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Zak Covar, *Executive Director*

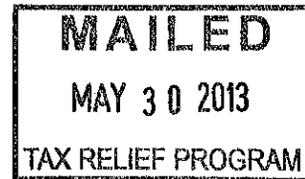


TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

May 28, 2013

Mr. Gerard Thompson
Environmental Manager
Air Products and Chemicals, Inc.
7201 Hamilton Blvd.
Allentown, Pennsylvania 18195-1501



Re: Notice of Negative Use Determination
Air Products, LLC
Air Products Port Arthur Plant
1801 South Gulfway Drive Gate 37
Port Arthur (Jefferson County)
Regulated Entity Number: RN101941284
Customer Reference Number: CN602299257
Application Number: 16632

Dear Mr. Thompson:

This letter responds to Air Products, LLC's Application for Use Determination, received May 31, 2012, pursuant to the Texas Commission on Environmental Quality's (TCEQ) Tax Relief for Pollution Control Property Program.

The TCEQ has completed the review for Application No. 16632, and has issued a Negative Use Determination for the property in accordance with 30 Tex. Admin. Code (TAC) § 17.4. The justification for the negative use determination is provided below.

In order to receive a positive use determination, an applicant must cite to the federal, state, or local environmental law, rule, or regulation being met or exceeded by the use, construction, acquisition, or installation of the subject property. The rule citations listed in Application No. 16632 are not appropriate for the following reasons.

- 40 C.F.R. § 51.166 requires States to inventory emission sources located on nontribal lands and report this information to the U.S. EPA; it does not place any requirements on the Applicant or its Facility.
- 40 C.F.R. § 52.21 does not apply because the Facility does not have a Prevention of Significant Deterioration (PSD) permit.
- 30 TAC § 116.115(b) does not apply because the Facility's Air Quality Permit (Nos. 39693 and N63) does not contain a Maximum Allowable Emission Rate for the control of CO₂.
- 30 TAC § 335.471 *et seq.* and 30 TAC § 335.475 implement the Waste Reduction Policy Act of 1991. These sections encourage source reduction and waste minimization through the development of Pollution Prevention (P2) Plans. While these sections impose reporting requirements, they do not require the Applicant to install waste minimization or recycling equipment.

Mr. Gerard Thompson

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- 30 TAC § 101.4 is a general prohibition against causing nuisance conditions, and does not require the control of CO₂ or the construction or installation of the subject property.

Please be advised that a Negative Use Determination may be appealed. The appeal must be filed with the TCEQ Chief Clerk within 20 days after the receipt of this letter in accordance with 30 TAC §17.25.

If you have questions regarding this letter or need further assistance, please contact Ronald Hatlett of the Tax Relief for Pollution Control Property Program by telephone at (512)239-6348, by e-mail at Ronald.Hatlett@tceq.texas.gov, or write to the Texas Commission on Environmental Quality, Tax Relief for Pollution Control Property Program, MC-110, P.O. Box 13087, Austin, Texas 78711-3087.

Sincerely,



Zak Covar
Executive Director

ZC/RH

Enclosure

cc: Chief Appraiser, Jefferson County Appraisal District, PO Box 21337, Beaumont, Texas 77720



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March 25, 2013

Texas Commission on Environmental Quality
Tax Relief for Pollution Control Property Program
MC-110
P.O. Box 13087
Austin, Texas 78711-3087

Re: Response to Notice of Technical Deficiency
Air Products, LLC
Air Products Port Arthur Plant
1801 South Gulfway Drive Gate 37
Port Arthur (Jefferson County)
Regulated Entity Number: RN101941284
Customer Reference Number: CN602299257
Application Number: 16632

Dear Mr. Goodin:

On behalf of Air Products and Chemicals, Inc. ("**Air Products**"), we are responding to the Texas Commission on Environmental Quality's ("**TCEQ**") Notice of Technical Deficiency dated January 24, 2013. Air Products submitted an Application for Use Determination on May 31, 2012, for equipment associated with carbon dioxide ("**CO₂**") capture, transportation, and sequestration monitoring and verification equipment installed in connection with the company's hydrogen production facility at 1801 South Gulfway Drive, Port Arthur, Texas (the "**Facility**") and at the West Hastings oil field in which the CO₂ will be used for enhanced oil recovery (such capture, transportation, and sequestration monitoring and verification equipment being collectively referred to as the "**CCS System**").

We respond to your points in the order they are set forth in your Notice.

Issue 1: The rule citations provided do not require the collection and sequestration of CO₂. In order to be eligible for a positive use determination the property must have been placed in service in order to meet or exceed an adopted environmental rule. Specifically, 40 CFR § 51.166 requires States to inventory emission sources located on nontribal lands and report this information to EPA; it does not place any requirements on the Applicant or its Facility. 40 CFR § 52.21 does not apply since the Facility does not have a Prevention of Significant Deterioration (PSD) permit. 30 TAC § 116.115(b) does not apply because the Facility's Air Quality Permit (Nos. 39693 and N63) does not contain a

Atlanta, Austin, Chicago, Dallas, Hong Kong, Houston, London, Los Angeles, New Orleans, New York, Sacramento, San Francisco, Washington DC

Maximum Allowable Emission Rate for the control of CO₂. 30 TAC § 335.471 contains definitions for Chapter 335 and does not place any requirements on the Applicant or its Facility. 30 TAC § 335.475 requires the development of a Pollution Prevention Plan and the renewal of the plan every five years. This provision does not impose source reduction or waste minimization requirements, nor does it compel the use or installation of a certain technology, equipment, or process. 30 TAC § 101.4 generally prohibits nuisance conditions, and does not require the control of CO₂. The cited permits by rule of 30 TAC §§ 106.261, 106.183, 106.371, and 106.478 do not require control of CO₂. Emission limitations associated with permits by rule are stated in § 106.104(a)(4), and CO₂ is expressly excluded as a substance with an emission limitation. Please cite to a federal, state, or local environmental law, rule, or regulation being met or exceeded by the use, construction, acquisition, or installation of the subject property. Also, per the application instructions, "The application must describe how the property/equipment meets or exceeds a rule, regulation, or statutory provision that has been adopted by a federal regulatory agency, the State of Texas, or a political subdivision of Texas." Please comply with this requirement.

Response:

A. The CCS System is Entitled to at Least a Partial Positive Use Determination, Because it is a Type of Equipment Listed in Subsection 11.31(k) of the Texas Tax Code

As a threshold matter, the TCEQ has not addressed Air Products' assertion that its CCS System must receive at least a partial positive use determination because it is a type of equipment listed in subsection 11.31(k) of the Texas Tax Code.¹ Subsection (k) sets forth a list of property "for the control of air, water, or land pollution." Per subsection (m), when TCEQ receives a tax relief application for property listed in subsection (k), the Executive Director "*shall* determine" that the property "is used *wholly or partly*" for pollution control (emphasis added). Thus, by the express language of the Tax Code, such equipment must qualify at least in part for a positive case determination.

Although it is not clear on what basis the TCEQ seeks to evade the clear mandate of sections 11.31(k) and (m), the TCEQ previously has taken the position that notwithstanding the

¹ Subsection (k) includes property used "wholly or partly" to capture CO₂ from an anthropogenic source in this state that is geologically sequestered in this state—if the U.S. Environmental Protection Agency ("EPA") adopts a final rule or regulation regulating CO₂ as a pollutant. As explained in Air Products' application, EPA has adopted such a final rule or regulation regulating CO₂ as a pollutant pursuant to its Light Duty Vehicle Rule, the GHG requirements that became effective January 2, 2011. See, 75 Fed. Reg. 25,324 (May 7, 2010). Moreover, pursuant to EPA's Tailoring Rule, effective August 2, 2010, GHGs, including CO₂, became regulated pollutants at major stationary sources as early as January 2, 2011. 75 Fed. Reg. 31,514 (June 3, 2010). Permitting of emissions associated with the CCS System commenced in April 2011, after the effective date of EPA's adoption of each of these final rules regulating CO₂ as a pollutant. See Standard Permit Registration Number 95649, and Permit by Rule Registration Number 95892, and the applications therefor, dated April 7, 2011, and April 21, 2011, respectively. Through a straightforward application of the statutory language, the CCS System qualifies for the pollution control property tax exemption.

requirement placed upon the Agency under subsection (m), property listed in subsection (k) could be found to have zero percent pollution control use.² Essentially, the Executive Director has interpreted property "used wholly or partly ... for the control of ... pollution" to include property that is *not at all used for pollution control*. To the extent that TCEQ applies such an interpretation to Air Products' application, such interpretation is an impermissible misreading of the statute, and is arbitrary and capricious under the Texas Administrative Procedure Act ("Texas APA").³

First, the plain meaning of the term "partly" does not include "not at all." As the Attorney General observed in a 2001 opinion on the tax relief program, section 11.31 is "broadly written," and "its plain meaning is clear. It embraces any property ... 'that is used wholly or partly as a facility, device, or method for the control of air, water, or land pollution.'" The opinion goes on to state that "the term 'wholly' clearly refers to property that is used only for pollution control," while the term "partly" "embraces property that has only some pollution-control use." The Attorney General noted that Merriam Webster's Collegiate Dictionary defines "partly" to mean "in some measure or degree."⁴ Thus, by its plain meaning, the term "partly" cannot mean "not at all."

A review of other parts of the statute that use the term, "wholly or partly," definitively establishes the interpretation's validity. According to principles of statutory construction, a term used more than once in a statute should generally be given the same meaning throughout the entire statute.⁵ Looking at the other parts of the statute, interpreting "partly" to mean "not at all" would yield absurd results. For example:

- Subsection (a) provides that a person is *entitled to a tax exemption* for property used "wholly or partly" for pollution control. Under TCEQ's interpretation, property *not used at all* for pollution control would be eligible for an exemption. That is if "partly" can be construed to mean "not at all," then a tax exemption could exist for property used "wholly or [not at all]" for pollution control. Obviously, that cannot be the legislature's intent.
- In subsection (k), the list of property used for pollution control includes property used "wholly or partly" to capture CO₂ from an anthropogenic source in this state that is

² TCEQ Executive Director's Response to the Appeals Filed on the Negative Use Determinations for the Heat Recovery Steam Generator Applications, Docket Nos. 2012-1529-MIS-U et al. ("Executive Director's Response"). "Just because a piece of equipment is listed in §11.31(k) does not mean that it is automatically entitled to a positive use determination." *Id.* at 3. "Section 11.31(m) requires the Executive Director to distinguish the production portion of the §11.31(k) listed equipment from the pollution control portion. The Executive Director must determine the appropriate use determination percentage, which includes 0% if none of the equipment is used for pollution control." *Id.* at 6.

³ Tex. Gov't Code §§ 2001.001 et seq.

⁴ Attorney General of Texas John Coryn, Opinion No. JC-0372 Re: Whether certain types of property at new facilities qualify for a tax exemption as pollution-control property under section 11.31 of the Tax Code (RQ-330-JC), available at <https://www.oag.state.tx.us/opinions/opinions/49cornyn/op/2001/html/jc0372.htm>.

⁵ "A term appearing in several places in a statutory text is generally read the same way each time it appears." *Ratzlaf v. U.S.*, 510 U.S. 135, 143 (1994).

geologically sequestered in this state.⁶ Under TCEQ's interpretation, if applied consistently, property *not used at all* for capturing CO₂ would be eligible for the tax exemption. Further, if "wholly or partly" may be read to mean "nothing at all," then the statute could be read to allow a tax exemption for property not capturing any CO₂ at all. Again, these are absurd results.

- Subsection (i) requires a "person seeking an exemption" to provide the local appraiser with a copy of the Executive Director's letter "determining that the [property] is used wholly or partly as pollution control property." Under TCEQ's interpretation, property *not used at all* for pollution control could be the subject of the Executive Director's letter. Obviously, there is no need for an appraiser to receive a letter indicating no tax exemption is applicable.

TCEQ guidance demonstrates that the Agency itself interprets "wholly or partly" to mean "in some measure or degree" as opposed to "not at all." According to the guidance, to obtain tax relief an applicant must obtain "a determination that the property/equipment is used for pollution control" (which includes "the percentage of property/equipment use that pertains to pollution control"), then submit this use determination to the local appraisal district "to obtain the property tax exemption."⁷ TCEQ guidance thus assumes that the Executive Director's determination that the property is used "wholly or partly" for pollution control is the same as "a determination *that* the property/equipment is used for pollution control" (emphasis added).

Other parts of the statute demonstrate the legislature's intent that property listed in subsection (k) be presumed to have at least some pollution control benefits. Subsection (k) affirmatively states that the listed property is "for the control of air, water, or land pollution."⁸ Moreover, the TCEQ may only remove property from the list in subsection (k) if it finds "compelling evidence to support the conclusion that the item does not provide pollution control benefits."⁹ Necessarily, this means that the legislature determined that all property listed in subsection (k) provides some pollution control benefits. Accordingly, with regard to property listed in subsection (k), the Executive Director is charged with responsibility to determine "how much" such property is used for pollution controls,¹⁰ *i.e.* is it used wholly or just in part. But for property not so listed, he must determine "if" it is used "wholly or partly" for pollution control.¹¹

Note that while applicants generally must identify the environmental benefits of the installation of pollution control property in order to obtain tax relief, the Executive Director must determine "that" property listed in subsection (k) is used "wholly or partly" for pollution control *regardless of*

⁶ Tex. Tax Code § 11.31(k)(16).

⁷ TCEQ, Property-Tax Exemptions for Pollution Control Property 4, available at http://www.tceq.texas.gov/assets/public/implementation/tax_relief/rg461_program_guidelines.pdf.

⁸ Tex. Tax Code § 11.31(k).

⁹ *Id.* § 11.31(l).

¹⁰ *Id.* § 11.31(m).

¹¹ *Id.* § 11.31(d).

*whether the applicant submits information on environmental benefits.*¹² This demonstrates the legislature's assumption that property listed in subsection (k) has environmental benefits and, thus, pollution control benefits.¹³ A "zero" benefit determination is not contemplated or even authorized by the Tax Code.

Thus the statute clearly requires at least a partial positive use determination for property listed under subsection (k), including the CCS System. Any interpretation to the contrary impermissibly ignores the legislature's will in violation of the Texas APA¹⁴ and is an arbitrary and capricious abuse of Agency discretion.¹⁵ If the TCEQ wished to adopt a new approach in evaluating tax relief applications for property listed in subsection (k), the Agency was required to do so via the process for valid rulemaking outlined in the Texas APA.¹⁶ Because TCEQ has not done so, it is bound by the statute as is, which mandates at least a partial positive use determination for property like the CCS System that is listed in subsection (k).

B. The CCS System Must Meet or Exceed a Rule or Regulation Adopted for the Prevention, Monitoring, Control, or Reduction of Pollution—not a Rule or Regulation that Requires Collection and Sequestration of CO₂

TCEQ states that the rules cited in Air Products' application "do not require the collection and sequestration of CO₂." This, however, is not the appropriate standard. Air Products' CCS System must simply "meet or exceed rules or regulations adopted ... for the prevention, monitoring, control, or reduction of air, water, or land pollution."¹⁷ At the December 5 TCEQ Commissioners Agenda Meeting,¹⁸ when faced with similar arguments from the Executive Director, the Commissioners confirmed that the cited rule or regulation need not require a specific type of pollution control property, nor set forth a specific method by which the equipment must control pollution.¹⁹

At the Agenda Meeting, the Commissioners considered the applications for tax relief for HRSGs, and the Executive Director's decision denying the requested relief.²⁰ In his decision, the Executive Director argued that HRSGs are not eligible for tax relief because no applicants

¹² *Id.* §§ 11.31(c, m). In this instance, however, no question reasonably exists that the CCS System, by reducing CO₂ emissions, does not provide environmental benefits.

¹³ TCEQ defines "environmental benefit" as synonymous with "pollution control." 30 TAC §17.2(4)

¹⁴ Tex. Gov't Code § 2001.174(2)(A).

¹⁵ *Id.* § 2001.174(2)(F).

¹⁶ *Id.* §§ 2001.023-.030. "Rule" is defined as "a state agency statement of general applicability that: (i) implements, interprets, or prescribes law or policy; or (ii) describes the procedure or practice requirements of a state agency." *Id.* § 2001.003(6)(A).

¹⁷ Tex. Tax Code § 11.31(b); 30 TAC § 17.4(a).

¹⁸ TCEQ Commissioners Agenda Meeting, Use Determination Appeals, Docket Nos. 2012-1529-MIS-U et al. (December 5, 2012) ("**TCEQ Commissioners Meeting**").

¹⁹ *Id.*

²⁰ The HRSGs and Air Products' CCS Systems are similarly situated because both are listed under subsection (k). See also note 1.

had cited a “rule that requires the installation of the HRSG,” nor a “generally applicable efficiency standard that could only be met by installation of a HRSG.”²¹ Although less relevant to Air Products’ application, the Executive Director also argued that HRSGs did not remove pollutants, but rather avoided emissions through increased efficiency, and that the Executive Director had “never recognized emissions avoidance as pollution control.”²²

The Commissioners rejected both of these arguments. First, the Commissioners addressed whether the cited “rule or regulation” must require the installation of the specific piece of equipment for which an applicant is seeking tax relief. Chairman Bryan W. Shaw stated that, historically, the Commissioners had not required that the specific type of equipment be mandated by the cited rule. Rather, the Commissioners had required, in accordance with the statute, that the equipment “meet or exceed a standard.” The Chairman emphasized that this flexible approach incentivizes new control measures: “faster, more efficient ways of getting the environmental results ... while maintaining cost effectiveness.” Even the Executive Director’s staff member, Dan Long, agreed, stating that the cited rule “doesn’t have to directly say which piece of equipment” must be used. Thus the cited rule or regulation need not require a specific type of pollution control property.

Second, the Commissioners considered whether the cited “rule or regulation” must set forth a specific method by which the equipment must control pollution. According to Chairman Shaw, TCEQ drafted the regulations to “encourage and incentivize least-cost compliance,” in order to comply with the will of the legislature. He noted that it is not the intent of the Commissioners nor the Executive Director to “disincentivize energy efficiency or new, more efficient approaches.” Rather, the statute allows applicants to “find ways to achieve standards and achieve environmental protections in the most cost effective way.” Commissioner Carlos Rubenstein agreed that the legislature intended for the requirements to be flexible, in order to incentivize innovative ways to reduce pollution. With respect to the HRSGs, he pointed out that one should not be required to “forego energy efficiency, and then on the back end ... put something back in, a scrubber or something on the back end, to produce the same goal.” Commissioner Baker agreed, noting that it would not be appropriate to discount the fact that increased efficiency leads to emission avoidance. As the Chairman observed, this flexibility acknowledges that a strong economy is required to encourage further investment in environmental protections. These comments prove that the cited rule or regulation need not set forth a specific method by which the equipment must control pollution.

Here Air Products’ CCS System collects and sequesters CO₂, but as the TCEQ Commissioners have agreed in principle, the System need not meet or exceed a rule that requires removal of CO₂ through collection and sequestration. Rather, the CCS System must merely meet or exceed a rule “adopted ... for the prevention, monitoring, control, or reduction of air, water, or land pollution.”²³ And as explained in the next section, Air Products has identified such rules in its application.

²¹ Executive Director’s Response at 11.

²² *Id.* at 8.

²³ Tex. Tax Code § 11.31(b); 30 TAC § 17.4(a).

C. The CCS System Meets or Exceeds Rules or Regulations for the Prevention, Monitoring, Control, or Reduction of Pollution

According to the TCEQ, Air Products' CCS System does not "meet or exceed" the following rules or regulations cited in its application. As explained fully in Air Products' application, the CCS System does meet or exceed these rules. Below we provide a brief overview of these rules and specifically address TCEQ's claims in the Notice of Deficiency.

- **40 CFR § 52.21 does not apply since the Facility does not have a Prevention of Significant Deterioration (PSD) permit.**

40 CFR § 52.21 requires obtaining a PSD permit and implementing the best available control technology ("**BACT**"), where a major source undergoes a major modification that causes an emissions increase of at least 75,000 tons per year of CO₂—starting on July 1, 2011.²⁴ And according to the U.S. Environmental Protection Agency's ("**EPA**") guidance on the PSD permitting requirements, carbon capture and sequestration could be considered as BACT in these circumstances.²⁵

Here, the Facility is a major source of CO₂, and the modifications associated with installing the CCS System would have caused an increase in CO₂ emissions greater than 100,000 tons per year (without consideration of the capture controls). Thus the facility would have been required to comply with the PSD permitting and BACT requirements as of July 1, 2011. The only reason Air Products was not required to obtain a PSD permit and implement BACT is because it sought authorization to make the modifications three months before July 1.²⁶ As a result, Air Products agreed to install CO₂ control technology *before* it was required to implement BACT under the regulations. ***The installation and use of the CCS System thus exceeds these regulations***, because Air Products voluntarily implemented measures to capture and sequester CO₂ *before* it was required to do so.

- **40 CFR § 51.166 requires States to inventory emission sources located on nontribal lands and report this information to EPA; it does not place any requirements on the Applicant or its Facility.**

40 CFR § 51.166 requires that State Implementation Plans include measures to prevent significant deterioration of air quality, including the PSD permitting and BACT requirements outlined above.²⁷ This federal regulation imposes requirements on the state Plans, which are enforceable at the state level. Thus the Facility is subject to this regulation, and as explained above, ***the installation and use of the CCS System exceeds these regulations***.

²⁴ 40 CFR §§ 52.21(a)(2)(iii), 52.21(j)(3), 52.21(b)(49)(v)(b); 75 Fed. Reg. 31,514 (June 3, 2010).

²⁵ EPA, PSD and Title V Permitting Guidance for Greenhouse Gases, EPA-457/B-11-001, March 2011, Appendix H.

²⁶ Air Products applied for authorization in April of 2011. The timing was controlled by separate timing concerns related to the Department of Energy's participation in the project.

²⁷ 40 CFR §§ 51.166(a, j).

- **30 TAC § 116.115(b) does not apply because the Facility's Air Quality Permit (Nos. 39693 and N63) does not contain a Maximum Allowable Emission Rate for the control of CO₂.**

30 TAC § 116.115(b) requires that a permit holder comply with the permit's conditions, including the maximum emission rates for contaminants. This rule applies here because Air Products holds Air Quality Permit 39693 and N63, dated December 15, 2009, and the rule requires permit compliance. It is true that Air Products' permit does not state a maximum emission rate for CO₂.²⁸ However, CO₂ is an air contaminant because it is produced by a process that is not natural,²⁹ and the U.S. Supreme Court has held that greenhouse gases ("**GHGs**"), including CO₂, are pollutants under the federal Clean Air Act.³⁰ The fact that the permit does not provide a cap on CO₂ emissions may be interpreted in one of two ways. If the lack of a cap means there is no limit on CO₂ emissions, then implementing the CCS System to control CO₂ emissions *exceeds* the permit requirements by reducing emissions of an air contaminant where no reduction is required. If the lack of a cap means that no emissions of CO₂ are permitted, then implementing the CCS System to control CO₂ emissions is *an effort to meet* the permit requirements. Either way, ***the installation and use of the CCS System meets or exceeds the rule.***

- **30 TAC § 335.471 contains definitions for Chapter 335 and does not place any requirements on the Applicant or its Facility.**

Air Products' application cites 30 TAC § 335.471 *et seq.* as a whole, not merely section 335.471. Please see below for an explanation as to why the regulation as a whole is sufficient for purposes of the tax relief requirements.

- **30 TAC § 335.475 requires the development of a Pollution Prevention Plan and the renewal of the plan every five years. This provision does not impose source reduction or waste minimization requirements, nor does it compel the use or installation of a certain technology, equipment, or process.**

30 TAC § 335.471 *et seq.* requires preparation of pollution prevention plans that identify source reduction and waste minimization projects to be undertaken.³¹ Source reduction includes any practice that reduces pollutants entering the environment, reduces hazards to the public or the environment associated with release of pollutants or contaminants, and includes equipment or technology modifications that accomplish these goals.³²

According to the TCEQ, this rule is not sufficient because it "does not impose source reduction or waste minimization requirements." The Agency, however, applies the wrong standard. The

²⁸ Air Products' Air Quality Permit 39693 and N63, dated December 15, 2009.

²⁹ Tex. Health & Safety Code § 382.003(2)

³⁰ Massachusetts v. EPA, 127 S.Ct. 1438 (2007).

³¹ 30 TAC § 335.474(1)(B, C).

³² *Id.* § 335.471(13).

requirement is that pollution control property “meet or exceed rules or regulations adopted ... for the *prevention, monitoring, control, or reduction* of air, water, or land pollution” (emphasis added).³³ This is a broad standard: the rule may be one that controls pollution by imposing numeric emission caps, or one that is intended to prevent pollution. Chairman Shaw made this exact observation during the TCEQ Commissioners Meeting. After quoting the statute, he stated that applicants are not limited to “just control in the form of a pollution abatement device that’s added on the tail end,” because “prevention is specifically mentioned” in the statute. He confirmed that property is not disqualified from tax relief merely because it is “used in a way to reduce emissions through prevention.” Here, 30 TAC § 335.471 *et seq.* is intended to prevent pollution, which necessarily includes the discharge of air contaminants like CO₂ (as explained above). EPA has specifically designated the Pollution Prevention Program as a mechanism for reducing GHG emissions.³⁴ This rule is thus sufficient.

Alternatively, TCEQ believes that this rule is insufficient because it does not “compel the use or installation of a certain technology, equipment, or process.” However, as explained above, the cited rule need not require a specific type of pollution control property, nor a specific method by which the equipment must control pollution. In fact, at the TCEQ Commissioners Agenda Meeting, the Executive Director’s staff agreed that “the rule doesn’t have to specifically name a piece of equipment.” Chairman Shaw also pointed out that, historically, the Commissioners had not required that the specific type of equipment be mandated by the rule, and noted that the Commissioners planned to continue with that approach in the future. That the cited rule does not require the use of a specific technology, equipment, or process is thus irrelevant.

Air Products is subject to the cited rule,³⁵ and recently amended its Pollution Prevention Plan for the Facility to incorporate construction and use of the CCS System as a source reduction activity that reduces CO₂ (which, as explained above and in Air Products’ application, is considered both an air contaminant and a pollutant). ***Thus the cited rule is sufficient, and the installation and use of the CCS System meets or exceeds this regulation.***

- **30 TAC § 101.4 generally prohibits nuisance conditions, and does not require the control of CO₂.**

30 TAC § 101.4 prohibits the discharge of air contaminants that may constitute a nuisance condition. According to TCEQ, this rule does not suffice for purposes of the tax relief program because it does not “require the control of CO₂.” Again, however, this is not the correct standard. The rule or regulation must have been “adopted ... for the *prevention, monitoring, control, or reduction* of air, water, or land pollution” (emphasis added).³⁶ This is a broad

³³ Tex. Tax Code § 11.31(b); 30 TAC § 17.4(a).

³⁴ In EPA’s 2010–2014 Pollution Prevention Program Strategic Plan, the agency announced its intention to identify and leverage pollution prevention opportunities to reach five key goals. EPA’s first goal was to use the Pollution Prevention Program to reduce the generation of GHG emissions to mitigate climate change, including by the promotion of alternative technologies to control GHG. EPA, 2010-2014 Pollution Prevention (P2) Program Strategic Plan 3-4 (February 2010), available at <http://www.epa.gov/p2/pubs/docs/P2StrategicPlan2010-14.pdf>.

³⁵ Pollution Prevention Planning ID Number P06985.

³⁶ Tex. Tax Code § 11.31(b); 30 TAC § 17.4(a).

standard: the rule may be one that controls pollution via numerical emission caps, or a rule that is intended to prevent or monitor pollution.

30 TAC § 101.4 is intended to prevent pollution occurring through discharges of air contaminants that cause nuisance conditions. As explained above, CO₂ is an air contaminant. Additionally, EPA concluded its endangerment finding that GHGs, including CO₂, "may reasonably be anticipated to ... endanger public health."³⁷ EPA based its finding, in part, on its consideration of evidence demonstrating that climate change (to which CO₂ contributes, according to EPA) will cause increases in regional ozone pollution, which is associated with increased risk of respiratory illness and death.³⁸ In this case, Air Products' control of CO₂ is meaningful. Here by definition, the facility is a "major source" of CO₂ and as of July 11, 2012 was subject to full PSD permitting. Presumably, the Agency is not suggesting that controlling what would be a major source does not fall squarely within the rule's intent.

Here, the CCS System captures greater than 90 percent of CO₂ from the process gas stream used in a hydrogen production facility, thereby preventing nuisance conditions associated with CO₂ from arising, as required by 30 TAC § 101.4. ***Thus the cited rule is sufficient, and the installation and use of the CCS System meets or exceeds this regulation.***

- **The cited permits by rule of 30 TAC §§ 106.261, 106.183, 106.371, and 106.478 do not require control of CO₂. Emission limitations associated with permits by rule are stated in § 106.104(a)(4), and CO₂ is expressly excluded as a substance with an emission limitation.**

Air Products cited these rules in response to application Question 5 (Section 9) on the applicable permit numbers for the property equipment, not Question 11 (Section 9) on the cited rule or regulation being met by the construction or installation of the property/equipment.

Issue 2: Please review the answers provided for question 2 and 3 in Section 9 to ensure they are appropriate. If a marketable product is being produced by the property/equipment it cannot be 100% pollution control property/equipment.

Response: We are providing a revised Page 3 of the application to state in Question 2 of Section 9 that the equipment is not used 100% for pollution control.

Issue 3: Please provide a listing of the equipment that is included in the application. What pieces, if any, of the electrical generation unit are included?

Response: Please see Attachment 4 for a list of equipment included in the application. None of the listed equipment is associated with the electrical generation unit.

³⁷ 74 Fed. Reg. 66,496-97 (Dec. 15, 2009).

³⁸ *Id.* at 66,525.

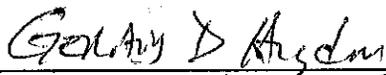
Mr. Chance Goodin
March 25, 2013
Page 11

Issue 4: Please provide an explanation on how each variable of the cost analysis procedure was calculated.

Response: Please see Attachment 5 for an explanation of how each variable of the cost analysis procedure was calculated. Additionally, please note that we are providing a revised Estimated Dollar Value based upon more current information that became available since the date of the application.³⁹ The revised Estimated Dollar Value and updated cost calculations are included in a revised version of Attachment 3, also attached.



Gerald J. Pels
For the Firm



Gerald D. Higdon
For the Firm



³⁹ The original Estimated Dollar Value, as stated in Section 12 of the application, was \$222,613,422. The revised Estimated Dollar Value is \$201,200,000.

ATTACHMENTS

4. City, State, Zip: Port Arthur, TX 77640

Section 7. Appraisal District with Taxing Authority

1. Appraisal District: Jefferson County Appraisal District
2. District Account Number(s): New Property

Section 8. Contact Name

1. Company Name: Air Products and Chemicals, Inc.
2. First Name of Contact: Gerard
3. Last Name of Contact: Thompson
4. Salutation: Mr. Mrs. Ms. Dr. Other:
5. Title: Environmental Manager
6. Mailing Address: 7201 Hamilton Boulevard
7. City, State, Zip: Allentown, PA 18195-1501
8. Phone Number/Fax Number: 610-481-5154/610-716-5590
9. Email Address: thompsgp@airproducts.com
10. Tracking Number (optional):

Section 9. Property/Equipment Description, Applicable Rule, and Environmental Benefit

For each piece, or each category, of pollution control property/equipment for which a use determination is being sought, answer the following questions.

Attach additional response sheets to the application for each piece of integrated pollution control property/equipment if a use determination is being sought for more than one (1) piece.

General Information

1. Name the property/equipment: The Air Products' Port Arthur Plants 1 and 2 CO₂ separation, purification, delivery, and sequestration system.
2. Is the property/equipment used 100% as pollution control equipment? Yes No
If the answer is 'Yes,' explain how it was determined that the equipment is used 100% for pollution control: The Port Arthur CO₂ system is part of a Department of Energy (DOE) project to develop and demonstrate technology to successfully capture, purify, deliver, and sequester CO₂.
3. Does the property/equipment generate a Marketable Product? Yes No
If the answer is 'Yes,' describe the marketable product: Successfully sequestering the CO₂ at the Denbury Resources West Hastings oil field, provides Denbury the ability to enhance its oil recovery from its existing field. This result of sequestration provides a small measure of income to offset a fraction of the cost to separate, purify, transport, and sequester the CO₂.

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Attachment 3

Air Products LLC Port Arthur, Texas
CO2 Separation, Purification, Transport, and Sequestration
Tier III Partial Use Determination

Capital Cost of the New CO2 Plant (w/pipeline, w/o GTG-HRSG): \$238,672,000

Useful Life: 10 Years

Interest Rate: 10%

Net Present Value Marketable Product: \$37,463,000

Production Capacity Factor: 100%

$$\text{CAP Equation} = \frac{(1.00 \times \$238,672,000) - \$37,463,000}{\$238,672,000} \times 100 = 84.3\%$$

$$\text{Eligible Capital Cost: } 0.843 \times \$238,672,000 = \$201,200,000$$

Attachment 4
Port Arthur CO2 - Capital Equipment List

PORT ARTHUR CO2 RECOVERY
1A13 Procurement
1A13 Machinery

- 1A13 CW Pumps
- 1A13 VSA Cooling Water Recycle Pumps
- 1A13 Trim Cooler Recycle Pumps
- 1A13 CT Blowdown Pumps
- 1A13 Waste Sump Lift Pumps
- 1A13 Product Blowers
- 1A13 CO2 Compressor
- 1A13 Rinse Compressors

- 1A13 Seal Gas Dryer
- 1A13 Back-up Seal Gas Compressor
- 1A13 JW Skid
- 1A13 Rinse Oil Recovery Skids
- 1A13 Rinse Comp Aux Skids
- 1A13 HRSG Chemical Dosing Unit
- 1A13 HRSG System
- 1A13 GT System
- 1A13 Cooling Tower System
- 1A13 Instrument Air Skid
- 1A13 Vacuum Blower Inlet Silencer
- 1A13 Vacuum Blower Discharge Silencer
- 1A13 Sidestream Filter

1A13 Mechanical Equipment

- 1A13 SMR Burners
- 1A13 VSA Vessel Internals
- 1A13 Adsorbers Vessels
- 1A13 Surge Tanks
- 1A13 Mole Sieve
- 1A13 VSA Alumina
- 1A13 VSA Ceramic Balls
- 1A13 NH3 SCR Upgrades for SMRs
- 1A13 Drier System

1A13 Yard Separators and Tanks

- 1A13 NG Gas Knock-Out Drum
- 1A13 CO2 Product Compressor Suction Sep
- 1A13 CO2 Product Condensate Drum
- 1A13 CO2 5th Stage Discharge Separator
- 1A13 Cogen Unit Continuous Blowdown Drum
- 1A13 Neutralization System/Tank

1A13 Heat Exchangers

- 1A13 Blower Aftercoolers
- 1A13 CO2 Comp Aftercooler
- 1A13 CO2 Disposal Vaporizer

Attachment 4
Port Arthur CO2 - Capital Equipment List

1A13 HRSG Blowdown Cooler

~~1A13 Electrical Equipment~~

1A13 Vacuum Blower Motor 1st Stage

1A13 Vacuum Blower Motor 2nd Stage

1A13 Vacuum Blower 3rd Stage

1A13 CO2 Product Compressor Motor

1A13 CO2 Rinse Compressor Motor

1A13 GT/ Transformers/ Substation

1A13 69kV Upgrades

1A13 PDC-Electric Bldg

~~1A13 Electrical Components~~

1A13 69KV Step-Up Transformer

1A13 Dead-End Structure

1A13 13.8kV Switchgear Bus Tap Addition

1A13 4160V to 480V Transformer

1A13 13.8kV to 4kV Transformer

1A13 Bus Duct/Cables

1A13 LV VFD

1A13 HV Cable

~~1A13 Process Controls Equipment~~

~~1A13 VSA Controls Equipment~~

1A13 VSA Automatic Valves

1A13 VSA Bulk Instruments

Pending SPMatI Activity

~~1A13 Process Controls Equipment~~

1A13 Control Valves

1A13 Safety Devices

1A13 DCS

1A13 MPC Hardware

1A13 Bulk Instruments

1A13 Transmitters/Manifolds

1A13 Analyzer Bldg

1A13 Analyzer Bldg Equip

1A13 CEMS Equip & Bldg

1A13 Flowmeters

1A13 Paymeters

~~1A13 Mechanical Systems Equipment~~

1A13 Manual Valves

1A13 Traps, Strainers, Misc Devic

1A13 VSA Manual Valves

~~1A13 Prefabricated Packages~~

1A13 ISBL PA1 Piping

1A13 ISBL PA1 Steel/ Pipe Supports

1A13 ISBL PA2 Piping

1A13 ISBL PA2 Steel/ Pipe Supports

1A13 Process Piping assemblies/ skids

1A13 Fuel Gas Skid

Attachment 4
Port Arthur CO2 - Capital Equipment List

- 1A13 VSA Skids
- 1A13 Blower Piping assemblies/skids
- 1A13 Rinse Compressor Skids
- 1A13 OSBL Rack and Yard Steel
- 1A13 OSBL Piping
- ~~1A13 Prefabricated Buildings~~
- 1A13 Spare Parts Building
- 1A13 CW Treatment Bldg Module
- 1A13 Blower Building
- ~~1A13 Freight~~
- 1A13 Freight Road/Rail
- 1A13 Freight Air
- 1A13 Warehousing/Export Boxing
- 1A13 Freight Ocean
- 1A13 Import Duties & Customs Fees
- ~~1A13 Operations Materials~~
- ~~1A13 Plant Materials~~
- 1A13 Commissioning/Start up Parts
- 1A13 Signs & Nameplates
- 1A13 Maintenance Supplies
- 1A13 Office Equipment
- 1A13 Spare Parts Racking / Storag
- 1A13 Maintenance Tools
- 1A13 Safety Equipment
- 1A13 In Plant Radios
- 1A13 PC Hardware & Links
- 1A13 Laboratory Equipment
- 1A13 Initial Chems and Lubes
- ~~1A13 Plant Spares~~
- 1A13 CO2 Product Compressor Spares
- 1A13 Rinse Compressor Spares
- 1A13 Blower Spares
- 1A13 Instr Air Comp Spares
- 1A13 Dryer Unit Spares
- 1A13 Oil Removal Skid Spares
- 1A13 GT/HRSG - LTSA Spares
- 1A13 GT/HRSG - non - LTSA Spares
- 1A13 GT/HRSG - other Spares
- 1A13 Plant Spares - misc.
- 1A13 JW Spares
- 1A13 Pump Spares
- 1A13 Burner Spares
- 1A13 Safety Valve Spares
- 1A13 Valve & Instr Spares
- 1A13 VSA Skid Valve Spares
- 1A13 Analyzer Spares
- 1A13 DCS Spares

Attachment 4
Port Arthur CO2 - Capital Equipment List

1A13 Cooling Tower Spares

1A13 Motor Spares

1A13 HV/LV Electrical Gear Spares

1B113 Pipe

1B113 Coating

1B113 Fittings

1B113 Excess Flow Valves

1B113 Inline Valves

1B113 EFV Station Valves

1B113 Paymeter

1B113 Instrumentation

1B113 Operations Materials

Attachment 5

Notice of Technical Deficiency - January 24, 2013

Issue 4: Please provide an explanation on how each variable of the cost analysis procedure was calculated.

- Capital Cost New – Project capital costs were provided by the Air Products Senior Project Senior Manager
- Capital Cost Old – Not applicable, no existing facility
- Production Capacity Old – Not applicable, no existing facility
- Production Capacity New – 100%: New facility
- Marketable Product Value – Ten years of projected product (CO₂) sales provided by Commercial and Project Management were employed.
- Production Cost - Ten years of project operation and maintenance costs provided by Global Operations were employed.
- Interest Rate – 10% per 30 TAC §17.17(c)(2)
- Production Capacity Factor – 1.0: New facility
- Useful Life – 10 year projection provided by APCI Commercial Management.

16632

Texas Commission on Environmental Quality

Use Determination for Pollution Control Property Application

A person seeking a use determination must complete this application form. For assistance in completing the application form please refer to the *Instructions for Use Determination for Pollution Control Property Application Form TCEQ-00611*, as well as the rules governing the Tax Relief Program in Title 30 Texas Administrative Code Chapter 17 (30 TAC 17). Information relating to completing this application form is also available in the TCEQ regulatory guidance document, *Property-Tax Exemptions for Pollution Control Property, RG-461*. For additional assistance, please call the Tax Relief Program at 512-239-4900.

You must supply information for each field of this application form unless otherwise noted.

Section 1. Eligibility

1. Is the property/equipment subject to any lease or lease-to-own agreement? Yes No
2. Is the property/equipment used solely to manufacture or produce a product or provide a service that prevents, monitors, controls, or reduces air, water or land pollution?
Yes No
3. Was the property/equipment acquired, constructed, installed, or replaced before January 1, 1994? Yes No

If the answer to any of these questions is 'Yes', then the property/equipment is not eligible for a tax exemption under this program.

Section 2. General Information

1. What is the type of ownership of this facility?

Corporation
Sole Proprietor
Partnership

Limited Partner
Utility

Other: Limited Liability Company

2. Size of Company: Number of Employees

1 to 99
100 to 499

500 to 999
1,000 to 1,999

2,000 to 4,999
5,000 or more

3. Business Description: (Briefly describe the type of business or activity at the facility)

Hydrogen and steam production and electricity generation to supply adjacent Valero Energy Corporations petroleum refinery along with the separation, purification, delivery, and sequestraion of carbon dioxide through Denbury Resources, Inc.

4. Provide the North American Industry Classification System (NAICS) six-digit code for this facility. 325120

Section 3. Type of Application and Fee

1. Select only one:

Tier I – Fee: \$150

Tier II – Fee: \$1,000

Tier III – Fee: \$2,500

2. Payment Information:

Check/Money Order/Electronic Payment Receipt Number:

Payment Type: Check

Payment Amount: \$2500.00

Name on payment: Air Products LLC

Total Amount: \$2500.00

NOTE: Enclose a check, money order to the TCEQ, or a copy of the ePay receipt along with the application to cover the required fee.

Section 4. Property/Equipment Owner Information

1. Company Name of Owner: Air Products LLC

2. Mailing Address: 7201 Hamilton Boulevard

3. City, State, Zip: Allentown, PA, 18195

4. Customer Number (CN): 602299257

5. Regulated Entity Number (RN):101941284

6. Is this property/equipment owned by the CN listed in Question 4? Yes No

If the answer is 'No,' please explain:

7. Is this property/equipment leased from a third party? Yes No

If the answer is 'Yes,' please explain:

8. Is this property/equipment operated by the RN listed in Question 5? Yes No

If the answer is 'No,' please explain:

Section 5. Name of Property/Equipment Operator (If different from Owner)

1. Company Name:

2. Mailing Address:

3. City, State, Zip:

4. Customer Number (CN):

5. Regulated Entity Number (RN):

Section 6. Physical Location of Property/Equipment

1. Name of Facility or Unit where the property/equipment is physically located: Air Products LLC

2. Type of Mfg. Process or Service: Hydrogen, electric power, and steam production

3. Street Address: 1801 South Gulfway Drive, Gate 37

4. City, State, Zip: Port Arthur, TX 77640

Section 7. Appraisal District with Taxing Authority

1. Appraisal District: Jefferson County Appraisal District and Brazoria County Appraisal District. NOTE: Of the total project costs noted in Section 12, \$6.2 million is in the Brazoria County Appraisal District. The balance is in the Jefferson County Appraisal District.
- 2.
3. District Account Number(s): New Property

Section 8. Contact Name

1. Company Name: Air Products and Chemicals, Inc.
2. First Name of Contact: Gerard
3. Last Name of Contact: Thompson
4. Salutation: Mr. Mrs. Ms. Dr. Other:
5. Title: Environmental Manager
6. Mailing Address: 7201 Hamilton Boulevard
7. City, State, Zip: Allentown, PA 18195-1501
8. Phone Number/Fax Number: 610-481-5154/610-716-5590
9. Email Address: thompsgp@airproducts.com
10. Tracking Number (optional):

Section 9. Property/Equipment Description, Applicable Rule, and Environmental Benefit

For each piece, or each category, of pollution control property/equipment for which a use determination is being sought, answer the following questions.

Attach additional response sheets to the application for each piece of integrated pollution control property/equipment if a use determination is being sought for more than one (1) piece.

General Information

1. Name the property/equipment: The Air Products' Port Arthur Plants 1 and 2 CO₂ separation, purification, delivery, and sequestration system.
2. Is the property/equipment used 100% as pollution control equipment? Yes No
If the answer is 'Yes,' explain how it was determined that the equipment is used 100% for pollution control: The Port Arthur CO₂ system is part of a Department of Energy (DOE) project to develop and demonstrate technology to successfully capture, purify, deliver, and sequester CO₂.
3. Does the property/equipment generate a Marketable Product? Yes No
If the answer is 'Yes,' describe the marketable product: Successfully sequestering the CO₂ at the Denbury Resources West Hastings oil field, provides Denbury the ability to enhance

of income to offset a fraction of the cost to separate, purify, transport, and sequester the CO₂.

What is the appropriate Tier I Table or Expedited Review List number? 30 TAC §17.17(b) Expedited Review List Pollution Control Property, B-16 Carbon Dioxide Capture and Geological Sequestration Equipment.

4. Is the property/equipment integrated pollution control equipment? Yes No

If the answer is 'No,' separate applications must be filed for each piece of property/equipment.

5. List applicable permit number(s) for the property/equipment: 30 TAC 106.261, 183, 371, and 478,

Incremental Cost Difference

6. Is the Tier I Table percentage based on the incremental cost difference? Yes No

If the answer is 'Yes,' answer the following questions:

7. What is the cost of the new piece of property/equipment?

8. What is the cost of the comparable property/equipment?

9. How was the value of the comparable property/equipment calculated?

Property/Equipment Description

10. Describe the property/equipment. (What is it? Where is it? How is it used?) The CO₂ control system separates CO₂ from the normal plant process syngas, purifies the CO₂, compresses it and transports it to final sequestration via pipeline. Please see Attachment 1 for a more complete project and process description and Attachment 2 for a process flow diagram.

Applicable Rule

11. What adopted environmental rule or regulation is being met by the construction or installation of the property/equipment? The citation must be to the subsection level. 40 CFR §§ 51.166 and 52.21; 30 TAC § 116.115(b); 30 TAC §§ 335.471 et seq. , 335.475. See also attached memorandum from Locke Lord LLP.

Environmental Benefit

12. What is the anticipated environmental benefit related to the construction or installation of the property/equipment? The capture and sequestration of more than one million tons per year of carbon dioxide currently emitted to the atmosphere.

Section 10. Process Flow Diagram (Optional)

Attach documentation to the application showing a Process Flow Diagram for the property/equipment.

Section 11. Partial-Use Percentage Calculation

This section must be completed for all Tier III applications. Attach documentation to the application showing the calculations used to determine the partial-use percentage for the property/equipment.

Section 12. Property Categories and Costs

List each piece of property/equipment of integrated pollution control property/equipment for which a use determination is being sought.

Property/Equipment Name	Tier 1 Table No. or Expedited Review List No.	Use Percent	Estimated Dollar Value
Land:			
Property: Separation, purification, transport, and sequestration of CO ₂ from the Port Arthur syngas stream.	B-16	90.91	\$222,613,422
Property:			
Property:			
Total:			\$222,613,422

Attach additional response sheets to the application if more than three (3) pieces.

NOTE: Separate applications must be filed for each piece of nonintegrated pollution control property/equipment.

Section 13. Certification Signature

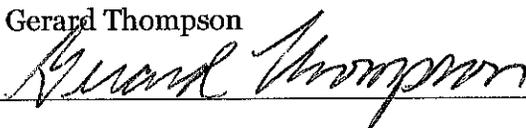
Must be signed by owner or designated representative.

By signing this application, I certify that I am duly authorized to submit this application form to the TCEQ and that the information supplied here is true and accurate to the best of my knowledge and belief.

Printed Name: Gerard Thompson

Date: 5/25/2012

Signature: _____



Title: Environmental Manager

Company Name: Air Products and Chemicals, Inc.

Under Texas Penal Code 37.10, if you make a false statement on this application, you could receive a jail term of up to one year and a fine up to \$2,000, or a prison term of two to 10 years and a fine of up to \$5,000.

Application Submission

Send the completed application and the appropriate fee, along with a complete copy of the completed application for the appraisal district, to:

U.S. Mail

Cashiers Office, MC 214
Tax Relief Program
TCEQ
PO Box 13088
Austin TX 78711-3088

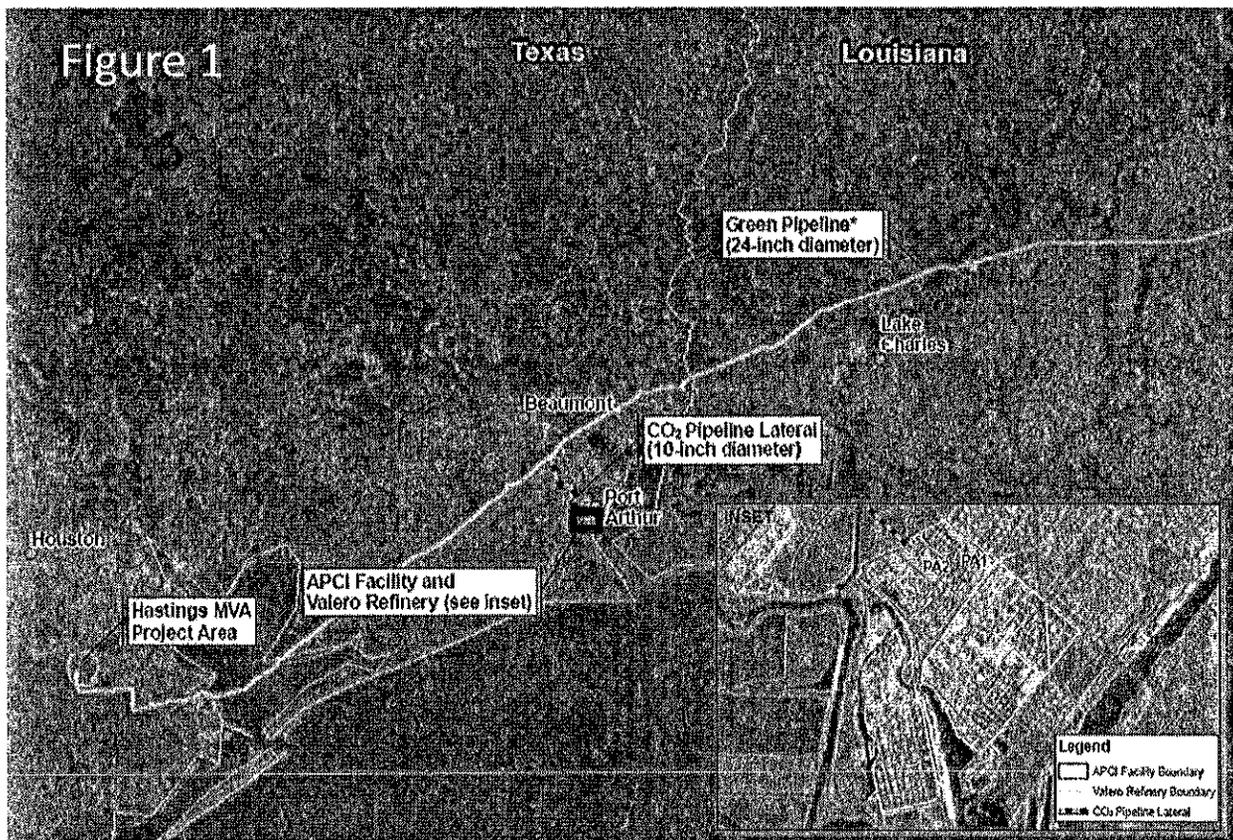
Physical Address

Cashier's Office, MC 214
Building A
TCEQ
12100 Park 35 Circle
Austin TX 78753

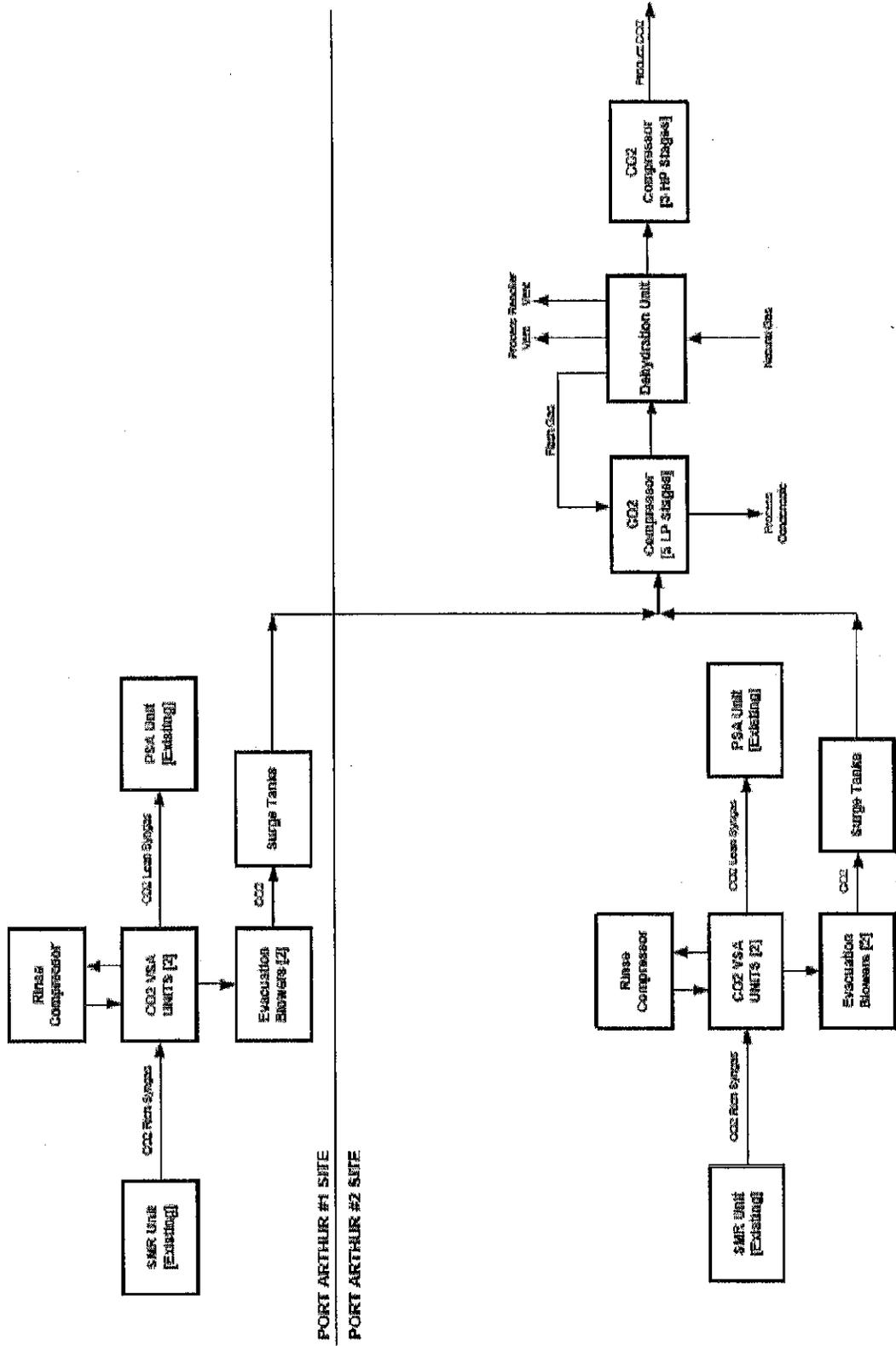
Attachment 1

PROCESS DESCRIPTION AND LOCATION

The Air Products' Port Arthur CO₂ Capture Units are integrated with the existing Port Arthur 1 (PA1) and Port Arthur 2 (PA2) plants each of which produce hydrogen, electric power, and steam for use by the Valero Energy Corporation refinery. The PA1 and PA2 hydrogen plants are located within the Valero Port Arthur Refinery near Port Arthur, Texas. Air Products has operated PA1 since 2000 and PA2 since 2006. Both the PA1 and PA2 plants use SMR technology for H₂ production and deliver the hydrogen to Valero and other West Gulf Coast customers via pipeline. Each CO₂ Capture Unit will recover CO₂ from the syngas generated by the steam methane reformer (SMR) at each site. CO₂ capture at each site will be achieved through two Vacuum Swing Adsorption (VSA) trains each of which will be nominally capable of recovering up to 760 tons/day of CO₂. Captured CO₂ from the four VSA trains are aggregated at the Port Arthur 2 site where it is compressed and dehydrated for delivery to the Denbury Resources, Inc. West Hastings oil field in Brazoria County via pipeline (See Figure 1 below) To make possible the final sequestration of the separated CO₂, Air Products installed an approximately 12.8 mile pipeline to deliver the CO₂.



Attachment 2 Air Products Port Arthur CO2 Separation and Purification



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Attachment 3

Air Products LLC Port Arthur, Texas
CO2 Separation, Purification, Transport, and Sequestration
Tier III Partial Use Determination

Capital Cost of the New CO2 Plant (w/pipeline, w/o GTG-HRSG): \$244,872,315

Useful Life: 10 Years

Interest Rate: 10%

Net Present Value Marketable Product: \$22,268,726

Production Capacity Factor: 100%

$$\text{CAP Equation} = \frac{(1.00 \times \$244,872,315) - \$22,268,726}{\$244,872,315} \times 100 = 90.91\%$$

$$\text{Eligible Capital Cost: } 0.9091 \times \$244,872,315 = \$222,613,422$$

Memorandum

Date: May 25, 2012

To: Tax Relief Program, MC 110
Building F
Texas Commission on Environmental Quality ("TCEQ")
Attention: Susana Hildebrand
12100 Park 35 Circle
Austin TX 78753

From: Gerald J. Pels
Gerald D. Higdon
ATTORNEYS FOR AIR PRODUCTS LLC

Subject: Air Products LLC; Use Determination for Pollution Control Property Application.

This Memorandum accompanies and supports the Use Determination for Pollution Control Property Application filed by Air Products LLC ("Air Products") associated with CO₂ capture, transportation, and sequestration monitoring and verification equipment installed in connection with the company's hydrogen production facility at 1801 South Gulfway Drive, Port Arthur, Texas (the "Facility") and at the West Hastings oil field in which the CO₂ will be used for enhanced oil recovery (such capture, transportation, and sequestration monitoring and verification equipment being collectively referred to as the "CCS System"). Although Air Products is also simultaneously filing related applications for Pollution Control Property used in connection with a new gas turbine and Heat Recovery Steam Generator cogeneration system

installed at the Facility, and wastewater separation, collection, treatment and transport equipment at the Facility, this memorandum focuses only upon the CCS System.

I. INTRODUCTION¹

The U.S. Department of Energy ("DOE") awarded a financial assistance grant under the American Recovery and Reinvestment Act of 2009 in the form of a cooperative agreement to Air Products. The DOE selected Air Products to receive funding from the Industrial Carbon Capture and Sequestration ("ICCS") program at the National Energy Technology Laboratory ("NETL") for its Recovery Act: Demonstration of CO₂ Capture and Sequestration of Steam Methane Reforming Process Gas Used for Large Scale Hydrogen Production project. DOE will provide financial assistance in a cost sharing arrangement with Air Products. Total cost of the proposed project, including capital, operations and maintenance, and selling, general and related expenses, is estimated at \$431 million.

Air Products will design and demonstrate a state-of-the-art system to concentrate CO₂ from two steam methane reformer ("SMR") hydrogen ("H₂") production plants, and purify the CO₂ to make it suitable for delivery via pipeline for injection and sequestration in an existing oil field for an enhanced oil recovery ("EOR") project. Air Products proposes to retrofit each of its two Port Arthur SMRs, located at the Facility, with a vacuum swing adsorption ("VSA") system to separate the CO₂ from the process gas stream, followed by compression and drying processes. This process will convert the initial stream, which contains greater than ten percent (10%) CO₂, to greater than 97 percent CO₂ purity for delivery to a proposed 12.8-mile-long pipeline lateral, with negligible impact on the efficiency of H₂ production.

The technology that Air Products will employ will capture greater than 90 percent of the

¹ See, Final Environmental Site Assessment (DOE/EA-1846), dated June 2011, prepared by the U.S. Department of Energy and National Energy Technology Laboratory for a more complete discussion of the CCS System.

CO₂ from the process gas stream used in a world-class scale H₂ production facility. The project will involve engineering and design, construction, commissioning and startup, and the operation of all components of the project. A monitoring, verification, and accounting ("MVA") program to monitor CO₂ injection and sequestration in a portion of the West Hastings Field in Brazoria County, Texas will also be designed and implemented as part of this project.

This project supports the goal of advancing Carbon Capture and Sequestration ("CCS") technologies from the demonstration stage to commercial scale viability.

The three major components of the project are:

- Design, construction, and operation of a carbon capture facility at the two existing Air Products Port Arthur SMR H₂ production plants (PA1 and PA2) located within the existing Valero Port Arthur Refinery;
- Design, construction, and operation of a 12.8-mile-long, 8-inch-diameter pipeline lateral to transport compressed CO₂ from the Port Arthur carbon capture facility to the Denbury Green Pipeline at a point north of Port Arthur; and
- Perform MVA activities at a designated site within the existing West Hastings Field south of Houston, Texas.

Collectively, the CCS System will be constructed, installed, and used to meet or exceed laws, rules or regulations adopted by the Environmental Protection Agency ("EPA") and/or the Texas Commission on Environmental Quality ("TCEQ") for prevention, monitoring, control, or reduction of a pollution. Thus, the CCS System constitutes Pollution Control Property within the meaning of 30 Tex. Admin. Code. § 17.2 (7), and Tex. Tax Code § 11.31(b). As set forth in Air Products application, the CCS System meets the other eligibility conditions set forth in 30 Tex. Admin. Code § 17.4(a), and consequently, a positive use determination is warranted.

II. APPLICABLE ENVIRONMENTAL RULES OR REGULATIONS BEING MET OR EXCEEDED BY THE CCS SYSTEM

Texas law provides that "[a] person is entitled to an exemption from taxation of all or part of real and personal property that the person owns and that is used wholly or partly as a facility, device, or method for the control of air, water, or land pollution." Texas Tax Code § 11.31(a).

The term "facility, device, or method for the control of air, water, or land pollution" means:

. . . any structure, building, installation, excavation, machinery, equipment, or device, and any attachment or addition to or reconstruction, replacement, or improvement of that property, that is used, constructed, acquired, or installed wholly or partly *to meet or exceed rules or regulations adopted by any environmental protection agency of the United States, this state, or a political subdivision of this state* for the prevention, monitoring, control, or reduction of air, water, or land pollution.

Texas Tax Code § 11.31(b) (emphasis added).

The CCS System is among the type of equipment that TCEQ has specifically identified as pollution control equipment eligible for the pollution control property tax exemption under Texas Tax Code § 11.31, provided that the EPA has adopted a final rule or regulation regulating CO₂ as a pollutant.² EPA has adopted such a final rule or regulation regulating carbon dioxide as a pollutant pursuant to its Light Duty Vehicle Rule, the greenhouse gas requirements of which became effective January 2, 2011.³ Moreover, pursuant to EPA's Tailoring Rule, effective August 2, 2010, greenhouse gases ("GHG"), including carbon dioxide, became regulated pollutants at major stationary sources as early as January 2, 2011.⁴ Permitting of emissions associated with the CCS System commenced in April 2011, after the effective date of EPA's adoption of each of these final rules regulating carbon dioxide as a pollutant.⁵ Through a

² See Tex. Tax Code § 11.31(k)(16).

³ See, 75 Fed. Reg. 25,324 (May 7, 2010).

⁴ 75 Fed. Reg. 31514 (June 3, 2010).

⁵ See, Standard Permit Registration Number 95649, and Permit by Rule Registration Number 95892, and the

straightforward application of the statutory language, the CCS System qualifies for the pollution control property tax exemption.

The TCEQ has nevertheless informally communicated to Air Products that because at the time of Air Products' applications for air authorizations, the final rules regulating carbon dioxide as a pollutant only applied to mobile sources, and new or modified major stationary sources that were otherwise subject to Prevention of Significant Deterioration ("PSD") or Title V permitting for pollutants other than GHG⁶, the plain language of §11.31 does not apply to the CCS System, and the installation of the CCS System does not meet or exceed applicable rules or regulations for the prevention, monitoring, control, or reduction of air, water, or land pollution. TCEQ has advanced this argument notwithstanding that the Texas Tax Code and the TCEQ's rules make none of these distinctions regarding the type of sources that must be the subject of EPA's final rule regulating carbon dioxide as a pollutant. The statute and the TCEQ's rules only stipulate that "an EPA final rule regulating carbon dioxide as a pollutant" be effective.⁷ The Light Duty Vehicle Rule and the Tailoring Rule fulfill that stipulation.

Yet even considering the TCEQ's preliminary feedback, as more fully explained below, the installation and use of the CCS System meet or exceed several TCEQ and/or EPA rules or regulations for the prevention, monitoring, control, or reduction of air, water, or land pollution.

A. The Installation and Use of the CCS System Meet or Exceed 40 CFR § 51.166 and § 52.21.

With or without construction and operation of the CCS System, Air Products' facility has

applications therefor, dated April 7, 2011, and April 21, 2011, respectively.

⁶ The facility modifications for the installation of the CCS System did not involve an increase in non-GHG PSD or Title V pollutant emissions that would at that time otherwise trigger PSD or Title V permitting requirements. Based upon this facility's CO₂ potential emissions, this facility became subject to PSD and Title V operating permit requirements under the Tailoring Rule on July 1, 2011, as such permits are renewed or revised, or potentially as the Facility is modified. 75 Fed. Reg. 31516.

⁷ Tex. Tax Code § 11.31(k)(16). 30 Tex. Admin. Code § 17.17(b), Table at B-16.

the potential to emit significantly more than 1,000,000 tons of CO₂ per year, and thus easily qualifies as a major source of CO₂. The modifications associated with the CCS System also involve the installation of a new cogeneration unit to supply electricity to the CO₂ removal units. Without consideration of the capture controls represented by the CCS System, the aggregate increase in CO₂ emissions associated with these modifications would have exceeded 100,000 tons per year. Based upon the Facility's incremental potential CO₂ emissions, the Facility was expressly subject to PSD and Title V operating permit requirements under the Tailoring Rule on July 1, 2011.⁸ Had Air Products waited a mere 3 months to submit its applications for air authorizations associated with the CCS System, Air Products would have had to fulfill PSD technology review requirements and apply best available control technology ("BACT") for each regulated NSR pollutant that it would have the potential to emit in significant amounts, including, in this case, GHG, and thus CO₂.⁹ EPA has developed BACT guidance for implementing these new PSD permitting requirements that expressly include carbon capture and sequestration as one of the control technologies to consider as a potentially viable CO₂ control for modification projects at hydrogen production facilities.¹⁰ Consequently, had Air Products submitted its air authorization applications in July 2011, rather than April 2011, given the DOE funding available in this instance, construction and use of the CCS System represents a viable control for this project that would have met or exceeded the requirements of 40 CFR 51.166 and 52.21 to identify and implement CO₂ emission control technology accepted as BACT. By seeking authorization to construct and operate the CCS System when it did, Air Products, in essence, has implemented an emission control technology that meets or exceeds the definition of

⁸ 75 Fed. Reg. 31516

⁹ 40 CFR 51.166(j), and 52.21(j).

¹⁰ PSD and Title V Permitting Guidance for Greenhouse Gases, EPA-457/B-11-001, March 2011, Appendix H.

BACT for CO₂ emissions from its Facility at a faster pace than otherwise would have been required.¹¹ With the benefit of DOE funding, the installation and use of CCS System at the Facility thus also serves to *exceed* the requirements of 40 CFR 51.166 and 52.21, and a positive use determination from the TCEQ therefore is warranted for the CCS System.

B. The Installation and Use of the CCS System Meet or Exceed 30 Tex. Admin. Code § 116.115(b) and § 101.4.

A holder of an air emissions permit shall comply with conditions to its permit.¹² Among those conditions is the requirement that total emissions of air contaminants from any of the sources of emissions shall not exceed the values stated in the table attached to the permit entitled "Emission Sources - Maximum Allowable Emission Rates."¹³

An air contaminant includes any gas produced by any process other than natural.¹⁴ Accordingly, the CO₂ emitted by the Facility is an air contaminant, especially in light of the Supreme Court's determination that GHG, including CO₂, is a pollutant under the Federal Clean Air Act.¹⁵ Consequently, the Facility's CO₂ emissions must be included within the "total emissions" from sources that must not exceed the values stated in the table attached to Air Products' air permit for its Facility.

CO₂, however, is not listed in the Maximum Allowable Emission Rates table affixed to Air Products' permit.¹⁶ This omission can mean one of two things: (1) CO₂ emissions are not limited, or (2) no emissions of CO₂ are permitted. The first interpretation is consistent with existing regulatory practice. Thus, the control of CO₂ emissions using the CCS System

¹¹ Air products understands that while BACT for CO₂ has been recognized to include CCS, CCS is not the exclusive means to establish BACT for permitting purposes.

¹² 30 Tex. Admin. Code §116.115(b).

¹³ *Id.*, § 116.115(b)(F).

¹⁴ Tex. Health & Safety Code § 382.003(2)

¹⁵ *Massachusetts v. EPA*, 127 S.Ct. 1438 (2007).

¹⁶ Air Products' Air Quality Permit 39693 and N63, dated December 15, 2009.

necessarily must exceed the regulatory requirement under 30 Tex. Admin. Code, § 116.115(b)(F). If, on the other hand, the illogical second interpretation applies, then the CCS System at least serves as a control used in an effort to meet the regulation. In either case, the CCS System is property used to meet or exceed applicable rules or regulations for the prevention, monitoring, control, or reduction of air, water, or land pollution, and thus is pollution control property within the meaning of 30 Tex. Admin. Code § 17.2(7). Moreover, reduction of CO₂ emissions in this manner ensures that Air Products meets or exceeds the general requirements set forth in 30 Tex. Admin. Code § 101.4 as to CO₂. A positive use determination from the TCEQ with respect to the CCS System is thus justified.

C. The Installation and Use of the CCS System Meet or Exceed 30 Tex. Admin. Code §§ 335.471 et seq.

Air Products is subject to Pollution Prevention Planning requirements under 30 Tex. Admin. Code §§ 335.471 et seq.¹⁷ Under these regulations, Air Products must identify source reduction and waste minimization projects to be undertaken.¹⁸ "Source reduction" has the meaning assigned by the Federal Pollution Prevention Act of 1990, and includes any practice that reduces the amount of any pollutant or contaminant entering into the environment, or that reduces the hazards to public health and the environment associated with the release of such pollutants or contaminants.¹⁹ Source reduction expressly includes equipment or technology modifications that accomplish these goals.²⁰

"Pollutants or contaminants" include any substance that after release into the environment may reasonably be anticipated to cause a variety of adverse effects upon any

¹⁷ POLLUTION PREVENTION PLANNING ID Number P06985.

¹⁸ 30 Tex. Admin. Code §§335.474(1)(B) and (C)

¹⁹ 30 Tex. Admin. Code §335.471(13).

²⁰ *Id.*

organism.²¹ In its endangerment finding, EPA expressly stated that GHG, including CO₂, “may reasonably be anticipated to . . . endanger public health. . . .”²² EPA based its finding, in part, upon its consideration of evidence demonstrating that climate change to which it asserts CO₂ contributes will cause increases in regional ozone pollution, with associated increases in the risk of respiratory illnesses and premature death.²³ Based upon EPA’s reasoning, CO₂ thus constitutes a pollutant which Pollution Prevention Planning is designed to and may address. In fact, EPA reached this same conclusion under the federal Pollution Prevention Act, to which the definition of “source reduction” is tied under 30 Tex. Admin. Code §335.471(13).

In February 2010, EPA issued its 2010 – 2014 Pollution Prevention Program Strategic Plan.²⁴ In that Strategic Plan, EPA announced its intention to identify and leverage pollution prevention opportunities to reach five key goals. EPA’s first goal was to use the Pollution Prevention Program to reduce the generation of GHG emissions to mitigate climate change, including by the promotion of alternative technologies to control GHG.²⁵

As stated, Air Products is required to engage in pollution prevention planning with its attendant source reduction efforts pursuant to 30 Tex. Admin. Code §§ 335.471 et seq. Air Products has recently amended its Pollution Prevention Plan for the Facility to incorporate construction and use of the CCS System as a source reduction activity because of its unique viability at the Facility. Thus, the installation and use of the CCS Facility meets or exceeds regulations adopted by the TCEQ for the prevention, monitoring, control, or reduction of air,

²¹ 30 Tex. Admin. Code §335.471(10).

²² 74 Fed. Reg. 66,496, 66,497.

²³ *Id.*, at 66,525.

²⁴ <http://www.epa.gov/p2/pubs/docs/P2StrategicPlan2010-14.pdf>

²⁵ *Id.*, at 3-4.

water, or land pollution, and Air Products is entitled to a positive use determination from the TCEQ with respect to the CCS System.

III. PUBLIC POLICY STRONGLY SUPPORTS AIR PRODUCTS' APPLICATION AND A POSITIVE USE DETERMINATION

CO₂ emissions from industrial sources have been linked to climate change, and because of that linkage EPA has concluded that GHG, including CO₂, endanger the public health and welfare.²⁶ The pursuit of widespread cost effective deployment of CCS as a means of controlling CO₂ emissions has thus become a national priority.²⁷

Air Products' CCS System is one of a handful of projects to receive U.S. Department of Energy funding in pursuit of advancing the viability of commercial scale CCS technologies. The federal government and Air Products are together investing several hundred million dollars on a project the express purpose of which is to prevent, monitor, control, or reduce air pollution in the form of CO₂ emissions. Without a positive use determination from the TCEQ in response to Air Products' application, the economic viability of this nationally-sponsored project is jeopardized, and the data, experience, and lessons that the project may provide to inform future policy decisions may not be fully realized. Public policy considerations argue strongly in support of a positive use determination from the TCEQ.

IV. CONCLUSION

As shown above, Air Products has demonstrated that environmental rules and regulations are being and will be met or exceeded by the CCS System, and thus the CCS System properly qualifies as pollution control property. The CCS System is precisely the type of equipment that should qualify as pollution control property, especially in light of prevailing federal public policy

²⁶ 74 Fed. Reg. 66,496.

²⁷ Report of the Interagency Task Force on Carbon Capture and Storage, p. 7.

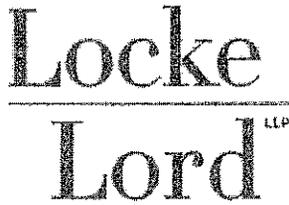
Texas Commission on Environmental Quality ("TCEQ")

May 25, 2012

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that encourages the reduction of CO₂ emissions and that seeks to facilitate the commercial deployment of CCS technology. Accordingly, the TCEQ should grant a positive use determination in response to Air Products' application with respect to the CCS System.

Please feel free to contact us or the applicant directly if we may provide additional information.



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May 30, 2012

Texas Commission on Environmental Quality
Tax Relief for Pollution Control Property Program
Building F, Mail Code 110
12100 Park 35 Circle
Austin, Texas 78753

Re: *Air Products LLC*; Use Determination for Pollution Control Property Applications

Ladies and Gentlemen:

We represent Air Products LLC. We have enclosed the following documents:

- (1) Completed Use Determination for Pollution Control Property Application for Plants 1 and 2 CO₂ separation, purification, delivery and sequestration system, with the following Attachments ("Application No. 1"):
 - (a) Attachment 1;
 - (b) Attachment 2;
 - (c) Attachment 3;
 - (d) Memorandum, dated May 25, 2012, by Locke Lord LLP; and
 - (e) Air Products Check No. 1000030935 in the amount of \$2,500.00 (tendered to the Cashier's Office only).

- (2) Completed Use Determination for Pollution Control Property Application for Low NO_x burners, Selective Catalytic Reduction, an ammonia analyzer and a NO_x gas analyzer with the following Attachments ("Application No. 2"):
 - (a) Attachment 1;
 - (b) Attachment 2;
 - (c) Attachment 3; and

Atlanta, Austin, Chicago, Dallas, Hong Kong, Houston, London, Los Angeles, New Orleans, New York, Sacramento Washington DC

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- (d) Air Products Check No. 1000030936 in the amount of \$150.00 (tendered to the Cashier's Office only).
- (3) Two complete copies of completed Application No. 1 (for equipment located in two appraisal districts); and
- (4) A complete copy of completed Application No. 2.

We will follow up with your office regarding these applications in due course. We appreciate the commission's consideration of the enclosed applications.

Very truly yours,


Gerald D. Higdon
For the Firm
By permission
Cone

GDH/cms
Enclosures

cc: Mr. Jack Cernobyl, Air Products LLC
Gerald J. Pels, Locke Lord LLP

Application Review Summary

Application Number: 16632
Company: Air Products, LLC
Facility: Air Products Port Arthur Plant
County: Jefferson
Tier: III
Estimated Cost of Property: \$238,672,000.00
Project Reviewer: Ronald Hatlett

Description of Property

equipment installed to separate, purify, transport, and sequester CO₂.

Tier III Partial Percentage: 90.91%

Environmental Benefit

Use of the equipment will capture and sequester more than one million tons per year of carbon dioxide currently emitted to the atmosphere.

Rule Citation(s)

The following rules are listed on the application:

40 CFR §51.166 --Requirements for Preparation, Adoption, and Submittal of Implementation Plans: States must inventory emission sources located on nontribal lands and report this information to EPA.

40 CFR §52.21 -- Approval and Promulgation of Implementation Plans: Prevention of significant deterioration of air quality.

30 TAC §116.115(b): Control of Air Pollution by Permits for New Construction or Modification: General and Special Conditions; (b) General conditions. Holders of permits, special permits, standard permits, and special exemptions shall comply with the following: (1) the general conditions contained in the permit document if issued or amended prior to August 16, 1994.

30 TAC §335.471: Pollution Prevention: Source Reduction and Waste Minimization: Definition section.

30 TAC §335.475: Pollution Prevention: Source Reduction and Waste Minimization: Implementation: Pollution Prevention Plan Requirements. Facilities subject to this subchapter shall develop a pollution prevention plan. The executive summary and certificate of completeness shall be submitted to the executive director. Facilities subject to this subchapter are required to renew their plan every five years.

30 TAC §101.4: General Air Quality Rules; General Rules; Nuisance. No person shall discharge air contaminants in a concentration that could harm human health or the environment.

The rules do not require the installation of a carbon sequestration system.

Final Determination

A negative use determination is issued for the following reasons:

- 40 C.F.R. § 51.166 requires States to inventory emission sources located on nontribal lands and report this information to the U.S. EPA; it does not place any requirements on the Applicant or its Facility.
- 40 C.F.R. § 52.21 does not apply because the Facility does not have a Prevention of Significant Deterioration (PSD) permit.
- 30 TAC § 116.115(b) does not apply because the Facility's Air Quality Permit (Nos. 39693 and N63) does not contain a Maximum Allowable Emission Rate for the control of CO₂.
- 30 TAC § 335.471 et seq. and 30 TAC § 335.475 implement the Waste Reduction Policy Act of 1991. These sections encourage source reduction and waste minimization through the development of Pollution Prevention (P2) Plans. While these sections impose reporting requirements, they do not require the Applicant to install waste minimization or recycling equipment.
- 30 TAC § 101.4 is a general prohibition against causing nuisance conditions, and does not require the control of CO₂ or the construction or installation of the subject property.

Administrative Review

Administrative Review Chronology

Application Received: 05/31/12

Application Administrative Review Start: 06/08/12

Application Administrative Deficiency Determined: 06/08/12

According to the response provided in Section 7 this application contains property located in two appraisal districts. Due to the requirement that we notify the appropriate appraisal district when an application is received and when a final determination is issued applications are limited to integrated property located in one county. Please remove the property located in Brazoria County from this application.

Application Administrative Notice of Deficiency Mailed: 06/12/12

Application Administrative Notice of Deficiency Response Due: 07/15/12

Application Administrative Notice of Deficiency Response Received: 07/02/12

Application Administrative Review Complete: 07/20/12

Fee Information

Application Fee Paid: \$2,500.00

Fee Receipt Number(s):

R229072

Does Applicant Have Past Due Fees: Yes.

Technical Review

Technical Review Chronology

Application Technical Review Started: 10/15/12

Application Technical Deficiency Determined: 01/24/13

Issue 1: The rule citations provided do not require the collection and sequestration of CO₂. In order to be eligible for a positive use determination the property must have been placed in service in order to meet or exceed an adopted environmental rule. Specifically, 40 CFR §51.166 requires States to inventory emission sources located on nontribal lands and report this information to EPA; it does not place any requirements on the Applicant or its Facility. 40 CFR §52.21 does not apply since the Facility does not have a Prevention of Significant Deterioration (PSD) permit. 30 TAC §116.115(b) does not apply because the Facility's Air Quality Permit (Nos. 39693 and N63) does not contain a Maximum Allowable Emission Rate for the control of CO₂. 30 TAC §335.471 contains definitions for Chapter 335 and does not place any requirements on the Applicant or its Facility. 30 TAC §335.475 requires the development of a Pollution Prevention Plan and the renewal of the plan every five years. This provision does not impose source reduction or waste minimization requirements, nor does it compel the use or installation of a certain technology, equipment, or process. 30 TAC §101.4 generally prohibits nuisance conditions, and does not require the control of CO₂. The cited permits by rule of 30 TAC §§106.261, 106.183, 106.371, and 106.478 do not require control of CO₂. Emission limitations associated with permits by rule are stated in §106.104(a)(4), and CO₂ is expressly excluded as a substance with an emission limitation. Please cite to a federal, state, or local environmental law, rule, or regulation being met or exceeded by the use, construction, acquisition, or installation of the subject property. Also, per the application instructions, "The application must describe how the property/equipment meets or exceeds a rule, regulation, or statutory provision that has been adopted by a federal regulatory agency, the State of Texas, or a political subdivision of Texas." Please comply with this requirement.

Issue 2: Please review the answers provided for question 2 and 3 in Section 9 to ensure they are appropriate. If a marketable product is being produced by the property/equipment it cannot be 100% pollution control property/equipment.

Issue 3: Please provide a listing of the equipment that is included in the application. What pieces, if any, of the electrical generation unit are included?

Issue 4: Please provide an explanation on how each variable of the cost analysis procedure was calculated.

Application Technical Notice of Deficiency Mailed: 01/24/13

Application Technical Notice of Deficiency Response Due: 02/26/13

Application Technical Notice of Deficiency Response Received: 03/25/13

Application Technical Review Complete: 05/24/13

Ronald H. [Signature] 5/28/13
Project Reviewer Date

[Signature] 5/28
Work Leader Date