSR Permit No. 9892A for Koch Carbon LLC.
PC-4	Portable conveyor at Valero pad and Koch Carbon pad connected to CB-7	(0.75)	(0.13)	(0.38)	(0.07)	Removing EPN since conveyor length is less than 300 feet and portable conveyor owned and operated by tenant and not PCCA.
CB-9	Conveyor belt CB-9 runs toward railcar loadout system	(1.50)	(0.35)	(0.75)	(0.18)	Removing EPN since conveyor is less than 300 feet
PC-6 (CB-10)	Portable conveyor from H-1 to stockpile for railcar loadout to trucks	(0.05)	(0.01)	(0.03)	(0.01)	Removing EPN since conveyor is less than 300 feet
PC-5	Portable conveyor at Rail Loadout pad to conveyor belt CB-9	(0.04)	(0.01)	(0.02)	(0.01)	Removing EPN since conveyor is less than 300 feet
Total		(51.27)	(13.70)	(30.70)	(6.90)	

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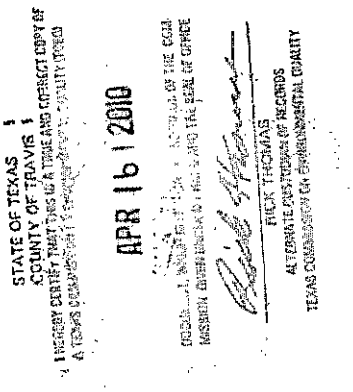
ATTACHMENT D

DOCUMENTATION FROM TENANTS' PERMITS



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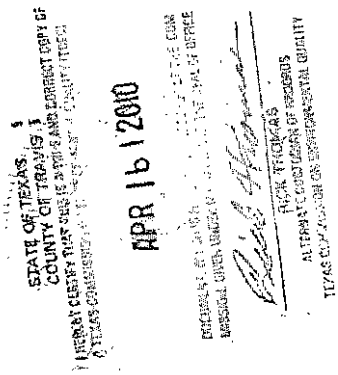
PORT OF CORPUS CHRI
BULK DOCK 2
ALTERATION TO PERMIT NO. 9498

MARCH 2010



KOCH SULFUR PRODUCTS COMPANY LLC
PERMIT NO. 35530

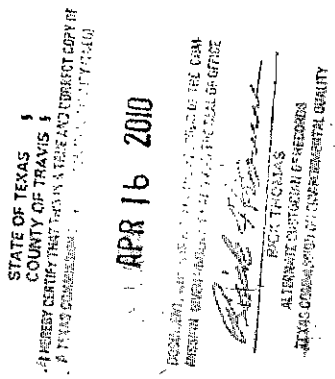
Bryan W. Shaw, Ph.D., *Chairman*
Buddy Garcia, *Commissioner*
Carlos Rubinstein, *Commissioner*
Mark R. Vickery, P.G., *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

December 7, 2009

MR KEVIN KAUK
OPERATIONS MANAGER
KOCH SULFUR PRODUCTS COMPANY LLC
8606 IH 37
CORPUS CHRISTI TX 78409-3114



Re: Permit Amendment and Renewal
Permit Number: 35530
Bulk Materials Handling Facility
Corpus Christi, Nueces County
Regulated Entity Number: RN102953189
Customer Reference Number: CN603352196
Account Numbers: NE-0170-P and NE-0220-C

Dear Mr. Kauk:

This is in response to your Form PI-1 (General Application for Air Preconstruction Permits and Amendments) and Form PI-1R (General Application for Air Permit Renewals) concerning the proposed amendment and renewal of Permit Number 35530. We understand that you propose to handle solid sulfur at the site and increase the various throughputs of materials authorized by the permit.

In accordance with Title 30 Texas Administrative Code § 116.116(b) [30 TAC § 116.116(b)], and based on our review, Permit Number 35530 is hereby amended in accordance with your proposal. This information will be incorporated into the existing permit file.

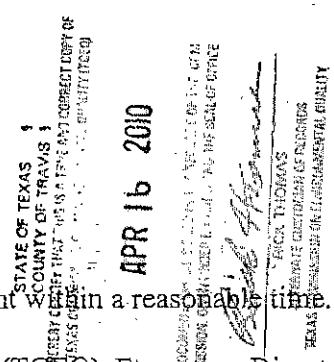
No planned maintenance, startup, and shutdown emissions have been reviewed or represented in this application and none are authorized by this permit.

This amendment will be automatically void upon the occurrence of any of the following, as per 30 TAC § 116.120(a):

1. Failure to begin construction of the changes authorized by this amendment within 18 months from the date of this authorization.

2. Discontinuance of construction of the changes authorized by this amendment for a period of 18 consecutive months or more.

Re: Permit Number 35530



3. Failure to complete the changes authorized by this amendment within a reasonable time.

Upon request, the Texas Commission on Environmental Quality (TCEQ) Executive Director may grant extensions as allowed in 30 TAC § 116.120(b).

Also, in accordance with 30 TAC § 116.314(a), and based on our review, your permit is hereby renewed. Enclosed is a permit for your facility. Also enclosed are new conditions and a maximum allowable emission rates table. We appreciate your careful review of the special conditions of the permit and assuring that all requirements are consistently met.

This permit will be in effect for ten years from the date of approval (Commission's final decision). If this permit is appealed and the permittee does not commence any action authorized by this permit during judicial review, the term will not begin until judicial review is concluded.

As of July 1, 2008, all analytical data generated by a mobile or stationary laboratory in support of compliance with air permits must be obtained from a NELAC (National Environmental Laboratory Accreditation Conference) accredited laboratory under the Texas Laboratory Accreditation Program or meet one of several exemptions. Specific information concerning which laboratories must be accredited and which are exempt may be found in 30 TAC § 25.4 and § 25.6.

For additional information regarding the laboratory accreditation program and a list of accredited laboratories and their fields of accreditation, please see the following Web site:

http://www.tceq.state.tx.us/compliance/compliance_support/qa/env_lab_accreditation.html

For questions regarding the accreditation program, you may contact the Texas Laboratory Accreditation Program at (512) 239-3754 or by e-mail at labprgms@tceq.state.tx.us.

You may file a **motion to overturn** with the Chief Clerk. A motion to overturn is a request for the commission to review the executive director's decision. Any motion must explain why the commission should review the executive director's decision. According to 30 TAC § 50.139, an action by the executive director is not affected by a motion to overturn filed under this section unless expressly ordered by the commission.

A motion to overturn must be received by the Chief Clerk within 23 days after the date of this letter. An original and 11 copies of a motion must be filed with the Chief Clerk in person, or by mail to the Chief Clerk's address on the attached mailing list. On the same day the motion is transmitted to the Chief Clerk, please provide copies to the applicant, the executive director's

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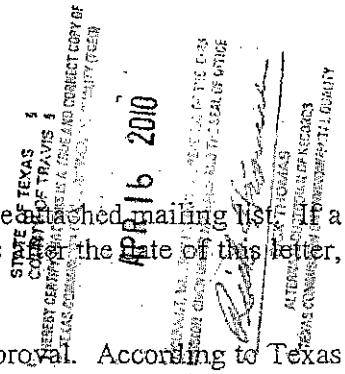
Re: Permit Number 35530



attorney, and the Public Interest Counsel at the addresses listed on the attached mailing list. If a motion to overturn is not acted on by the commission within 45 days after the date of this letter, then the motion shall be deemed overruled.

You may also request **judicial review** of the executive director's approval. According to Texas Health and Safety Code § 382.032, a person affected by the executive director's approval must file a petition appealing the executive director's approval in Travis County district court within 30 days after the effective date of the approval. Even if you request judicial review, you still must exhaust your administrative remedies, which includes filing a motion to overturn in accordance with the previous paragraphs.

Thank you for your cooperation in sending us the information necessary to evaluate your operations and for your commitment to air pollution control. If you have any questions, please contact Mr. Guillermo Reyes, P.E., at (512) 239-5716, or write to the Texas Commission on Environmental Quality, Office of Permitting and Registration, Air Permits Division, MC-163, P.O. Box 13087, Austin, Texas 78711-3087.

This action is taken under authority delegated by the Executive Director of the TCEQ.

Sincerely,

Steve Hagle, P.E., Director
Air Permits Division
Office of Permitting and Registration
Texas Commission on Environmental Quality

SH/GR/mg

Enclosures

cc: Air Section Manager, Region 14 - Corpus Christi

Project Numbers: 145968 and 150173

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MAR 12 2010

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
AIR QUALITY PERMIT

A PERMIT IS HEREBY ISSUED TO
Koch Sulfur Products Company, LLC
AUTHORIZING THE CONTINUED OPERATION OF
Bulk Materials Handling Facility
LOCATED AT **Corpus Christi, Nueces County, Texas**
LATITUDE 27° 49′ 10″ LONGITUDE 097° 28′ 35″

STATE OF TEXAS
COUNTY OF NUECES
I HEREBY CERTIFY THAT THIS IS A TRUE AND CORRECT COPY OF
APR 16 2010
PUBLIC RECORDS
ATTORNEY GENERAL
ENVIRONMENTAL QUALITY

1. **Facilities** covered by this permit shall be constructed and operated as specified in the application for the permit. All representations regarding construction plans an operation procedures contained in the permit application shall be conditions upon which the permit is issued. Variations from these representations shall be unlawful unles the permit holder first makes application to the Texas Commission on Environmental Quality (commission) Executive Director to amend this permit in that regard and suc amendment is approved. [Title 30 Texas Administrative Code § 116.116 (30 TAC § 116.116)]

2. **Voiding of Permit.** A permit or permit amendment is automatically void if the holder fails to begin construction within 18 months of the date of issuance discontinues construction for more than 18 months prior to completion, or fails to complete construction within a reasonable time. Upon request, the executive director ma grant an 18-month extension. Before the extension is granted the permit may be subject to revision based on best available control technology, lowest achievable emissio rate, and netting or offsets as applicable. One additional extension of up to 18 months may be granted if the permit holder demonstrates that emissions from the facility wil comply with all rules and regulations of the commission, the intent of the Texas Clean Air Act (TCAA), including protection of the public's health and physical property; an (b)(1)the permit holder is a party to litigation not of the permit holder's initiation regarding the issuance of the permit; or (b)(2) the permit holder has spent, or committed t spend, at least10 percent of the estimated total cost of the project up to a maximum of $5 million. A permit holder granted an extension under subsection (b)(1) of thi section may receive one subsequent extension if the permit holder meets the conditions of subsection (b)(2) of this section. [30 TAC § 116.120(a), (b) and (c)]

3. **Construction Progress.** Start of construction, construction interruptions exceeding 45 days, and completion of construction shall be reported to the appropriate regiona office of the commission not later than 15 working days after occurrence of the event. [30 TAC § 116.115(b)(2)(A)]

4. **Start-up Notification.** The appropriate air program regional office shall be notified prior to the commencement of operations of the facilities authorized by the permit i such a manner that a representative of the commission may be present. The permit holder shall provide a separate notification for the commencement of operations for eac unit of phased construction, which may involve a series of units commencing operations at different times. Prior to operation of the facilities authorized by the permit, th permit holder shall identify to the Office of Permitting and Registration the source or sources of allowances to be utilized for compliance with Chapter 101, Subchapter H Division 3 of this title (relating to Mass Emissions Cap and Trade Program). [30 TAC § 116.115(b)(2)(B)]

5. **Sampling Requirements.** If sampling is required, the permit holder shall contact the commission's Office of Compliance and Enforcement prior to sampling to obtain th proper data forms and procedures. All sampling and testing procedures must be approved by the executive director and coordinated with the regional representatives of th commission. The permit holder is also responsible for providing sampling facilities and conducting the sampling operations or contracting with an independent samplin consultant. [30 TAC § 116.115(b)(2)(C)]

6. **Equivalency of Methods.** The permit holder must demonstrate or otherwise justify the equivalency of emission control methods, sampling or other emission testin methods, and monitoring methods proposed as alternatives to methods indicated in the conditions of the permit. Alternative methods shall be applied for in writing and mus be reviewed and approved by the executive director prior to their use in fulfilling any requirements of the permit. [30 TAC § 116.115(b)(2)(D)]

7. **Recordkeeping.** The permit holder shall maintain a copy of the permit along with records containing the information and data sufficient to demonstrate compliance with th permit, including production records and operating hours; keep all required records in a file at the plant site. If, however, the facility normally operates unattended, record shall be maintained at the nearest staffed location within Texas specified in the application; make the records available at the request of personnel from the commission o any air pollution control program having jurisdiction; comply with any additional recordkeeping requirements specified in special conditions attached to the permit; an retain information in the file for at least two years following the date that the information or data is obtained. [30 TAC § 116.115(b)(2)(E)]

8. **Maximum Allowable Emission Rates.** The total emissions of air contaminants from any of the sources of emissions must not exceed the values stated on the table attache to the permit entitled "Emission Sources–Maximum Allowable Emission Rates." [30 TAC § 116.115(b)(2)(F)]

9. **Maintenance of Emission Control.** The permitted facilities shall not be operated unless all air pollution emission capture and abatement equipment is maintained in goo working order and operating properly during normal facility operations. The permit holder shall provide notification for upsets and maintenance in accordance wit §§ 101.201, 101.211, and 101.221 of this title (relating to Emissions Event Reporting and Recordkeeping Requirements; Scheduled Maintenance, Startup, and Shutdow Reporting and Recordkeeping Requirements; and Operational Requirements). [30 TAC § 116.115(b)(2)(G)]

10. **Compliance with Rules.** Acceptance of a permit by an applicant constitutes an acknowledgment and agreement that the permit holder will comply with all rules regulations, and orders of the commission issued in conformity with the TCAA and the conditions precedent to the granting of the permit. If more than one state or federa rule or regulation or permit condition is applicable, the most stringent limit or condition shall govern and be the standard by which compliance shall be demonstrated Acceptance includes consent to the entrance of commission employees and agents into the permitted premises at reasonable times to investigate conditions relating to th emission or concentration of air contaminants, including compliance with the permit. [30 TAC § 116.115(b)(2)(H)]

11. This permit may be appealed pursuant to 30 TAC § 50.139.

12. This permit may not be transferred, assigned, or conveyed by the holder except as provided by rule. [30 TAC § 116.110(e)]

13. There may be additional special conditions attached to a permit upon issuance or modification of the permit. Such conditions in a permit may be more restrictive than th requirements of Title 30 of the Texas Administrative Code. [30 TAC § 116.115(c)]

14. Emissions from this facility must not cause or contribute to a condition of "air pollution" as defined in TCAA § 382.003(3) or violate TCAA § 382.085, as codified in th Texas Health and Safety Code. If the executive director determines that such a condition or violation occurs, the holder shall implement additional abatement measures a necessary to control or prevent the condition or violation

PERMIT 35530

Date: December 7, 2009

For the Commission

SPECIAL CONDITIONS

Permit Number 35530

EMISSION LIMITATIONS

1. This permit authorizes emissions only from those points listed in the attached table entitled "Emission Sources - Maximum Allowable Emission Rates" and the facilities covered by this permit are authorized to emit subject to the emission rate limits on that table and other operating requirements specified in the special conditions.

2. Emission limits for the site are based on the following:

	Maximum Hourly Material	Maximum Annual Throughput (Tons)*
Coal	1500	750,000
Petroleum Coke	1500	750,000
Pelletized Iron Ore	1500	250,000
Sand	1500	250,000
Limestone	1500	250,000
Crushed Rock	1500	250,000
Cement Clinker	1500	250,000
Rock Aggregate (including basalt, granite, and railroad ballast)	1500	750,000
Humate	1500	560,000
Sulfur	1500	804,825
Total Material Handled		**4,864,825**

No changes shall be made to the above limitations without prior approval by the Texas Commission on Environmental Quality (TCEQ).

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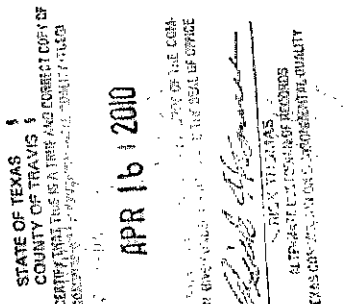


OPACITY/VISIBLE EMISSION LIMITATIONS

3. As determined by a trained observer with delegation from the Executive Director of the TCEQ, no visible fugitive emissions from any structure, material handling operation, truck loading and unloading, vehicle traffic, front-end loader, conveyor operations, wind erosion, stockpile, or stockpile maintenance shall leave the property. This requirement does not apply to loading activities on the Port of Corpus Christi Authority (PCCA) conveyor located at the lease property boundary. Any emissions generated as a result of the drop to the PCCA conveyor are authorized by the PCCA Permit No. 21469. Visible emissions shall be determined by the U.S. Environmental Protection Agency Test Method 22 or equivalent. If this condition is violated, additional controls or process changes may be required to limit visible particulate matter emissions.

OPERATIONAL LIMITATIONS AND WORK PRACTICES

4. All stockpiles and work areas shall be sprinkled with water and/or other dust suppressants as necessary to maintain compliance with Special Condition No. 3.

5. All conveyors will be covered. The covers are considered abatement equipment and shall be kept in good repair. The conveyors shall utilize water sprays as necessary at all drop points while handling all products to achieve maximum control of dust emissions.

6. The undercarriage of all trucks leaving the port site shall be washed with water, and the load shall be covered with a canvas or similar type of covering firmly secured to reduce particulate emissions.

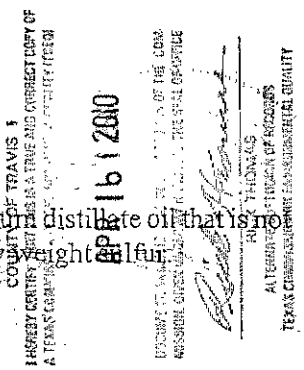
7. To control emissions, all areas on the property subject to vehicle traffic shall be:

   A. Treated with dust-suppressant chemicals; or

   B. Watered; or

   C. Paved with a cohesive hard surface that shall be maintained in a swept, washed, intact, and cleaned condition.

   All areas subject to vehicle traffic must be maintained as necessary by one of the above methods to meet Special Condition No. 3.



8. Liquid fuel for the portable light plants (EPN ENGINES) shall be petroleum distillate oil that is not a blend containing waste oils or solvents and contains less than 0.3% by weight sulfur.

CHEMICAL FLEXIBILITY

9. This permit allows the crushing, screening, handling, and storage of materials not previously listed in Special Condition No. 2 of this permit which meet the following conditions:

   A. Any permitted emission point, which has been reviewed to handle petroleum coke, may be used for the handling of new materials.

   B. The Effects Screening Level (ESL) for any new material shall not be less than the ESL value for petroleum coke and the emissions rate (ER) for the new material shall not be greater than the ER for petroleum coke, except if the following condition is met:

      where: there is a direct substitution of one chemical for another

      $$(ER2)/(ESL2) \leq (ER1)/(ESL1)$$

      OR

      where: the replacement has different constituents

      $$\frac{(ER2a)}{(ESL2a)} + \frac{(ER2b)}{(ESL2b)} + \frac{(ER2n..)}{(ESL2n..)} \leq \frac{(ER1a)}{(ESL1a)} + \frac{(ER1b)}{(ESL1b)} + \frac{(ER1n..)}{(ESL1n..)}$$

      where:

      ER1 is the ER of petroleum coke.
      ER2 is the ER of the replacement material.
      ESL1 is ESL for petroleum coke.
      ESL2 is the ESL for the replacement material.

      The ESL and ER values to be used in the formula above shall be taken from the values identified and used as the basis of analysis submitted as part of the permit application.

      The ESL shall be taken from the permit application or the TCEQ ESL list dated February 13, 2009. The use of any chemical not represented in the permit application shall be limited to chemicals contained in the TCEQ ESL list dated February 13, 2009. The use of new chemicals not listed in the

APIRT
MAR 12 2010

February 13, 2009, ESL list may require an amendment to this permit unless qualified for exemption under Exemptions 106.261 and 106.262.

Emission calculations and records must be maintained to demonstrate compliance with this condition and Special Condition No. 2.

C. This condition allows for changes in material and does not allow for any increase in total emissions from any emission point.

CONTINUOUS DETERMINATION OF COMPLIANCE

10. Upon request by the TCEQ Regional Director having jurisdiction, the holder of this permit shall perform ambient air monitoring or other testing as required to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere.

RECORDKEEPING REQUIREMENTS

11. The following records shall be kept for at least a 24 month period and made available for inspection by the TCEQ:

A. Daily and annual amounts of specific materials processed.

B. Vehicle traffic area cleaning and/or watering records to demonstrate compliance with Special Condition No. 7.

C. Documentation and records which demonstrates compliance with Special Condition No. 9.

D. Records of the time the portable light plants operate.

Dated December 7, 2009

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EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit Number 35530

This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit. **(12/09)**

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * (4) lb/hr	TPY**
TRANSFER	Product Transfer	PM	2.86	4.98
		PM_{10}	1.00	1.66
		H_2S	0.42	0.70
	Product Transfer EPN includes up to 9 drop points in sulfur service and up to 14 drop points for all other products.			
STOCKPILE	Stockpile Fugitives	PM	2.00	8.78
		PM_{10}	1.00	4.39
		H_2S	(5)	(5)
SCREENING	Screening Operation 1 and 2	PM	0.88	7.80
		PM_{10}	0.30	2.60
CRUSHING	Crushing Operation (6)	PM	0.24	0.90
		PM_{10}	0.11	0.41
ENGINES	Light Plant Engines (7)	NO_x	1.86	3.61
		CO	0.40	0.78
		VOC	0.15	0.29
		SO_2	0.12	0.23
		PM/PM_{10}	0.13	0.25

(1) Emission point identification - either specific equipment designation or emission point number (EPN) from a plot plan.

(2) Specific point source names. For fugitive sources, use an area name or fugitive source name.

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

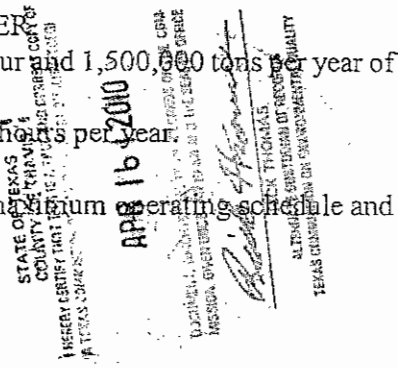
(3) H_2S - hydrogen sulfide
PM - particulate matter, suspended in the atmosphere, including PM_{10}.
PM_{10} - particulate matter equal to or less than 10 microns in diameter. Where PM is not listed, it shall be assumed that no particulate matter greater than 10 microns is emitted.
VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
NO_x - total oxides of nitrogen
SO_2 - sulfur dioxide
CO - carbon monoxide

(4) Fugitive emissions are an estimate only.

(5) The H_2S emissions for EPN STOCKPILE are included in EPN TRANSFER.

(6) Emission rates are based on and the facilities are limited to 200 tons per hour and 1,500,000 tons per year of coal or petroleum coke.

(7) The Light Plant Engines (EPN ENGINES) operation are limited to 3,880 hours per year.



* Emission rates are based on and the facilities are limited by the following maximum operating schedule and throughput rates:

____ Hrs/day ____ Days/week ____ Weeks/year or 8,760 Hrs/year

1,500 tons/hour

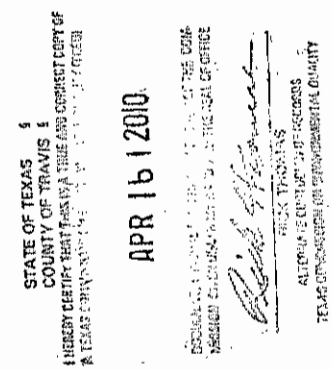
4,864,825 tons/year of combined materials.

** Compliance with annual emission limits is based on a rolling 12-month period.

Dated December 7, 2009

PORT OF CORPUS CHRI
BULK DOCK 2
ALTERATION TO PERMIT NO. 9498

MARCH 2010



KOCH CARBON LLC
PERMIT NO. 9892A

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

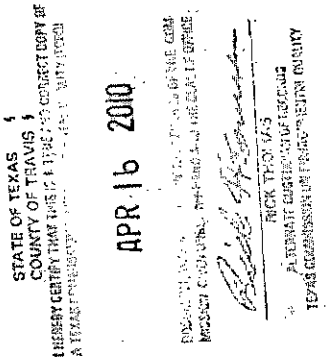
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

MR KEVIN KAUK
OPERATIONS SUPERVISOR
KOCH CARBON LLC
8606 IH-37
CORPUS CHRISTI TX 78409

July 25, 2008

Re: Permit Renewal
Permit Number: 9892A
Coke Handling Facility
Corpus Christi, Nueces County
Regulated Entity Number: RN102953189
Customer Reference Number: CN601500382
Account Number: NE-0220-C



Dear Mr. Kauk:

This is in response to your application Form PI-1R (General Application for Air Permit Renewals) concerning the proposed renewal of Permit Number 9892A.

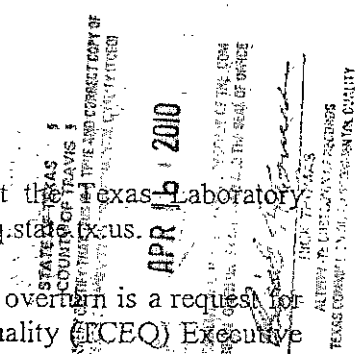
As indicated in Title 30 Texas Administrative Code § 116.314(a) [30 TAC § 116.314(a)], and based on our review, your permit is hereby renewed. Enclosed is a permit for your facility. Also enclosed are new special conditions and a maximum allowable emission rates table. We appreciate your careful review of the special conditions of the permit and assuring that all requirements are consistently met. This permit will be in effect for ten years from the date of approval (Commission's final decision). If this permit is appealed and the permittee does not commence any action authorized by this permit during judicial review, the term will not begin until judicial review is concluded.

As of July 1, 2008, all analytical data generated by a mobile or stationary laboratory in support of compliance with air permits must be obtained from a NELAC (National Environmental Laboratory Accreditation Conference) accredited laboratory under the Texas Laboratory Accreditation Program or meet one of several exemptions. Specific information concerning which laboratories must be accredited and which are exempt may be found in 30 TAC §§ 25.4 and 25.6.

For additional information regarding the laboratory accreditation program and a list of accredited laboratories and their fields of accreditation, please see the following website:

http://www.tceq.state.tx.us/compliance/compliance_support/qa/env_lab_accreditation.html

Re: Permit Number 9892A



For questions regarding the accreditation program, you may contact the Texas Laboratory Accreditation Program at (512) 239-3754 or by e-mail at labprgms@tceq.state.tx.us.

You may file a **motion to overturn** with the Chief Clerk. A motion to overturn is a request for the commission to review the Texas Commission on Environmental Quality (TCEQ) Executive Director's approval of the application. Any motion must explain why the commission should review the TCEQ Executive Director's action.

A motion to overturn must be received by the Chief Clerk within 23 days after the date of this letter. An original and 11 copies of a motion must be filed with the Chief Clerk in person or by mail. The Chief Clerk's mailing address is Office of the Chief Clerk (MC-105), Texas Commission on Environmental Quality, P.O. Box 13087, Austin, Texas 78711-3087. On the same day the motion is transmitted to the Chief Clerk, please provide copies to Mr. Robert Martinez, Director, Environmental Law Division (MC-173), and Mr. Blas J. Coy, Jr., Public Interest Counsel (MC-103), both at the same TCEQ address above. If a motion is not acted on by the commission within 45 days after the date of this letter, then the motion shall be deemed overruled.

Thank you for your cooperation in sending us the information necessary to evaluate your operations and for your commitment to air pollution control. If you need further information or have any questions, please contact Mr. Alex Berksan, P.E., at (512) 239-1595 or write to the Texas Commission on Environmental Quality, Office of Permitting, Remediation, and Registration, Air Permits Division (MC-163), P.O. Box 13087, Austin, Texas 78711-3087.

This action is taken under authority delegated by the Executive Director of the TCEQ.

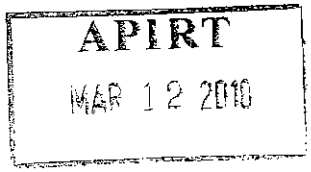
Sincerely,

for Richard A. Hyde, P.E., Director
Air Permits Division
Office of Permitting, Remediation, and Registration
Texas Commission on Environmental Quality

RAH/AB/skm

Enclosures

cc: Ms. Sara E. Hutson, P.E., Waid and Associates, Austin
Air Section Manager, Region 14 - Corpus Christi



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
AIR QUALITY PERMIT

A PERMIT IS HEREBY ISSUED TO
Koch Carbon, L.L.C.
AUTHORIZING THE CONTINUED OPERATION OF
Coke Handling Facility
LOCATED AT Corpus Christi, Nueces County, Texas
LATITUDE 27° 49' 11" LONGITUDE 097° 27' 59"

1. Facilities covered by this permit shall be constructed and operated as specified in the application for the permit. All representations regarding construction plans and operation procedures contained in the permit application shall be conditions upon which the permit is issued. Variations from these representations shall be unlawful unless the permit holder first makes application to the Texas Commission on Environmental Quality (commission) Executive Director to amend this permit in that regard and such amendment is approved. [Title 30 Texas Administrative Code § 116.116 (30 TAC § 116.116)]

2. **Voiding of Permit.** A permit or permit amendment is automatically void if the holder fails to begin construction within 18 months of the date of issuance, discontinues construction for more than 18 months prior to completion, or fails to complete construction within a reasonable time. Upon request, the executive director may grant an 18-month extension. Before the extension is granted the permit may be subject to revision based on best available control technology, lowest achievable emission rate, and netting or offsets as applicable. One additional extension of up to 18 months may be granted if the permit holder demonstrates that emissions from the facility will comply with all rules and regulations of the commission, the intent of the Texas Clean Air Act (TCAA), including protection of the public's health and physical property; and (b)(1)the permit holder is a party to litigation not of the permit holder's initiation regarding the issuance of the permit; or (b)(2) the permit holder has spent, or committed to spend, at least10 percent of the estimated total cost of the project up to a maximum of $5 million. A permit holder granted an extension under subsection (b)(1) of this section may receive one subsequent extension if the permit holder meets the conditions of subsection (b)(2) of this section. [30 TAC § 116.120(a), (b) and (c)]

3. **Construction Progress.** Start of construction, construction interruptions exceeding 45 days, and completion of construction shall be reported to the appropriate regional office of the commission not later than 15 working days after occurrence of the event. [30 TAC § 116.115(b)(2)(A)]

4. **Start-up Notification.** The appropriate air program regional office shall be notified prior to the commencement of operations of the facilities authorized by the permit in such a manner that a representative of the commission may be present. The permit holder shall provide a separate notification for the commencement of operations for each unit of phased construction, which may involve a series of units commencing operations at different times. Prior to operation of the facilities authorized by the permit, the permit holder shall identify to the Office of Permitting, Remediation, and Registration the source or sources of allowances to be utilized for compliance with Chapter 101, Subchapter H, Division 3 of this title (relating to Mass Emissions Cap and Trade Program). [30 TAC § 116.115(b)(2)(B)]

5. **Sampling Requirements.** If sampling is required, the permit holder shall contact the commission's Office of Compliance and Enforcement prior to sampling to obtain the proper data forms and procedures. All sampling and testing procedures must be approved by the executive director and coordinated with the regional representatives of the commission. The permit holder is also responsible for providing sampling facilities and conducting the sampling operations or contracting with an independent sampling consultant. [30 TAC § 116.115(b)(2)(C)]

6. **Equivalency of Methods.** The permit holder must demonstrate or otherwise justify the equivalency of emission control methods, sampling or other emission testing methods, and monitoring methods proposed as alternatives to methods indicated in the conditions of the permit. Alternative methods shall be applied for in writing and must be reviewed and approved by the executive director prior to their use in fulfilling any requirements of the permit. [30 TAC § 116.115(b)(2)(D)]

7. **Recordkeeping.** The permit holder shall maintain a copy of the permit along with records containing the information and data sufficient to demonstrate compliance with the permit, including production records and operating hours; keep all required records in a file at the plant site. If, however, the facility normally operates unattended, records shall be maintained at the nearest staffed location within Texas specified in the application; make the records available at the request of personnel from the commission or any air pollution control program having jurisdiction; comply with any additional recordkeeping requirements specified in special conditions attached to the permit; and retain information in the file for at least two years following the date that the information or data is obtained. [30 TAC § 116.115(b)(2)(E)]

8. **Maximum Allowable Emission Rates.** The total emissions of air contaminants from any of the sources of emissions must not exceed the values stated on the table attached to the permit entitled "Emission Sources–Maximum Allowable Emission Rates." [30 TAC § 116.115(b)(2)(F)]

9. **Maintenance of Emission Control.** The permitted facilities shall not be operated unless all air pollution emission capture and abatement equipment is maintained in good working order and operating properly during normal facility operations. The permit holder shall provide notification for upsets and maintenance in accordance with §§ 101.201, 101.211, and 101.221 of this title (relating to Emissions Event Reporting and Recordkeeping Requirements; Scheduled Maintenance, Startup, and Shutdown Reporting and Recordkeeping Requirements; and Operational Requirements). [30 TAC § 116.115(b)(2)(G)]

10. **Compliance with Rules.** Acceptance of a permit by an applicant constitutes an acknowledgment and agreement that the permit holder will comply with all rules, regulations, and orders of the commission issued in conformity with the TCAA and the conditions precedent to the granting of the permit. If more than one state or federal rule or regulation or permit condition is applicable, the most stringent limit or condition shall govern and be the standard by which compliance shall be demonstrated. Acceptance includes consent to the entrance of commission employees and agents into the permitted premises at reasonable times to investigate conditions relating to the emission or concentration of air contaminants, including compliance with the permit. [30 TAC § 116.115(b)(2)(H)]

11. This permit may be appealed pursuant to 30 TAC § 50.139.

12. This permit may not be transferred, assigned, or conveyed by the holder except as provided by rule. [30 TAC § 116.110(e)]

13. There may be additional special conditions attached to a permit upon issuance or modification of the permit. Such conditions in a permit may be more restrictive than the requirements of Title 30 of the Texas Administrative Code. [30 TAC § 116.115(c)]

14. Emissions from this facility must not cause or contribute to a condition of "air pollution" as defined in TCAA § 382.003(3) or violate TCAA § 382.085, as codified in the Texas Health and Safety Code. If the executive director determines that such a condition or violation occurs, the holder shall implement additional abatement measures as necessary to control or prevent the condition or violation.

PERMIT 9892A

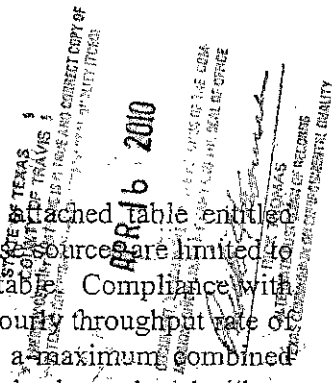
Date: July 25, 2008

For the Commission

APR 19 2010

SPECIAL CONDITIONS

Permit Number 9892A



EMISSION STANDARDS

1. This permit covers only those sources of emissions listed in the attached table entitled "Emission Sources - Maximum Allowable Emissions Rates," and those sources are limited to the emissions limits and other conditions specified in that attached table. Compliance with these permitted emission limits is based on a maximum combined hourly throughput rate of 1,500 tons of petroleum coke, metallurgical coke, and/or coal, and a maximum combined annual throughput rate of 530,000 tons of petroleum coke, metallurgical coke, and coal with no greater than 300,000 tons of coal per year. (4/99)

OPACITY/VISIBLE EMISSION LIMITATIONS

2. No visible fugitive emissions from any structure, material handling operation, truck loading and unloading, vehicle traffic, front-end loader, conveyor operations, wind erosion, stockpile, or stockpile maintenance shall leave the property. Visible emissions shall be determined by the U.S. Environmental Protection Agency Test Method 22 or equivalent. If this condition is violated, additional controls or process changes may be required to limit visible particulate matter emissions. (07/08)

OPERATIONAL LIMITATIONS AND WORK PRACTICES

3. All material processed shall be controlled with water sprays as necessary to achieve the visibility requirements of Special Condition No. 2 of this permit. If there is a nuisance complaint or violation of Special Condition No. 2, the TCEQ Regional Office can request a moisture content evaluation to demonstrate compliance to within 85 percent of the represented material-specific moisture contents, and/or require additional controls as necessary to meet the limits of Special Condition No. 2, and/or require an alternate demonstration of compliance as determined to be necessary by the TCEQ Regional Director. Storage or processing of any material other than petroleum coke, metallurgical coke, or coal must meet the requirements of Special Condition No. 9. (07/08)

4. All conveyors shall be covered so that no visible emissions occur along the conveyor. If visible emissions occur, as determined by a trained observer, additional controls may be required.

STATE OF TEXAS
COUNTY OF NUECES
APR 16 2010

5. Water and/or chemical dust suppressant sprays shall be available at all material transfer points and stockpiles. These water and/or chemical dust suppressant sprays shall be maintained in an operable condition at all times and shall be operated at Emission Point No. 5 and 6 as necessary to ensure compliance with Special Condition No. 2. (07/08)

6. To control emissions, all areas on the property subject to vehicle traffic shall be:

   A. Covered with a material such as (but not limited to) roofing shingles or tire chips; or

   B. Treated with dust-suppressant chemicals; or

   C. Watered; or

   D. Paved with a cohesive hard surface that shall be maintained in a swept, washed, intact, and cleaned condition.

   All areas subject to vehicle traffic must be maintained as necessary by one of the above methods to meet Special Condition No. 2.

7. Exterior surfaces (including, but not limited to, tires and undercarriage) of haul trucks, which are soiled with particulate, shall be washed with water to remove the particulate prior to leaving the Port of Corpus Christi property and/or entering public roadways. Prior to leaving the property, material loads shall be completely covered with a canvas or similar type of covering and firmly secured to minimize particulate emissions.

8. When in use, two diesel-powered light plants shall be operated as represented in the permit application. (07/08)

CHEMICAL FLEXIBILITY

9. This permit allows the handling of materials other than petroleum coke, metallurgical coke, and coal which meet the following conditions: (07/08)

   A. The emission points for the new material shall be the same as those of petroleum coke.

   B. The Effects Screening Level (ESL) for any new material shall not be less than the ESL value for petroleum coke and the emission rate (ER) for the new material shall not be greater than the ER for petroleum coke, except if the following condition is met:

where: there is a direct substitution of one chemical for another

$$(ER2)/(ESL2) \leq (ER1)/(ESL1)$$

OR

where: the replacement has different constituents

$$\frac{(ER2a)}{(ESL2a)} + \frac{(ER2b)}{(ESL2b)} + \frac{(ER2n..)}{(ESL2n..)} \leq \frac{(ER1a)}{(ESL1a)} + \frac{(ER1b)}{(ESL1b)} + \frac{(ER1n..)}{(ESL1n..)}$$

where:

ER1 is the ER of petroleum coke.

ER2 is the ER of the replacement material.

ESL1 is ESL for petroleum coke.

ESL2 is the ESL for the replacement material.

The ESL and ER values to be used in the formula above shall be taken from the values identified and used as the basis of analysis submitted as part of the permit application.

The ESL shall be taken from the permit application or the TCEQ ESL list dated January 29, 2008. The use of any chemical not represented in the permit application shall be limited to chemicals contained in the TCEQ ESL list dated January 29, 2008. The use of new chemicals not listed in the January 29, 2008 ESL list will require an amendment to this permit.

Emission calculations and records must be maintained to demonstrate compliance with this condition and Special Condition No. 1.

C. This condition allows for changes in material and does not allow for any increase in total emissions from any emission point.

STATE OF TEXAS §
COUNTY OF TRAVIS §
I HEREBY CERTIFY THAT THIS IS A TRUE AND CORRECT COPY OF
APR 16 2010
RICK THOMAS

APIRT

CONTINUOUS DETERMINATION OF COMPLIANCE

10. Upon request by the TCEQ Regional Director having jurisdiction, the holder of this permit shall perform ambient air monitoring or other testing as required to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere.

RECORDKEEPING REQUIREMENTS

11. The following records shall be kept for a rolling two-year period and made available for inspection by the TCEQ and local air pollution control programs with jurisdiction:

    A. Daily and annual amounts of specific materials processed.

    B. Vehicle traffic area cleaning and/or watering records to demonstrate compliance with Special Condition No. 6.

Dated July 25, 2008

STATE OF TEXAS
COUNTY OF TRAVIS
APR 16 2010
NICK THOMAS
ALTERNATE CUSTODIAN OF RECORDS
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

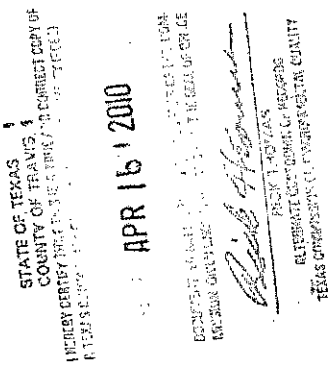
Permit Number 9892A

This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	TPY
5	Loading Drop Point (4)	PM	1.50	0.27
		PM_{10}	0.75	0.13
6	Stockpile Fugitives (4)	PM	--	3.25
		PM_{10}	--	1.63
7	Light Plants	PM	0.13	0.26
		PM_{10}	0.13	0.26
		NO_x	1.86	3.61
		CO	0.40	0.78
		VOC	0.15	0.29
		SO_x	0.12	0.24

(1) Emission point identification - either specific equipment designation or emission point number from plot plan.
(2) Specific point source name. For fugitive sources use area name or fugitive source name.
(3) PM - particulate matter, suspended in the atmosphere, including PM_{10}.
PM_{10} - particulate matter equal to or less than 10 microns in diameter. Where PM is not listed, it shall be assumed that no particulate matter greater than 10 microns is emitted.
NO_x - total oxides of nitrogen
CO - carbon monoxide
VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
SO_x - total oxides of sulfur
(4) Fugitive emissions are an estimate only.



EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

* Emission rates are based on and the facilities are limited by the following maximum operating schedule and throughput rates:

24 Hrs/day 7 Days/week 52 Weeks/year or 8,760 Hrs/year

1,500 tons/hour of combined petroleum coke, metallurgical coke, and/or coal.

530,000 tpy of combined petroleum coke, metallurgical coke, and/or coal, with no more than 300,000 tpy of coal.

Dated July 25, 2008

STATE OF TEXAS
COUNTY OF TRAVIS
I HEREBY CERTIFY THAT THIS IS A TRUE AND CORRECT COPY OF
A TEXAS ... (FILED)
APR 16 2010
DOCUMENT ... OF THE ... OF THE ... SEAL OF OFFICE
NICK THOMAS
ALTERNATE CHIEF DESIGN OF RECORDS
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

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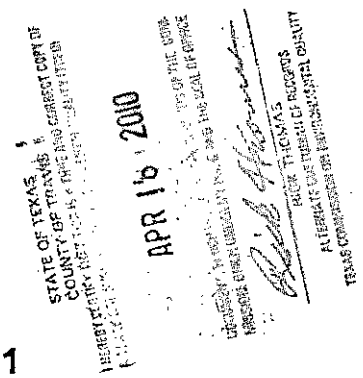
PORT OF CORPUS CHRI
BULK DOCK 2
ALTERATION TO PERMIT NO. 9498

MARCH 2010



VALERO REFINING TEXAS LP
PERMIT NO. 2937 and PSD-TX-1023M1

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

STATE OF TEXAS
COUNTY OF TRAVIS
HEREBY CERTIFY THAT THIS IS A TRUE AND CORRECT COPY OF A TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ)
APR 16 2010
RICK THOMAS
ASSISTANT DIRECTOR OF RECORDS
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

February 2, 2009

MR ONOFRE GARZA
ENVIRONMENTAL ENGINEER
VALERO REFINING TEXAS LP
PO BOX 9370
CORPUS CHRISTI TX 78469-9370

RECEIVED
FEB 2009
HS&E DEPT.
Valero Refining Company
Corpus Christi, TX

Re: Permit Alteration
Flexible Permit Numbers: 2937 and PSD-TX-1023M1
Valero Corpus Christi Refinery East Plant
Corpus Christi, Nueces County
Regulated Entity Number: RN100211663
Customer Reference Number: CN600127468
Account Number: NE-0043-A

Dear Mr. Garza:

This is in response to your letter received October 30, 2008, requesting revision of the conditions and maximum allowable emission rates table (MAERT) of the above-referenced permit. We understand that you are requesting a one year extension on the installations of continuous emissions monitoring systems and low-nitrogen oxide (NO_x) burners for Boilers B-4A and B-4B Emission Point Nos. B-4 and B-5 in your East Plant.

As indicated in Title 30 Texas Administrative Code § 116.721(b) [30 TAC § 116.721(b)], and based on our review, Flexible Permit Numbers 2937 and PSD-TX-1023M1 is altered. Enclosed are the altered permit conditions and MAERT to replace those currently attached to your permit. Please attach these to your permit.

As of July 1, 2008, all analytical data generated by a mobile or stationary laboratory in support of compliance with air permits must be obtained from a NELAC (National Environmental Laboratory Accreditation Conference) accredited laboratory under the Texas Laboratory Accreditation Program or meet one of several exemptions. Specific information concerning which laboratories must be accredited and which are exempt may be found in 30 TAC §§ 25.4 and 25.6.

For additional information regarding the laboratory accreditation program and a list of accredited laboratories and their fields of accreditation, please see the following website:

http://www.tceq.state.tx.us/compliance/compliance_support/qa/env_lab_accreditation.html

Re: Flexible Permit Numbers 2937 and PSD-TX-1023M1

For questions regarding the accreditation program, you may contact the Texas Laboratory Accreditation Program at (512) 239-3754 or by e-mail at labprgms@tceq.state.tx.us.

Your cooperation in this matter is appreciated. If you need further information or have any questions, please contact Ms. Jill Parkes at (512) 239-1310 or write to the Texas Commission on Environmental Quality, Office of Permitting and Registration, Air Permits Division, MC-163, P.O. Box 13087, Austin, Texas 78711-3087.

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality.

Sincerely,

Richard A. Hyde, P.E., Director
Air Permits Division
Office of Permitting and Registration
Texas Commission on Environmental Quality

RAH/JP/pg

Enclosures

cc: Air Section Manager, Region 14 - Corpus Christi

Project Number: 142064

STATE OF TEXAS
COUNTY OF TRAVIS

APR 16 2010

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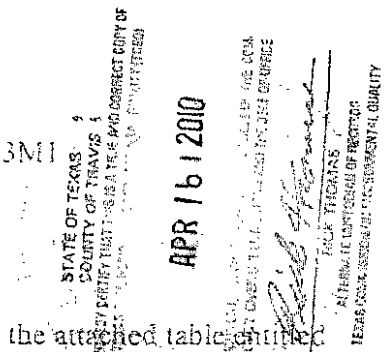
MAR 19 2010

SPECIAL CONDITIONS

Flexible Permit Numbers 2937 and PSD-TX-1023M1



EMISSION LIMITATIONS

1. This permit authorizes emissions only from those points listed in the attached table entitled "Emission Sources - Emission Caps and Individual Emission Limitations," and the facilities covered by this permit are authorized to emit subject to the emission rate limits on that table and other operating conditions specified in this permit.

LOADING CONTROLS

2. Operation without visible liquid leaks or spills shall be maintained at all loading or unloading facilities regardless of vapor pressure. This does not apply to momentary dripping associated with the initial connection or disconnection of fittings. Sustained dripping from fittings during loading or unloading operations is not permitted. Any liquid spill that occurs during loading or unloading activities shall be cleaned up immediately to minimize air emissions.

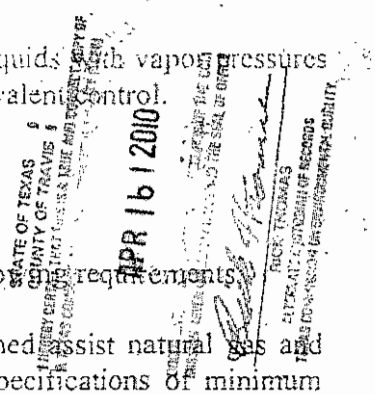
3. Unless specified otherwise in these permit conditions, emissions resulting from the tank truck and railcar loading of materials with a vapor pressure greater than 0.5 pound per square inch, absolute (psia) shall be routed to the Thermal Oxidizer (Emission Point No. [EPN] TO-2) for final abatement.

   LPG truck loading lines and trucks shall be purged to the Complex 7 Main Flare (EPN WP-FLARE1). **(06/06)**

4. The permittee shall not allow a gasoline tank truck to be filled unless the tank truck has passed a leak-tight test within the past 12 months. A certificate of testing shall be obtained for each tank truck which demonstrates that the tank truck passed a leak test conforming to the requirements of Title 40 Code of Federal Regulations Part 63 (40 CFR Part 63), Subpart R. All tank trucks loading other materials with a vapor pressure greater than 0.5 psia at this facility shall be leak-tight tested a minimum of once per year using the method described in the U.S. Environmental Protection Agency (EPA) regulations in 40 CFR Part 60, Subparts A and XX on Standards of Performance for New Stationary Sources promulgated for Bulk Gasoline Terminals.

5. All tank truck and railcar loading of materials with a vapor pressure less than or equal to 0.5 psia, except for asphalt, shall be conducted using submerged loading procedures.

6. Not later than March 1, 2007, all marine loading emissions of liquids with vapor pressures greater than 0.5 psia must be vented to a thermal oxidizer or equivalent control.



COMBUSTION CONTROLS

7. Flares shall be designed and operated in accordance with the following requirements:

   A. The flare systems shall be designed such that the combined assist natural gas and waste stream to each flare meets the 40 CFR § 60.18 specifications of minimum heating value and maximum tip velocity under normal, upset, and maintenance flow conditions.

      The heating value and velocity requirements shall be satisfied during operations authorized by this permit. Flare testing per 40 CFR 60.18(f) may be requested by the appropriate regional office (or as required per NSPS Subpart J) to demonstrate compliance with these requirements.

   B. The flares shall be operated with a flame present at all times and/or have a constant pilot flame. The pilot flame shall be continuously monitored by a thermocouple or an infrared monitor. The time, date, and duration of any loss of pilot flame shall be recorded. Each monitoring device shall be accurate to, and shall be calibrated at a frequency in accordance with, the manufacturer's specifications

   C. The flares shall be operated with no visible emissions except periods not to exceed a total of five minutes during any two consecutive hours. **(06/06)**

8. No visible emissions are allowed from the heaters.

9. The hydrogen sulfide (H_2S) content of the fuel gas used in the heaters and boilers covered in this permit shall not exceed 0.10 grain per dry standard cubic foot averaged over a one-hour period. The permittee shall install and operate one or more continuous H_2S monitoring system(s) in portions of the refinery fuel gas system providing fuel to refinery combustion units. The instrument(s) shall be installed according to the fuel sulfur monitoring specifications set out in 40 CFR Part 60.105(a)(4).

10. Heaters and boilers are subject to the requirements identified below:

A. After the installation of low-nitrogen oxide (NO_x) burners in heaters and boilers pursuant to the schedule outlined in the Emission Reduction Conditions section of these conditions, records shall be kept and maintained to demonstrate that NO_x emissions from the following previously grandfathered combustion units shall not exceed 0.035 pound (lb) per MMBtu:

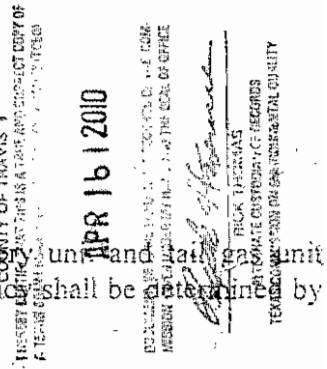
EPN	Facility
EP-B-5	Boiler No. 5
EP-B-1	Boiler No. 1
EP-B-2	Boiler No. 2
39-H-3B	No. 4 Platformer Interheater
39-H-3A	No. 4 Platformer Charge Heater
12-H-1	FCCU Raw Oil Charge
39-H-7	No. 4 Platformer Stabilizer Reboiler

STATE OF TEXAS
COUNTY OF TRAVIS
APR 16 2010
DEBRA TOMAS
ALTERNATE CUSTODIAN OF RECORDS
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

B. The GOT charge heater, No. 2 DHT charge heater, No. 2 DHT reboiler, and the No. 2 SMR heater shall not emit more than 0.035 lb NO_x/MMBtu on an hourly averaging period. The carbon monoxide (CO) concentration in the exhaust of these fired units shall not exceed 100 ppmvd on an hourly average. **(06/06)**

C. After the installation of low NO_x burners in the Complex 6 West and East Boilers (EPNs B-4 and B-5), as directed in Special Condition 31 Subparagraph B, the boilers shall not emit more than 0.030 lb NO_x/MMBtu on an hourly averaging period. **(2/09)**

11. Upon request by the Executive Director of the Texas Commission on Environmental Quality (TCEQ), the EPA, or any local air pollution control program having jurisdiction, the holder of this permit shall provide a sample and/or an analysis of the fuel(s) utilized in these facilities or shall allow air pollution control agency representatives to obtain a sample for analysis.



SULFUR RECOVERY UNITS (SRUs)

12. The minimum sulfur recovery efficiency for the sulfur recovery unit and tail gas unit combinations shall be 99.8 percent. The sulfur recovery efficiency shall be determined by calculation as follows:

Efficiency = [(sulfur recovered)(100)] [(sulfur recovered) + (sulfur stack 1) + (sulfur stack 2)]

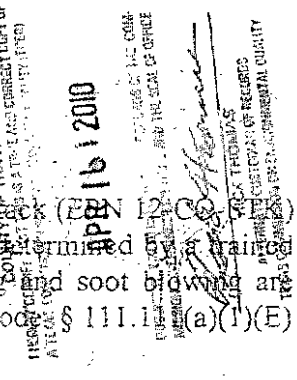
Where: Efficiency = sulfur recovery efficiency, percent
sulfur recovered = sulfur produced, pound per hour (lb/hr)
sulfur stack 1 = sulfur in incinerator stack 1, lb/hr
sulfur stack 2 = sulfur in Incinerator stack 2, lb/hr

13. Acid gas must be routed to a properly operating SRU train. All SRU trains shall normally be operated when acid gas is being produced to maintain the maximum redundant sulfur capacity. In the event that the unit is not operating properly, immediate steps shall be taken to correct the improper operation and shift the acid gas feeds to another fully operational SRU. The Claus Sulfur Recovery Plants are subject to the requirements of 40 CFR 60 Subpart J (Consent Decree requirement). (6/06)

14. Gases displaced during sulfur loading operations shall be captured and routed to a Scot Tail Gas Incinerator (TGI).

15. The Scot TGI(s) shall be operated with no less than 3.0 percent oxygen (O_2) in the incinerator stack and at no less than 1200°F incinerator firebox exit temperature. The incinerator shall achieve a minimum H_2S destruction efficiency of 99.9 percent or a reduced sulfur compound exit concentration of no more than 5 parts per million by volume (ppmv) [corrected to 3 percent excess O_2].

16. If stack testing indicates that a higher temperature or O_2 concentration is necessary to obtain a minimum H_2S destruction efficiency of 99.9 percent or a 5 ppmv corrected to 3 percent excess O_2 reduced sulfur compound exit concentration, then the temperature and O_2 maintained during the stack test will become the new minimum operating limits. The O_2 and temperature requirements do not apply when performing stack testing on the incinerator.



FLUID CATALYTIC CRACKING UNIT (FCCU)

17. The opacity of emissions from the FCCU Regenerator/CO Boiler Stack (EPN 12-CO-STK) shall not exceed 30 percent averaged over a six-minute period as determined by a trained observer. Allowances for electrostatic precipitator (ESP) rapping and soot blowing are permitted in accordance with Title 30 Texas Administrative Code § 111.111(a)(1)(E) (30 TAC § 111.111(a)(1)(E).

18. The non-sulfate, front half particulate matter (PM) emissions from the FCCU Regenerator/CO Boiler Stack (EPN 12-CO-STK) shall not exceed one pound per 1,000 lb of coke burn-off.

19. The Final PM Caps on the Emission Sources - Emissions Caps and Individual Emission Limitations Table become effective (and the PM Limits void) on November 18, 2008, if all of the requirements of the following paragraph have not been satisfied.

    The permit holder must submit to the TCEQ, FCCU Regenerator/CO Boiler Stack (EPN 12-CO-STK) total PM and sulfuric acid stack testing results to support an accompanying proposal demonstrating the need for a higher annual PM cap contribution consistent with that provided in the flexible permit application. The proposed higher annual cap contribution and justification shall be reviewed by the TCEQ APD.

    If approved, the PM caps shall be adjusted accordingly. If the proposal is not approved, the Final PM Caps remain effective. **(06/06)**

STORAGE AND LOADING OF VOLATILE ORGANIC COMPOUNDS (VOC)

20. A. These conditions shall not apply (1) where the VOC has an aggregate partial pressure of less than 0.5 psia at the maximum expected operating temperature or (2) to storage tanks smaller than 25,000 gallons.

    B. An internal floating roof (IFR) or equivalent control shall be installed on all tanks.

    C. An open-top tank containing a floating roof which uses double seal or secondary seal technology shall be an approved control alternative to an IFR tank provided the primary seal consists of either a mechanical shoe seal or a liquid-mounted seal and the secondary seal is rim-mounted. A weathershield is not approvable as a secondary seal unless specifically reviewed and determined to be vapor-tight.

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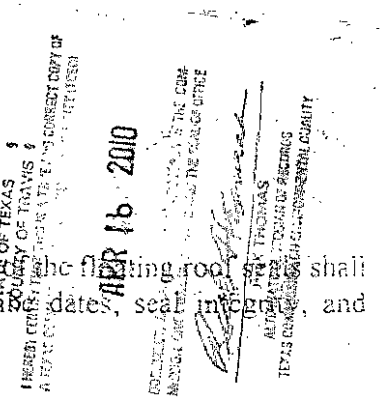

D. For any tank equipped with a floating roof, the integrity of the floating roof seals shall be verified annually and records maintained to describe dates, seal integrity, and corrective actions taken.

E. The floating roof design shall incorporate sufficient flotation to conform to the requirements of American Petroleum Institute (API) Code 650, Appendix C, or an equivalent degree of flotation except that an internal floating cover need not be designed to meet rainfall support requirements.

F. Uninsulated tank exterior surfaces exposed to the sun shall be white.

G. For purposes of assuring compliance with volatile organic compound (VOC) emission limitations, the holder of this permit shall maintain a monthly emissions record which describes calculated emissions of VOC from all storage tanks and loading operations. The record shall include tank or loading point identification number, control method used, tank or vessel capacity in barrels, name of the material stored or loaded, VOC molecular weight, VOC monthly average temperature in degrees Fahrenheit (F), VOC vapor pressure at the monthly average material temperature in psia, VOC throughput for the previous month, and total tons of emissions including controls for the previous month. This record shall be maintained at the plant site for at least two years and be made available to representatives of the TCEQ upon request.

H. Emissions from storage tanks shall be calculated using: (a) AP-42 A Compilation of Air Pollution Emission Factors, Fifth Edition, Chapter 7 - Liquid Storage Tanks including Supplement D pages dated September 1997 and (b) the TCEQ publication titled "Technical Guidance Package for Chemical Sources - Storage Tanks." Emissions from loading operations shall be calculated using: (a) AP-42 "Compilation of Air Pollution Emission Factors, Fifth Edition, Chapter 5.2 - Transportation and Marketing of Petroleum Liquids" dated January 1995 and (b) the TCEQ publication titled "Technical Guidance Package for Chemical Sources - Loading Operations."

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VOC RELEASES

21. Non-fugitive emissions from relief valves, safety valves, or rupture discs of gases containing VOC at a concentration of greater than 1 percent are not authorized by this permit unless authorized on the table entitled "Emission Sources - Maximum Allowable Emission Rates." Any releases directly to atmosphere from relief valves, safety valves, or rupture discs of gases containing VOC at a concentration greater than 1 weight percent are not consistent with good practice for minimizing emissions.

COOLING TOWERS

22. Beginning not later than the time specified in the Emission Reduction Conditions section of these conditions, the VOC associated with cooling tower water shall be monitored monthly utilizing the El Paso method or an air stripping system or equivalent which has been previously approved by the TCEQ. The appropriate equipment shall be maintained so as to minimize fugitive VOC emissions from the cooling tower. Faulty equipment shall be repaired at the earliest opportunity, but no later than the next scheduled shutdown of theprocess unit in which the leak occurs. The results of the monitoring and maintenance efforts shall be recorded, and such records shall be maintained for a period of two years. The records shall be made available to the TCEQ Executive Director upon request.

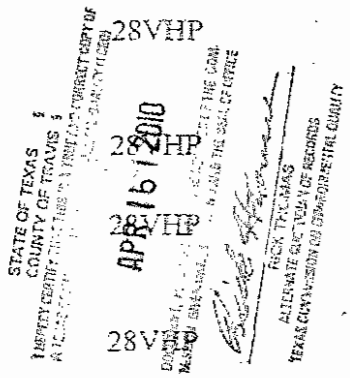
FUGITIVE EMISSIONS CONTROL

23. Piping, valves, flanges, pumps, and compressors in VOC service shall be subject to leak detection and repair requirements implemented as follows, where "YEAR 1" refers to the first four full calendar quarters after flexible permit issuance:

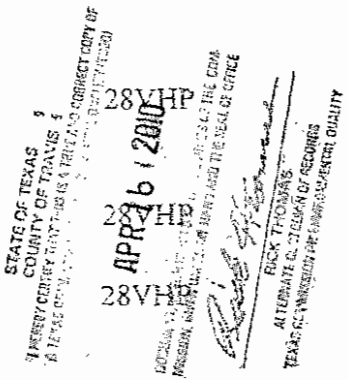
EPN	DESCRIPTION	YEAR 1*	SUBSEQUENT
DEOCT-FE	No. 4 PLAT. SPLITTER FUGITIVES		28VHP
HCU-FE	HYDROCRACKER UNIT FUGITIVES	28M	28VHP

EPN	DESCRIPTION	YEAR 1*	SUBSEQUENT
HCU-FLR-FE	HYDROCRACKER FLARE HEADER		28VHP
QBTX-FE	BTX. UNIT FUGITIVES	28MID	28MID
QHDS2-FE	No. 2 NAPHTHA H.D.S. FUGITIVES	28MD	28VHP
QNAPSPL-FE	No. 2 NAPHTHA (No. 2 REFORMER) SPLITTER FUGITIVES	28MID	28MID
QREF2-FE	No. 2 REFORMER FUGITIVES		28VHP
QSULFO-FE	SULFOLANE	28MID	28MID
REF2-FL-FE	No. 2 REFORMER FLARE HEADER		28VHP
SMR-FE	HYDROGEN PRODUCTION (S.M.R. FUGITIVES)		28VHP
TKFMQPN-FE	COMPLEX 6 NORTH TANK FARM FUGITIVES		28VHP
COKER1-FE	DELAYED COKER UNIT FUGITIVES	28VHP	28VHP
CRUVAC4-FE	No. 4 CRUDE AND VACUUM UNIT FUGITIVES	28M	28VHP
DIST1-FE	KEROSENE H.D.S. FUGITIVES		28VHP

EPN	DESCRIPTION	YEAR 1*	SUBSEQUENT
GOT1-FE	DIESEL H.D.S. FUGITIVES	28VHP	28VHP
KERO1-FE	KEROSENE H.D.S. FUGITIVES		28VHP
LEU2-FE	No. 2 L.E.U. FUGITIVES		28VHP
MEROXWP-FE	F.C.C. GASOLINE MEROX FUGITIVES		28VHP
NEWBZ-FE	BENZENE SWS FUGITIVES		28VHP
NEWSWS-FE	SOUR WATER STRIPPER FUGITIVES		28VHP
REF4-FE	No. 4 HYDROBON/PLATFORMER FUGITIVES		28VHP
SRU1-FE	SRU No. 1FUGITIVES		28VHP
SRU2-FE	SRU No. 2 FUGITIVES		28VHP
SWS1-FE	S.W.S. UNIT FUGITIVES		28VHP
SWS2-FE	BENZENE S.W.S. FUGITIVES		28VHP
TKFMWP-FE	COMPLEX 7 TANK FARM FUGITIVES		28VHP
WP-FLR-FE	COMPLEX 7 FLARE FUGITIVES		28VHP
ALKY1-FE	H.F. ALKYLATION UNIT FUGITIVES		28VHP



EPN	DESCRIPTION	YEAR 1*	SUBSEQUENT
BLRHSE-FE	BOILER HOUSE FUGITIVES		28VHP
BTX1-FE	SULFOLANE BTX UNIT FUGITIVES	28MID	28MID
EP-FLR-FE	COMPLEX 8 FLARE FUGITIVES		28VHP
FCCU1-FE	FCCU FUGITIVES		28VHP
LEF1-FE	No. 1 L.E.F. @ S.S. (XYLENE TOWER) FUGITIVES		28VHP
LEU1-FE	No. 1 L.E.U. FUGITIVES		28VHP
NONENE1-FE	NONENE UNIT FUGITIVES		28VHP
RAFF1-FE	No. 1 RAFFINATE SPLITTER		28VHP
RAFF2-FE	No. 2 RAFFINATE SPLITTER		28VHP
SULFO1-FE	SULFOLANE FUGITIVES		28VHP
TKFMEPN-FE	COMPLEX 8 NORTH TANK FARM FUGITIVES		28VHP
TKFMEPS-FE	COMPLEX 8 SOUTH TANK FARM FUGITIVES		28VHP
TRUCKRK-FE	TRUCK LOADING RACK FUGITIVES		28VHP



EPN	DESCRIPTION	YEAR 1*	SUBSEQUENT
PSA-FE	PRESSURE SWING ABSORBER		28VHP
DOCK11-FE	MARINE LOADING (DOCK 11) FUGITIVES		28VHP
DOCK3-FE	MARINE LOADING (DOCK 3) FUGITIVES		28VHP
DOCK4-FE	MARINE LOADING (DOCK 4) FUGITIVES		28VHP
DOCK6-FE	MARINE LOADING (DOCK 6) FUGITIVES		28VHP
DOCK7-FE	MARINE LOADING (DOCK 7) FUGITIVES		28VHP

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* Existing piping fugitives areas without a program designated for "YEAR 1" will remain subject to applicable state and federal fugitive emission regulations such as 30 TAC Chapter 115 and federal National Emission Standard for Hazardous Air Pollutants (NESHAPS) regulations for the first four quarters after flexible permit issuance.

24. Piping, Valves, Connectors, Pumps, and Compressors in VOC Service - 28VHP

Except as may be provided for in the table in Special Condition No. 23, the following requirements apply to the equipment authorized by this permit.

A. These conditions shall not apply (1) where the VOC has an aggregate partial pressure or vapor pressure of less than 0.044 psia at 68F or (2) to piping and valves two inches nominal size and smaller or (3) operating pressure is at least 5 kilopascals (0.725 pound per square inch [psi]) below ambient pressure. Equipment excluded from this condition shall be identified in a list to be made available upon request.

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B. Construction of new and reworked piping, valves, pump systems, and compressor systems shall conform to applicable American National Standards Institute (ANSI), API, American Society of Mechanical Engineers (ASME), or equivalent codes.

C. New and reworked underground process pipelines shall contain no buried valves such that fugitive emission monitoring is rendered impractical.

D. To the extent that good engineering practice will permit, new and reworked valves and piping connections shall be so located to be reasonably accessible for leak-checking during plant operation. Non-accessible valves, as defined by 30 TAC Chapter 115, shall be identified in a list to be made available upon request.

E. New and reworked piping connections shall be welded or flanged. Screwed connections are permissible only on piping smaller than two-inch diameter. No later than the next scheduled quarterly monitoring after initial installation or replacement, all new or reworked connections shall be gas-tested or hydraulically-tested at no less than normal operating pressure and adjustments made as necessary to obtain leak-free performance. Connectors shall be inspected by visual, audible, and/or olfactory means at least weekly by operating personnel walk-through.

Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve. Except during sampling, the second valve shall be closed.

F. Accessible valves shall be monitored by leak-checking for fugitive emissions at least quarterly using an approved gas analyzer. Sealless/leakless valves (including, but not limited to, welded bonnet bellows and diaphragm valves) and relief valves equipped with a rupture disc upstream or venting to a control device are not required to be monitored. For valves equipped with rupture discs, a pressure-sensing device shall be installed between the relief valve and rupture disc to monitor disc integrity. All leaking discs shall be replaced at the earliest opportunity but no later than the next process shutdown.

An approved gas analyzer shall conform to requirements listed in 40 CFR § 60.485(a)-(b).

Replaced components shall be re-monitored within 15 days of being placed back into VOC service.

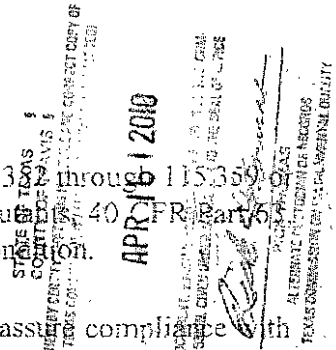
G. Except as may be provided for in the special conditions of this permit, all pump and compressor seals shall be monitored with an approved gas analyzer at least quarterly or be equipped with a shaft sealing system that prevents or detects emissions of VOC from the seal. Seal systems designed and operated to prevent emissions or seals equipped with an automatic seal failure detection and alarm system need not be monitored.

These seal systems may include (but are not limited to) dual pump seals with barrier fluid at higher pressure than process pressure, seals degassing to vent control systems kept in good working order, or seals equipped with an automatic seal failure detection and alarm system. Submerged pumps or sealless pumps (including, but not limited to, diaphragm, canned, or magnetic-driven pumps) may be used to satisfy the requirements of this condition and need not be monitored.

H. Damaged or leaking valves or connectors found to be emitting VOC in excess of 500 ppmv or found by visual inspection to be leaking (e.g., dripping process fluids) shall be tagged and replaced or repaired. Damaged or leaking pump and compressor seals found to be emitting VOC in excess of 2,000 ppmv or found by visual inspection to be leaking (e.g., dripping process fluids) shall be tagged and replaced or repaired.

I. Every reasonable effort shall be made to repair a leaking component, as specified in this paragraph, within 15 days after the leak is found. If the repair of a component would require a unit shutdown, the repair may be delayed until the next scheduled shutdown. All leaking components which cannot be repaired until a scheduled shutdown shall be identified for such repair by tagging. At the discretion of the TCEQ Executive Director or designated representative, early unit shutdown or other appropriate action may be required based on the number and severity of tagged leaks awaiting shutdown.

J. The results of the required fugitive instrument monitoring and maintenance program shall be made available to the TCEQ Executive Director or designated representative upon request. Records shall indicate appropriate dates, test methods, instrument readings, repair results, justification for delay of repairs, and corrective actions taken for all components. Records of physical inspections are not required unless a leak is detected.



K. Alternative monitoring frequency schedules of 30 TAC § 115.352 through 115.359 or National Emission Standards for Organic Hazardous Air Pollutants, 40 CFR Part 63, Subpart H, may be used in lieu of items F through G of this condition.

L. Compliance with the requirements of this condition does not assure compliance with requirements of 30 TAC Chapter 115, an applicable NSPS, or an applicable NESHAPS, and does not constitute approval of alternative standards for these regulations. (06/06)

25. Piping, Valves, Connectors, Pumps, and Compressors in VOC Service - Intensive Directed Maintenance - 28MID

Except as may be provided for in the special conditions of this permit, the following requirements apply to the equipment referenced in the table in Special Condition No. 23:

A. These conditions shall not apply (1) where the VOC has an aggregate partial pressure or vapor pressure of less than 0.044 psia at 68°F or (2) operating pressure is at least 5kilopascals (0.725 psi) below ambient pressure. Equipment excluded from this condition shall be identified in a list to be made available upon request.

B. Construction of new and reworked piping, valves, pump systems, and compressor systems shall conform to applicable ANSI, API, ASME, or equivalent codes.

C. New and reworked underground process pipelines shall contain no buried valves such that fugitive emission monitoring is rendered impractical.

D. To the extent that good engineering practice will permit, new and reworked valves and piping connections shall be so located to be reasonably accessible for leak-checking during plant operation. Non-accessible valves, as defined by 30 TAC Chapter 115, shall be identified in a list to be made available upon request.

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E. New and reworked piping connections shall be welded or flanged. Screwed connections are permissible only on piping smaller than two-inch diameter. No later than the next scheduled quarterly monitoring after initial installation or replacement, all new or reworked connections shall be gas-tested or hydraulically-tested at no less than normal operating pressure and adjustments made as necessary to obtain leak-free performance. Connectors shall be inspected by visual, audible, and/or olfactory means at least weekly by operating personnel walk-through.

Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve. Except during sampling, the second valve shall be closed.

F. Accessible valves shall be monitored by leak-checking for fugitive emissions at least quarterly using an approved gas analyzer with a directed maintenance program. Sealless/leakless valves (including, but not limited to, welded bonnet bellows and diaphragm valves) and relief valves equipped with a rupture disc upstream or venting to a control device are not required to be monitored. For valves equipped with rupture discs, a pressure-sensing device shall be installed between the relief valve and rupture disc to monitor disc integrity. All leaking discs shall be replaced at the earliest opportunity but no later than the next process shutdown.

An approved gas analyzer shall conform to requirements listed in 40 CFR § 60.485(a)-(b).

A directed maintenance program shall consist of the repair and maintenance of components assisted simultaneously by the use of an approved gas analyzer such that a minimum concentration of leaking VOC is obtained for each component being maintained. Replaced components shall be re-monitored within 15 days of being placed back into VOC service.

G. All new and replacement pumps and compressors shall be equipped with a shaft sealing system that prevents or detects emissions of VOC from the seal. These seal systems need not be monitored and may include (but are not limited to) dual pump seals with barrier fluid at higher pressure than process pressure, seals degassing to vent control systems kept in good working order, or seals equipped with an automatic seal failure detection and alarm system. Submerged pumps or sealless pumps (including, but not limited to, diaphragm, canned, or magnetic-driven pumps) may be used to satisfy the requirements of this condition and need not be monitored.

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All other pump and compressor seals emitting VOC shall be monitored with an approved gas analyzer at least quarterly.

H. Damaged or leaking valves, connectors, compressor seals, and pump seals found to be emitting VOC in excess of 500 ppmv or found by visual inspection to be leaking (e.g., dripping process fluids) shall be tagged and replaced or repaired. Every reasonable effort shall be made to repair a leaking component, as specified in this paragraph, within 15 days after the leak is found. If the repair of a component would require a unit shutdown, the repair may be delayed until the next scheduled shutdown. All leaking components which cannot be repaired until a scheduled shutdown shall be identified for such repair by tagging. At the discretion of the TCEQ Executive Director or designated representative, early unit shutdown or other appropriate action may be required based on the number and severity of tagged leaks awaiting shutdown.

I. In lieu of the monitoring frequency specified in paragraph F, valves in gas and light liquid service may be monitored on a semiannual basis if the percent of valves leaking for two consecutive quarterly monitoring periods is less than 0.5 percent.

Valves in gas and light liquid service may be monitored on an annual basis if the percent of valves leaking for two consecutive semiannual monitoring periods is less than 0.5 percent.

If the percent of valves leaking for any semiannual or annual monitoring period is 0.5 percent or greater, the facility shall revert to quarterly monitoring until the facility again qualifies for the alternative monitoring schedules previously outlined in this paragraph.

J. The percent of valves leaking used in paragraph I shall be determined using the following formula:

$$(Vl + Vs) \times 100/Vt = Vp$$

Where:

Vl =the number of valves found leaking by the end of the monitoring period, either by Method 21 or sight, sound, and smell.

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Vs = the number of valves for which repair has been delayed and are listed on the facility shutdown log.

Vt = the total number of valves in the facility subject to the monitoring requirements, as of the last day of the monitoring period, not including nonaccessible and unsafe-to-monitor valves.

Vp = the percentage of leaking valves for the monitoring period.

K. The results of the required fugitive instrument monitoring and maintenance program shall be made available to the TCEQ Executive Director or designated representative upon request. Records shall indicate appropriate dates, test methods, instrument readings, repair results, justification for delay of repairs, and corrective actions taken for all components. Records of physical inspections are not required unless a leak is detected.

L. Compliance with the requirements of this condition does not assure compliance with requirements of 30 TAC Chapter 115, an applicable NSPS, or an applicable NESHAPS and does not constitute approval of alternative standards for these regulations.

26. Piping, Valves, Connectors, Pumps, and Compressors in VOC Service - 28M

A. These conditions shall not apply (1) where the VOC has an aggregate partial pressure or vapor pressure of less than 0.5 psia at 100°F or at maximum process operating temperature if less than 100°F or (2) where the operating pressure is at least 5 (0.725 psi) below ambient pressure. Equipment excluded from this condition shall be identified in a list to be made available upon request.

B. Construction of new and reworked piping, valves, pump systems, and compressor systems shall conform to applicable ANSI, API, ASME, or equivalent codes.

C. New and reworked underground process pipelines shall contain no buried valves such that fugitive emission monitoring is rendered impractical.

D To the extent that good engineering practice will permit, new and reworked valves and piping connections shall be so located to be reasonably accessible for leak-checking during plant operation. Non-accessible valves, as defined in 30 TAC Chapter 115, shall be identified in a list to be made available upon request.

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E. New and reworked piping connections shall be welded or flanged. Screwed connections are permissible only on piping smaller than two-inch nominal diameter. No later than the next scheduled quarterly monitoring period after initial installation or replacement, all new or reworked connections shall be gas-tested or hydraulically-tested at no less than normal operating pressure and adjustments made as necessary to obtain leak-free performance. Connectors shall be inspected by visual, audible, and/or olfactory means at least weekly by operating personnel walk-through.

Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve. Except during sampling, the second valve shall be closed.

F. Accessible valves shall be monitored by leak-checking for fugitive emissions at least quarterly using an approved gas analyzer. Sealless/leakless valves (including, but not limited to, welded bonnet bellows and diaphragm valves) and relief valves equipped with a rupture disc upstream or venting to a control device are not required to be monitored. For valves equipped with rupture discs, a pressure-sensing device shall be installed between the relief valve and rupture disc to monitor disc integrity. All leaking discs shall be replaced at the earliest opportunity but no later than the next process shutdown.

An approved gas analyzer shall conform to requirements listed in 40 CFR § 60.485(a)-(b).

G. Except as may be provided for in the special conditions of this permit, all pump and compressor seals shall be monitored with an approved gas analyzer at least quarterly or be equipped with a shaft sealing system that prevents or detects emissions of VOC from the seal. Seal systems designed and operated to prevent emissions or seals equipped with an automatic seal failure detection and alarm system need not be monitored. Seal systems that prevent emissions may include (but are not limited to) dual pump seals with barrier fluid at higher pressure than process pressure or seals degassing to vent control systems kept in good working order.

Submerged pumps or sealless pumps (including, but not limited to, diaphragm, canned, or magnetic-driven pumps) may be used to satisfy the requirements of this condition and need not be monitored.

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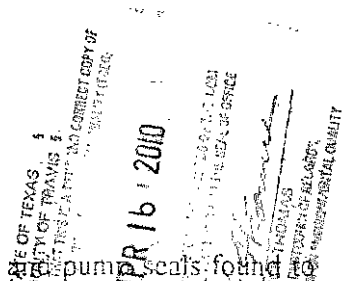

H. Damaged or leaking valves, connectors, compressor seals, and pump seals found to be emitting VOC in excess of 10,000 ppmv or found by visual inspection to be leaking (e.g., dripping process fluids) shall be tagged and replaced or repaired. Every reasonable effort shall be made to repair a leaking component as specified in this paragraph within 15 days after the leak is found. If the repair of a component would require a unit shutdown, the repair may be delayed until the next scheduled shutdown. All leaking components which cannot be repaired until a scheduled shutdown shall be identified for such repair by tagging. At the discretion of the TCEQ Executive Director or designated representative, early unit shutdown or other appropriate action may be required based on the number and severity of tagged leaks awaiting shutdown.

I. The results of the required fugitive instrument monitoring and maintenance program shall be made available to the TCEQ Executive Director or designated representative upon request. Records shall indicate appropriate dates, test methods, instrument readings, repair results, justification for delay of repairs, and corrective actions taken for all components. Records of physical inspections are not required unless a leak is detected.

J. Fugitive emission monitoring required by an applicable NSPS, 40 CFR Part 60, or an applicable NESHAPS, 40 CFR Part 61, may be used in lieu of Items F through I of this condition.

Compliance with the requirements of this condition does not assure compliance with requirements of NSPS or NESHAPS and does not constitute approval of alternate standards for these regulations.

27. Process Piping, Valves, Pumps, and Compressors in H_2S and Hydrogen Fluoride (HF) Service –AVO

This condition shall apply to all process streams with greater than 2 weight percent H_2S and all process streams with greater than 0.5 weight percent HF.

A. Audio, olfactory, and visual checks for H_2S and HF leaks within the operating area shall be made once a shift.

B. Immediately, but no later than one hour upon detection of a leak, plant personnel shall take the following actions:

(1) Isolate the leak.

(2) Commence repair or replacement of the leaking component.

(3) If immediate repair is not possible, a leak collection or containment system will be used to prevent or minimize the leak or the facility shall be shutdown in an orderly manner until repair or replacement can be made. Containment can include adjustment of bolts, fittings, packing glands, and pump or compressor seals to contain the leak.

Records shall be maintained of all inspections, leaks noted, repairs, and replacements made. These records shall be maintained at the plant site for a period of two years and shall be made immediately available at the request of TCEQ personnel.

COMPLIANCE TESTING

28. The holder of this permit shall perform stack sampling or other testing as required to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere from all heaters and boilers with firing rates greater than 40 MMBtu/hr and less than 100 MMBtu/hr, Compressor Engines (EPNs 16-COMP1, 16-COMP2, 16-COMP3, and 16-COMP4), FCCU Regenerator/CO Boiler (EPN 12-CO-STK), Scot TGIs (EPNs SRU1-INCIN and SRU2-INCIN), No. 2 Reformer Regeneration Vent (EPNREF2-V1), No. 4 Platformer Regeneration Vent (EPN REF4-V1), Marine Loading Thermal Oxidizers (EPNs BTO-1 and TO-3), and Truck and Railcar Thermal Oxidizer (EPN TO-2). Sampling shall be performed upstream and downstream of the SMR condensate stripper vent condensor to demonstrate compliance with Specal Condition No. 40. The holder of this permit is responsible for providingsampling and testing facilities and conducting the sampling and testing operations at their expense.

A. The appropriate TCEQ Regional Office in the region where the source is located shall be contacted as soon as testing is scheduled but not less than 30 days prior to sampling to schedule a pretest meeting.

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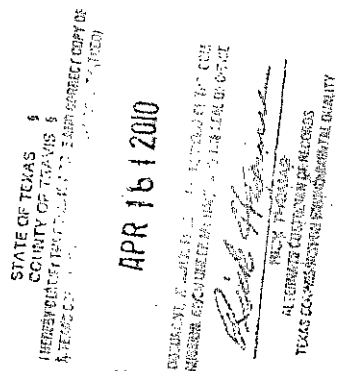
The notice shall include:

(1) Date for pretest meeting.
(2) Date sampling will occur.
(3) Name of firm conducting sampling.
(4) Type of sampling equipment to be used.
(5) Method or procedure to be used in sampling.



The purpose of the pretest meeting is to review the necessary sampling and testing procedures, to provide the proper data forms for recording pertinent data, and to review the format procedures for submitting the test reports.

A written proposed description of any deviation from sampling procedures specified in permit conditions or TCEQ or EPA sampling procedures shall be made available to the TCEQ prior to the pretest meeting. The TCEQ Regional Director or the TCEQ Compliance Support Division in Austin shall approve or disapprove of any deviation from specified sampling procedures.

Requests to waive testing for any pollutant specified in B of this condition shall be submitted to the TCEQ Office of Permitting, Remediation, and Registration, Air Permits Division. Test waivers and alternate or equivalent procedure proposals for NSPS testing which must have the EPA approval shall be submitted to the TCEQ Compliance Support Division in Austin.

B. Air contaminants to be tested for include (but are not limited to) the following for the various units:

(1) Heaters and boilers - NO_x and CO;

(2) Compressor engines - NO_x and CO;

(3) FCCU Regenerator/CO Boiler - PM (both front and back-half of the sampling train);

(4) Scot TGIs - NO_x, CO, PM (both front and back-half of the sampling train), and total reduced sulfur;

(5) No. 2 Reformer Vent and No. 4 Platformer Caustic Scrubber Vent- HCl and Cl;

(6) Thermal oxidizers - VOC, NO_x, and CO; and

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(7) SMR condensate stripper vent condensor – methanol

C. Sampling of air contaminants not monitored by continuous emission monitoring system (CEMS) or predictive emission monitoring system (PEMS) as previously outlined shall occur as follows:

(1) For the No. 2 Reformer Regeneration Vent (EPN REF2-V1), at the first regeneration cycle following issuance of the flexible permit.

(2) For the No. 4 Platformer Regeneration Vent (EPN REF4-V1), within 180 days of the installation of the caustic scrubber pursuant to the Emission Reduction Conditions section of these conditions.

(3) For heaters/boilers, compressor engines, and the SMR condensate stripper vent condensor, each emission point shall be sampled within 60 days of achieving maximum operation, not to exceed 180 days after initial operation, if a physical change has been made, such as the installation of new burners in a heater or boiler, or if an operational change has been made allowing emissions to increase more than 10 percent greater than determined by the last stack sample. For the FCCU Regenerator/CO Boiler, Scot TGIs, and thermal oxidizers, each emission point shall be sampled within 180 days of the issuance of the flexible permit.

(4) For the Complex 6 West and East Boilers (EPNs B-4 and B-5), no later than March 31, 2009, to determine NO_x contributions and compliance with the NO_x emissions cap. Stack sampling shall again be conducted within 60 days of the installation of low-NO_x burners as directed in Special Condition No. 31 Subparagrah B. (2/09)

(5) Each emission point subject to testing pursuant to this special condition shall be sampled at least every five years.

(6) As may be required by the Executive Director of the TCEQ.

Requests for additional time to perform sampling shall be submitted to the TCEQ Corpus Christi Regional Office. Additional time to comply with the applicable requirements of 40 CFR Part 60 and 40 CFR Part 61 requires the EPA approval, and requests shall be submitted to the TCEQ Compliance Support Division in Austin.

D. Each emission point subject to stack emission testing shall be tested when the facility (or facilities) directly associated with the emission point is operating at maximum emissions potential. For many types of facilities, this maximum emissions potential will occur at the maximum production, throughput, or firing rate associated with that facility. Primary operating parameters that enable determination of maximum emissions potential shall be monitored and recorded during the stack test. These parameters are to be determined at the pretest meeting. If the plant is unable to operate at maximum emissions potential during testing, then future operations may be limited based on the rates established during testing. Additional stack testing may be required when operating rates with higher emissions potential are achieved.

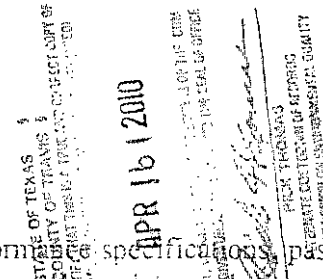
E. Copies of the final sampling report shall be forwarded to the TCEQ within 60 days after sampling is completed. Requests for additional time to submit the final sampling report shall be submitted to the TCEQ Corpus Christi Regional Office. Sampling reports shall comply with the attached conditions of Chapter 14 of the TCEQ Sampling Procedures Manual. The reports shall be distributed as follows:

One copy to the TCEQ Corpus Christi Regional Office.
One copy to the TCEQ Compliance Support Division in Austin. (06/06)

CONTINUOUS DETERMINATION OF COMPLIANCE

29. The holder of this permit shall install, calibrate, and maintain a continuous opacity monitoring system (COMS) to measure and record the opacity from the FCCU Regenerator/CO Boiler (EPN 12-CO-STK) and shall install, calibrate, and maintain CEMS to measure and record CO, NO_x, and O_2 from the heaters and boilers with firing rates greater than 100 MMBtu/hr; SO_2 and O_2 from the SRU Scot TGIs (EPNs SRU1-INCIN and SRU2-INCIN); NO_x, CO, O_2, and SO_2 from the FCCU Regenerator/CO Boiler (EPN 12-CO-STK); and H_2S from the Complex 8 fuel gas drum. Any monitoring systems not in operation when this flexible permit is issued shall be operational as follows: each COMS/CEMS shall be operational within 60 days of achieving maximum operation, not to exceed 180 days after initial operation, after physical changes have been made, such as the installation of new burners in a combustion unit or the construction of platforms and ladders for access, not to exceed four years from the date of flexible permit issuance. The monitoring system shall meet either the following section of "Requirements for COMS/CEMS," or the section "Requirements for PEMS," as applicable.

A. Requirements for COMS/CEMS.



(1) Each COMS/CEMS shall meet the design and performance specifications, pass the field tests, and meet the installation requirements and the data analysis and reporting requirements specified in the applicable Performance Specification Nos. 1 through 7, 40 CFR Part 60, Appendix B. If there are no applicable performance specifications in 40 CFR Part 60, Appendix B, contact the TCEQ Compliance Support Division in Austin for requirements to be met.

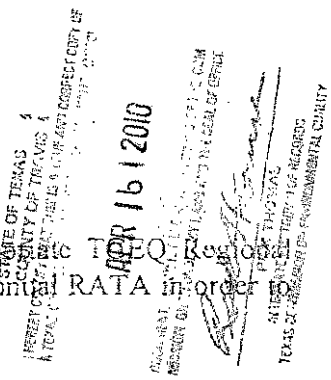
(2) Each system shall be zeroed and spanned daily and corrective action taken when the 24-hour span drift exceeds two times the amounts specified in 40 CFR Part 60, Appendix B or as specified by the TCEQ if not specified in Appendix B. Zero and span is not required on weekends and plant holidays if instrument technicians are not normally scheduled on those days, unless the monitor is required by a subpart of NSPS or NESHAPS, in which case zero and span shall be done daily without exception.

Each monitor shall be quality-assured at least quarterly in accordance with 40 CFR Part 60, Appendix F, Procedure 1, 5.1.2. Cylinder Gas Audits (CGAs) conducted in all four calendar quarters may be used in lieu of relative accuracy test audits (RATA) for non-NSPS sources and for NSPS sources not subject to 40 CFR Part 60, Appendix F.

(3) The COMS monitoring data shall be reduced to six-minute average opacity at least once weekly, using a minimum of six equally-spaced data points for each minute. The CEMS monitoring data shall be reduced to hourly average concentrations at least once weekly, using a minimum of four equally-spaced data points from each one-hour period. The individual average concentrations from each CEMS shall be reduced to units of the permit allowable emission rate in lbs/hr at least once every week and cumulative tons per year on a 12-month rolling average at least once every month.

(4) All monitoring data and quality-assurance data shall be maintained by the source for a period of two years and shall be made available to the TCEQ Executive Director or his designated representative upon request. The data from the COMS or CEMS may, at the discretion of the TCEQ, be used to determine compliance with the conditions of this permit.

(5) All CGA exceedances of 15 percent accuracy and COMS or CEMS downtime shall be reported in Semiannual Excess Emission Reports. Supplemental stack concentration measurements may be required at the discretion of the appropriate TCEQ Regional Director.



(6) For NSPS sources subject to Appendix F, the appropriate TCEQ Regional Office shall be notified at least 30 days prior to each annual RATA in order to provide them the opportunity to observe the testing.

B. Requirements for PEMS.

(1) A PEMS may be used for demonstrating continuous compliance if it can be proven to have the same or better accuracy, precision, reliability, accessibility, and timeliness as that provided by a hardware CEMS. All PEMS shall be subject to the approval of the TCEQ Executive Director. Owners or operators must petition the TCEQ Executive Director for approval to use PEMS. The petition must include results of tests conducted beforehand to demonstrate equivalent accuracy and precision of PEMS to that of hardware CEMS. Demonstrating equivalency of PEMS to CEMS shall be met by instantaneously comparing data collected by PEMS with that collected by a certified hardware CEMS or an EPA reference method. For a PEMS replacing a CEMS, both systems shall remain in place for at least an operating quarter collecting valid information before the CEMS is removed.

(2) For any unit at which the PEMS is installed, PEMS initial certification by the TCEQ shall occur while the unit is firing its primary fuel. The owner or operator shall:

(a) Conduct relative accuracy testing for NO_x, O_2, or carbon dioxide (CO_2), and CO per 40 CFR Part 60, Appendix B, Performance Specifications 2, 3, and 4, respectively, at low, medium, and high levels of the most significant operating parameter affecting NO_x emissions.

(b) Conduct statistical test analysis at low, medium, and high levels of the most significant operating parameter affecting NO_x emissions. A minimum of 30 successive paired data points which are either 15-minute averages, 20-minute averages, or hourly averages must be collected at each tested level before a reliable statistical test can be performed.

Data collection must be continuous at all times except when calibration of the reference method must be conducted for the purpose of collecting data for RATA.

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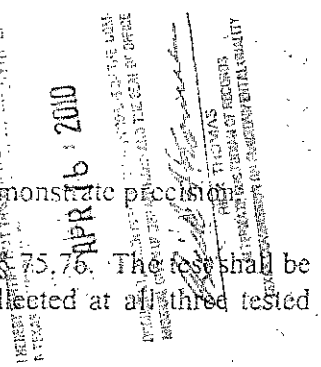

The following three tests must be conducted to demonstrate precision:

(i) A T-test for bias per Appendix A, 40 CFR § 75.76. The test shall be conducted using all paired data points collected at all three tested levels.

(ii) An F-test per 40 CFR § 75.41(c)(1). The F-test must be conducted separately at the three tested levels.

(iii) A correlation analysis per 40 CFR § 75.41(c)(2). Calculation of the correlation coefficient (Equation 27) shall be performed using all paired data points collected at all three tested levels.

(c) For either NO_x or CO and for the purpose of conducting an F-test, if the standard deviation (SD) of the reference method is less than either 3 percent of the span or 5 parts per million (ppm), use a reference method SD of the greater of 5 ppm or 3 percent of span.

(d) For diluent CO_2 or O_2 and for the purpose of conducting an F-test, if the SD of the reference method is less than 3 percent of span, use a reference method SD of 3percent of span.

(e) For either NO_x or CO and at any one tested level, if the mean value of the reference method is less than either 10 ppm or 5 percent of the standard, all statistical tests are waived for that emission parameter at that specific tested level.

(f) For either O_2 or CO_2 and at any one tested level, if the mean value of the reference method is less than 3 percent of span, all the statistical tests are waived for that diluent parameter at that specific tested level.

(3) The monitoring data shall be reduced to hourly average concentrations at least once everyday, using a minimum of four equally-spaced data points from each one-hour period. The individual average concentrations shall be reduced to units of the permit allowable emission rate in lbs/hr at least once everyday and cumulative TPY on a 12-month rolling average at least once every month.

(4) All monitoring data and quality-assurance data shall be maintained by the permit holder for a period of two years and shall be made available to the TCEQ Executive Director or his designated representative upon request.

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(5) Any PEMS downtime shall be reported to the appropriate TCEQ Regional Director within three days of any downtime, and necessary corrective action shall be taken. Owners or operators shall demonstrate that all missing data can be accounted for in accordance with the applicable missing data procedures of 40 CFR Part 75, Subpart D. Supplemental stack concentration measurements may be required at the discretion of the appropriate TCEQ Regional Director.

(6) The appropriate TCEQ Regional Office shall be notified at least 30 days prior to each annual RATA in order to provide them the opportunity to observe the testing.

(7) The owner or operator shall perform daily sensor validation. The owner or operator shall develop and implement plans that will ensure proper functioning of the monitoring systems, ensure proper accuracy and calibration of all operational parameters that affect emissions and serve as input to the predictive monitoring system, and ensure continuous operation within the certified operating range.

(8) In accordance with the procedure of 2.3.1, Appendix B of 40 CFR Part 60, a RATA must be performed every six months for each unit while firing its primary fuel. A RATA may be performed annually if the relative accuracy of the previous audit is 7.5 percent or less.

(9) For each of the three successive quarters following the quarter in which initial certification was conducted, RATA and statistical testing must be conducted for at least one unit in a category of units in accordance with the procedures outlined for initial certification under Section B.

(10) Any RATA exceeding 20 percent or statistical test exceeding the applicable standard shall be reported to the appropriate TCEQ Regional Director, and necessary corrective action shall be taken.

(11) When an alternative fuel is fired in a unit, PEMS must be re-certified in accordance with the certification procedures outlined for initial certification under Section B. Owners or operators may justify to the satisfaction of the TCEQ Executive Director that slight changes in fuel composition do not constitute an alternative fuel. No additional recertification procedures are required if the unit meets the current monitoring requirements when switching back to the normal fuel from an alternate fuel.

(12) The system is required to provide valid emission predictions for at least 95 percent of the time that the unit being monitored is operated. The following rules for tuning without recertification shall be followed:

(a) The model did not change fundamentally.

(b) The model continues to operate within the initially certified operating ranges.

Otherwise, the system must be recertified. Any tuning must be documented, and the records must be made available during any future inspection.

(13) All owners or operators shall develop a quality-assurance plan or manual that insures continuous and reliable performance of the PEMS. As part of the plan, owners or operators shall recommend a frequency for calibrating each sensor whose readout serves as an input to the model. All sensors, at a minimum, shall be calibrated as often as recommended by the manufacturer.

C. The Complex 6 West and East Boilers (EPNs B-4 and B-5) are exempt from this condition provided that the firing rate of each boiler remains under 100 MMBtu/hr. **(2/09)**

30. The continuous monitoring data will be used to determine violations of the limitations in this permit. For purposes of enforcement, the following averaging periods shall be utilized:

Pollutant	Averaging Period
SO_2	1.0 hour
CO	1.0 hour
H_2S	1.0 hour
Opacity	6.0 minutes
NO_x	1.0 hour

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EMISSION REDUCTION CONDITIONS

31. This permit is conditioned on the completion of all emission reduction projects represented in the permit application, which shall be implemented not later than according to the following schedule:

A. Improved Fugitive Control (28VHP and AVO) - within the first four full calendar quarters of flexible permit issuance.

B. Installation of Low-NO_x Burners in Heaters/Boilers is to be within four years of flexible permit issuance for existing units (not included in the Voluntary Emissions Reduction Program [VERP] application dated August 29, 2001.) Previously grandfathered heaters and boilers included in the VERP application dated August 29, 2001, (EPNs EP-B-5, EP-B-1, EP-B-2, 39-H-3B, 39-H-3A, 12-H-1, and 39-H-7) shall be retrofitted with low-NO_x burners by March 1, 2007. The Complex 6 West and East Boilers (EPNs B-4 and B-5) shall be retrofitted with low NO_x burners and have a maximum firing rate of 90 MMBtu/hr by November 18, 2009. (2/09)

C. The VOC Monitoring of Cooling Tower Influent - within six months of flexible permit issuance.

D. Improved Drift Eliminators for Cooling Towers - within four years of flexible permit issuance.

E. NO_x and SO_2 Emission Limitations for FCCU Regenerator/CO Boiler (EPN 12-CO-STK) - within three years of permit flexible issuance.

F. Installation of a Scrubber on the Regeneration Vent for the No. 4 Platformer by April 11, 2005, (compliance deadline for 40 CFR Part 63, Subpart UUU).

G. Installation of a Scrubber on the Regeneration Vent for the No. 2 Reformer by April 11, 2005, (compliance deadline for 40 CFR Part 63, Subpart UUU) if a scrubber is determined to be necessary to meet Subpart UUU and permit emission limits.

H. Air-cooled Heat Exchanger to Replace Cooling Tower on Wastewater Treatment Inlet Stream - within 18 months of flexible permit issuance.

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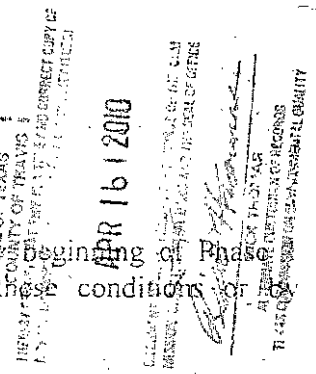


I. New Marine Loading Thermal Oxidizer (EPN TO-3) - by beginning of Phase 3 operations as defined in the Miscellaneous section of these conditions or by March 1, 2007, whichever is earlier.

J. Complex 6 compressor engines to either be modified to meet best available control technology for NO_x (2 g/hp-hr) or comply with an alternative reduction plan for NO_x to meet the annual emission cap without such controls by the beginning of Phase 3 operations as defined in the miscellaneous section of these conditions or by December 31, 2010, whichever comes first. The alternative reduction plan, if any, is subject to prior review and approval by the Executive Director. **(08/05)**

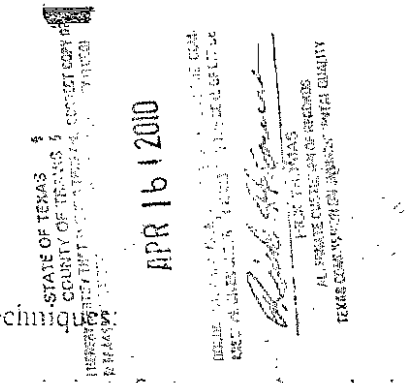
K. Installation of an H_2S analyzer on the Complex 8 fuel gas drum within one year of permit issuance.

The holder of this permit shall maintain records of these emission reduction projects and provide access and/or copies upon request to the TCEQ Executive Director, his representatives, or any local air pollution control program having jurisdiction.

EMISSION CAP COMPLIANCE RECORDKEEPING

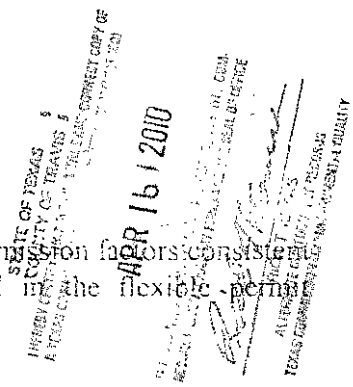
32. Recordkeeping programs for those facilities authorized by the flexible permit shall be established and maintained such that the ability to demonstrate compliance with all authorized emission caps (short-term and annual) is ensured. Records of all compliance testing, COMS/CEMS/PEMS results, and process parameters necessary to demonstrate compliance with the emission rate caps shall be maintained on-site. **(06/06)**

Emissions calculations for verifying compliance with the emission caps shall be performed at least once every month to demonstrate compliance with the annual rolling average requirement. The holder of this permit shall maintain all records necessary to demonstrate compliance with the short-term (lb/hr) and annual tpy emissions cap and provide such demonstration of compliance to the TCEQ Corpus Christi Regional Office upon request.



The emissions shall be determined using the following techniques:

Fugitive	Component counts using the emission factors and method specified in the permit application.
Cooling Towers	Measured strippable VOC concentration (as specified in these conditions) and the cooling tower circulation rate.
Tanks	As specified in these conditions.
Heaters/Boilers	If a CEMS or PEMS is installed, as specified in those conditions. If stack tested, using the most recent stack test result and recorded firing rate for the period. If no sampling is required, using the emission factor in the flexible permit application and the recorded firing rate for the period.
Loading	Emissions from control devices shall be determined using the emission factor determined through testing and the volume loaded. The manufacturer's guaranteed emission factor may be used if the most recent stack testing has verified that factor. Emissions from loading operations shall be calculated using: (a) AP-42 "Compilation of Air Pollution Emission Factors, Fifth Edition, Chapter 5.2 - Transportation and Marketing of Petroleum Liquids" dated January 1995 and (b) the TCEQ publication titled "Technical Guidance Package for Chemical Sources - Loading Operations."
SRU and FCCU Regenerator/CO Boiler	CEMS or PEMS if they are installed. If stack tested, using the most recent stack test result and recorded operating rate for the period. If no sampling is required, using the emission factor in the flexible permit application and the average value of the appropriate operating parameter for the period.



Wastewater	The wastewater volume processed and emission factors consistent with emission calculations represented in the flexible permit application.
SMR Condensate Stripper Vent	Results from the most recent stack test.

These and all other records required by any previous condition of this permit shall be made available to the TCEQ Executive Director or his representative upon request.

PERMIT REFERENCES

33. The permit holder shall maintain a copy of the effective permit at the site together with complete copies of all confidential documents that are referenced in the above permit conditions as attachments. The permit and attachments shall be made available to TCEQ personnel at the site upon request.

HF CONTROL MEASURES

34. The HF detection paint shall be used on all potential fugitive sources and possible leak sites within a year of the issuance of this flexible permit. Locations with HF detection paint shall be inspected every shift during the audio, visual, and olfactory checks required in the HF AVO condition. If leaks are detected, corrective action shall be taken immediately as described in that condition. If there is a problem with HF sensitive paint availability, the holder of this permit shall notify the TCEQ Corpus Christi Regional Office and request additional time for painting or request alternate leak detection methods pending availability of the HF sensitive paint.

35. In the event of an HF release which may have the potential for off-site impacts, the holder of this permit shall implement the procedures outlined in the emergency response plans.

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36. There shall be no overhead work in the HF process unit where equipment is being lifted over unprotected vessels or lines without first completing a safe work checklist in accordance with Occupational Safety and Health Administration Process Safety Management rules. The safe work checklist shall be used to ensure that every effort is made to minimize the potential for an accident that would result in loss of integrity of HF-containing equipment.

The holder of this permit is required to notify the TCEQ Corpus Christi Regional Office no less than eight hours prior to conducting work over unprotected vessels or lines containing more than 5 percent by weight HF. Written notification shall be provided within 30 days of the date of the activity.

MISCELLANEOUS

37. This permit authorizes emissions only from those points listed in the attached table entitled "EMISSION SOURCES - EMISSIONS CAPS AND INDIVIDUAL EMISSION LIMITATIONS" and the facilities covered by this permit are authorized to emit subject to the emission rate limits on that table and other operating conditions specified in this permit. The emission rate limits on that table are defined for specific phases of plant construction and operation defined as follows:

Phase 0 - This represents operation of the existing physical configuration of the refinery prior to implementation of additional emission controls pursuant to the flexible permit.

Phase 1 - This represents operation of the refinery following the delayed coker unit expansion, No. 4 Platformer expansion, and an increase in the sulfur production rate cap contribution as outlined in the flexible permit application.

Phase 2 - This represents operation of the refinery following the ultra-low sulfur diesel project as outlined in the flexible permit amendment application, PI-1 dated July 18, 2005.

Phase 3 - This represents operation of the refinery following significant revamps to process units throughout the refinery as identified in the flexible permit application to enable a significant increase in refinery capacity.

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The holder of this permit shall provide written notification to the TCEQ Corpus Christi Regional Office of the effective ending and beginning dates for each of the above phases of plant construction and operation. **(06/06)**

38. This permit authorizes emissions from flares (EPNs WP-FLARE1, HCU-FL1, REF2-FL1, and EP-FLARE1) for the following planned maintenance, start-up, and shutdown activities (MSS):

Coker Unit drums start-up and shutdown
Scheduled routine maintenance on the hydrogen compressors
Scheduled maintenance and start-up of the KOH treaters

These emissions are subject to the MSS emission cap indicated on the MAERT. The performance of these activities and the emissions associated with each shall be recorded and the rolling 12-month emissions shall be updated on a monthly basis. Any maintenance, start-up, and shutdown activities not in the above list are not authorized by this permit. **(06/06)**

39. Flares shall be operated in accordance with the New Source Performance Standards for Petroleum Refineries, 40 CFR Part 60 Subpart J as specified in their consent decree with EPA. Valero shall submit a permit alteration to lower the applicable emission cap(s) within 90 days of completing physical or operational changes to reduce sulfur concentrations in a flare header. **(06/06)**

40. The SMR stripper vent condensor shall collect 98 percent of the methanol in the stripper vent on an hourly averaging period. The stripper exhaust gas temperature shall be maintained below 115°F prior to the first satisfactory stack sample and below that maintained during the most recent stack sample following the initial stack test.

The condensor exhaust gas temperature shall be continuously monitored and recorded when the stripper is operating. The temperature measurement device shall reduce the temperature readings to an averaging period of 6 minutes or less and record it at that frequency. The temperature measurement device shall be installed, calibrated, and maintained according to accepted practice and the manufacturer's specifications. The device shall have an accuracy of the greater of ±0.75 percent of the temperature being measured expressed in degrees Celsius or ±2.5°C. **(06/06)**

EMISSION SOURCES - EMISSIONS CAPS AND INDIVIDUAL EMISSION LIMITATIONS

Flexible Permit Numbers 2937 and PSD-TX-1023M1

This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

(See Attachment I for Source Name and Emission Point Number Index)

AIR CONTAMINANTS DATA

	Emission Rates *	
	lb/hr	TPY**
SO_2 CAPS:		
Phase 0	1360	5355
Phase 1	724	2569
Phase 2	744	2659
Phase 3	389	1705
VOC CAPS:		
Phase 0	5620	1811
Phase 1	2096	1144
Phase 2	1872	1256
Phase 3	2087	1330
NO_x CAPS:		
Phase 0	740	2931
Phase 1	749	2883
Phase 2	784	3037
Phase 3	311	1263
CO CAPS:		
Phase 0	482	1528
Phase 1	493	1527
Phase 2	555	1797
Phase 3	555	1807
PM LIMITS (2):		
Phase 0 without EPN 12-CO-STK	65.8	330
Phase 1 without EPN 12-CO-STK	67.2	332
Phase 2 without EPN 12-CO-STK	74.5	364
Phase 3 without EPN 12-CO-STK	55.0	206
EPN 12-CO-STK	38.3	167.6

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EMISSION SOURCES - EMISSIONS CAPS AND INDIVIDUAL EMISSION LIMITATIONS

AIR CONTAMINANTS DATA

	Emission Rates * lb/hr	TPY**
PM CAPS (3):		
Phase 0	104	414
Phase 1	105	416
Phase 2	113	448
Phase 3	92.3	289
H_2SO_4 CAPS:		
All Phases (2)	19.1	83.8
All Phases (3)	19.1	41.9
H_2S CAPS:		
Phase 0	10.53	46.10
Phase 1	2.42	10.57
Phase 2	2.59	11.34
Phase 3	2.99	13.1
NH_3 CAPS:		
Phase 0	2.21	9.70
Phases 1 through 3	0.21	0.90
HCl CAPS:		
Phase 0	22.00	3.60
Phase 1	20.97	0.18
Phases 2 through 3	0.23	0.07
Cl_2 CAPS:		
Phase 0	6.42	1.05
Phase 1	6.12	0.05
Phases 2 through 3	0.07	0.02
BENZENE CAPS:		
Phase 0	422.6	23.1
Phase 1	38.6	18.8
Phase 2	38.7	20.0
Phase 3	38.4	22.6

STATE OF TEXAS
COUNTY OF TRAVIS
APR 16 2010

EMISSION SOURCES - EMISSIONS CAPS AND INDIVIDUAL EMISSION LIMITATIONS

AIR CONTAMINANTS DATA

	Emission Rates *	
	lb/hr	TPY**
MSS CAPS		
CO	81	0.6
NO_x	14	0.[illegible]
VOC	121	1.0
SO_2	436	1.[illegible]
H_2S	4.7	0.[illegible]

APR 16 2010

(1) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
NO_x - total oxides of nitrogen
SO_2 - sulfur dioxide
PM - particulate matter, suspended in the atmosphere, including PM_{10}.
PM_{10} - particulate matter equal to or less than 10 microns in diameter
CO - carbon monoxide
H_2SO_4 - sulfuric acid
H_2S - hydrogen sulfide
NH_3 - ammonia
HCl - hydrogen chloride
Cl_2 - chlorine

(2) Emission limits effective through November 18, 2008, unless a demonstration submitted prior to that date satisfying Special Condition No. 19.

(3) Emission caps effective after November 18, 2008, unless a demonstration submitted prior to that date satisfying Special Condition No. 19.

* Emission rates are based on operating 8,760 hrs/year.

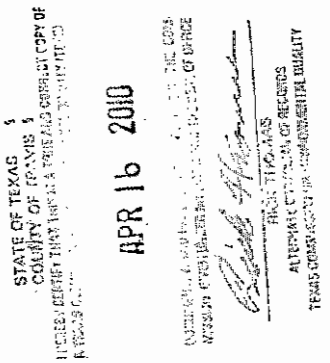
** Compliance with annual emission limits is based on a rolling 12-month period.

Dated February 2, 2009

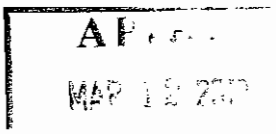
APIN :
MAR 19 2010

PORT OF CORPUS CHRISTI
BULK DOCK 2
ALTERATION TO PERMIT NO. 9498

MARCH 2010



CITGO REFINING AND CHEMICAL COMPANY, LP
PERMIT NO. 2523C



Buddy Garcia, *Chairman*
Larry R. Soward, *Commissioner*
Bryan W. Shaw, Ph.D., *Commissioner*
Glenn Shankle, *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

March 5, 2008

ENVIRONMENTAL AFFAIRS
MAR 7 2008
CORPUS CHRISTI REFINING

MR MARK CHEESMAN
MANAGER OF ENVIRONMENTAL AFFAIRS
CITGO REFINING AND CHEMICAL COMPANY LP
PO BOX 9176
CORPUS CHRISTI TX 78469-0321

STATE OF TEXAS §
COUNTY OF TRAVIS §
APR 16 2008

Re: Transfer of Air Quality Permit
Customer Number: CN600127922
Regulated Entity Number: RN102608015

Dear Mr. Cheesman:

Thank you for the letter dated February 5, 2008, notifying us of the air permit transfer. Your letter states that Citgo Refining and Chemical Company, LP is now the operator of the facility listed above. The permit record has been updated to reflect the transfer.

Permit Number: 2523C
Permit Expiration Date: May 25, 2017
County: Nueces
Previous Permittee/Registrant: Marsulex Refinery Services, L.L.C

We understand that there will be no change in the type of pollutants emitted and no increase in the quantity of emissions. As the new permittee of the facility, you have committed to maintain compliance with all air quality regulations of the Texas Commission on Environmental Quality (TCEQ) and the requirements of this permit at all times.

If you are a Title V federal operating permit holder, Title 30 Texas Administrative Code § 122.211 requires that changes to the permit identification of ownership or operational control of a site are an administrative revision to the permit. Such changes must be facilitated by a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the old and new permit holder. This written agreement must be maintained with the permit.

In order to facilitate the administrative revision, please submit the following forms: OP-2 and OP-CR01. Also, make sure the information requested on form OP-1 sections I; II A and B; and VI is submitted in the revision application along with an indication of permit responsibility, coverage, and liability between the old and new permit holder.

Re: Transfer of Air Quality Permit

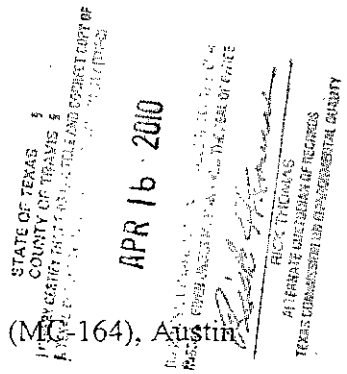
Any questions regarding the administrative revision to the federal operating permit may be directed to Mr. Bernard Tupa at (512) 239-1150.

Thank you for informing us of this permittee change. If you have any questions regarding this letter, please feel free to contact me at (512) 239-5127.

Sincerely,

Carolyn Thomas

Carolyn Thomas
Air Permits Initial Review Team (MC-161)
Air Permits Division
Texas Commission on Environmental Quality



cc: Air Section Manager, Region 14 - Corpus Christi
Mr. Mark Chambers, Industrial Emissions Assessment Section (MC-164), Austin
TCEQ Central Records (MC-198)

(F) TE Citgo Bulk Terminal

(DB)

Kathleen Hartnett White, *Chairman*
Larry R. Soward, *Commissioner*
Martin A. Hubert, *Commissioner*
Glenn Shankle, *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

May 25, 2007

STATE OF TEXAS
COUNTY OF TRAVIS
I HEREBY CERTIFY THAT THIS IS A TRUE AND CORRECT COPY OF
APR 16 2010
RICK PERRY
GOVERNOR

Mr. Michael Verachtert
Assistant Vice President
Marsulex Refinery Services, L.L.C.
600 Gulf Freeway, Suite 202
Texas City, Texas 77591-2800

Re: Permit Renewal
Permit Number: 2523C
Corpus Christi Bulk Storage and Handling Facility
Corpus Christi, Nueces County
Regulated Entity Number: RN102608015
Customer Reference Number: CN603065210
Account Number: NE-0081-P

Dear Mr. Verachtert:

This is in response to your application Form PI-1R (General Application for Air Permit Renewals) concerning the proposed renewal of Permit Number 2523C.

As indicated in Title 30 Texas Administrative Code § 116.314(a), and based on our review, your permit is hereby renewed. Enclosed is a permit for your facility. Also enclosed are new special conditions and a maximum allowable emission rates table. We appreciate your careful review of the special conditions of the permit and assuring that all requirements are consistently met. This permit will be in effect for ten years from the date of approval (Commission's final decision). If this permit is appealed and the permittee does not commence any action authorized by this permit during judicial review, the term will not begin until judicial review is concluded.

You may file a **motion to overturn** with the Chief Clerk. A motion to overturn is a request for the commission to review the Texas Commission on Environmental Quality (TCEQ) Executive Director's approval of the application. Any motion must explain why the commission should review the TCEQ Executive Director's action.

APIRT
MAR 12 2010

Re: Permit Number 2523C

A motion to overturn must be received by the chief clerk within 23 days after the date of this letter. An original and 11 copies of a motion must be filed with the chief clerk in person or by mail. The Chief Clerk's mailing address is Office of the Chief Clerk (MC-105), Texas Commission on Environmental Quality, P.O. Box 13087, Austin, Texas 78711-3087. On the same day the motion is transmitted to the chief clerk, please provide copies to Mr. Robert Martinez, Director, Environmental Law Division (MC-173), and Mr. Blas J. Coy, Jr., Public Interest Counsel (MC-103), both at the same TCEQ address above. If a motion is not acted on by the commission within 45 days after the date of this letter, then the motion shall be deemed overruled.

Thank you for your cooperation in sending us the information necessary to evaluate your operations and for your commitment to air pollution control. If you need further information or have any questions, please contact Ms. Jamiellen Miller at (512) 239-0035 or write to the Texas Commission on Environmental Quality, Office of Permitting, Remediation, and Registration, Air Permits Division (MC-163), P.O. Box 13087, Austin, Texas 78711-3087.

This action is taken under authority delegated by the Executive Director of the TCEQ.

Sincerely,

Richard A. Hyde, P.E., Director
Air Permits Division
Office of Permitting, Remediation, and Registration
Texas Commission on Environmental Quality

RAH/JM/def

Enclosures

cc: Air Section Manager, Region 14 - Corpus Christi

Project Number: 125462

STATE OF TEXAS §
COUNTY OF TRAVIS §

APR 16 2010

RICK THOMAS
ATTESTING CERTIFICATE OF RECORDS
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
AIR QUALITY PERMIT

A PERMIT IS HEREBY ISSUED TO
Marsulex Refinery Services, L.L.C.
AUTHORIZING THE CONTINUED OPERATION OF
Corpus Christi Bulk Storage and Handling Facility
LOCATED AT Corpus Christi, Nueces County, Texas
LATITUDE 29° 42' 48" LONGITUDE 095° 15' 13"

1. **Facilities** covered by this permit shall be constructed and operated as specified in the application for the permit. All representations regarding construction plans and operation procedures contained in the permit application shall be conditions upon which the permit is issued. Variations from these representations shall be unlawful unless the permit holder first makes application to the Texas Commission on Environmental Quality (commission) Executive Director to amend this permit in that regard and such amendment is approved. [Title 30 Texas Administrative Code § 116.116 (30 TAC § 116.116)]

2. **Voiding of Permit.** A permit or permit amendment is automatically void if the holder fails to begin construction within 18 months of the date of issuance, discontinues construction for more than 18 months prior to completion, or fails to complete construction within a reasonable time. Upon request, the executive director may grant an 18-month extension. Before the extension is granted the permit may be subject to revision based on best available control technology, lowest achievable emission rate, and netting or offsets as applicable. One additional extension of up to 18 months may be granted if the permit holder demonstrates that emissions from the facility will comply with all rules and regulations of the commission, the intent of the Texas Clean Air Act (TCAA), including protection of the public's health and physical property; and (b)(1)the permit holder is a party to litigation not of the permit holder's initiation regarding the issuance of the permit; or (b)(2) the permit holder has spent, or committed to spend, at least10 percent of the estimated total cost of the project up to a maximum of $5 million. A permit holder granted an extension under subsection (b)(1) of this section may receive one subsequent extension if the permit holder meets the conditions of subsection (b)(2) of this section. [30 TAC § 116.120(a), (b) and (c)]

3. **Construction Progress.** Start of construction, construction interruptions exceeding 45 days, and completion of construction shall be reported to the appropriate regional office of the commission not later than 15 working days after occurrence of the event. [30 TAC § 116.115(b)(2)(A)]

4. **Start-up Notification.** The appropriate air program regional office shall be notified prior to the commencement of operations of the facilities authorized by the permit in such a manner that a representative of the commission may be present. The permit holder shall provide a separate notification for the commencement of operations for each unit of phased construction, which may involve a series of units commencing operations at different times. Prior to operation of the facilities authorized by the permit, the permit holder shall identify to the Office of Permitting, Remediation, and Registration the source or sources of allowances to be utilized for compliance with Chapter 101, Subchapter H, Division 3 of this title (relating to Mass Emissions Cap and Trade Program). [30 TAC § 116.115(b)(2)(B)]

5. **Sampling Requirements.** If sampling is required, the permit holder shall contact the commission's Office of Compliance and Enforcement prior to sampling to obtain the proper data forms and procedures. All sampling and testing procedures must be approved by the executive director and coordinated with the regional representatives of the commission. The permit holder is also responsible for providing sampling facilities and conducting the sampling operations or contracting with an independent sampling consultant. [30 TAC § 116.115(b)(2)(C)]

6. **Equivalency of Methods.** The permit holder must demonstrate or otherwise justify the equivalency of emission control methods, sampling or other emission testing methods, and monitoring methods proposed as alternatives to methods indicated in the conditions of the permit. Alternative methods shall be applied for in writing and must be reviewed and approved by the executive director prior to their use in fulfilling any requirements of the permit. [30 TAC § 116.115(b)(2)(D)]

7. **Recordkeeping.** The permit holder shall maintain a copy of the permit along with records containing the information and data sufficient to demonstrate compliance with the permit, including production records and operating hours; keep all required records in a file at the plant site. If, however, the facility normally operates unattended, records shall be maintained at the nearest staffed location within Texas specified in the application; make the records available at the request of personnel from the commission or any air pollution control program having jurisdiction; comply with any additional recordkeeping requirements specified in special conditions attached to the permit; and retain information in the file for at least two years following the date that the information or data is obtained [30 TAC § 116.115(b)(2)(E)]

8. **Maximum Allowable Emission Rates.** The total emissions of air contaminants from any of the sources of emissions must not exceed the values stated on the table attached to the permit entitled "Emission Sources--Maximum Allowable Emission Rates." [30 TAC § 116.115(b)(2)(F)]

9. **Maintenance of Emission Control.** The permitted facilities shall not be operated unless all air pollution emission capture and abatement equipment is maintained in good working order and operating properly during normal facility operations. The permit holder shall provide notification for upsets and maintenance in accordance with §§ 101.201, 101.211, and 101.221 of this title (relating to Emissions Event Reporting and Recordkeeping Requirements; Scheduled Maintenance, Startup, and Shutdown Reporting and Recordkeeping Requirements; and Operational Requirements). [30 TAC § 116.115(b)(2)(G)]

10. **Compliance with Rules.** Acceptance of a permit by an applicant constitutes an acknowledgment and agreement that the permit holder will comply with all rules, regulations, and orders of the commission issued in conformity with the TCAA and the conditions precedent to the granting of the permit. If more than one state or federal rule or regulation or permit condition is applicable, the most stringent limit or condition shall govern and be the standard by which compliance shall be demonstrated. Acceptance includes consent to the entrance of commission employees and agents into the permitted premises at reasonable times to investigate conditions relating to the emission or concentration of air contaminants, including compliance with the permit. [30 TAC § 116.115(b)(2)(H)]

11. This permit may be appealed pursuant to 30 TAC § 50.139.

12. This permit may not be transferred, assigned, or conveyed by the holder except as provided by rule. [30 TAC § 116.110(e)]

13. There may be additional special conditions attached to a permit upon issuance or modification of the permit. Such conditions in a permit may be more restrictive than the requirements of Title 30 of the Texas Administrative Code. [30 TAC § 116.115(c)]

14. Emissions from this facility must not cause or contribute to a condition of "air pollution" as defined in TCAA § 382.003(3) or violate TCAA § 382.085, as codified in the Texas Health and Safety Code. If the executive director determines that such a condition or violation occurs, the holder shall implement additional abatement measures as necessary to control or prevent the condition or violation.

PERMIT 2523C

Date: May 25, 2007

For the Commission

SPECIAL CONDITIONS

Permit Number 2523C

1. This permit authorizes operation of the portable coke crushing and screening facility involved only at the location described herein.

2. Water sprays at the feed hopper, screens, jaw crusher, and conveyor transfer points shall be operated as necessary to prevent excessive visible emissions originating at these locations.

3. Separate portable water spray facilities shall be used as needed to prevent excessive dusting during loading of coke from stockpiles or transportation over plant roads.

Dated May 25, 2007

STATE OF TEXAS §
COUNTY OF TRAVIS §

APR 16 2010

RICK THOMAS

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit Number 2523C

This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	TPY**
EP-10	Coke Loading - Port Hoppers	PM	0.16	0.05
		PM_{10}	0.08	0.03
EP-11	Coke Loading - Trucks	PM	0.05	0.05
		PM_{10}	0.03	0.03
EP-14	Coke Pile Maintenance	PM	0.01	0.01
		PM_{10}	0.004	0.004
EP-15	Coke Pile Wind Erosion	PM	1.48	6.47
		PM_{10}	0.74	3.23

(1) Emission point identification - either specific equipment designation or emission point number from plot plan.
(2) Specific point source name. For fugitive sources use area name or fugitive source name.
(3) PM - particulate matter, suspended in the atmosphere, including PM_{10}
PM_{10} - particulate matter equal to or less than 10 microns in diameter

* Emission rates are based on and the facilities are limited by the following maximum operating schedule:

__ Hrs/day __ Days/week __ Weeks/year or 8,760 Hrs/year

** Compliance with annual emission limits is based on a rolling 12-month period.

STATE OF TEXAS
COUNTY OF TRAVIS
I HEREBY CERTIFY THAT THIS IS A TRUE AND CORRECT COPY OF
A TEXAS [illegible]

APR 16 2010

DOCUMENT [illegible] OF THE COM-
MISSION [illegible] OF OFFICE

[signature]
BILL THOMAS
ALTERNATE CUSTODIAN OF RECORDS
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Dated May 25, 2007

APIRT
MAR 12 2010

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

AIR QUALITY PERMIT

A PERMIT IS HEREBY ISSUED TO

Applied Industrial Materials Corp. (AIMCOR)

AUTHORIZING THE CONTINUED OPERATION OF A

Petroleum Coke Storage and Handling Facility

LOCATED AT

Corpus Christi, Nueces County, Texas

LATITUDE 29° 42' 48" *LONGITUDE* 095° 15' 13"

1. The **facilities** covered by this permit shall be constructed and operated as specified in the application for the permit. All representations rega construction plans and operation procedures contained in the permit application shall be conditions upon which the permit is issued. Variations from t representations shall be unlawful unless the permit holder first makes application to the Executive Director of the Texas Natural Resource Conserv Commission (TNRCC or Commission) to amend this permit in that regard and such amendment is approved. (Title 30 Texas Administrative Code Se 116.116 (30 TAC 116.116))

2. **Voiding of Permit.** A permit or permit amendment is automatically void if the holder fails to begin construction within 18 months of date of issua discontinues construction for more than 18 consecutive months prior to completion, or fails to complete construction within a reasonable time. Upon requ the Executive Director may grant a onetime 18-month extension of the date to begin construction. (30 TAC 116.115(b)(1))

3. **Construction Progress.** Start of construction, construction interruptions exceeding 45 days, and completion of construction shall be reported to appropriate Regional Office of the TNRCC not later than 15 working days after occurrence of the event. (30 TAC 116.115(b)(2))

4. **Start-up Notification.** The appropriate Air Program Regional Office of the Commission shall be notified prior to the commencement of operations of facilities authorized by the permit in such a manner that a representative of the TNRCC may be present. Phased construction, which may involve a series units commencing operations at different times, shall provide separate notification for the commencement of operations for each unit. (30 TAC 116.115(b)

5. **Sampling Requirements.** If sampling of stacks or process vents is required, the permit holder shall contact the TNRCC Office of Air Quality prior to sampl to obtain the proper data forms and procedures. All sampling and testing procedures must be approved by the Executive Director and coordinated with t regional representatives of the Commission. The permit holder is also responsible for providing sampling facilities and conducting the sampling operations contracting with an independent sampling consultant. (30 TAC 116.115(b)(4))

6. **Equivalency of Methods.** It shall be the responsibility of the permit holder to demonstrate or otherwise justify the equivalency of emission control method sampling or other emission testing methods, and monitoring methods proposed as alternatives to methods indicated in the conditions of the permit. Alternati methods shall be applied for in writing and must be reviewed and approved by the Executive Director prior to their use in fulfilling any requirements of the perm (30 TAC 116.115(b)(5))

7. **Recordkeeping.** A copy of the permit along with information and data sufficient to demonstrate compliance with the permit shall be maintained in a file the plant site and made available at the request of personnel from the TNRCC or any air pollution control program having jurisdiction. For facilities that normal operate unattended, this information shall be maintained at the nearest staffed location within Texas specified by the permit holder in the permit applicatio This information shall include, but is not limited to, production records and operating hours. Additional recordkeeping requirements may be specified in speci conditions attached to the permit. Information in the file shall be retained for at least two years following the date that the information or data is obtaine (30 TAC 116.115(b)(6))

8. **Maximum allowable emission rates.** The total emissions of air contaminants from any of the sources of emissions listed in the table entitled "Emissio Sources - Maximum Allowable Emission Rates" shall not exceed the values stated on the table attached to the permit. (30 TAC 116.115(b)(7))

9. **Maintenance of Emission Control.** The facilities covered by the permit shall not be operated unless all air pollution emission capture and abatemen equipment is maintained in good working order and operating properly during normal facility operations. Notification for upsets and maintenance shall be made in accordance with §101.8 and §101.7 of this title (relating to Notification Requirements for Major Upset and Notification Requirements for Maintenance) (30 TAC 116.115(b)(8))

10. **Compliance with Rules.** Acceptance of a permit by a permit applicant constitutes an acknowledgement and agreement that the holder will comply with all rules, regulations, and orders of the Commission issued in conformity with the Texas Clean Air Act and the conditions precedent to the granting of the permit. If more than one state or federal rule or regulation or permit condition are applicable, then the most stringent limit or condition shall govern and be the standard by which compliance shall be demonstrated. Acceptance includes consent to the entrance of Commission employees and agents into the permitted premises at reasonable times to investigate conditions relating to the emission or concentration of air contaminants, including compliance with the permit. (30 TAC 116.115(b)(9))

11. **This permit may be appealed** pursuant to 30 TAC 50.39.

12. This **permit may not be transferred**, assigned, or conveyed by the holder except as provided by rule. (30 TAC 116.110(c))

13. This **permit expires 10 years** from date of issuance unless renewed as provided in Section 382.055 of the TCAA unless a shorter time period is specified in the special conditions of this permit.

14. There may be **additional special conditions** attached to a permit upon issuance or modification of the permit. Such conditions in a permit may be more restrictive than the requirements of Title 30 of the Texas Administrative Code. (30 TAC 116.115(c))

15. **Emissions** from this facility must not cause or contribute to a condition of "air pollution" as defined in Section 382.003(3) of the Texas Clean Air Act (TCAA) or violate Section 382.085 of the TCAA. If the Executive Director determines that such a condition or violation occurs, the holder shall implement additional abatement measures as necessary to control or prevent the condition or violation.

PERMIT 2523C

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit No. 2523C

STATE OF TEXAS
COUNTY OF TRAVIS
APR 16 2010

This table lists the maximum allowable emission rates and all sources of air contaminants on the applica property covered by this permit. The emission rates shown are those derived from information submitted as of the application for permit and are the maximum rates allowed for these facilities. Any proposed increas emission rates may require an application for a modification of the facilities covered by this permit.

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	TPY
EP-1	Coke Delivery Truck Traffic	PM	0.59	2.59
		PM_{10}	0.27	1.17
EP-2	Coke Truck Unloading	PM	0.16	0.16
		PM_{10}	0.08	0.08
EP-3	Coke Transfer to Hopper Pile	PM	0.62	0.12
		PM_{10}	0.29	0.06
EP-4	Coke Transfer - Pile to Belt	PM	0.51	0.42
		PM_{10}	0.24	0.20
EP-5	Coke Transfer - Belt to Screen	PM	0.26	0.21
		PM_{10}	0.12	0.10
EP-6	Coke Screening and Crushing	PM	0.40	0.32
		PM_{10}	0.19	0.15
EP-7	Coke Transfer - Screen to Belt	PM	0.26	0.21
		PM_{10}	0.12	0.10
EP-8	Coke Transfer - Belt to Piles	PM	0.08	0.06
		PM_{10}	0.04	0.03
EP-9	Coke Transfer - Piles to Storage	PM	0.62	0.12
		PM_{10}	0.29	0.06
EP-10	Coke Loading - Port Hoppers	PM	1.23	0.41
		PM_{10}	0.58	0.20
EP-11	Coke Loading - Trucks	PM	0.62	0.41
		PM_{10}	0.29	0.20

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	TI
		PM_{10}	0.29	0.2(
EP-13	Coke Shipment Truck Traffic	PM	0.26	1.1:
		PM_{10}	0.12	0.51
EP-14	Coke Pile Maintenance	PM	0.31	0.31
		PM_{10}	0.15	0.15
EP-15	Coke Pile Wind Erosion	PM	2.80	12.25
		PM_{10}	1.32	5.80

(1) Emission point identification - either specific equipment designation or emission point number from plan.
(2) Specific point source name. For fugitive sources use area name or fugitive source name.
(3) PM - particulate matter, suspended in the atmosphere, including PM_{10}
PM_{10} - particulate matter less than 10 microns in diameter

* Emission rates are based on and the facilities are limited by the following maximum operating schedu

_____Hrs/day _____Days/week _____Weeks/year or 8,760 Hrs/year

Dated April 24, 1997

STATE OF TEXAS §
COUNTY OF TRAVIS §
I HEREBY CERTIFY THAT THIS IS A TRUE AND CORRECT COPY OF
IN TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

APR 16 2010

RON THOMAS
ALTERNATE CUSTODIAN OF RECORDS
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

APIRT
MAR 12 2010

ATTACHMENT E

Eric Hendricks

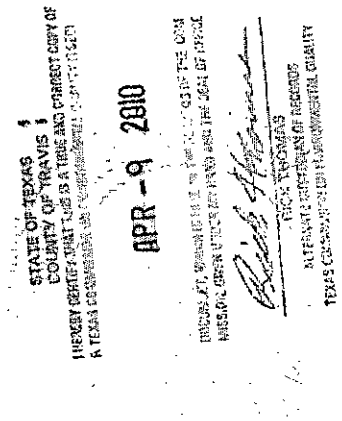
Buddy Garcia, *Chairman*
Larry R. Soward, *Commissioner*
Bryan W. Shaw, Ph.D., *Commissioner*
Mark R. Vickery, P.G., *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

April 29, 2009

MR CHARLES R HAUSMANN
PORT DIRECTOR
CALHOUN PORT AUTHORITY
PO BOX 397
POINT COMFORT TX 77978-0397



Re: Permit Alteration
Permit Numbers: 45586 and PSD-TX-1055
ES Joslin Power Station
Point Comfort, Calhoun County
Regulated Entity Number: RN100226638
Customer Reference Number: CN601573462
Account Number: CB-0008-C

Dear Mr. Hausmann:

This is in response to your letter received August 28, 2007, requesting revision of the conditions and maximum allowable emission rates table (MAERT) of the above-referenced permit. We understand you asked for the following four changes to the permit:

1) Decrease the mercury emission rate in the MAERT to 0.007 ton per year.

2) Add mercury to the optimization study identified in Special Condition No. 43.

3) Add a special condition requiring the holder of the permit to purchase and off-set the amount of mercury emissions authorized by the permit through a mercury program administered by the Texas Commission on Environmental Quality (TCEQ) or the U.S. Environmental Protection Agency.

4) Add a special condition requiring the holder of the permit to establish a carbon dioxide management program, which would establish a Carbon Management Trust Fund, prior to commercial operation of the re-fire project.

As indicated in Title 30 Texas Administrative Code § 116.116(c) [30 TAC § 116.116(c)], and based on our review, the first two changes identified above are hereby approved and Permit Numbers 45586 and PSD-TX-PSD-TX-1055 are altered. The third and fourth requested changes identified above will not be approved or incorporated into the permit. Enclosed are the altered permit conditions and MAERT to replace those currently attached to your permit. Please attach these to your permit.

Re: Permit Numbers 45586 and PSD-TX-1055

STATE OF TEXAS
COUNTY OF TRAVIS
APR - 9 2010

As of July 1, 2008, all analytical data generated by a mobile or stationary laboratory in support of compliance with air permits must be obtained from a NELAC (National Environmental Laboratory Accreditation Conference) accredited laboratory under the Texas Laboratory Accreditation Program or meet one of several exemptions. Specific information concerning which laboratories must be accredited and which are exempt may be found in 30 TAC §§ 25.4 and 25.6.

For additional information regarding the laboratory accreditation program and a list of accredited laboratories and their fields of accreditation, please see the following Web site:

http://www.tceq.state.tx.us/compliance/compliance_support/qa/env_lab_accreditation.html

For questions regarding the accreditation program, you may contact the Texas Laboratory Accreditation Program at (512) 239-3754 or by e-mail at labprgms@tceq.state.tx.us.

Your cooperation in this matter is appreciated. If you need further information or have any questions, please contact Mr. Erik Hendrickson, P.E., at (512) 239-1095 or write to the Texas Commission on Environmental Quality, Office of Permitting and Registration, Air Permits Division, MC-163, P.O. Box 13087, Austin, Texas 78711-3087.

This action is taken under authority delegated by the Executive Director of the TCEQ.

Sincerely,

for Richard A. Hyde, P.E., Director
Air Permits Division
Office of Permitting and Registration
Texas Commission on Environmental Quality

RAH/EH/bb

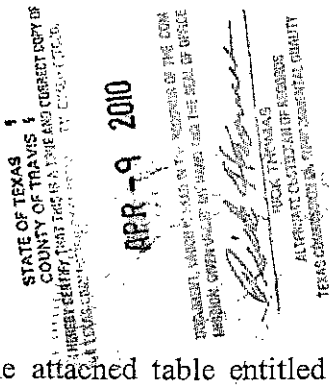
Enclosures

cc: Air Section Manager, Region 14 - Corpus Christi
Air Permits Section Chief, New Source Review, Section (6PD-R), Environmental Protection Agency, Region 6, Dallas

Project Number: 132278

SPECIAL CONDITIONS

Permit Numbers 45586 and PSD-TX-1055



EMISSION RATES AND PERMIT REPRESENTATIONS

1. This permit covers only those sources of emissions listed in the attached table entitled "Emission Sources - Maximum Allowable Emission Rates," and those sources are limited to the emission limits and other conditions specified in that attached table. Compliance with the annual emission limits shall be based on throughput for a rolling 12-month year rather than the calendar year.

2. Emission limits are based upon representations in the permit application dated July 8, 2005, and subsequent updates.

FEDERAL APPLICABILITY

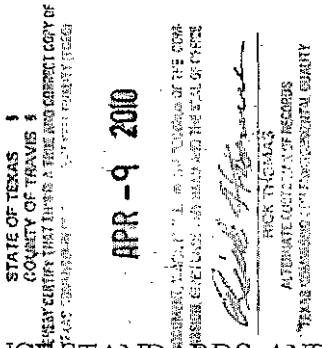
3. The Circulating Fluidized Bed (CFB) Boiler, identified as Emission Point No. (EPN) ESJ-1a, shall comply with applicable requirements of U.S. Environmental Protection Agency (EPA) regulations in Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60), Standards of Performance for New Stationary Sources, Subpart A, General Conditions, and Subpart Da, Standards of Performance for Electric Utility Steam Generating Units.

4. The Auxiliary Boiler, identified as EPN ESJ-4A, shall comply with the applicable requirements of 40 CFR Part 60, Subpart A and Subpart Dc, Standards of Performance for Small Industrial, Commercial, and Institutional Steam Generating Units.

5. The limestone crushing and handling operations shall comply with the applicable requirements of 40 CFR Part 60, Subpart A, and Subpart OOO, Standards of Performance for Nonmetallic Mineral Processing Plants.

6. The Stationary Diesel Engines, identified as EPNs ESJ-2A and ESJ-3A, shall comply with the applicable requirements of 40 CFR Part 60, Subpart A, and Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, as adopted.

7. If any condition of this permit is more stringent than the regulations identified in Special Condition Nos. 3 through 6, then for the purposes of complying with this permit, the permit shall govern and be the standard by which compliance shall be demonstrated.



FUEL SPECIFICATIONS, OPERATING LIMITATIONS, PERFORMANCE STANDARDS, AND CONSTRUCTION SPECIFICATIONS

8. Fuel fired in the CFB Boiler, EPN ESJ-1A, shall be limited to:

   A. Petroleum Coke with:

      (1) Sulfur content not to exceed a 12-month rolling average of 11.89 pounds per million British thermal units (lb/MMBtu) of heat input and with the heat input based on fuel higher heating value (HHV) which equates to 8 percent sulfur by weight in the fuel feed; and

      (2) Trace metal concentrations which do not exceed, the maximum concentration limitations identified in Attachment A of this permit.

   B. Pipeline-quality natural gas.

   C. Use of any other fuel will require prior approval from the permitting authority.

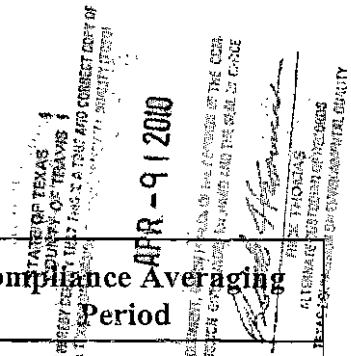
   D. Upon request by the Executive Director of the Texas Commission on Environmental Quality (TCEQ) or any air pollution control program having jurisdiction, the holder of this permit shall provide a sample and/or an analysis of the fuel fired in the CFB Boiler, or shall allow air pollution control agency representatives to obtain a sample for analysis.

9. The CFB Boiler, identified as EPN ESJ-1A, shall be limited to a maximum heat input of 2,650.5 MMBtu/hr, averaged over a calendar month, based on the HHV of the fuel fired.

10. Opacity of emissions from EPN ESJ-1A, must not exceed 10 percent, averaged over a six-minute period, except for those periods described in Title 30 Texas Administrative Code § 111.111(a) (1)(E) [30 TAC § 111.111(a)(1)(E)].

11. Emissions from the CFB Boiler, EPN ESJ-1A, shall not exceed the following: **(2/09)**

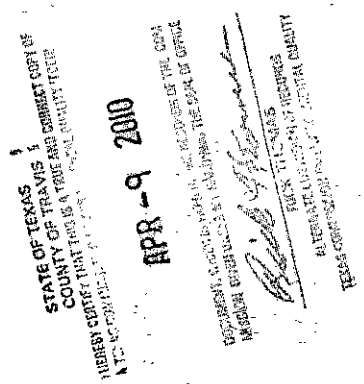
    A. Standards demonstrated by Continuous Emissions Monitoring Systems (CEMS)



Pollutant[1]	Performance Standard (lb/MMBtu)[2]	Compliance Averaging Period
NO_x	0.070	30-day rolling
NO_x	0.070	12-month rolling
SO_2	0.178	30-day rolling
SO_2	0.178	12-month rolling
CO	0.15	12-month rolling
Hg	0.000003	12-month rolling
	Performance Standard (ppmv)	
NH_3	10 ppmv	hourly
NH_3	5 ppmv	12-month rolling

B. Standards demonstrated by Reference Method[3] (RM) testing

Pollutant[1]	Performance Standard (lb/MMBtu)[2]	Compliance Demonstration Period
PM/PM_{10} (front-half catch)	0.011	annual
PM/PM_{10} total	0.033[4]	annual
VOC	0.005	annual
H_2SO_4	0.0364	annual
HCl	0.000764	annual
HF	0.000102	annual



Notes:

[1]	NO_x	- nitrogen oxides	PM_{10}	-	PM $\leq 10\mu$m in diameter
	SO_2	- sulfur dioxide	VOC	-	volatile organic compounds
	CO	- carbon monoxide	H_2SO_4	-	sulfuric acid mist
	PM	- particulate matter	HCl	-	hydrogen chloride
	HF	- hydrogen fluoride	Pb	-	lead
	NH_3	- ammonia	Hg	-	mercury

[2] lb/MMBtu - pounds of emissions per million Btu of heat input. Heat input is based on fuel HHV.

ppmv - parts per million by volume, dry, adjusted to 5 percent oxygen (O_2).

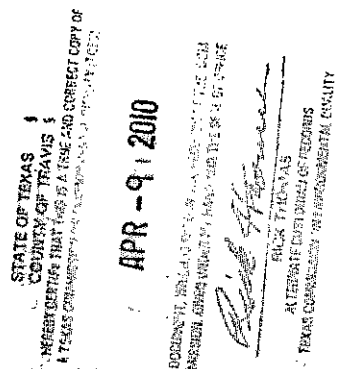
[3] RM - EPA Reference Methods, based on the average of three stack sampling runs to be conducted as prescribed by Special Condition Nos. 26 and 34.

[4] Total PM/PM_{10} including back-half (condensibles) catch of sampling train.

12. In the event that the CEMS for NO_x or SO_2 are not operating for a period longer than one hour, the permit holder shall operate at no less than the ammonia feed rate to the selective non-catalytic reduction (SNCR) system and the limestone feed rate to the CFB that were established during a successful initial performance test (adjusted for load) or at the feed rates that were measured prior to the loss of the CEMS (provided NO_x and SO_2 were in compliance), whichever feed rates are higher.

13. The holder of this permit shall operate the CFB Boiler and associated air pollution control equipment in accordance with good air pollution control practice to minimize emissions during routine start-up and shutdown, by operating in accordance with a written start-up and shutdown plan. The plan shall include detailed procedures for review of relevant operating parameters of the CFB Boiler and associated air pollution control equipment during start-up and shutdowns. The plan shall also address readily foreseeable start-up scenarios, and provide for appropriate review of the operational condition of the boiler before initiating start-up.

Only planned and routine startup/shutdown operations are authorized by this permit. Emissions resulting from any unscheduled and/or unplanned startup/shutdown activity associated with an upset (emissions event) are not authorized by this permit.



14. The CFB Boiler Stack, EPN ESJ-1A, will be approximately 300 feet tall with an exit diameter of 17.25 feet. Stack sampling ports and platform(s) shall be constructed on the stack as specified in the attachment entitled "Chapter 2, Stack Sampling Facilities," or an alternate design may be required at a later date if determined necessary by the appropriate TCEQ Regional Director. Adequate advance notice shall be provided by TCEQ if an alternate design is required.

15. The Auxiliary Boiler, identified as EPN ESJ-4A (66.2 MMBtu/hr) shall meet the following specifications:

    A. Emissions of NO_x shall not exceed 0.035 lb/MMBtu.

    B. Opacity of emissions shall not exceed 5 percent averaged over a six-minute period.

    C. Fuel shall be limited to pipeline-quality natural gas.

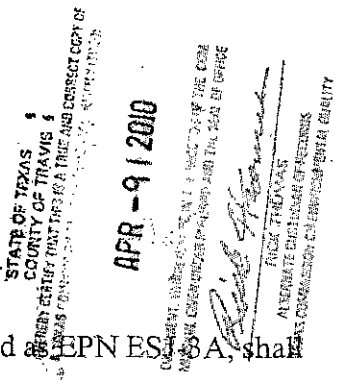
    D. Operation shall be limited to a maximum of 800 hours per year.

16. The 1,500 kW emergency Diesel Fuel-Fired Electric Generator, identified as EPN ESJ-2A, shall meet the following specifications:

    A. (1) The engine shall be certified by the manufacturer to comply with the corresponding EPA Tier 2 emission specifications for nonroad diesel engines rated more than 560 kW, promulgated in 40 CFR Part 89, Control of Emissions from New and In-use Nonroad Compression-Ignition Engines.

    (2) Condition A(1) does not apply if at the time of purchase of the engine, the total installed cost of the Tier 2 compliant engine is more than 5 percent higher than the total installed cost of a corresponding Tier 1 compliant engine. In such case, the engine shall be certified by the manufacturer to comply with the corresponding EPA Tier 1 emission specifications for nonroad engines rated more than 560 kW, promulgated in 40 CFR Part 89, control of Emissions from New and In-use Nonroad Compression-Ignition Engines. The holder of this permit shall not circumvent the intent of this provision by purchasing the engine at a date earlier than needed to assure timely site installation.

    B. Fuel shall be limited to diesel engine fuel containing no more than 500 ppm by weight sulfur. Purchased diesel engine fuel shall comply with the EPA standards for nonroad diesel fuel in 40 CFR Part 80, Regulation of Fuels and Fuel Additives, in effect at the time of purchase.



C. Operation shall be limited to a maximum of 500 hours per year.

17. The 152-hp Emergency Diesel Fuel-Fired Fire Water Pump, identified as EPN ESI-8A, shall meet the following specifications:

A. Fuel shall be limited to diesel engine fuel containing no more than 500 parts per million (ppm) by weight sulfur. Purchased diesel engine fuel shall comply with the EPA standards for nonroad diesel fuel in 40 CFR Part 80, Regulation of Fuels and Fuel Additives, in effect at the time of purchase.

B. Operation shall be limited to a maximum of 500 hours per year unless a greater number of hours of operation are required to fight a fire.

CHEMICAL AND FUEL STORAGE

18. Aqueous ammonia storage tanks shall be located within a physical barrier to traffic. Tank containment shall be employed with a minimum of 110 percent of tank volume. Vapors resulting from the filling operations of the aqueous ammonia storage tanks (Tanks 12 and 13) shall be collected and vapor returned back to the transport vessel. The relief valve system shall be designed and operated to ensure that there are no working loss emissions to the atmosphere resulting from the filling operations, and that there are no breathing losses during normal non-filling (standing) operations. The fill level of the aqueous ammonia storage tank shall not exceed a level that is in line with good engineering practice. The tank shall be equipped with a high level alarm, and a high-high level alarm. In addition, leakless pumps shall be used in all piping handling aqueous ammonia.

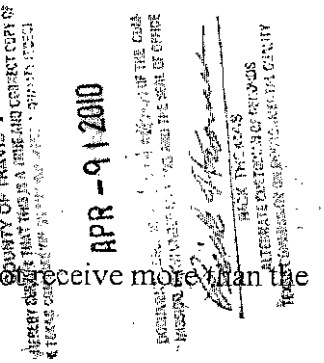
19. Audio, olfactory, and visual checks for ammonia leaks shall be made once per shift within the operating area.

A. No later than one hour following detection of a leak, plant personnel shall take the following actions:

(1) Locate and isolate the leak.

(2) Use a leak collection or containment system to control the leak until repair or replacement can be made.

B. Within 24 hours of detection of a leak, plant personnel shall commence repair or replacement of the leaking component as appropriate.



20. In any consecutive 12-month period, the holder of this permit shall not receive more than the following quantities of diesel fuel:

Tank Number	12-Month Throughput (Gallons)
14	18,000
15	4,800

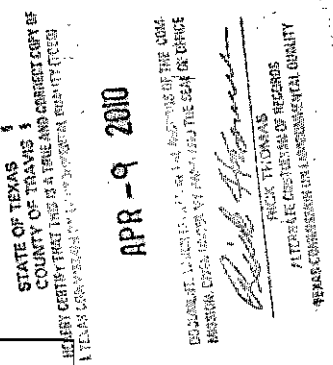
MATERIAL HANDLING OPERATING LIMITATIONS AND STANDARDS

21. Permanent plant roads shall be paved with a cohesive hard surface which can be cleaned by sweeping or washing. Other roads shall be sprinkled with water and/or surface crusting agents as necessary to maintain compliance with all TCEQ rules and regulations.

22. As determined by a certified opacity observer with delegation from the Executive Director of the TCEQ and according to 40 CFR Part 60, Appendix A, RM 9, or equivalent, opacity of emissions from any single fabric filter baghouse stack listed in Special Condition Nos. 23 and 24 shall not exceed 5 percent averaged over a six-minute period. Continuous demonstration of compliance with this special condition is not required.

    Fugitive emissions from the transfer points on conveyors, and any material handling, shall not create an off-property nuisance condition. The opacity of emissions from these operations shall not exceed 5 percent averaged over a six-minute period. No visible emissions may leave the plant property. If visible emissions do leave the plant property, further controls or measures shall be installed and/or implemented to limit visible emissions. A trained observer with delegation from the Executive Director of the TCEQ may determine compliance with this special condition by 40 CFR Part 60, Appendix A, RM 22, or equivalent. Any spillage of material shall be cleaned up as soon as possible and handled in such a way as to minimize emissions.

23. Material handling baghouses, designed to meet an emission limit of 0.01 grain PM per dry standard cubic foot of exhaust, properly installed and in good working order, shall control PM emissions from the following sources:



Source	EPN
Fly Ash Silo	ESJ-7A
Bottom Ash Silo	ESJ-8A
Petroleum Coke Silo	ESJ-9A
Limestone Silo	ESJ-10A
Sand Silo	ESJ-11A
Bottom Ash Transfer Hopper	ESJ-12A

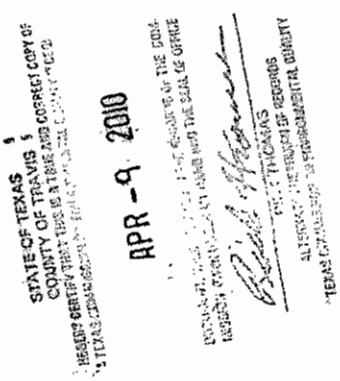
24. Material handling baghouses, designed to meet an emission limit of 0.007 grain PM per dry standard cubic foot of exhaust, properly installed and in good working order, shall control PM emissions from the following sources:

Source	EPN
Petcoke Preparation Bldg Stack	PCPREPST
Limestone Preparation Bldg Stack	LSPREPST

25. All conveyors and preparation buildings shall be enclosed and equipped with an air suction system which discharges to a baghouse. There shall be no visible emissions from equipment handling petroleum coke. Coverings and enclosures are considered abatement equipment and should be kept in good repair.

INITIAL DEMONSTRATION OF COMPLIANCE

26. The holder of this permit shall perform initial stack sampling and other testing to establish the actual quantities of air contaminants being emitted into the atmosphere. Unless otherwise specified in this Special Condition No. 26, the sampling and testing shall be conducted in accordance with the methods and procedures specified in Special Condition No. 27. The holder of this permit is responsible for providing sampling and testing facilities and conducting the sampling and testing operations at his expense. The TCEQ Executive Director or his designated representative shall be afforded the opportunity to observe all such sampling.



A. For the CFB Boiler, EPN ESJ-1A:

(1) Demonstrate compliance with the performance standards of Special Condition No. 11 and the hourly emission rates of the maximum allowable emissions rate table (MAERT), applicable to normal operations, using the average of three one-hour stack sampling test runs for each contaminant.

(2) Air contaminants to be sampled and analyzed under (1) above include: NO_x, SO_2, CO, VOC, H_2SO_4, HCl, HF, PM, PM_{10}, NH_3, and Hg. Diluents to be measured include O_2 or carbon dioxide (CO_2).

(3) Demonstrate compliance with the performance standards of Special Condition No. 10 applicable to normal operations, using the average of 30 six-minute readings as provided in 40 CFR § 60.11(b).

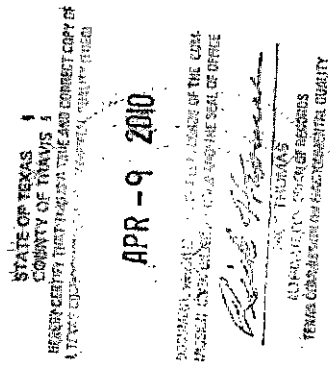
(4) Demonstrate compliance with 40 CFR Part 60, Subparts A and Da, for NO_x, SO_2, PM, and opacity.

(5) Demonstrate compliance with the lb/MMBtu performance standards listed on Attachment A and the lb/hr emission rate for lead listed on the MAERT using the average of three one-hour stack sampling test runs.

(6) Boiler load during testing shall be maintained as follows.

(a) Operate at maximum firing rates for the atmospheric conditions occurring during the test as measured by millions of pounds of steam generated per hour or MW of electric generator output. If during subsequent operations the steam generated as measured by millions of pounds of steam generated per hour or MW of electric generator output is greater than that recorded during the test, stack sampling shall be performed at the new operating condition within 150 days. This sampling may be waived by the TCEQ Air Section Manager of the appropriate TCEQ Regional Office. At no time should the emission rate exceed the rates described in the maximum allowable emission rates table (MAERT).

(b) During 30-day average emission testing, the boiler load does not have to be maximum, but the load must be representative of future operating conditions and must include at least one 24-hour period at full load.



B. For the Auxiliary Boiler, EPN ESJ-4A:

(1) Demonstrate compliance with the NO_x performance standard of Special Condition No. 15 and the hourly NO_x and CO emission rates of the MAERT, using the average of three one-hour stack sampling test runs for each contaminant.

(2) Demonstrate compliance with the opacity limitation of 40 CFR Part 60 Subpart Dc and Special Condition No. 15.

(3) Demonstrate compliance with the SO_2 emission rate of the MAERT through fuel sampling to demonstrate use of pipeline quality natural gas.

(4) Demonstrate compliance with the PM/PM_{10} and VOC emission rates of the MAERT through operation of the auxiliary boiler within its design limitations.

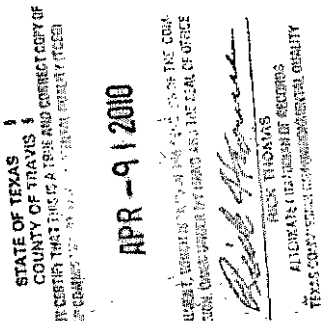
C. For at least one material handling/storage baghouse, to be selected by the Corpus Christi Regional Director of the TCEQ, or his designated representative, sample PM emissions using RM 5 testing to show compliance with the emission limit of Special Condition Nos. 23 and 24.

For petroleum coke/limestone/sand/ash handling facilities with stack emissions, EPNs ESJ-7A, ESJ-8A, ESJ-9A, ESJ-10A, ESJ-11A, ESJ-12A, PCPREPST, and LSPREPST, demonstrate compliance with the opacity limits of this permit, and opacity/particulate matter standards in 40 CFR Part 60, Subpart OOO as applicable.

For petroleum coke/limestone/sand handling facilities with fugitive emissions, EPNs PC-FUG, CO-31, TR-30, CO-32, TR-31, LS-FUG, CO-35, TR-32, CO-36, and TR-33, demonstrate compliance with the opacity limits of this permit, and opacity/particulate matter standards in 40 CFR 60, Subpart OOO as applicable.

D. For the Emergency Generator and Fire-Water Pump, EPNs ESJ-2A and ESJ-3A, demonstrate compliance with the emission rates of the MAERT by showing compliance with the requirements of Special Condition Nos. 16 and 17, respectively.

E. Requests to waive testing for any pollutant specified in this condition shall be submitted to the TCEQ Office of Permitting, Remediation, and Registration, Air Permits Division. Test waivers and alternate or equivalent procedure proposals for New Source Performance Standards (NSPS) testing which must have EPA approval shall be submitted to the TCEQ Field Operations Support Division.



F. Sampling as required by this condition shall occur within 60 days after achieving the maximum fuel firing rate at which the CFB Boiler will be operated but no later than 180 days after initial start-up. The first boiler operating day of 30-day average initial performance testing required by 40 CFR § 60.46a(f) must commence within this time.

TEST METHODS AND PROCEDURES

27. A. Sampling shall be conducted in accordance with the appropriate procedures of the TCEQ Sampling Procedures Manual, EPA Methods in 40 CFR Part 60, Appendix A and 40 CFR Part 51, Appendix M, EPA Conditional Test Methods, and American Society for Testing and Materials (ASTM) as follows:

(1) Appendix A, Methods 1 through 4, as appropriate, for exhaust flow, diluent, and moisture concentration;

(2) Appendix A, Method 5, 5a through 5i, or 17, modified to include back-half condensibles, for the concentration of PM;

(3) Appendix A, Method 5, 5a through 5i, or 17, for the filterable concentration of PM (front-half catch);

(4) Appendix A, Method 6, 6a, 6c, or 8, for the concentration of SO_2;

(5) Appendix A, Method 7E for the concentrations of NO_x and O_2, or equivalent methods;

(6) Appendix A, Method 8 or a modified Method 8 for H_2SO_4;

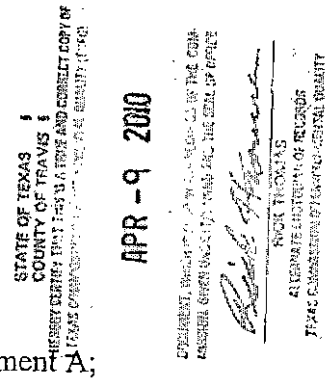
(7) Appendix A, Method 9 for opacity and Method 22 for visible emissions;

(8) Appendix A, Method 10 for the concentration of CO;

(9) Appendix A, Method 19, for applicable calculation methods;

(10) Appendix A, Method 25A, modified to exclude methane and ethane, for the concentration of VOC (to measure total carbon as propane);

(11) Appendix A, Method 26 or 26A for HCl and HF;



(13) Appendix A, Method 29 for the metals listed in Attachment A;

(14) Appendix M, Methods 201A and 202, or Appendix A, RM 5, modified to include back-half condensibles, for the concentration of particulate matter less than 10 microns in diameter, PM_{10};

(15) Appendix M, Methods 201A or Appendix A, RM 5, for the filterable concentration of particulate matter less than 10 microns in diameter, PM_{10} (front-half catch);

(16) ASTM D6784-02, Standard Test Method for Elemental, Oxidized, Particle-Bound, and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (also known as the Ontario Hydro Method), or other approved EPA methods; and

(17) Any deviations from those procedures must be approved by the Executive Director of the TCEQ prior to sampling.

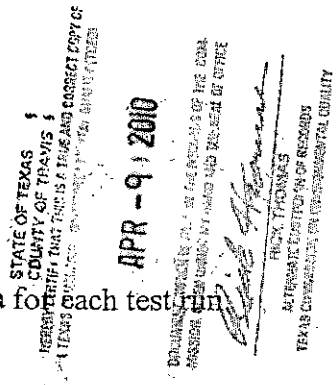
B. The TCEQ Corpus Christi Regional Office shall be given notice as soon as testing is scheduled but not less than 30 days prior to sampling to schedule a pretest meeting.

(1) The notice shall include:

(a) Date for pretest meeting.
(b) Date sampling will occur.
(c) Name of firm conducting sampling.
(d) Type of sampling equipment to be used.
(e) Method or procedure to be used in sampling.
(f) Projected date of commencement of the 30-day rolling average initial performance tests for SO_2 and NO_x, in accordance with 40 CFR § 60.46a(f).

(2) The purpose of the pretest meeting is to review the necessary sampling and testing procedures, to provide the proper data forms for recording pertinent data, and to review the format procedures for submitting the test reports. The permit holder shall present at the pretest meeting the manner in which stack sampling will be executed in order to demonstrate compliance with emission standards found in this permit and 40 CFR Part 60, Subparts Da.

(3) Prior to the pretest meeting, a written proposed description of any deviation from sampling procedures specified in permit conditions or TCEQ, EPA or ASTM sampling procedures shall be made available to the TCEQ. The TCEQ Regional Director shall approve or disapprove of any deviation from specified sampling



C. Information in the test report shall include the following data for each test run:

(1) hourly petroleum coke firing rate (in tons);

(2) average petroleum coke Btu/lb as-received and dry weight;

(3) millions of pounds of steam produced, **or** average generator output in MW;

(4) daily sulfur content and heat content of the fuel measured in accordance with EPA RM 19 to show compliance with 40 CFR Part 60, Subpart Da;

(5) control device operating rates, including SNCR reagent injection and solids injection rates (fresh limestone);

(6) emissions in the units of the limits of this permit, lb/hr and lb/MMBtu, three one-hour stack sampling test runs or 30-day average, as appropriate; and

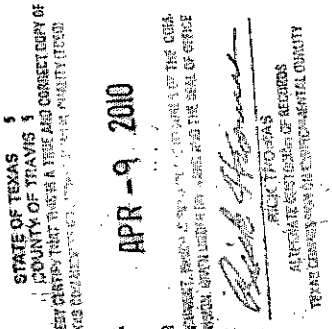
(7) any additional records deemed necessary during the stack sampling pre-test meeting.

D. Two copies of the final sampling report shall be forwarded to the TCEQ within 60 days after sampling is completed. Sampling reports shall comply with the attached conditions of Chapter 14 of the TCEQ Sampling Procedures Manual. The reports shall be distributed as follows:

One copy to the TCEQ Corpus Christi Regional Office.
One copy to the TCEQ Austin Office of Permitting and Registration,
Air Permits Division.

CONTINUOUS DEMONSTRATION OF COMPLIANCE

28. The holder of this permit shall install, calibrate, maintain, and operate a continuous emission monitoring system (CEMS) to measure and record the concentrations of NO_x, CO, and SO_2 from EPN ESJ-1A. Diluents to be measured include O_2 or CO_2. The CEMS data shall be used to determine continuous compliance with the NO_x, CO, and SO_2 emission limitations in Special Condition No. 3 (NO_x and SO_2), Special Condition No. 11A, and the attached MAERT. Continuous compliance with the performance standards of Special Condition No. 11A shall commence on the first boiler operating day of the 30-day initial performance testing required by NSPS Subpart Da.



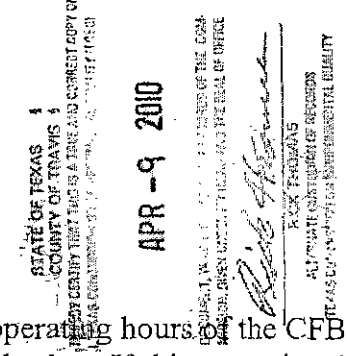
A. The CEMS shall meet the design and performance specifications, pass the field tests, and meet the installation requirements and the data analysis and reporting requirements specified in the applicable Performance Specification Nos. 1 through 9, 40 CFR Part 60, Appendix B or an acceptable alternative. If there are no applicable performance specifications in 40 CFR Part 60, Appendix B, contact the TCEQ Office of Permitting and Registration, Air Permits Division in Austin for requirements to be met.

B. The holder of this permit shall assure that the CEMS meets the applicable quality assurance requirements specified in 40 CFR Part 60, Appendix F, Procedure 1, or an acceptable alternative. Relative accuracy exceedances, as specified in 40 CFR Part 60, Appendix F, § 5.2.3 and any CEMS downtime and all cylinder gas audit exceedances of ±15 percent accuracy shall be reported semiannually to the appropriate TCEQ Regional Director, and necessary corrective action shall be taken. Supplemental stack concentration measurements may be required at the discretion of the appropriate TCEQ Regional Director.

C. The monitoring data shall be reduced to hourly average concentrations at least once every day, using normally a minimum of four equally-spaced data points from each one-hour period. The individual average concentrations shall be reduced to units of the permit allowable emissions rate in pounds per hour at least once everyday. Pound per hour data shall be summed on a monthly basis to tons per year and used to determine compliance with the annual emissions limits of this permit. If the CEMS malfunctions, then the recorded concentrations may be reduced to units of the permit allowable as soon as practicable after the CEMS resumes normal operation.

D. The appropriate TCEQ Regional Office shall be notified at least 30 days prior to any required relative accuracy test audits in order to provide them the opportunity to observe the testing.

E. If applicable, each CEMS will be required to meet the design and performance specifications, pass the field tests, and meet the installation requirements and data analysis and reporting requirements specified in the applicable performance specifications in 40 CFR Part 75, Appendix A and B, as an acceptable alternative to paragraph A. of this condition.



F. Each CEMS shall be operational during 95 percent of the operating hours of the CFB Boiler, exclusive of the time required for zero and span checks. If this operational criteria is not met for the reporting quarter, the holder of this permit shall develop and implement a monitor quality improvement plan. The monitor quality improvement plan shall be developed and submitted to the TCEQ Corpus Christi regional office for their approval within six months. The plan should address the downtime issues to improve availability and reliability. The plan should provide additional assurance of compliance including recordkeeping of reagent flow rates for monitor downtime periods.

29. The holder of this permit shall install, calibrate, operate, and maintain a continuous opacity monitoring system (COMS) to measure and record the opacity of emissions from EPN ESJ-1A. The COMS data shall be used to determine continuous compliance with the opacity emission limitations in Special Condition Nos. 3 and 10.

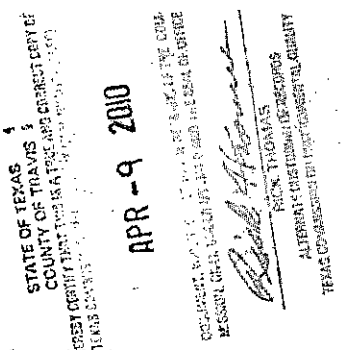
A. The COMS shall satisfy all of the Federal NSPS requirements for COMS as specified in 40 CFR Part 60, Appendix B, Performance Specification 1 (PS-1). In order to demonstrate compliance with PS-1, the COMS shall meet the manufacturer's design and performance specifications, and undergo performance evaluation testing as outlined in 40 CFR § 60.13, Subpart A. The TCEQ Regional Director shall be notified 30 days prior to the certification.

B. The COMS shall be zeroed and spanned daily as specified in 40 CFR § 60.13. Corrective action shall be taken when the 24-hour span drift exceeds two times the amounts specified in PS-1, or as specified by the TCEQ if not specified in PS-1.

C. If the EPA promulgates a quality assurance, quality control standard for the COMS, a Quality Assurance Plan (QAP) shall be prepared in accordance with the EPA standard for the COMS and adhered to, within six months after promulgation. The QAP shall be maintained to reflect changes to component technology. At the request of the TCEQ Regional Director, the holder of this permit shall submit documentation demonstrating compliance with these standards.

D. The data shall be reduced to six-minute opacity averages, using a minimum of 36 equally-spaced data points from each six-minute period.

E. The COMS shall be operational during 95 percent of the operating hours of the CFB Boiler, exclusive of the time required for zero and span checks. If this operational criteria is not met for the reporting quarter, the holder of this permit shall develop and implement a monitor quality improvement plan. The monitor quality improvement plan shall be developed and submitted to the TCEQ Corpus Christi Regional Office for



improve availability and reliability. The plan should provide additional assurance of compliance including EPA RM 9 support during daytime monitor downtime periods and parametric support for nighttime monitor downtime periods.

F. Recertification, if required, shall be based on the requirements of 40 CFR Part 60, Appendix B, PS-1 in effect at the time of initial certification.

30. The holder of this permit shall install, calibrate, operate, and maintain a CEMS to measure and record the concentration of NH_3 from EPN ESJ-1A. The NH_3 concentrations shall be corrected and reported in accordance with Special Condition No. 11A. The CEMS data shall be used to determine continuous compliance with the NH_3 performance specifications in Special Condition No. 11A and the MAERT. Any other method used for measuring NH_3 slip shall require prior approval from the TCEQ Corpus Christi Regional Office, with consultation between the Regional Office and the TCEQ Austin Air Permits Division.

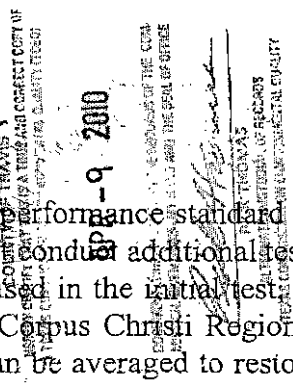
31. The holder of this permit shall install, calibrate, operate, and maintain a CEMS to measure and record the concentration of mercury from EPN ESJ-1A, The CEMS data shall be used to demonstrate continuous compliance with the emission limitations of Special Condition No. 11A and the MAERT.

32. All continuous emission monitors (CEM's) shall be operational for at least 95 percent of the operating hours of the CFB boiler (excluding time required for zero and span). If any emission monitor fails to meet performance as specified in Special Condition Nos. 28F and 29E, it shall be repaired or replaced as soon as reasonably possible.

33. After the initial demonstration of compliance, on-going compliance with the non-mercury metal performance standards identified in Attachment A of this permit, the emission rates for lead in the MAERT, and the sulfur content of Special Condition No. 8 will be demonstrated by testing of the as-fired petroleum coke at least once per calendar quarter for compliance with the non-mercury metal petroleum coke concentration limits in Attachment A. The HHV of the petroleum coke sample shall also be measured.

34. After the initial demonstration of compliance, on-going stack sampling of EPN ESJ-1A for H_2SO_4, HCl, HF, VOC, total PM/PM_{10} or other pollutants that are not monitored with a CEMS or petroleum coke concentration testing, shall be used to demonstrate ongoing compliance and shall meet the following specifications:

A. Stack sampling shall be performed once annually during periods of normal operation, except as follows:



(1) If the annual test does not establish compliance with a performance standard of Special Condition No. 11B, the holder of this permit must conduct additional tests (under similar operating rates and fuel charge rates as used in the initial test or under scenarios reviewed and approved by the TCEQ Corpus Christi Regional Office) during the year to achieve compliance. Tests can be averaged to restore compliance with Special Condition No. 11B; or

(2) If, after two years of stack sampling, the average of the two annual stack sampling results for a pollutant is less than 70 percent of the applicable performance standard identified in Special Condition No. 11B, then compliance stack sampling for such pollutant shall be reduced to at least once every three years.

B. Sampling required in A of this special condition shall demonstrate compliance with the performance standards of Special Condition No. 11B and the lb/hr emission limits of the MAERT applicable to normal operations.

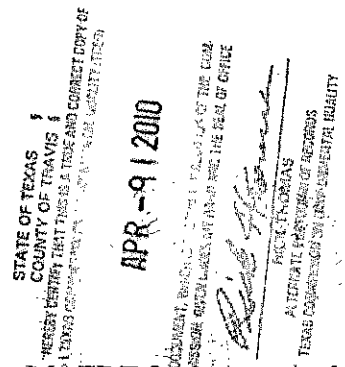
C. Sampling required in (A.) of this special condition shall be conducted in accordance with the methods, procedures, and notification protocol specified in Special Condition No. 27.

D. Ongoing compliance with the H_2SO_4, HF, and HCl tons per year emission rates in the MAERT shall be demonstrated by calculating rolling 12-month annual emissions from emission factors (lb/MMBtu) obtained from the sampling required in A of this condition and the monthly total heat input (MMBtu) from petroleum coke.

35. Compliance with the following emission rates in the MAERT, applicable to periods of start-up and shutdown, shall be demonstrated as follows:

A. Compliance with the lead and PM and PM_{10} (front-half and total) emission rates in the MAERT applicable during start-up and shutdown shall be demonstrated if the recorded pressure drop across the baghouse meet manufacturer guidelines for proper operation during start-up and shutdown. Detailed information concerning baghouse design, guidelines for proper operation, pressure drop, etc. shall be provided to the TCEQ Air Permits Division and the TCEQ Corpus Christi Office within six months of initial start-up.

B. Compliance with the VOC emission rate in the MAERT applicable during start-up and shutdown shall be demonstrated if the CO emissions during start-up and shutdown are in compliance with the CO emission rate in the MAERT for start-up and shutdown.



C. Compliance with the H_2SO_4, HF, and HCl emission rates in the MAERT for start-up and shutdown shall be demonstrated if the SO_2 emissions during start-up and shutdown are in compliance with the SO_2 emission rate in the MAERT for start-up and shutdown.

36. Following the initial demonstration of compliance, ongoing compliance with the emission limits for the sources and emission limitations listed in this condition shall be through source operation in accordance with manufacturer's specifications, or in accordance with written procedures that are shown to maintain operating conditions necessary for emission compliance. The Executive Director of the TCEQ or his designated representative may also require direct measurement of emissions using the sampling methods and procedures specified in Special Condition No. 27 to establish compliance with the limitations, in which case the sampled emission rate will be used to determine compliance.

    A. The Auxiliary Boiler, EPN ESJ-4A, emission limitations of Special Condition Nos. 15A and 15B and the MAERT.

    B. The Diesel Engines, EPNs ESJ-2A and ESJ-3A, emission limitations in the MAERT.

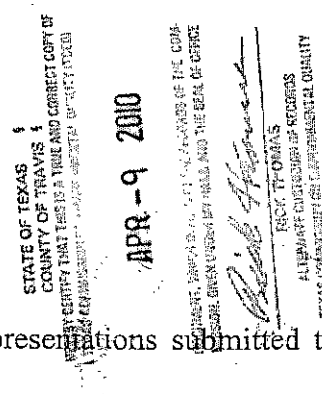
37. Following the initial demonstration of compliance, ongoing compliance with the emission rates in the MAERT for the petroleum coke, ash, limestone and sand material handling baghouses will be demonstrated by annual opacity testing using RM 9 for EPNs ESJ-7A, ESJ-A, ESJ-9A, ESJ-10A, ESJ-11A, ESJ-12A, PCPREPST, and LSPREPST. Method RM 22 shall be used for EPNs PC-FUG, CO-31, TR-30, CO-32, TR-31, LS-FUG, CO-35, TR-32, CO-36, and TR-33. The Executive Director of the TCEQ or his designated representative may also require sampling conducted in accordance with the methods and procedures specified in Special Condition No. 27 to directly measure the lb/hr emission rate, in which case the sampled lb/hr emission rate will be used to determine compliance with the applicable emission rate in the MAERT.

38. Compliance with the emission rates in the MAERT for the Fuel Storage Tanks, EPN ESJ-14A and ESJ-15A, will be demonstrated by compliance with Special Condition No. 20.

RECORDKEEPING REQUIREMENTS

39. The following records shall be kept at the plant for the life of the permit. All records required in this permit shall be made available at the request of personnel from the TCEQ, the EPA, or any air pollution control agency with jurisdiction.

    A. A copy of this permit.



B. Permit application dated July 8, 2005 and subsequent representations submitted to the TCEQ.

C. A complete copy of the testing reports and records of the initial air emissions performance testing completed pursuant to the Initial Demonstration of Compliance.

D. Required stack sampling results or other air emissions testing (other than CEMS or COMS data) that may be conducted on units authorized under this permit after the date of issuance of this permit.

40. The following records shall be kept for a minimum of five years after collection and shall be made immediately available upon request to representatives of the TCEQ, the EPA, or any local air pollution control program having jurisdiction. Records shall be legible and maintained in an orderly manner. The following records shall be maintained:

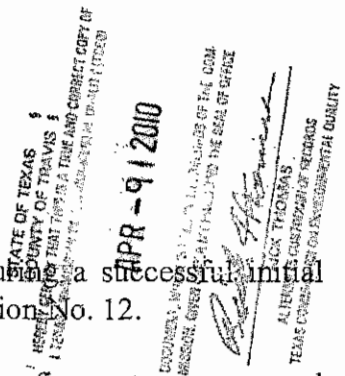
A. Continuous emission monitoring data for opacity, SO_2, NO_x, CO, Hg, NH_3, and diluent gases, O_2 or CO_2, from CEMS to demonstrate compliance with the emission rates listed in the MAERT and performance standards listed in this permit for pollutants that are monitored by CEMS or COMS. Data retention at intervals less than one hour is not required. Records should identify the times when emissions data have been excluded from the calculation of average emission rates because of start-up, shutdown, maintenance, and malfunction along with the justification for excluding data. Records should also identify factors used in calculations that are used to demonstrate compliance with emissions limits and performance standards.

B. Files of all CEMS or COMS quality assurance measures including operational time, calibration checks, adjustments and maintenance performed on these systems.

C. Steam turbine generator in millions of pounds of steam produced or hourly gross electrical output in MW, including identification of shutdown intervals, for compliance with output based performance specifications of this permit.

D. Written petroleum coke analysis for all petroleum coke received from each petroleum coke supplier to show compliance with the sulfur and trace metal concentration limits of this permit, and written analysis provided by natural gas and diesel fuel suppliers to show compliance with the sulfur content limitations of this permit.

E. Average petroleum coke feed rate to the CFB Boiler in pounds per hour and the corresponding average heat input (HHV) in MMBtu/hr, based upon an average over each calendar month.



F. Ammonia feed rate and limestone feed rate established during a successful initial performance test to fulfill the requirements of Special Condition No. 12.

G. Hours of operation of the emergency generator, emergency fire water pump, and auxiliary boiler to show compliance with the hourly operating limitations of this permit.

H. Records of cleaning and maintenance performed on abatement equipment, including records of replacement maintenance performed on baghouses. A log should be kept with descriptions of the activity performed and the time period over which it was performed.

I. Records require to show compliance with 40 CFR Part 60, Subparts Da and Dc including records of required reporting.

J. Dates of road cleaning and/or watering to show compliance with Special Condition No. 21.

K. Records of audio, olfactory, and visual checks for ammonia leaks and repairs to show compliance with Special Condition No. 19.

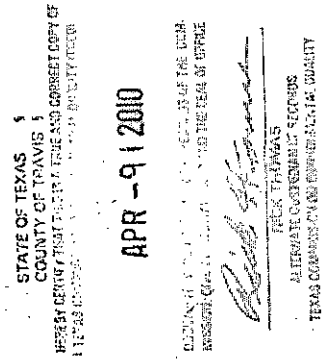
REPORTING

41. The holder of this permit shall submit to the TCEQ Corpus Christi Regional Office and the Air Enforcement Branch of EPA in Dallas quarterly or semiannual reports as described in 40 CFR § 60.7. Such reports are required for each emission unit which is required to be continuously monitored pursuant to this permit.

AS-BUILT INFORMATION

42. The holder of this permit shall submit to the TCEQ Corpus Christi Regional Office and the TCEQ Air Permits Division change pages to the permit application reflective of the final plans and engineering specifications on the CFB Boiler, auxiliary boiler, emergency engines, and other sources, including their respective control equipment, no later than 30 days before initial start-up of the CFB Boiler. This information shall include:

A. All TCEQ Tables in the permit application, updated with manufacturer and other specified data.



B. Revised plot plans and equipment drawings as required to reflect the constructed facility.

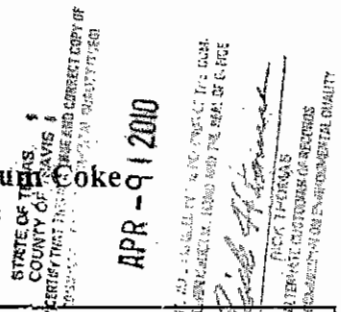
C. Manufacturer's certification of emissions for the diesel engines and if applicable, cost information to verify compliance with the emission Tier requirements of this permit.

D. Identification of any maximum inputs of raw materials for the as-built facility, and any diesel fuel sulfur or engine manufacturer's emission specification that is lower than the values represented in the permit application and used for calculating or establishing emissions. Accompanying this information shall be a request for permit alteration. The TCEQ may alter the permit special conditions and MAERT to reflect any such reduction in emissions. Increases in allowable emission rates shall require authorization before construction begins.

OPTIMIZATION STUDIES

43. Within 60 days after completing the first annual compliance sampling required by Special Condition No. 34, the holder of this permit shall submit a request to adjust the performance standards for the control of Hg, H_2SO_4, HCl, HF, and front-half and total PM/PM_{10} identified in Special Condition No. 11 to reflect the results of the sampling of these compounds conducted to that date, with appropriate consideration given for data variability. The adjustment on a pollutant-by-pollutant basis to the performance standard for the control of H_2SO_4, HCl, HF, or front-half and total PM/PM_{10} shall only be required if the average of the sampling for any such pollutant is 50 percent or less of the currently permitted value. At a minimum, this submittal shall include the Initial Demonstration of Compliance sampling required by this permit and the first annual compliance sampling required by Special Condition No. 34. The mercury emission rate shall be revised after two years of CEMs data, to reflect actual performance of the plant's air pollution control systems. The revised mercury emission rate shall not exceed 0.007 tons per year or it shall not be less than 150 percent of the average annual mercury emission rate based upon two years of CEMs data. **(3/09)**

Attachment A
Permit Numbers 45586 and PSD-TX-1055
Non-Mercury Metal Concentrations in Petroleum Coke
and Emission Performance Standards

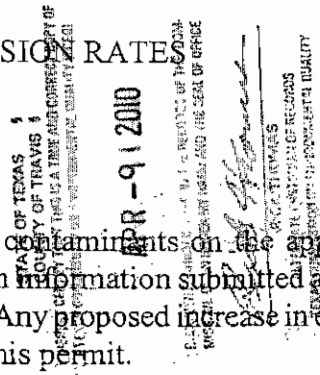


Constituent	Maximum Concentration (ppmw)	Performance Standard (lb/MMBtu)
Arsenic	0.30	2.23 E -7
Cadmium	0.1	7.43 E -8
Beryllium	1.5	1.11 E -6
Lead	3.0	2.23 E -6
Chromium	94.2	7.0 E -5
Copper	3.5	2.6 E -6
Manganese	2.4	1.78 E -6
Selenium	<2	1.49 E -6
Silicon	17	1.26 E -6
Aluminum	46	3.42 E -5
Iron	250	1.86 E -4
Calcium	19	1.14 E -5
Sodium	65	4.83 E -5
Potassium	28	2.08 E -5
Titanium	1	7.43 E -7
Magnesium	6	4.46 E -6
Nickel	600	4.46 E -4
Vanadium	3,500	2.60 E -3

Dated April 29, 2009

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit Numbers 45586 and PSD-TX-1055



This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

AIR CONTAMINANTS DATA

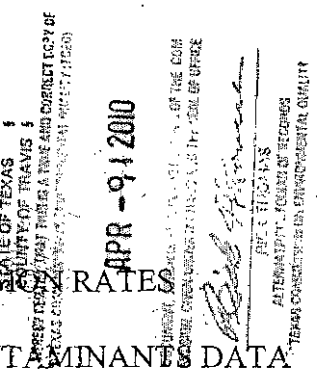
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	TPY**
ESJ-1A	CFB Boiler Normal Operations	NO_x	185.54	812.60
		CO	397.58	1741.38
		VOC	13.25	58.05
		PM/PM_{10}	136.29	379.62
		SO_2	472.80	2070.86
		H_2SO_4	96.53	422.80
		HCl	2.03	8.87
		HF	0.27	1.18
		Pb	0.01	0.026
		Hg	0.01	0.007
		NH_3	16.47	36.08
ESJ-1A	CFB Boiler Start-Up	NO_x	207.84	---
		CO	397.58	---
		VOC	13.25	---
		PM/PM_{10}	136.29	---
		SO_2	2393.88	---
		H_2SO_4	254.79	---
		HCl	20.11	---
		HF	2.68	---
		Pb	0.01	---
		Hg	0.01	---
		NH_3	16.47	---
ESJ-2A	Emergency Generator	NO_x	30.56	7.64
		CO	37.65	9.41
		VOC	4.43	1.11
		PM/PM_{10}	1.77	0.44
		SO_2	0.04	0.01

STATE OF TEXAS
COUNTY OF TRAVIS
APR -9 2010

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	TPY**
ESJ-3A	Diesel Fire Pump Engine	NO_x	2.31	0.58
		CO	2.85	0.71
		VOC	0.33	0.08
		PM/PM_{10}	0.13	0.03
		SO_2	0.003	0.001
ESJ-4A	Auxiliary Boiler	NO_x	2.32	0.93
		CO	5.30	2.12
		VOC	0.36	0.14
		PM/PM_{10}	0.46	0.19
		SO_2	0.04	0.02
ESJ-5A	Acid Tank	H_2SO_4	<0.01	<0.01
ESJ-6A	Caustic Tank	NaOH	<0.01	<0.01
ESJ-7A	Fly Ash Silo	PM_{10}	0.34	1.50
ESJ-8A	Bottom Ash Silo	PM_{10}	0.17	0.75
ESJ-9A	Coke Silo	PM_{10}	0.34	1.50
ESJ-10A	Limestone Silo	PM_{10}	0.34	1.50
ESJ-11A	Sand Silo	PM_{10}	0.17	0.27
ESJ-12A	Bottom Ash Transfer Hopper	PM_{10}	0.17	0.75
PCPREPST	Petcoke Preparation Building Stack	PM_{10}	0.60	2.63



EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	TPY**
PC-FUG	Petcoke Preparation Building (4)	PM/PM_{10}	0.05	0.05
CO-31	Conveyor CO-31 (4)	PM/PM_{10}	0.07	0.07
TR-30	CO-31 to CO-32 (4)	PM/PM_{10}	0.03	0.03
CO-32	Conveyor CO-32 (4)	PM/PM_{10}	0.03	0.03
TR-31	CO-32 to Coke Silo (4)	PM/PM_{10}	0.03	0.03
LSPREPST	Limestone Preparation Building Stack	PM_{10}	0.60	2.63
LS-FUG	Limestone Preparation Building (4)	PM PM_{10}	0.13 0.06	0.09 0.05
CO-35	Conveyor 35 (4)	PM PM_{10}	0.004 0.002	0.003 0.002
TR-32	CO-35 to CO-36 (4)	PM PM_{10}	0.002 0.001	0.002 0.001
CO-36	Conveyor 36 (4)	PM PM_{10}	0.002 0.001	0.002 0.001
TR-33	CO-36 to Limestone Silo (4)	PM PM_{10}	0.002 0.001	0.002 0.001
FUG-AMM	Ammonia Fugitives (4)	NH_3	0.05	0.21

STATE OF TEXAS
COUNTY OF TRAVIS
APR - 9 2010

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

(1) Emission point identification - either specific equipment designation or emission point number from a plot plan.
(2) Specific point source names. For fugitive sources, use an area name or fugitive source name.
(3) NO_x - total oxides of nitrogen
CO - carbon monoxide
VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
PM - particulate matter, suspended in the atmosphere, including PM_{10}
PM_{10} - particulate matter equal to or less than 10 microns in diameter. Where PM is not listed, it shall be assumed that no PM greater than 10 microns is emitted.
SO_2 - sulfur dioxide
H_2SO_4 - sulfuric acid
HCl - hydrogen chloride
HF - hydrogen fluoride
Pb - lead
Hg - mercury
NH_3 - ammonia
NaOH - sodium hydroxide
(4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate.

* Emission rates are based on and the facilities are limited by the following maximum operating schedule:

** Compliance with annual emission limits is based on a rolling 12-month period.

_____Hrs/day _____Days/week ____Weeks/year or __8,760__Hrs/year

Dated April 29, 2009