

**TCEQ DOCKET NO. 2008-0851-MIS-U**

**APPEAL OF EXECUTIVE DIRECTOR'S  
NEGATIVE USE DETERMINATION  
ISSUED TO CER-COLORADO BEND  
ENERGY LLC (FORMERLY NAVASOTA  
WHARTON ENERGY PARTNERS LP)  
(NO. 07-11926)**

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**TEXAS COMMISSION ON  
ENVIRONMENTAL QUALITY**

**CER-COLORADO BEND ENERGY LLC'S (FORMERLY NAVASOTA WHARTON  
ENERGY PARTNERS LP) REPLY TO RESPONSE BRIEFS**

CER-Colorado Bend Energy, LLC (“Colorado Bend” or “Applicant”) files this Reply to the Responses of the Executive Director and Office of Public Interest Counsel (“OPIC”) regarding the appeal of the negative use determination issued by the Executive Director on July 10, 2012.

Colorado Bend refers the Commissioners to its Appeal Brief for a complete history on the Pollution Control Property Program and the procedural history of this case.<sup>1</sup> This Reply Brief will not reiterate that background, but instead focus on the arguments made by the Executive Director and OPIC. Following a brief summary of Applicant’s argument, Parts II-VII of this Reply Brief detail why the arguments made by the Executive Director, and OPIC in support of the negative use determination are a misapplication of Texas law, are based on policy concerns outside of the Agency’s purview, and are founded on an inadequate technical evaluation.

**I. Summary of Argument**

The various arguments from the Executive Director and OPIC go to great lengths to explain why the Executive Director is completely reversing course since issuing 25 positive use determinations to essentially the same type of equipment that is the subject of this appeal. Yet, all the Response Briefs miss the fundamental underlying point of the pending appeals – that the express language and structure of Texas Tax Code §§11.31(k-m) makes clear that the Executive Director does not have the discretion to issue negative use determinations to equipment listed in Texas Tax Code §11.31(k). In other words, the question is not whether the equipment is pollution control property – the legislature has already determined that it is. The question is how much of a percentage positive use determination should be issued.

This appeal should be granted and the negative use determinations remanded, so the Executive Director can conduct the review necessary to ensure that the TCEQ does the job the legislature has instructed them to do – to acknowledge the legislatively-established pollution control benefits of the equipment in question and then determine the percentage of positive use determination for the equipment in question given the concurrent pollution control and

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<sup>1</sup> CER – Colorado Bend Energy LLC – Appeal of July 10, 2012 Negative Use Determinations, July 31, 2012.

production benefits resulting from the thermal efficiency improvements of the heat recovery steam generators (HRSGs) and ancillary equipment, including enhanced steam turbines.

## II. Procedural Errors

### A. The General Counsel's Remand Did Not Comply with the Statutory Provisions

As discussed at length in the Applicant's appeal brief, on May 1, 2008, the Executive Director issued positive use determinations for 25 HRSG applications, six of which were appealed ("Group I applications"). The appeal of these positive use determination and the five other similarly situated positive use determinations were scheduled to appear on the Commission's Agenda to be held on February 25, 2009. However, two days prior to the Agenda, the General Counsel granted the Executive Director's Motion for Continuance, continuing the matter "indefinitely."<sup>2</sup>

On June 18, 2012, almost three and a half years after the Commission indefinitely continued the matter on its Agenda, the Executive Director requested that the General Counsel remand the six appealed use determinations back to the Executive Director for "further processing."<sup>3</sup> On June 29, 2012, before the Commission had taken up the original appeal of the positive use determination, the General Counsel remanded the matter back to the Executive Director<sup>4</sup> who subsequently issued a negative use determinations for the appealed use determinations.<sup>5</sup>

The General Counsel's remand of the appeal under 30 TAC §17.25 violated the clear provisions of Texas Tax Code §11.31(e). Section 11.31(e) details the appeals process for use determinations, stating "[t]he commission shall consider the appeal at the next regularly scheduled meeting of the commission for which adequate notice may be given." (emphasis added). Section 11.31(e) adds that "[t]he Commission may remand the matter to the executive director for a new determination or deny the appeal and affirm the executive director's determination." Thus the Commission is not only required to consider the matter at the next Agenda meeting, but the Commission must vote to determine whether to affirm the appeal and remand the matter to the Executive Director or deny the appeal and affirm the original use determination. These two courses of action are the only two the Commission may take and the statute does allow for either of them to be delegated to the General Counsel.

The Executive Director, however, argues in its Response Brief that the appeals process in §11.31(e) does not preclude the General Counsel from remanding the Group I applications. Specifically, the Executive Director argues that the General Counsel's remand was proper due to the provisions in the Texas Water Code §5.110(d), which allows the Commission to delegate

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<sup>2</sup> TCEQ General Counsel Letter granting the Executive Director's Motion for Continuance, Feb. 23, 2009 (Attachment F in Applicant's Appeal).

<sup>3</sup> Executive Director's Request for Remand of Applications, June 18, 2012 (Attachment G in Applicant's Appeal).

<sup>4</sup> TCEQ General Counsel Letter granting the Executive Director's Request for Remand of Prop 2 Use Determination Applications, June 29, 2012 (Attachment H in Applicant's Appeal).

<sup>5</sup> Notice of Negative Use Determination issued to Colorado Bend Energy Center, July 10, 2012 (Attachment B in Applicant's Appeal).

duties to the General Counsel.<sup>6</sup> Section 5.110(d) states “[t]he general counsel shall perform the duties and may exercise the powers specifically authorized by this code or delegated to the general counsel by the commission.” The Executive Director goes on to say that nothing in §11.31 prohibits the Commission from delegating this duty.<sup>7</sup>

In this instance, the Commission only has authority to either deny the appeal or affirm the appeal and remand the matter to the Executive Director. The Commission can only delegate the authority it has been granted under the statute; it cannot delegate authority that the Commission itself does not have.<sup>8</sup> The Executive Director is essentially arguing that the Commission delegated its decision making authority regarding the appeal of the positive use determinations to the General Counsel, who then made the determination that the appeal should be granted and therefore, the matter should be remanded back to the Executive Director for further consideration. However, in remanding the matter to the Executive Director, the General Counsel did not consider the matter at a formal Commission Agenda as required by the statute and failed to affirm the appeal. Neither the General Counsel nor the Commission actually complied with the statutory requirements.

In the past, when the Commission has delegated authority to the General Counsel, it has done so by adopting a formal order.<sup>9</sup> In those orders, the specific authority delegated to the General Counsel is described in detail as well as the Commission’s reasoning behind the delegation. No such order delegating authority to the General Counsel to consider use determination appeals and make final agency determinations in those matters was ever adopted by the Commission.

Finally, the Executive Director’s Motion to Remand the matter was premised on the General Counsel’s authority to remand use determination appeals as found in 30 TAC § 17.25(d). The General Counsel specifically authorized the remand based on his authority in §17.25(d). However, §17.25(d) had not been adopted when the Group I applications were filed nor when the positive use determinations were issued by the Executive Director. As OPIC properly points out, “The Tax Code does not appear to give the TCEQ authority to remand a use determination appeal before the Commission considers the appeal at the next practical Agenda.” 30 TAC 17.25(d) was not in effect when the 2008 Group I appeals were filed. Remanding the matter under a rule that was not in effect when the Appellant submitted its application, and has no basis in the governing statute, would be improper.”<sup>10</sup>

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<sup>6</sup> Executive Director’s Response to the Appeals Filed on the Negative Use Determinations for the Heat Recovery Steam Generator Applications (“Executive Director Response Brief”), October 4, 2012, p. 12.

<sup>7</sup> *Id.*

<sup>8</sup> See *Kids with Disabilities v. Tex. Educ. Agency*, 112 S.W.3d 234, 238 (Tex.App.—Austin, 2003) (stating, “[a]n agency may not, however, exercise what is effectively a new power on the theory that such exercise is expedient for the agency’s purposes.”); *Sexton v. Mount Olivet Cemetery Ass’n*, 720 S.W.2d 129, 137 (Tex.App.—Austin, 1986)(stating, “[i]t is axiomatic that such agencies are creatures of statute and have no inherent authority. They may, therefore, exercise only those specific powers conferred upon them by law in clear and express language, and no additional authority will be implied by judicial construction.

<sup>9</sup> See Texas Natural Resource Conservation Commission Resolution concerning the delegation of certain duties and authority of the General Counsel, Docket No. 2000-0327- RES, April 7, 2000 (Attachment 1).

<sup>10</sup> Office of Public Interest Counsel’s Response to Appeal of Negative Use Determination (“OPIC Response Brief”), October 4, 2012, p. 8.

The fact that the General Counsel does have authority to remand matters before the Commission under 30 TAC §10.4(d) does not change the fact that the Commission can only delegate that authority granted to it by the Legislature. In this case the Legislature granted the Commission authority to deny the appeal or affirm the appeal and remand the matter to the Executive Director. Because the General Counsel did not execute one of the two possible actions that the statute allowed the Commission to perform, the General Counsel's action was improper, should be vacated, and the initial positive use determination should be reinstated and the appeal process finalized.

**B. Application of 30 TAC §17.25(d) was Unconstitutionally Retroactive**

As mentioned previously, the General Counsel stated that it had authority to remand this matter under 30 TAC §17.25(d). In response to concerns raised by Applicant that the application of §17.25(d) was improperly retroactive, the Executive Director argues that the use of this rule to remand the matter to the Executive Director was not retroactive because it was used after its effective date. Additionally, the Executive Director argues that rule is purely procedural in nature and does not affect a substantive or vested right of the Applicant.

When the Applicant submitted its use determination application and was granted a positive use determination, Applicant was entitled to a hearing at a Commission Agenda and the burden of proof to demonstrate that the Executive Director's use determination was improper lay with those parties appealing the use determination. Applicant is not arguing that it has a right to the Executive Director's initial positive use determination, it is arguing that by not considering the matter at a Commission Agenda as required by statute and subsequently issuing a negative use determination, requiring the Applicant to appeal the Executive Director's decision and bear the burden of proof in its appeal, the Applicant's substantive and vested rights have been significantly affected. Furthermore, the General Counsel's remand before the Commission considered the matter at an Agenda, stripped Applicant of its right to the public hearing that the statute calls for.<sup>11</sup>

**C. The Executive Director Failed to Provide a Technical Evaluation of the Application**

In its response brief, OPIC states that it defers to the Executive Director's technical evaluation of whether HRSGs qualify as pollution control equipment. However, in evaluating the completeness of the Executive Director's technical evaluation, OPIC states, "Although the July 10, 2012 letter provides no information as to why the Executive Director no longer considers HRSGs pollution control equipment, OPIC defers to the Executive Director on this technical issue and anticipates that the Executive Director's response brief will provide adequate explanation. Further explanation from the Executive Director as well as the Commission's Agenda discussion and subsequent order memorializing the Commissioners' decision on this matter will serve to complete the record."<sup>12</sup>

As the OPIC acknowledges, the Executive Director's negative use determinations completely failed to articulate any basis for the decisions. Now, after the fact, the Executive Director

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<sup>11</sup> TEX. TAX CODE §11.31(e).

<sup>12</sup> OPIC Response Brief at 15.

attempts to justify what was clearly an arbitrary decision. As an attachment to its response brief, the Executive Director provided a one-page document entitled “Application Review Summary” for each of the appealed applications.<sup>13</sup> The inclusion of the Application Review Summary in its response brief is the first time the Executive Director made this document available to Applicant and the public. By failing to provide this document to the Applicant until filing its response brief, the Executive Director prevented the Applicant from evaluating the technical basis of the Executive Director’s determination before the deadline for appeals had passed. This approach to technical review and documentation and distribution of same sets a bad precedent, is highly prejudicial, and should not be allowed.

Furthermore, even if the Executive Director had provided this document to the Applicant, the Application Review Summary is woefully insufficient, as it provides no discussion of the technical merits of the Executive Director’s conclusion that HRSGs and steam turbines are used wholly for production purposes. It states, “The Application was remanded to the executive director on 6/29/2012, and on 7/10/2012, a negative use determination was issued stating that heat recovery steam generators are used solely for production and, therefore, are not eligible for a positive use determination.”<sup>14</sup>

The fact that the Executive Director initially provided no information that could be considered a technical evaluation and that the Applicant had to wait until the Executive Director filed a response brief in this appeal to receive any information regarding its negative use determination offers yet another example of the Executive Director’s failure to comply with the statutory requirements in §11.31. In fact, the Application Review Summary that the Executive Director did provide includes no analysis to support the Executive Director’s position that HRSGs and ancillary equipment such as enhanced steam turbines are entirely production equipment and cannot be considered an actual technical evaluation. It merely restates the Executive Director’s conclusion without providing any context, insight into, or technical basis for that conclusion. The Application Review Summary should be rejected as failing to comply with the statutory requirements in §11.31 and, even if taken into consideration by the Commissioners, provides no basis for the Executive Director’s erroneous decision.

### **III. Texas Tax Code §§ 11.31(k) and 11.31(m) Do Not Provide the Executive Director With Authority to Issue a Negative Use Determination for Property Listed in §11.31(k)**

The Executive Director and OPIC both argue that when the Legislature listed items in §11.31(k), it did not intend for these items to qualify for a positive use determination. Instead, they argue that the Legislature merely intended for the property listed in §11.31(k) to be reviewed to determine eligibility for a use determination.<sup>15</sup> This renders the legislative language meaningless. Section 11.31 must be construed to give effect to the Legislature’s intent.<sup>16</sup> An agency or court should first attempt to determine this intent from the actual language used by the Legislature. That is, an agency or court should first look to the plain, ordinary meaning of the

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<sup>13</sup> Executive Director’s Application Review Summary for the Colorado Bend Energy Center (Attachment 2).

<sup>14</sup> *Id.*

<sup>15</sup> Executive Director Response Brief at 5-9; OPIC Response Brief at 12.

<sup>16</sup> See TEX. GOV’T CODE §312.005; *Gilbert v. El Paso County Hosp. Dist.*, 38 S.W.3d 85 (Tex. 2001).

statute's words.<sup>17</sup> Most importantly, “[i]f a statute is clear and unambiguous, [the courts] apply its words according to their common meaning without resort to rules of construction or extrinsic aids.”<sup>18</sup>

Sections 11.31(k) and (m) direct that the Commission “shall determine that” heat recovery steam generators and enhanced steam turbine systems are “used wholly or partly as facility, device, or method for the control of air, water, or land pollution.”<sup>19</sup> Other than the passing a rule to remove this equipment from an established list of pollution control equipment (based on compelling evidence that the equipment does not provide pollution control benefits), there is no option under the statute for TCEQ to determine that equipment listed in §11.31(k) is not pollution control equipment. Put simply, based on the language of the statute, if an item is listed in §11.31(k), the question is not ‘whether the equipment is pollution control property’, but instead should be ‘what percentage is pollution control property.’

#### A. Section 11.31(k)-(l)

Section 11.31(k) states:

“[t]he Texas Commission on Environmental Quality shall adopt rules establishing a nonexclusive list of facilities, devices, or methods for the control of air, water, or land pollution, which must include: ...

- (8) heat recovery steam generators; [and]
- (10) enhanced steam turbine systems.”<sup>20</sup>

The very purpose of this section is to provide a list of equipment that the Legislature determined was “for the control of air, water, or land pollution.” It seems incredibly far-fetched to argue that the Legislature provided a list of equipment that it specifically designated as “for the control of pollution” but did not intend for the equipment listed therein to be considered pollution control equipment.

Moreover, the Legislature included language describing an option to add items to the §11.31(k) list when it stated in subsection (k)(18) “any other equipment designed to prevent, capture, abate, or monitor nitrogen oxides, volatile organic compounds, particulate matter, mercury, carbon monoxide, or any criteria pollutant.”<sup>21</sup> A plain reading of this language demonstrates that the Legislature had determined that each of the previously listed items were “equipment designed to prevent, capture, abate, or monitor” pollution.

Furthermore, §11.31(l) requires that the TCEQ must update the §11.31(k) list at least once every three years. An item may be removed from the list, but only if the TCEQ “finds compelling evidence to support the conclusion that the item does not provide pollution control benefits.” By

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<sup>17</sup> See TEX. GOV'T CODE §312.002(a); *Am. Home Prods. Corp. v. Clark*, 38 S.W.3d 92, 95-96 (Tex. 2000); *Crimmins v. Lowry*, 691 S.W.2d 582, 584 (Tex. 1985).

<sup>18</sup> *In Re Nash*, 220 S.W.3d 914, 917 (Tex. 2007).

<sup>19</sup> TEX. TAX CODE §11.31 (k) & (m).

<sup>20</sup> TEX. TAX CODE §11.31(k).

<sup>21</sup> TEX. TAX CODE §11.31(k)(18).

including HRSGs and enhanced steam turbines on the list, the Legislature determined that these items provided a pollution control benefit unless and until the TCEQ found compelling evidence to the contrary. The TCEQ has not provided compelling evidence that HRSGs and ancillary equipment such as enhanced steam turbines do not provide a pollution control benefit. Nor has the TCEQ initiated a rulemaking to remove these items from the list contemplated in §11.31(k).

To summarize, in this statute, the Legislature states in § 11.31(k)-(l) that the equipment listed in §11.31(k): 1) is “for the control of air, water, or land pollution”; 2) is “designed to prevent, capture, abate, or monitor” pollution; and 3) can only be removed from the statutorily-directed list of pollution control equipment if the Executive Director provides “compelling evidence” that the equipment “does not provide pollution control benefits.” To suggest that the Legislature placed the list in the statute as mere surplusage and intended for TCEQ to have the discretion to issue negative use determinations on the ad hoc basis currently being proposed stretches the bounds of any reasonable interpretation and effectively disregards the language of the statute and intent of the Legislature.

## **B. Section 11.31(m)**

Section 11.31(m) provides the Executive Director with a very clear directive about how to handle applications for items listed in §11.31(k). Section 11.31(m) states:

“Notwithstanding the other provisions of this section, if the facility, device, or method . . . is . . . included on the list adopted under Subsection (k), the executive director of the Texas Commission on Environmental Quality, . . ., shall determine that the facility, device, or method described in the application is used wholly or partly . . . for the control of air, water, or land pollution . . .” (emphasis added).

A close reading of this subsection reveals that if an entity submits an application for a pollution control property tax exemption for an item that is listed in §11.31(k), the Executive Director has 30 days within which, he must determine that the item described in the application is used wholly or partly for the control of air, water, or land pollution. Furthermore, this section provides that the Executive Director must make this determination without regard to whether information about the environmental benefit of the item is provided in the application. The only reasonable reading of this language is that the Legislature had determined that the items listed in §11.31(k) were pollution control property and, thus, did not want the TCEQ to require a demonstration that an environmental benefit existed or get bogged-down in that determination.

The Executive Director’s brief then states that that tax exemptions must be strictly construed against a taxpayer. In this case strict construction requires, at minimum, a partial positive use determination because the statute recognizes the equipment as pollution control property.. When interpreting legislation, courts are generally required to ascertain and apply the plain meaning of a statute.<sup>22</sup> And, while any legislative grace provided through an express deduction or exemption from a tax is strictly construed against the taxpayer,<sup>23</sup> the statute cannot be so narrowly construed

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<sup>22</sup> See *Fitzgerald v. Advanced Spine Fixation Syst., Inc.*, 996 S.W.2d 864, 865-66 (Tex. 1999) (courts must apply plain meaning of statute).

<sup>23</sup> *Upjohn Co. v. Rylander*, 38 S.W.3d 600, 606 (Tex. App. — Austin 2000, pet. denied).

as to avoid the plain meaning of the words used or to destroy the very purpose of an exemption. The Austin Court of Civil Appeals has cited with approval, the following correct reasoning with respect to the scope of a tax exemption:

“[T]he . . . exemption must be viewed in light of the legislative intent . . . . Although construction of exemption statutes is generally to be construed against the taxpayer, the overall scheme and intent of the legislation must not be overlooked.”<sup>24</sup>

As described above, the statutory language clearly indicates that the Legislature considers the items listed in §11.31(k) as equipment for the control of air, water, or land pollution. This is further supported by the fact that, under subsection (m), applicants for items listed in §11.31(k) are not required to submit information regarding the environmental benefit. This is not to suggest that the equipment does not have to provide an environmental benefit, it merely demonstrates that the Legislature already determined that these pieces of equipment by their very nature provide an environmental benefit and therefore, it is not necessary for applicants to provide this information to the Executive Director.

It is also important to note the textual difference between the limiting instructions given in §11.31(m) and the discretion afforded under §11.31(d). For equipment not listed in §11.31(k), §11.31(d) allows the TCEQ discretion to “determine if [equipment] is [pollution control property]” (emphasis added).” However, §11.31(m) limits that discretion by using the phrase “determine that” instead of “determine if.” As previously discussed, §11.31 must be construed to give effect to the Legislature’s intent.<sup>25</sup> Furthermore, “[w]ords and phrases shall be read in context and construed according to the rules of grammar and common usage.”<sup>26</sup>

Considering the clear and unambiguous language, as well as the structure, of §11.31 (d), (k), (l) & (m), three things are clear:

(1) the equipment listed in §11.31(k) must be considered pollution control property, thereby precluding a negative use determination by the TCEQ;

(2) the only method by which the TCEQ could issue a negative use determination to an item on the 11.31(k) list would be to go through rulemaking and, based compelling evidence demonstrating that an item does not provide pollution control benefits, remove that item from the statutorily-directed list; and

(3) the TCEQ is afforded discretion to issue partial positive use determinations to take into account concurrent pollution control and production benefits of equipment.

Appellant respectfully submits that the debate about items 1 and 2 end, so the TCEQ can do the job the Legislature has asked it to do under item 3.

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<sup>24</sup> *Sharp vs. Tyler Pipe*, 919 S.W.2d 157 (Tex. App.—Austin 1996, writ denied).

<sup>25</sup> See TEX. GOV’T CODE §312.005; *Gilbert v. El Paso County Hosp. Dist.*, 38 S.W.3d 85 (Tex. 2001).

<sup>26</sup> TEX. GOV’T CODE §311.011(a).

### C. Executive Director's Legislative Acceptance Argument is Without Merit

After claiming that TCEQ can ignore the Legislature's instruction to recognize the equipment listed in §11.31(k) as pollution control property, the Executive Director then proceeds to argue that the Legislature has acquiesced in the TCEQ's current refusal to follow the statute.<sup>27</sup> Not only does the Executive Director's argument lack merit, the doctrine it cites actually supports the Appellants' position. As evidence of how it intended to implement §§11.31(k-m), the Executive Director relies not upon an actual case applying the statute or the express language of a rule implementing the statute, but rather a reference in a rulemaking preamble. What the Executive Director fails to mention is that, the last two times the Legislature was in session, the Executive Director had already applied §§11.31(k-m) to grant 100% positive use determinations for HRSGs in 25 separate instances. If the legislative acceptance argument has any applicability here, it would be that the Legislature's acceptance is of the Commission's implementation of §11.31(k) as applied to the 25 HRSG applications.

Even if the Commission were to conclude that the Executive Director's previous application of §§11.31(k-m) as applied to HRSG applications does not negate the legislative acceptance argument, a review of the case law cited by the Executive Director demonstrates that the legislative acceptance argument would still not apply in the instant case. In the case cited by the Executive Director supporting the legislative acceptance argument, *Grocers Supply Co. v. Sharp*, the Court actually denied applying the legislative acceptance argument because the Agency's interpretation of the statute was uncertain over time and the statute was unambiguous.<sup>28</sup> The Court stated, "We cannot conclude that the legislature's reenactment of the exemptions without change constitutes an acceptance of an interpretation contrary to the precedent."<sup>29</sup> The only previous formal action that the TCEQ ever took regarding the Group I HRSG applications was to grant 100% percent positive use determinations. By granting a 100% positive use determination to HRSG applications, it would appear that the Agency's interpretation was that HRSGs qualified as pollution control property.

Even more importantly, §11.31 is not ambiguous. It has already been stated, but bears repeating, §11.31 must be construed to give effect to the Legislature's intent.<sup>30</sup> The legislative acceptance argument falls flat when the statute is clear, for "[n]either legislative ratification nor judicial deference to an administrative interpretation can work a contradiction of plain statutory language."<sup>31</sup> When the statutory provisions in the statute clearly contradict the agency's interpretation, the agency's erroneous interpretation should be given no deference. While the Executive Director may now interpret the statute so that equipment listed in §11.31(k) could be determined not to be pollution control property, the statute does not allow for such an interpretation.

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<sup>27</sup> Executive Director's Response Brief at 7.

<sup>28</sup> *Grocers Supply*, 978 S.W.2d at 644.

<sup>29</sup> *Id.*

<sup>30</sup> See TEX. GOV'T CODE §312.005; *Gilbert v. El Paso County Hosp. Dist.*, 38 S.W.3d 85 (Tex. 2001).

<sup>31</sup> See *Pretzer v. Motor Vehicle Bd.*, 138 S.W.3d 908, 915 (Tex. 2004); see also *Barchus v. State Farm Fire & Cas. Co.*, 167 S.W.3d 575, 578 (Tex. App.—Houston [14th Dist.] 2005, pet denied).

#### IV. Failure to Comply with the Commission Rules and the Texas Administrative Procedures Act

Under the Administrative Procedures Act (“APA”) states agencies are required to follow certain formal procedures before adopting and applying any “rule.” A “rule” is defined as “a state agency statement of general applicability that...implements, interprets, or prescribes law or policy.”<sup>32</sup> In reaching and applying its new interpretation of §§11.31(k) and 11.31(m), the Commission failed to follow the procedures of the APA and should therefore, be disregarded.

The Executive Director argues that rulemaking was not necessary for the Executive Director or the Commission to issue negative use determinations for the HRSG applications. The Executive Director states that the determination that each of the HRSG applications should be denied was the result of a case-by-case review of each application and that the Executive Director generated a “technical review” for each application. Finally, the Executive Director states the change in interpretation is not of a rule of general applicability because it affects a limited number of Applicants for a use determination.<sup>33</sup>

The Executive Director’s argument that APA rulemaking requirements do not apply to the unexplained and undocumented statement of the Executive Director that “[h]eat recovery steam generators are used solely for production; therefore, are not eligible for a positive use determination” is without merit. There was no case-by-case analysis in the Executive Director’s general negative use determination. The statement is a rule as defined by the APA; in fact it is a statement that applies generally to an identified segment or class of the regulated public (HRSG owners) and seeks to implement, interpret and prescribe law or policy. In addition, the statement, in effect, amends 30 TAC §§17.4 and 17.17 which previously were adopted pursuant to notice and comment procedure under APA §§ 2001.023, 2001.025, 2001.029 and 2001.033.

The statement is an “interpretive rule,” defined by Professor Ron Beal as an agency statement made outside of a contested case hearing or notice and comment rule-making by which the agency sets forth how the agency intends to interpret and apply a statute or substantive rule to all persons similarly situated.<sup>34</sup> The statement is a rule if it meets a four part test according to Professor Beal:

- (1) It is issued by an agency board, commission, executive director or other officer vested with the power to act on behalf of the agency;
- (2) It is issued with the intent of the agency to notify persons or entities that are similarly situated or within a class described in general terms;

<sup>32</sup> TEX. GOV’T CODE § 2001.003(6).

<sup>33</sup> Executive Director Response Brief at 17.

<sup>34</sup> Ron Beal, *A Miry Bog Part II: UDJA and APA Declaratory Judgment Actions and Agency Statements Made Outside a Contested Case Hearing Regarding the Meaning of the Law*, 59 Baylor L. Rev. 267, 270 (2007); see also Ron Beal, *The APA and Rulemaking: Lack of Uniformity Within a Uniform System*, 56 Baylor L. Rev. 1, 29-46 (2004).

(3) It is issued to notify those persons or entities of the agency’s interpretation of a statutory provision [or substantive rule] which has been crystallized following reflective examination in the course of the agency’s interpretive process;

(4) Such interpretation was not labeled as tentative or otherwise qualified by arrangement for consideration at a later date.

The Executive Director’s negative use determinations meet every part of this test.

An interpretive rule, like the Executive Director’s negative use determinations, is invalid in Texas for failure to adhere to mandatory APA notice and comment procedure.<sup>35</sup> In *Combs v. Entertainment Publications, Inc.*, the Comptroller had issued, in a 2007 letter ruling (Accession No. 200704926L), guidelines for determining whether a fundraising firm or a school organization was a “seller” for purposes of collecting sales tax. In March and April of 2008, the Comptroller issued two letters essentially changing the import or interpretation of the 2007 letter. Plaintiff filed suit for injunctive relief against enforcement of the changed interpretation, sought declaratory relief under Section 2001.038 of the APA that the “rule” embodied in the 2008 letters was invalid, and sought declaratory relief under the Uniform Declaratory Judgments Act (“UDJA”) that the Comptroller exceeded her statutory authority under §151.024 of the tax code in adopting that “rule” and applying §151.024 to the plaintiff.

The Court of Appeals affirmed the district court ruling that it had jurisdiction under §2001.038 of the APA and that the 2008 letters were invalid because of the failure to comply with the notice and comment procedural requirements of the APA. Also affirmed was the trial court’s injunction directing the Comptroller to desist and refrain from implementing and enforcing the “new” rule unless and until the Comptroller properly enacted the rule pursuant to APA procedures, or “until final judgment of the trial court.”<sup>36</sup>

The Executive Director’s attempted distinctions of *El Paso Hospital*, *Texas Mutual*, and *WBD Oil* are inappropriate. In *El Paso Hospital* an agency interpretive rule contradicted a previously adopted notice and comment rule. Similarly, the Executive Director’s negative use determinations are inconsistent with Tax Code §11.31 and 30 TAC §§17.4 and 17.17. In *Texas Mutual* the court did not, as the Executive Director suggests, hold that if the statement made in the staff report “was a statement that fell within the definition of a rule,” that somehow it could avoid scrutiny as a rule because “it is well established that not every administrative pronouncement is a rule within the meaning of the APA.”<sup>37</sup> The Court did quote language from uses prior to *Combs*, “that not every administrative pronouncement is a rule within the meaning of the APA.”<sup>38</sup> However, those prior cases did not involve agency statements that met the four-point test set out above.

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<sup>35</sup> *Combs v. Entertainment Publications, Inc.*, 292 S.W.3d 712, 723-24 and footnote 6 (Tex.App.—Austin 2009, no pet.)

<sup>36</sup> *Id.* at 719.

<sup>37</sup> Executive Director’s Response Brief at 16.

<sup>38</sup> *Texas Mutual Insurance Co. v Vista Community Medical Center, LLP.*, 275 S.W.3d 538, 555 (Tex.App.—Austin 2008).

In addition, the court statements misconstrued by the Executive Director were numerous. The plaintiff in *Texas Mutual* sought a declaratory judgment regarding the interpretation of a substantive rule. The Court of Appeals reversed the trial court judgment and upheld the agency interpretation of the rule that had been adopted pursuant to notice and comment procedure.

Similarly, the Executive Director's reference to *WBD Oil* is most unusual. The Executive Director recognizes the "field rules" at issue in *WBD* were created through a contested case hearing. Under the APA parties to a contested case hearing are entitled to notice of an adjudicative type hearing, presentation of evidence, cross examination of witnesses under oath, and issuance of a final order confirming findings of fact and conclusions of law.<sup>39</sup> No such procedure was followed prior to the Executive Director's issuance of the unsupported and undocumented statement of July 10, 2012, and all of *WBD's* interesting statements about the differences between agency adjudications in contested cases and agency rule-makings are completely irrelevant since Applicant has not been afforded either fair procedure in this matter.<sup>40</sup>

## **V. The Record Supports a Positive Use Determination and Clearly Contradicts a Negative Use Determination**

### **A. HRSGs Qualify as Pollution Control Property Under §11.31**

The Applicant's HRSGs can be defined as pollution control property based on the prevention of NOx emissions from natural gas use efficiencies. Under Tax Code §11.31(a), "[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." (emphasis added). The statute defines "a facility, device, or method for the control of air, water, or land pollution" as:

"[a] 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."

In fact, the Executive Director conducted a technical review of 25 HRSG applications and on May 1, 2008, issued positive use determinations for these applications stating, "[t]his equipment is considered to be pollution control equipment and was installed to meet or exceed federal or state regulations."

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<sup>39</sup> TEX GOV'T CODE §§2001.051, 2001.085, 2001.087, 2001.088, and 2001.141.

<sup>40</sup> See *Railroad Commission of Texas v. WBD Oil & Gas Co.*, 104 S.W.3d 69 (Tex. 2003).

## **B. Environmental Benefit**

### **1. Recognition of Emission Avoidance as Pollution Control**

The Executive Director argues that HRSGs are not used in any way to prevent, monitor, or control air, water, or land pollution. Specifically, the Executive Director states that a “HRSG does not remove air contaminants in the manner that a traditional pollution control device does” and that it has never recognized emission avoidance as pollution control.<sup>41</sup> In the Executive Director’s view, a piece of equipment provides an environmental benefit only if it is used to remove air contaminants.

However, the statute provides that pollution control property is used “for the prevention, monitoring, control, or reduction of air, water, or land pollution.”<sup>42</sup> It is true that HRSGs do not actually remove pollutants from a power plant’s exhaust stream. The HRSGs pollution control value is its increased thermal efficiency, which when compared to a traditional single-cycle turbine unit, reduces the fuel needs for the same power outputs, while resulting in lower additional air emissions. It is important to note that the lower fuel consumption associated with increased fuel conversion efficiency not only reduces criteria pollutants such as NO<sub>x</sub>, but also reduces emissions of hazardous air pollutants, as well as carbon dioxide, which EPA is currently in the process of regulating under the Federal Clean Air Act.

The U.S. Environmental Protection Agency (“EPA”) and other states recognize the use of energy efficiency as a measure of pollution control and/or pollution prevention<sup>43</sup> and at least one state using this method as part of their tax exemption programs.<sup>44</sup> Furthermore, many of the New Source Performance Standards (“NSPS”), which the TCEQ has incorporated into its own rules, use efficiency as a measure of compliance. If the installation of a HRSG allows a facility to meet its federal and state required emission performance standard, then by definition, the HRSG would be equipment that controls emissions.

### **2. Empirical Data Demonstrating Emissions Reductions Due to Use of HRSG**

The Executive Director argues that the Applicants avoided emission argument is inadequate because it requires a comparison between a combined-cycle unit and a hypothetical alternative unit. The Executive Director goes on to state that “No Applicant has provided sufficient

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<sup>41</sup> Executive Director Response Brief at 8.

<sup>42</sup> TEX. TAX CODE §11.31(b).

<sup>43</sup> See Memorandum from Brian McLean, Director of Office of Atmospheric Programs and Stephen Page, Director of Office of Air Quality Planning and Standards, *Guidance on SIP Credits for Emission Reductions from Electric-Sector Energy Efficiency and Renewable Energy Measures*, August 5, 2004, stating, “Energy efficiency ... inherently prevent[s] pollution from occurring.”(See Attachment 3)

<sup>44</sup> See Ohio Revised Code, Section 5707.20(J)-(K) (“Thermal Efficiency Improvement” and “Thermal Efficiency Improvement Facility”), which qualifies HRSGs as an “Exempt Facility” under § 5707.20(E), which is eligible for an “exempt facility certificate” under § 5707.21. (See Attachment 4).

information as to why these hypothetical comparisons should be done, nor have they provided why the single-cycle plant or boiler are appropriate comparisons.”<sup>45</sup>

As a threshold matter, as discussed above, the clear language and structure of §11.31(k-m) assume the pollution control benefits of HRSGs. So, the information the Executive Director complains about being missing is simply not required.<sup>46</sup>

Moreover, Applicant’s appeal brief in Attachment D includes the very information the Executive Director seems to be looking for. That attachment contains monitoring data from the Barney Davis Power Plant during both pre- and post- repowering of that plant. This data confirms the assumptions regarding the air emissions reductions per pound of fossil fuel use. Furthermore, as set out in the attached affidavit,<sup>47</sup> Ronald J. Coldeway, the Plant Manager at the Colorado Bend Energy Center states that he has reviewed this data as well as an affidavit provided by Mark Shepherd, Director of Environmental, Safety, and Health at the Barney Davis Power Plant and concurs that the emission data from the Barney Davis Power Plant confirms the emission reduction assumptions used in the avoided emissions methodology.

The Executive Director does, however, acknowledge that HB 3732 provided for an expedited review of applications for equipment listed in §11.31(k) that exempted applicants from submitting information regarding the anticipated environmental benefit. The fact that the Legislature removed the requirement to submit information regarding the environmental benefit for those applications under §11.31(k) is of critical importance. Not only did the Legislature consider the items listed in §11.31(k) as equipment “for the control of air, water, or land pollution,” but it determined that no information was required regarding the environmental benefit of these items because it has already determined that these items provided an environmental benefit.

The Executive Director states that the removal of the requirement to submit environmental benefit information puts the Executive Director in a precarious position in determining whether an environmental benefit exists. Actually, in removing this requirement the Legislature acknowledged that an environmental benefit exists and that the Executive Director did not have to review this information for these particular applications. Instead of causing a precarious position for the Executive Director, it merely streamlined the application process for those applications in which an environmental benefit was known to exist.

The Executive Director then argues that the Legislature cannot extend a tax exemption beyond what is provided in the Constitution; and because the Constitution requires that property eligible for a pollution control property tax exemption must provide an environmental benefit, this requirement cannot be waived. First, it is not within the Executive Director’s statutory charge or authority to determine whether the Legislature’s actions comply with the Constitution. Second, the requirement that property eligible for a pollution control property tax exemption must provide an environmental benefit has not been waived; the Legislature has already determined

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<sup>45</sup> Executive Director Response Brief at 8.

<sup>46</sup> See 11.31(m) indicating that applicants for items listed in §11.31(k) are not required to submit environmental benefit information.

<sup>47</sup> Affidavit of Ronald J. Coldeway ( Attachment 5).

that equipment listed in §11.31(k) provides an environmental benefit. The Legislature has merely left it to the TCEQ's discretion to determine what the percentage of a positive use determination should be.

### **C. Method of Pollution Control – TCEQ Precedent, the Attorney General's Interpretation, and the Legislature's Directive**

As previously noted, the Executive Director argues that it has never recognized emissions avoidance as pollution control. This statement is not only patently untrue, but belies the fact that the Legislature has already determined that HRSGs do control pollution.

As noted in the Executive Director's response brief, on May 1, 2008, the Executive Director issued 100% positive use determinations for 25 HRSGs many of which cited emissions avoidance as the pollution control provided by HRSGs. While six of those applications were appealed and are now the subject of an administrative appeal, the remaining 19 applications have been issued a final 100% positive used determination based on emissions avoidance. The Executive Director has since stated that all of the 100% positive use determinations for HRSGs were made in error, but this does not change the fact that the Executive Director and the Commission has previously recognized emissions avoidance as pollution control.

Furthermore, the TCEQ recently adopted a Permit By Rule (PBR) for Natural Gas-Fired Combined Heat and Power Units.<sup>48</sup> In the preamble to the adoption of the Combined Heat and Power (CHP) PBR, the TCEQ states, "The Commission acknowledges the benefits and advantages of CHP as a means of providing efficient, reliable, and clean energy." As part of that PBR, TCEQ specifically provided that the emission limits for stationary natural gas engines would be measured in terms of air contaminant emissions per unit of total energy output.<sup>49</sup> HRSGs are recognized as a typical industrial CHP application. The fact that the TCEQ recognizes the pollution control benefits of this type of equipment in its permitting program should be given weight when evaluating the Executive Director's arguments in this case that similar equipment does not have pollution control benefits.

Furthermore, even if the Executive Director had never actually recognized emissions avoidance as pollution control, that does not change the fact that HRSGs are specifically listed in §11.31(k) as equipment "for the control of air, water, or land pollution."

The Attorney General's Office, in response to prior TCEQ requests for guidance regarding Section 11.31 has made it clear that equipment can serve as a method of pollution control, while also serving as production equipment, Applicant cites to Attorney General Opinion JC-0372. The Executive Director summarily dismisses Applicant's reliance on this opinion by stating, "Applicants misinterpret Attorney General Opinion JC-0372." Merely stating that the Applicant has misinterpreted the Attorney General opinion does not actually make it so. Furthermore, the arguments made by the Executive Director that §11.31 only applies to "traditional" or "add-on" pollution control devices are directly refuted by the Attorney General's opinion. Texas Attorney General Opinion JC-0372 (2001) expressly opined to the Chair of the Texas Natural Resource

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<sup>48</sup> 30 TAC §106.513; 37 Tex.Reg. 6037-6049, August 10, 2012.

<sup>49</sup> 30 TAC §106.513(d).

Conservation Commission that “methods of production” can and do qualify as exempt pollution control property:

“Section 11.31 is broadly written, and we believe its plain meaning is clear. It embraces any property, real or personal, “that is used wholly or partly as a facility, device, or method for the control of air, water or land pollution. . . .” (emphasis added).

“Next, we consider whether section 11.31 excludes from its scope pollution-reducing production equipment. Significantly, the statute applies to property used “wholly or partly” for pollution control. See *id.* § 11.31(a). To qualify for the exemption, property must be used “wholly or partly” to meet or exceed environmental rules. See *id.* § 11.31(b). The term “wholly” clearly refers to property that is used only for pollution control, such as an add-on device. See Merriam Webster's Collegiate Dictionary 1351 (10th Executive Director, 1993) (defining “wholly” to mean “to the full or entire extent: ... to the exclusion of other things”). The term “partly,” however, embraces property that has only some pollution-control use. See *id.* at 848 (defining “partly” to mean “in some measure or degree”). This broad formulation clearly embraces more than just add-on devices. Furthermore, that statute clearly embraces not only “facilities” and “devices” but also “methods” that prevent, monitor, control, or reduce pollution. “Methods” is an extremely broad term that clearly embraces means of production designed, at least in part, to reduce pollution. See *id.* at 732 (defining “method” to include “a way, technique, or process of or for doing something”).<sup>50</sup>

This opinion refutes the arguments made by the Executive Director that production equipment cannot also serve to reduce pollution. It also fundamentally disproves the Executive Director and Appraisal District arguments that only “traditional” pollution control equipment or equipment that is “added” to a facility can qualify as pollution control property. The HRSGs and Steam Turbines are clearly used as engineering methods to comply with environmental laws and to control pollution and therefore, qualify for exemption under any valid rule or convention of statutory construction.

Significant reliance is placed by the Executive Director and OPIC on the *Mont Belvieu* opinion. Yet, there are three fundamental differences between the current appeal and the *Mont Belvieu* situation that make it clear that it does not support the Executive Director’s position and, in fact, conflicts with it.

To begin with, the procedural posture of the appeal was fundamentally different in *Mont Belvieu*. As the *Mont Belvieu* Court emphasized, *Mont Belvieu* sought “a 100% positive use determination” for its brine storage pond system” and it “opted to stand or fall based on a claimed entitlement to a 100% positive use determination. . . .”<sup>51</sup> That is a very different situation

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<sup>50</sup> Texas Attorney General Opinion JC-0372 (2001) (emphasis added).

<sup>51</sup> *Mont Belvieu Caverns, LLC. Tex. Comm'n on Env'tl. Quality*, No. 03-11-00442 CV, 2012 WL 3155763 at 10 (Tex. App.—Austin 2012).

than the current appeal where the question is not whether 100% is appropriate, but whether 0% is appropriate.

The distinct procedural posture leads to two different burdens of proof. All the TCEQ needed to demonstrate in *Mont Belvieu* is whether there was any productive value and then it could contend that 100% was inappropriate. The Court emphasized that *Mont Belvieu* acknowledged that its brine pond system was only “part” of the process by which it produces gas storage services for customers and that “subsections within section 11.31 contemplate – indeed require – that if property is not ‘wholly’ used for pollution control, TCEQ will limit any positive use determination to the proportion of the property that is.”<sup>52</sup>

This is much different than the pending appeal where the TCEQ is claiming no pollution control benefit and all production benefit – the reverse of the *Mont Belvieu* situation. The TCEQ can no more dismiss the pollution control benefits of the HRSGs than *Mont Belvieu* could dismiss the productive value of its brine ponds.

A third distinguishing factor between *Mont Belvieu* and the current appeal is that the brine ponds in that case are not included on the 11.31(k) list like the HRSGs are. Therefore, the legislatively-established pollution control benefits of the equipment in question were not as clearly demonstrated as they are for HRSGs in the current appeal.

Therefore, read correctly, *Mont Belvieu* does not support the Executive Director’s position. In fact, it actually contradicts it because it makes clear that the TCEQ is to distinguish the proportion of the property at issue that is used to control, monitor, prevent or reduce pollution from the proportion of the property that is used to produce goods or services and the proportion that is used to control pollution qualifies for the tax exemption.<sup>53</sup> As discussed at length above and below, this proposition is clearly established by the statute and recognized in Attorney General Opinion JC-0372.

As discussed at length above in Section III, the Legislature’s directive to TCEQ is set out very clearly in 11.31(k-m). The debate about whether production equipment can also be pollution control equipment is abruptly ended by the basic fact that many items of production-related equipment are included on the 11.31(k) list which the statute expressly recognizes as pollution control equipment. There is plenty of additional evidenced discussed above and below to support the clear statutory language, but nobody states it more clearly than the author of HB 3732 when he stated:

*One of the goals of the legislation this session was to ensure that TCEQ had the authority and direction from the legislature to recognize that pollution control benefits can be derived from the manner in which fuel is prepared and used, and from increasing the efficiency of certain facilities. By doing so, the amount of fuel needed and the total amount of pollution emitted can be reduced. I did not intend, nor do I support, an interpretation of anything in HB 3732 to prevent electric generating facilities from receiving exemptions for equipment simply because they*

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<sup>52</sup> *Id.* at 15.

<sup>53</sup> *Id.* at 12.

*also derive profit from a given piece of equipment or process. If it reduces pollution, it qualifies.* (emphasis added).<sup>54</sup>

Although Appellant would not attempt to argue that a letter from an individual member of the legislature is controlling authority regarding legislative intent, the views of the author of the statute being interpreted are certainly worth considering. This is especially true in this case given that the Executive Director makes extensive legislative intent arguments that are in direct conflict with the written views of the bill's author.

#### **D. HRSGs are Used to Meet/Exceed New Source Performance Standards (NSPS) for Electric Generating Facilities**

The Executive Director includes a number of arguments in its Response Brief that attempt to cast doubt on whether HRSGs are specifically required to be installed by an environmental regulation. To begin with, the test is not that an environmental regulation specifically calls for a specific piece of equipment. Rather, the Constitutional and statutory test is whether the equipment is “used, constructed, acquired, or installed wholly or partly to meet or exceed [environmental] rules or regulations.” There are two phrases that are critical in that test: (1) “wholly or partly” and (2) “meet or exceed.”

By including the phrase “wholly or partly,” the Constitutional Amendment and implementing legislation make it clear that the equipment need not have been installed due solely to the existence of an environmental regulation. Moreover, by including the phrase “meet or exceed,” the Constitutional Amendment and legislation made it clear that the equipment in question may be more than the regulation calls for.

The Executive Director argues different things for different regulations that have applicability to the power plants impacted by the pending appeals, but the general basis of the Executive Director's argument is that there is not a sufficient nexus between the cited environmental regulations and the pollution control claimed by the Applicant.

As an initial matter, it should not go unnoticed that the Executive Director previously thought that the regulatory citation of the same or similar provisions as relied upon in the pending appeals were relied upon by the 25 applications for which the Executive Director previously issued 100% positive use determination.

It is also important to note that none of the July 10, 2012 Negative Use determinations claim that the referenced environmental regulation was inapplicable or insufficient. Instead, the Executive Director waited until it filed its response brief to this appeal to provide copies of previously prepared “Application Review Summaries” which summarily state that “the cited regulations do not require the installation of a heat recovery steam generator or steam turbine.”<sup>55</sup> While the lack of any legal or technical evaluation is striking, what is even more egregious is the fact that the Executive Director's Application Review Summary indicates that the Executive Director

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<sup>54</sup> Letter from Rep. Rick Hardcastle to Grace Montgomery, Deputy Director of Administrative Services at the TCEQ, August 1, 2007 (Attachment 6) (emphasis added).

<sup>55</sup> Executive Director's Application Review Summary for the Colorado Bend Energy Center (Attachment 2).

believes that an application for a positive use determination must cite to an environmental regulation that specifically requires the installation of a particular piece of equipment.

As noted above, the controlling statute says nothing of the sort. There is absolutely no requirement that before equipment is eligible for a tax exemption as pollution control property, an environmental regulation must specifically require that a specific piece of equipment be installed. Thus the Executive Director's "technical evaluation" completely misconstrues the statutory requirements and should be granted little weight.

Instead, the Commission must simply ask whether any environmental regulation exists that Applicant is meeting or exceeding through the use of the equipment for which an application for a use determination was submitted.

The Executive Director concedes that 40 CFR Part 60, Subpart KKKK includes an output-based emission limit on NO<sub>x</sub> that applies to an entire power plant. Rather than taking the logical step of acknowledging that HRSGs assist and, in fact, are essential to achieving the Subpart KKKK emission limit, the Executive Director makes a seemingly illogical leap to the conclusion that Subpart KKKK cannot be the qualifying environmental regulation because that Subpart would not apply until "after an applicant affirmatively decides to build a combined cycle plant." Whatever that statement is intended to convey, it does not accurately reflect the regulatory framework.

The "Applicability" section of 40 CFR Part 60, Subpart KKKK states "if you are the owner or operator of a stationary combustion turbines with a heat input at peak load equal to or greater than 10.7 gigajoules (10MBtu) per hour, based on the higher heating value of the fuel, which commenced construction, modification, or reconstruction after February 18, 2005," your turbine is subject to this subpart."<sup>56</sup> So, it is clear that this regulation applies to "stationary combustion turbines" without reference to what type of equipment is installed in conjunction with those turbines.

Therefore, 40 CFR Part 60, Subpart KKKK clearly and unambiguously creates an output-based NO<sub>x</sub> emission limit that HRSGs are "used, constructed, acquired, or installed wholly or partly to meet or exceed." The bottom line is that an output-based emission limit exists and HRSGs help to meet or exceed those limits. To say that the equipment cannot be exempt, in whole or in part, because it is not specifically designated by regulation is a misreading of the statute

## **VI. Equal and Uniform Taxation**

The Executive Director's and OPIC's Responses state that the TCEQ's prior HRSG exemption authorizations were in error; that the TCEQ is at liberty to correct its prior interpretation; and that any resulting difference in ad valorem tax impact is not in violation of the Texas Constitution's equal and uniform tax mandate. As a threshold matter, the argument requires that the prior interpretations were incorrect, which they were not. It is next necessary to walk through the myriad of cases cited in the Response Briefs to better understand what those cases stand for and what they do not and how they in no way support the Negative Use determinations in this case.

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<sup>56</sup> 40 CFR §60.4305.

The Executive Director cites *1756, Inc. vs. Attorney General*<sup>57</sup> for the proposition that “Agencies may, indeed are expected to, alter and refine their interpretation of what fills such gaps [in statutes] through the exercise of their technical expertise . . .” *1756, Inc.* is based entirely on federal administrative law, not Texas, but more importantly, neither the case nor the quote supports the Executive Director’s position in this case. *1756, Inc.* argued that an Immigration and Naturalization Service (“INS”) Rule<sup>58</sup> was promulgated improperly. After a thorough analysis of legislative history supporting the INS’s rule, and expressly finding that “The meaning of the [underlying federal] statute *remains ambiguous* after the ‘traditional tools of statutory construction’ have been applied,” the *1756* Court upheld the agency’s formally adopted rule.<sup>59</sup> The TCEQ has chosen not to comply with the Texas Administrative Procedures Act with respect to its new position on HRSGs. Legislative history does not support the agency’s new position, and §11.31 is not ambiguous as applied to the facts of this case.

Moreover, *1756* requires that an agency bears “the burden of rationally explaining its departure from its previous interpretation”, which the Executive Director has not even made an attempt to do in this case. Finally, while the Executive Director champions federal law seeming to allow inconsistent agency action, Texas law is to the contrary.

In *TGS–NOPEC Geophysical Company vs. Combs*, the Supreme Court invalidated the Comptroller’s interpretation of the applicable statute, noting that her “own administrative interpretation of the sourcing statute further contradicts her argument here,” “conflicts with her rule regarding the licensing of software,” and was “inconsistent.”<sup>60</sup> The court went on to say that “an agency’s construction of a statute may be considered only if it is reasonable and not inconsistent with the statute.”<sup>61</sup> The Executive Director’s ruling in this case is neither.

The Executive Director cites *Flores vs. Employees Retirement System of Texas* for the proposition that “[a]n agency is not bound to follow its decisions in *contested cases* in the same way that a court is bound by precedent,”<sup>62</sup> provided that the agency gives a reasonable explanation for apparent inconsistency in agency interpretation. The *Flores* case involved allegations by a state employee that the Employee Retirement System of Texas (i) failed to follow its own prior decisions in denying her certain disability benefits and (ii) “applied a new policy in the course of her contested case hearing without providing notice before the hearing.”<sup>63</sup> The Austin Court of Appeals agreed with Ms. Flores:

“We hold that the Board acted arbitrarily and capriciously by: deciding this appeal before it arrived at its findings of fact and conclusions of law, reweighing adjudicative facts, changing findings of fact and conclusions of law for unauthorized and unexplained reasons, making findings of fact and conclusions of

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<sup>57</sup> *1756, Inc. vs. Attorney General of the United States*, 745 F. Supp. 9 (D.Ct. D.C. 1990).

<sup>58</sup> 8 C.F.R. 214.(l)(1)(ii)(D).

<sup>59</sup> *1756 Inc.*, 745 F. Supp. at p. 15.

<sup>60</sup> *TGS–NOPEC Geophysical Company vs. Combs*, 340 S.W.3d 432, 443 (Tex. 2011).

<sup>61</sup> *Id.*

<sup>62</sup> *Flores vs. Employees Retirement System of Texas*, 74 S.W.3d 532, 544 (Tex. App.—Austin 2002) (emphasis added).

<sup>63</sup> *Flores vs. Employees Retirement System of Texas*, 74 S.W.3d 532 at 538.

law without adequate support in the record, and failing to give notice before the hearing of its intention not to follow previous decisions and failing to adequately explain the reasoning for its change in position.”<sup>64</sup>

The *Flores* case fairly stands for the proposition that agencies may not internally arrive at a new policy during the course of a contested case and apply it to change the outcome of the case, which is what the Executive Director is attempting to do, without providing a reasonable explanation nor the inconsistency. The *Flores* case supports the Applicant’s position.

The actions of the Executive Director in this case are the essence of arbitrary and capricious agency action and “arbitrary action of an administrative action cannot stand”.<sup>65</sup> When those actions are compared to those of the agency in *Flores*, and the companion case of *Langford v. Employees Retirement System*, “serious due process concerns” are raised.<sup>66</sup>

The Executive Director also cites the Austin Court of Appeals decision in *First American Title vs. Strayhorn*<sup>67</sup> for the position that an agency may change its interpretation of a statutory tax scheme as long as the new interpretation does not contradict the statute or a formally promulgated rule. In *First American*, the Texas Comptroller formally promulgated a new version of its Rule 3.831 that impacted the way foreign insurers were required to remit the Texas retaliatory tax. The Austin Court Appeals expressly found that the new rule did not “impose any additional restrictions, conditions, or burdens that [were] inconsistent with the [applicable] statute.”<sup>68</sup> The facts in *First American* are not consistent with this case. In the current case the Executive Director’s proposed policy change has not been promulgated as a formal rule pursuant to the requirements of the Texas Administrative Procedures Act. In addition, the policy change is away from a position that is consistent with §11.31 of the Texas Tax Code to one that is inconsistent<sup>69</sup> with it. The *First American* case supports the Applicant’s position given the facts in the current case.

The Executive Director cites *Grocers Supply Co. vs. Sharp*<sup>70</sup> for the proposition that an agency can change its interpretation of a statute because the prior interpretation had not been adopted in a formal rule. The *Grocers Supply* Court stated the issue in the case as follows:

“What is at issue in this case, then, is the Comptroller’s substitution of one interpretation of his rule for another, not the Comptroller’s contravention of one

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<sup>64</sup> *Id.* at 545.

<sup>65</sup> *Lewis v. Metropolitan Savings and Loan Association*, 550 S.W.2d 11, 16 (Tex. 1977).

<sup>66</sup> *Langford v. Employees Retirement System*, 73 S.W.3d 560, 566 (Tex. App – Austin 2002, pet. denied).

<sup>67</sup> *First American Title vs. Strayhorn*, 169 S.W.3d 298 (Tex. App.—Austin 2005), *aff’d* by *First American Title Ins. Co. vs. Combs*, 258 S.W. 627 (Tex. 2008).

<sup>68</sup> *First American Title Ins. Co. vs. Strayhorn*, 169 S.W.3d at 310.

<sup>69</sup> Page 15 of the Executive Director’s brief cites the following quote: “[Taxpayers] do not acquire a right to pay less in taxes . . . because a tax policy was incorrectly implemented” as stemming from a page “642,” which would be from the Dissent in the Texas Supreme Court’s *First American* decision. For clarification and future reference, the quote comes from the Austin Court of Appeals *First American* decision at page 313.

<sup>70</sup> *Grocers Supply Co. vs. Sharp*, 978 S.W.2d 638 (Tex. App.—Austin 1998, pet. denied).

of his rules promulgated under the notice-and-comment procedures of the Administrative Procedures Act.”<sup>71</sup>

The *Grocers Supply* Court found that the Texas Comptroller had (i) correctly enforced one refund policy from 1965 through sometime in 1984, (ii) incorrectly changed the refund policy to one inconsistent with Texas Supreme Court precedent from 1984 through 1993; and (iii) from 1992 to 1997 enforced the new policy without promulgating a new rule on the issue. On these facts the Court found that the Comptroller should be allowed to correct and enforce his policy interpretation.

The facts in *Grocers Supply* are not precedent for the current case. In this case the TCEQ had previously interpreted and enforced §11.31 according to its plain meaning. The Executive Director is now attempting to change that interpretation, inconsistent with the plain meaning of the statute and without complying with the Texas Administrative Procedures Act. *Grocers Supply* no longer has any precedential value on the point that an agency can change a policy interpretation of general applicability without promulgating a rule, because it is in direct opposition to the more recent opinion of *Combs vs. Entertainment Publications*,<sup>72</sup> which definitively holds that a change in a policy interpretation meeting the standards of a rule must to be promulgated under the Texas Administrative Procedures Act. Further, the conclusion of the *Grocers Supply* Court offers some insight into agency attempts to avoid established rulemaking procedures:

“In resolving the claims of Grocers Supply in favor of the Comptroller, we should not be construed as endorsing or approving the manner in which the Comptroller has dealt with exemption requests such as that of Grocers Supply. The record before us does not reflect why the Comptroller from time to time varied his position, particularly in light of the supreme court's straightforward pronouncement of legislative intent. These actions do not foster the confidence and certainty in government upon which the people of this State are entitled to rely.”<sup>73</sup>

None of the cases cited by the Executive Director or OPIC in their equal and uniform tax arguments involve property taxes. Instead, they deal with changes: (a) from an agency position found by a court to be inconsistent with a statute or binding Texas Supreme Court precedent (b) to an agency interpretation found by the court to be consistent with a statute or other binding precedent. The exact opposite pattern is in play here where there is a proposed agency change from a position consistent with a statutory directive to one patently inconsistent with it. If sustained, the divergent property tax impact violates equal and uniform taxation.

The Texas Constitution's equal and uniform tax<sup>74</sup> mandate requires that all persons falling within the same class be taxed alike.<sup>75</sup> We are fortunate to have a contemporaneous description of the

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<sup>71</sup> *Id.* at 642.

<sup>72</sup> *Combs v. Entertainment Publications, Inc.*, 292 S.W.3d 712 (Tex. App.—Austin 2009, *no pet.*).

<sup>73</sup> *Grocers Supply*, 978 S.W.2d at 645.

<sup>74</sup> See TEX. CONST. art. I, § 3; U.S. CONST. amend. XIV, § 1.

<sup>75</sup> *Id.* (citing *Sharp v. Caterpillar, Inc.*, 932 S.W.2d 230, 240 (Tex. App.—Austin 1996, writ denied)).

history and scope of the equal and uniform tax mandate as reported by the Texas Supreme Court.<sup>76</sup> In *In Re Nestle*, the Court reviewed statutory distinctions drawn between different taxpayers under the Texas franchise tax, and confirmed that the Texas legislature may make distinctions between taxpayers, but that such distinctions must be supported by more than mere rational classification.<sup>77</sup> And, while the Texas Legislature has broad authority to “pursue policy goals through tax legislation”<sup>78</sup> it must do so only with respect to “goals related to the taxation” and “must attempt to group similar things and differentiate dissimilar things.”<sup>79</sup> The *Nestle* decision makes it clear that the equal and uniform tax mandate is more strict with respect to property taxes: “[t]he Legislature’s authority to make classifications in levying occupation, use and sales taxes unquestionably is broader than its authority to do so with respect to ad valorem taxes.”

If the Executive Director could sustain its incorrect new interpretation of §11.31, then it would violate the equal and uniform tax mandate as set forth in the *Nestle* decision, because there is no reasonable or even rational distinction between HRSGs the TCEQ has authorized 100% property tax exemptions for and the HRSGs the Executive Director now proposes to issue negative use determinations.

In *Calvert v. McLemore*, the Texas Supreme Court reasoned as follows:

“The courts can only interfere . . . when it is made clearly to appear that an attempted classification has no reasonable basis in the nature of the businesses classified, and that the law operates unequally upon subjects between which there is no real difference to justify the separate treatment of them undertaken by the Legislature . . . . The statute is plainly a revenue measure. It does not relate in any way to the public safety, morals, convenience or general welfare . . . . [A]nyone who exhibits a motion picture or play at a place other than a fixed and regularly established motion picture theater must pay a tax. Another person who exhibits the same picture or play to a similar audience in an adjoining building of the same construction escapes payment of the tax merely because he regularly shows motion pictures in that building. The discrimination is too plain to admit of argument, and we agree with the trial court that [the law] is unconstitutional.”<sup>80</sup>

Applying *McLemore’s* analysis to this case, there is no reasonable or rational basis for the discrimination proposed. The Executive Director’s position operates unequally upon subjects between which there is no real difference to justify separate treatment by the legislature. The distinction does not relate in any way to the public safety, morals, convenience or general welfare, and are void under the equal and uniform tax provisions of the Texas Constitution.

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<sup>76</sup> *In Re Nestle USA, Inc.*, Cause No. 12-0518 (Tex. Oct. 19, 2012).

<sup>77</sup> *Id.* at 19.

<sup>78</sup> *Id.* at 20.

<sup>79</sup> *Id.*

<sup>80</sup> *Calvert v. McLemore*, 358 S.W.2d at 552 (Tex. 1962) (emphasis added).

## **VII. Steam Turbines Are Eligible to Receive a Positive Use Determination.**

### **A. Appeal of the Steam Turbine Negative Use Determination is Timely**

The steam turbine applications were included in the HRSG applications, primarily because the enhanced steam turbines are ancillary equipment to the HRSGs. When the Appraisal Districts appealed the Executive Director's use determination, the Appraisal Districts were focused on the positive use determinations for the HRSGs. However, the steam turbines and HRSGs were a part of the same application and only one use determination, 07-11926 was issued for these applications. This use determination was appealed, not just part of it, and was subsequently docketed as TCEQ Docket No. 2008-0851-MIS-U. At no point was the application or use determination somehow split into separate matters and were therefore, both subject to the same indefinite continuance and subsequent remand to the Executive Director. The Commission never issued a final order approving the negative use determination of the steam turbines or provided any sort of indication that this part of the application has somehow been separated from the HRSG portion of the application. The General Counsel's letter remanding the matter to the Executive Director no such distinction between the HRSG and steam turbine application and any inference of such is improper.

### **B. Steam Turbines Meet All of the Applicable Requirements of Pollution Control Property**

To avoid repeating the arguments previously made regarding HRSGs, Applicant will briefly summarize how steam turbines meet the applicable requirements to be considered pollution control property. Steam turbines are specifically listed in §11.31(k) as equipment "for the control of air, water, or land pollution." As previously discussed, these items are not required to provide any information regarding their environmental benefit as the Legislature determined steam turbines are pollution control property and do provide an environmental benefit. Finally, steam turbines are used in order to meet or exceed the NOx emission limits in 40 CFR Subpart Da. Therefore, steam turbines qualify as pollution control property and the negative use determination issued by the Executive Director is improper.

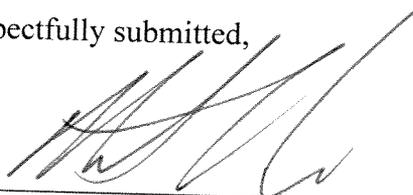
## **VIII. Conclusion**

The arguments made by the Executive Director and OPIC are based on misapplications of the controlling statute, policy concerns outside of the Agency's purview, and inadequate technical review. Texas Tax Code §11.31 provides a straightforward roadmap for how the TCEQ must process, evaluate, and resolve applications for use determinations. This process expressly contemplates that the pollution control aspects of "devices and methods" may also have productive value and instructs the TCEQ, not to dismiss applications with negative use determinations, but instead to acknowledge the legislatively-established pollution control benefits of items on the 11.31(k) list and then develop a full or partial positive use determination after factoring in the concurrent pollution control and production benefits of the equipment in question.

In the instant case, the Executive Director and the General Counsel did not follow the procedural requirements for processing these applications as laid out in §11.31 and failed to apply a

consistent approach for all similarly situated applications. Again, the question on appeal is not whether 100% or another specific percentage is appropriate - the Commissioners need only evaluate whether any percentage above zero is appropriate and, if so, a remand is required. As set forth fully above, the express language of the statute demands that a percentage above zero be recognized so the only legally valid outcome is for the Commission to put things back on the right track by remanding the applications to the Executive Director to determine what percentage of a positive use determination is appropriate. The Executive Director has the staff expertise and tools to do this job. All that we ask that they be instructed to do that job.

Respectfully submitted,



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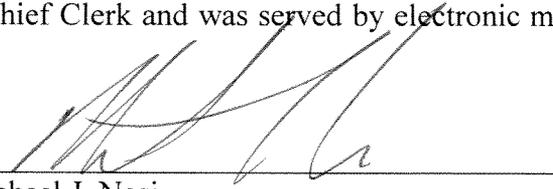
Michael J. Nasi  
State Bar No. 00791335  
Steve Moore  
State Bar No. 14377320  
Benjamin Rhem  
State Bar No. 24065967

JACKSON WALKER L.L.P.  
100 Congress Avenue, Suite 1100  
Austin, Texas 78701  
512-236-2200  
512-236-2002 (Facsimile)  
[mnasi@jw.com](mailto:mnasi@jw.com)

ATTORNEYS FOR  
CER-COLORADO BEND ENERGY LLC

**CERTIFICATE OF SERVICE**

I hereby certify that on the 30th day of October, 2012, an original and 7 copies of the foregoing was filed with the TCEQ Office of the Chief Clerk and was served by electronic mail or U.S. First Class Mail to the attached mailing list.

  
\_\_\_\_\_  
Michael J. Nasi

**MAILING LIST**  
**CER-Colorado Bend Energy LLC**  
**(formerly known as Navasota Wharton Energy Partners, LP)**  
**TCEQ Docket No. 2008-0851-MIS-U**

Daniel Long  
Robert Martinez  
Texas Environmental Law Division MC 173  
P. O. Box 13087  
Austin, Texas 78711-3087  
512/239-0600 Fax 512/239-0606

Steve Hagle  
TCEQ Office of Air, MC 122  
P. O. Box 13087  
Austin, Texas 78711-3087  
512/239-2104 Fax 512/239-3341

Tylene Gamble  
Chief Appraiser  
Wharton County Appraisal District  
308 E. Milam Street  
Wharton, Texas 77488-4918  
979/532-8932 Fax 979/532-5691  
whartoncad@sbcglobal.net

Amy Swanholm  
Blas Coy  
TCEQ OPIC, MC 103  
P. O. Box 13087  
Austin, Texas 78711-3087  
512/239-0600 Fax 512/239-0606

Greg Maxim  
Dennie Deegear  
Duff & Phelps, LLC  
919 Congress Avenue, Suite 1450  
Austin, Texas 78701  
512/671-5580 Fax 512/671-5501  
gregory.maxim@duffandphelps.com  
dennis.deegar@duffandphelps.com

Docket Clerk  
TCEQ Office of Chief Clerk, MC 105  
P. O. Box 13087  
Austin, Texas 78711-3087  
512/239-3300 Fax 512/239-3311

Chance Goodin  
TCEQ Office of Air, MC 206  
P. O. Box 13087  
Austin, Texas 78711-3087  
512/239-6335 Fax 512/239-6188

Kyle Lucas  
TCEQ Alternative Dispute  
Resolution Program, MC 222  
P. O. Box 13087  
Austin, Texas 78711-3087  
512/239-0687 Fax 512/239-4055

# Attachment 1

# TEXAS NATURAL RESOURCE CONSERVATION COMMISSION



**A RESOLUTION** concerning the delegation of certain duties and authority to the General Counsel.  
Docket No. 2000-0327-RES

WHEREAS, the Texas Natural Resource Conservation Commission ("Commission") is an agency of the State of Texas;

WHEREAS, in accordance with applicable law, the Commission has appointed a General Counsel to serve as the Commission's chief legal officer;

WHEREAS, the Commission's General Counsel is empowered by statute to perform such duties as authorized by law or delegated by the Commission;

WHEREAS, the Commission does not intend by the issuance of this resolution to affect the duties and authority of the Executive Director;

WHEREAS, the Commission does not intend by the issuance of this resolution to repeal or change the duties and authority delegated to the General Counsel by Commission rule or other Commission resolution;

WHEREAS, the Commission strives to improve the efficiency, effectiveness, and timeliness of its rule review and rulemaking process;

WHEREAS, certain rule projects involve routine, non-controversial matters, such as quadrennial rule reviews and incorporation of federal and state requirements by reference;

WHEREAS, such rule projects may include public hearings or State Implementation Plan revisions; and

WHEREAS, the efficient and timely incorporation by reference of revisions of federal and state requirements into Commission rules may be necessary to avoid the imposition of inconsistent requirements;

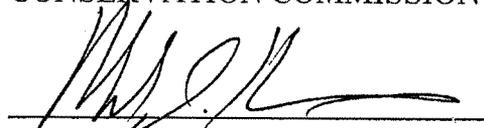
NOW, THEREFORE, BE IT RESOLVED, that the Texas Natural Resource Conservation Commission delegates to its General Counsel:

1. The authority to approve publication in the Texas Register of the following:
  - (a) proposed rules involving only incorporation by reference of federal or state requirements; and

- (b) proposed notices of intention to review rules.
- 2. The authority to approve hearings on proposed rules described in Ordering Provision No. 1(a) and as appropriate, the publication of and hearing on, proposed revisions to the State Implementation Plan related to such rules.
- 3. The authority to delegate the authority set forth in this resolution to the attorneys in the Office of the General Counsel.

Issue Date: **APR 07 2000**

TEXAS NATURAL RESOURCE  
CONSERVATION COMMISSION



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Robert J. Huston, Chairman

# Attachment 2

## Application Review Summary

Application Number: 11926  
Company: Navasota Wharton Energy Partners, LP  
Facility: Colorado Bend Energy Center  
County: Wharton  
Tier: IV  
Estimated Cost of Property: \$41,300,000.00  
Project Reviewer: Ronald Hatlett

### Description of Property and Environmental Benefit

This facility has thermally efficient heat recovery steam generators (HRSGs) and steam turbines. Use of the equipment will improve the thermal efficiency of the plant.

Tier IV Partial Percentage: 100%. Calculation based on NOx avoidance.

### Rule Citation(s)

40 CFR 60.Subpart DA: Standards of Performance for New Stationary Sources. Standards of performance for Electric Utility Steam Generating Units for Which Construction is Commenced after September 18, 1978. This rule does not require the installation of this equipment.

### Final Determination

A positive use determination was issued on 5/1/2008, as 100% pollution control for the Heat Recovery Steam Generators and a negative determination was issued for the steam turbine. The use of the steam turbine does not provide an environmental benefit at the site and is not considered to be pollution control equipment. The determination was appealed on 5/19/2008. The application was remanded to the executive director for further review on 6/29/2012, on 7/10/2012, a negative determination was issued stating that heat recovery steam generators are used solely for production and, therefore, are not eligible for a positive use determination.

### Administrative Review

#### Administrative Review Chronology

Received Date: 03/19/2008

Date Application Was Declared Administratively Complete: 04/08/2008

#### Fee Information

Application Fee Paid: Yes

Does Applicant Have Past Due Fees: No

### Technical Review

#### Technical Review Chronology

Technical Review Start Date: 04/08/2008

Technical Review Completion Date: 04/30/2008

Determination Issued: 5/01/2008

Appeal Date: 5/16/2008

Remand Date: 6/29/2012

Technical Review Start Date: 7/02/2012

Technical Review Completion Date: 04/30/2008

Re-Determination Date: 7/09/2012

Ronald Hatlett      7/10/12  
Project Reviewer      Date

[Signature]      7/11/12  
Work Leader      Date

# Attachment 3



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

AUG -5 2004

OFFICE OF  
AIR AND RADIATION

MEMORANDUM

SUBJECT: Guidance on SIP Credits for Emission Reductions from Electric-Sector Energy Efficiency and Renewable Energy Measures

FROM: Brian McLean, Director  
Office of Atmospheric Programs *Brian McLean*

Steve Page, Director  
Office of Air Quality Planning and Standards *Steve Page*

TO: Regional Air Division Directors

Attached is a final document that provides guidance to States and local areas on quantifying and including emission reductions from energy efficiency and renewable energy measures in State Implementation Plans (SIPs). The guidance has been developed jointly by the Office of Air Quality Planning and Standards (OAQPS) and the Office of Atmospheric Programs (OAP).

Energy efficiency and renewable energy measures have many benefits. Energy efficiency measures reduce electricity consumption and renewable energy can supply energy from non- or less- polluting sources. These measures can save money, have other economic benefits, reduce dependence on foreign sources of fuel, increase the reliability of the electricity grid, enhance energy security, and, most importantly for air quality purposes, reduce air emissions from electric generating power plants. Energy efficiency and renewable energy inherently prevent pollution from occurring. Additionally, in many areas, the peak demand for electricity frequently coincides with periods of poor air quality. It is therefore desirable to encourage and reward greater application of energy efficiency and renewable energy measures and incorporate the emission reductions that these measures will accrue into the air quality planning process.

Please distribute this guidance to your state and local air pollution control agencies, interested members of the regulated community and the public. An electronic version of this final guidance can be found at <http://www.epa.gov/ttn/oarpg> under "Recent Additions." If your staff have any questions regarding this guidance please have them contact Art Diem of OAP at (202) 343-9340 or David Solomon of OAQPS at (919) 541-5375.

Attachment

# Attachment 4

## TAX EXEMPTION PROGRAM

### Ohio Revised Code (ORC) Sections 5709.20 through 5709.27

#### 5709.20 Definitions

5709.201 Continuing validity of certificates; transfer of pending applications.

5709.21 Certification procedure

5709.211 Opinion of EPA director or development director to be obtained prior to issuance of certificate.

5709.212. Application fee.

5709.22 Powers and duties of tax commissioner

5709.23 Notice to applicant and county auditor

5709.24 Appeal

5709.25 Exemption of pollution control facilities

5709.26 Liability in case of fraud

5709.27 Exemption certificate transfer

#### § 5709.20 Definitions.

(A) "Air contaminant" means particulate matter, dust, fumes, gas, mist, smoke, vapor, or odorous substances, or any combination thereof.

(B) "Air pollution control facility" means any property designed, constructed, or installed for the primary purpose of eliminating or reducing the emission of, or ground level concentration of, air contaminants generated at an industrial or commercial plant or site that renders air harmful or inimical to the public health or to property within this state, or such property installed on or after November 1, 1993, at a petroleum refinery for the primary purpose of eliminating or reducing substances within fuel that otherwise would create the emission of air contaminants upon the combustion of fuel.

(C) "Energy conversion" means the conversion of fuel or power usage and consumption from natural gas to an alternate fuel or power source other than propane, butane, naphtha, or fuel oil; or the conversion of fuel or power usage and consumption from fuel oil to an alternate fuel or power source other than natural gas, propane, butane, or naphtha.

(D) "Energy conversion facility" means any additional property or equipment designed, constructed, or installed after December 31, 1974, for use at an industrial or commercial plant or site for the primary purpose of energy conversion.

(E) "Exempt facility" means any of the facilities defined in division (B), (D), (F), (I), (K) or (L) of this section for which an exempt facility certificate is issued pursuant to section 5709.21 or for which a certificate remains valid under section 5709.201 [5709.20.1] of the Revised Code.

(F) "Noise pollution control facility" means any property designed, constructed, or installed for use at an industrial or commercial plant or site for the primary purpose of eliminating or reducing, at that plant or site, the emission of sound which is harmful or inimical to persons or property, or materially reduces the quality of the environment, as shall be determined by the director of environmental protection within such standards for noise pollution control facilities and standards for environmental noise necessary to protect public health and welfare as may be promulgated by the United States environmental protection agency. In the absence of such United States environmental protection agency standards, the determination shall be made in accordance with generally accepted current standards of good engineering practice in environmental noise control.

(G) "Solid waste" means such unwanted residual solid or semi-solid material as results from industrial operations, including those of public utility companies, and commercial, distribution, research, agricultural, and community operations, including garbage, combustible or noncombustible, street dirt, and debris.

(H) "Solid waste energy conversion" means the conversion of solid waste into energy and the utilization of such energy for some useful purpose.

(I) "Solid waste energy conversion facility" means any property or equipment designed, constructed, or installed after December 31, 1974, for use at an industrial or a commercial plant or site for the primary purpose of solid waste energy conversion.

(J) "Thermal efficiency improvement" means the recovery and use of waste heat or waste steam produced incidental to electric power generation, industrial process heat generation, lighting, refrigeration, or space heating.

(K) "Thermal efficiency improvement facility" means any property or equipment designed, constructed, or installed after December 31, 1974, for use at an industrial or a commercial plant or site for the primary purpose of thermal efficiency improvement.

(L) "Industrial water pollution control facility" means any property designed, constructed, or installed for the primary purpose of collecting or conducting industrial waste to a point of disposal or treatment; reducing, controlling, or eliminating water pollution caused by industrial waste; or reducing, controlling, or eliminating the discharge into a disposal system of industrial waste or what would be industrial waste if discharged into the waters of this state. This division applies only to property related to an industrial water pollution control facility placed into operation or initially capable of operation after December 31, 1965, and installed pursuant to the approval of the environmental protection agency or any other governmental agency having authority to approve the installation of industrial water pollution control facilities. The definitions in section 6111.01 of the Revised Code, as applicable, apply to the terms used in this division.

(M) Property designed, constructed, installed, used, or placed in operation primarily for the safety, health, protection, or benefit, or any combination thereof, of personnel of a business, or primarily for a business's own benefit, is not an "exempt facility."

**HISTORY: 130 v 1304 (Eff 10-14-63); 133 v S 169 (Eff 10-2-69); 135 v H 621 (Eff 11-22-73); 136 v S 498. Eff 1-17-77; 150 v H 95, § 1, eff. 6-26-03.**

### **§ 5709.201. Continuing validity of certificates; transfer of pending applications.**

(A) Except as provided in divisions (C)(4)(a) and (c) of section 5709.22 and division (F) of section 5709.25 of the Revised Code, a certificate issued under section 5709.21, 5709.31, 5709.46, or 6111.31 of the Revised Code that was valid and in effect on the effective date of this section shall continue in effect subject to the law as it existed before that effective date. Division (C)(4)(b) of section 5709.22 of the Revised Code does not apply to any certificate issued by the tax commissioner before July 1, 2003.

(B) Any applications pending on the effective date of this section for which a certificate had not been issued on or before that effective date under section 6111.31 of the Revised Code shall be transferred to the tax commissioner for further administering. Sections 5709.20 to 5709.27 of the Revised Code apply to such pending applications, excluding the requirement of section 5709.212 [5709.21.2] of the Revised Code that applicants must pay the fee.

(C) For applications pending on the effective date of this section, division (D) of section 5709.25 of the Revised Code allowing the commissioner to assess any additional tax notwithstanding any other time

limitations imposed by law on the denied portion of the applicant's claim applies only to tax periods that would otherwise be open to assessment on that effective date.

**HISTORY: 150 v H 95, § 1, eff. 6-26-03.**

 Back to Top

### **§ 5709.21 Certification procedure.**

(A) As used in this section:

(1) "Exclusive property" means real and personal property that is installed, used, and necessary for the operation of an exempt facility, and that is not auxiliary property unless the auxiliary property exempt cost equals or exceeds eighty-five per cent of the total cost of the property.

(2) "Auxiliary property" means personal property installed, used, and necessary for the operation of an exempt facility that is also used in other operations of the business other than an exempt facility purpose described in section 5709.20 of the Revised Code. "Auxiliary property" does not include property with an auxiliary property exempt cost that is less than or equal to fifteen per cent of the total cost of such property.

(3) "Auxiliary property exempt cost" means the cost of auxiliary property calculated as follows:

(a) If the auxiliary property is used for an exempt facility purpose for discrete periods of time, the exempt cost shall be determined by the ratio of time the auxiliary property is in use in such exempt capacity to the total time it is in use. Division (A)(3)(a) of this section does not apply if the property is concurrently used for an exempt facility purpose and a nonexempt facility purpose.

(b) The applicant has the burden of proving the exempt cost of all auxiliary property not described in division (A)(3)(a) of this section.

(c) Any cost related to an expansion of the commercial or industrial site that is not related to the operation of the exempt facility shall not be included as an auxiliary exempt cost under division (A)(3) of this section.

(B) Application for an exempt facility certificate shall be filed with the tax commissioner in such manner and in such form as prescribed by the tax commissioner. The application shall contain plans and specifications of the property, including all materials incorporated or to be incorporated therein and their associated costs, and a descriptive list of all equipment acquired or to be acquired by the applicant for the exempt facility and its associated cost. If the commissioner finds that the property was designed primarily as an exempt facility and is suitable and reasonably adequate for such purpose and is intended for such purpose, the commissioner shall enter a finding and issue a certificate to that effect. The effective date of the certificate shall be the date the application was made for such certificate or the date of the construction of the facility, whichever is earlier.

Nothing in this section shall be construed to extend the time period to file, to keep the time period to file open, or supersede the requirement of filing a tax refund or other tax reduction request in the manner and within the time prescribed by law.

(C) (1) Except as provided in division (C)(2) of this section, the certificate shall permit tax exemption pursuant to section 5709.25 of the Revised Code only for that portion of such exempt facility that is exclusive property used for a purpose enumerated in section 5709.20 of the Revised Code. • • •

# Attachment 5

**AFFIDAVIT**

STATE OF TEXAS §

COUNTY OF WHARTON §

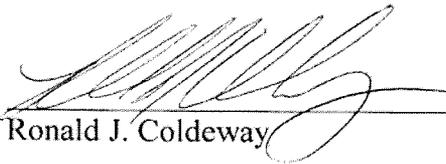
BEFORE ME, the undersigned authority, on this day personally appeared Ronald J. Coldeway, known to me as that person, and after being duly sworn, stated under oath the following:

1. "My name is Ronald J. Coldeway. I am over twenty-one (21) years of age, am fully competent to testify and unless expressly stated otherwise, I have personal knowledge of all facts stated herein, and all such facts are to the best of my knowledge true and correct
2. I am the current Plant Manager at the Colorado Bend Energy Center (the "Facility"), a 550 MW combined cycle facility, utilizing four Heat Recovery Steam Generators ("HRSGs") in the production of electricity and located in Wharton County, Texas. I have been in this role at the Facility since September 7, 2010.
3. I have reviewed the Tier IV Use Determination Application #07-11926 (the "Application") (attached hereto as Exhibit "A") prepared and submitted to the TCEQ on March 19, 2008. In this Application, a method is outlined for recognizing air emissions (pollution reduction and/or prevention) reductions due to the Facility's combined cycle design. An Output Based Emissions Model (the "Model") in this Application attempted to recognize and to quantify the NOx emissions prevention due to the combustion efficiencies inherent in our Facility design.
4. To calculate the percentage of HRSG equipment deemed to be pollution control property ("PCP"), an "avoided emissions" approach was used in the Model. This approach relied upon thermal output differences between a conventional power generation system and the combined cycle system at the Facility. By calculating the displacement of emissions associated with the Facility's thermal output and subtracting these emissions from a baseline emissions rate, a percentage of the total Facility costs dedicated to PCP functions could be calculated. The displaced emissions were emissions that would have been generated by the same thermal output from a conventional steam power plant.
5. Finally, the Model multiplies the percentage generated above times the Total Capital Cost of the Facility to establish the "Capital Cost of NOx Avoidance". If this cost was equal to or greater than 100% of the cost of the HRSG, the HRSG was deemed to be 100% property tax exempt as PCP by the Model.

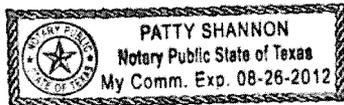
6. Based on my industry experience and knowledge of the Facility, the assumptions in the Output Based Emission Model, and the prevention of air emissions, as quantified, are in conformance with the expected capabilities and historical performance of the Facility.

7. In addition to the theoretical demonstration of pollution prevention due to combined cycle power generation efficiencies in the Model, I am aware of emissions data that has been monitored at the Barney Davis and Nueces Bay Power Plant both pre and post- repowering of that plant that confirm the assumptions in the above-referenced model regarding the air emissions reductions per pound of fossil fuel use. This data is set out and discussed in the attached Exhibit "B".

8. FURTHER AFFIANT SAYETH NOT."

  
Ronald J. Coldeway

BEFORE ME, the undersigned authority on this the 31st day of July, 2012, personally appeared Ronald J. Coldeway, who being duly sworn on this oath, deposed and said that he has read the foregoing and that every factual statement made therein is within her knowledge and is true and correct.



  
Notary Public in and for the State of Texas

# **EXHIBIT A**

**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY  
APPLICATION FOR USE DETERMINATION  
FOR POLLUTION CONTROL PROPERTY**

The TCEQ has the responsibility to determine whether a property is a pollution control property. A person seeking a use determination for pollution control property must complete the attached application or use a copy or similar reproduction. For assistance in completing this form refer to the TCEQ guidelines document, *Property Tax Exemptions for Pollution Control Property*, as well as 30 TAC §17, rules governing this program. For additional assistance please contact the Tax Relief for Pollution Control Property Program at (512) 239-3100. The application should be completed and mailed, along with a complete copy and appropriate fee, to: TCEQ MC-214, Cashiers Office, P.O. Box 13088, Austin, Texas 78711-3088.

**1. GENERAL INFORMATION**

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

- Corporation                       Sole Proprietor  
 Partnership                       Utility  
 Limited Partnership               Other

B. Size of company: Number of Employees

- 1 to 99                               1,000 to 1,999  
 100 to 499                         2,000 to 4,999  
 500 to 999                         5,000 or more

C. Business Description:      **Electricity Manufacturing (SIC 4911)**

**2. TYPE OF APPLICATION**

- Tier I \$150 Application Fee               Tier III \$2,500 Application Fee  
 Tier II \$1,000 Application Fee           Tier IV \$500 Application Fee

*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.*

**3. NAME OF APPLICANT**

A. Company Name: Navasota Wharton Energy Partners LP

B. Mailing Address (Street or P.O. Box): 403 Corporate Woods

C. City, State, ZIP: Magnolia, TX 77354

**4. PHYSICAL LOCATION OF PROPERTY REQUESTING A TAX EXEMPTION**

A. Name of facility: Colorado Bend

B. Type of Mfg Process or Service: Electricity Manufacturing (SIC 4911)

C. Street Address: 3821 S. State Hwy 60

D. City, State, ZIP: Wharton, TX 77488

E. Tracking Number Assigned by Applicant: DPCOBend B

F. Customer Number or Regulated Entity Number: N/A

**5. APPRAISAL DISTRICT WITH TAXING AUTHORITY OVER PROPERTY**

A. Name of Appraisal District: Wharton

B. Appraisal District Account Number: 10258-000-000-00; 10-20500000-0200-67099; 20063-000-055-00

Replacement  
~~07-12-2009~~

**6. CONTACT NAME (must be provided)**

A. Company/Organization Name: Duff and Phelps LLC

B. Name of Individual to Contact: Greg Maxim

C. Mailing Address: 919 Congress Ave. Suite 1450

D. City, State, ZIP: Austin, TX 78701

E. Telephone number and fax number: (512) 671-5580 Fax (512) 671-5501

F. E-Mail address (if available): gregory.maxim@duffandphelps.com

**7. RELEVANT RULE, REGULATION, OR STATUTORY PROVISION**

Please reference Section 8. Each item is detailed with the proper statute, regulation, or environmental regulatory provision.

**8. DESCRIPTION OF PROPERTY**

**Background**

The Colorado Bend Energy Center (the "Facility"), owned by Navasota Wharton Energy Partners LP, is a combined cycle natural-gas fired power plant located in Wharton, Wharton County, Texas. The Facility is intended to have a total capacity of 825 Mw, built in three phases. Phase has a capacity of 275 Mw and was completed in June of 2007. Phase 2, currently under construction, is to be completed in June of 2008 and will also have a 275 Mw capacity. Each phase consists of 2 GE 7-EA combustion turbine units utilizing the GE Dry Low NOx combustion control system technology, 2 heat recovery steam generating (HRSG) units, and one steam turbine unit. The Facility utilizes a cooling tower within the circulating water system for condenser cooling water needs and condensate return purposes.

**Overview of Combined Cycle Technology**

The Facility consists of a combined-cycle gas turbine power plant with gas Combustion Turbines ("CTs") equipped with heat recovery steam generators to capture heat from the gas turbine exhaust. Steam produced in the heat recovery steam generators powers a steam turbine generator(s) to produce additional electric power. Use of the otherwise wasted heat in the turbine exhaust gas results in higher plant thermal efficiency compared to other combustion technologies. Combined-cycle plants currently entering service can convert approximately 50% of the chemical energy of natural gas into electricity (HHV basis).

The Rankine cycle is a thermodynamic cycle that converts heat from an external source into work. In a Rankine cycle, external heat from an outside source is provided to a fluid in a closed-loop system. This fluid, once pressurized, converts the heat into work output using a turbine. The fluid most often used in a Rankine cycle is water (steam) due to its favorable properties, such as nontoxic and unreactive chemistry, abundance, and low cost, as well as its thermodynamic properties. The thermal efficiency of a Rankine cycle is usually limited by the working fluid. Without pressure reaching super critical the temperature range the

Rankine cycle can operate over is quite small, turbine entry temperatures are typically 565°C (the creep limit of stainless steel) and condenser temperatures are around 30°C. This gives a theoretical Carnot efficiency of around 63% compared with an actual efficiency of 42% for a modern coal-fired power station. This low turbine entry temperature (compared with a gas turbine) is why the Rankine cycle is often used as a bottoming cycle in combined cycle gas turbine power stations.

The Brayton cycle is a constant pressure thermodynamic cycle that converts heat from combustion into work. A Brayton engine, as it applies to a gas turbine system, will consist of a fuel or gas compressor, combustion chamber, and an expansion turbine. Air is drawn into the compressor, mixed with the fuel, and ignited. The resulting work output is captured through a pump, cylinder, or turbine. A Brayton engine forms half of a combined cycle system, which combines with a Rankine engine to further increase overall efficiency. Cogeneration systems typically make use of the waste heat from Brayton engines, typically for hot water production or space heating.

By combining both gas and steam cycles, high input temperatures and low output temperatures can be achieved. The efficiency of the cycles are additive, because they are powered by the same fuel source. A combined-cycle plant has a thermodynamic cycle that operates between the gas turbine's high firing temperature and the waste heat temperature from the condensers of the steam cycle. This large range means that the Carnot efficiency of the cycle is high. The actual efficiency, while lower than this is still higher than that of either plant on its own. The thermal efficiency of a combined-cycle power plant is the net power output of the plant divided by the heating value of the fuel. If the plant produces only electricity, efficiencies of up to 59% can be achieved.

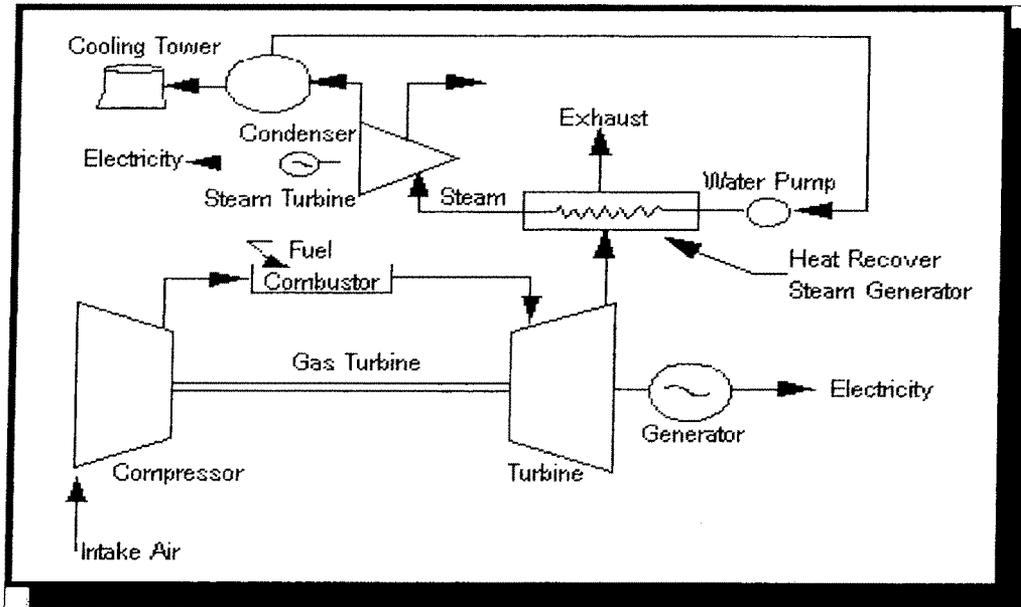
A single-train combined-cycle plant consists of one gas turbine generator, a heat recovery steam generator (HRSG) and a steam turbine generator ("1 x 1" configuration). As an example, an "FA-class" combustion turbine, the most common technology in use for large combined-cycle plants within the state of Texas and other locations throughout the United States, represents a plant with approximately 270 megawatts of capacity.

See Figure 1 – Standard Combined-Cycle Configuration, below.

It is common to find combined-cycle plants using two or even three gas turbine generators and heat recovery steam generators feeding a single, proportionally larger steam turbine generator. Larger plant sizes result in economies of scale for construction and operation, and designs using multiple combustion turbines provide improved part-load efficiency. A 2 x 1 configuration using FA-class technology will produce about 540 megawatts of capacity at International Organization for Standardization ("ISO") conditions. ISO references ambient conditions at 14.7 psia, 59 F, and 60% relative humidity.

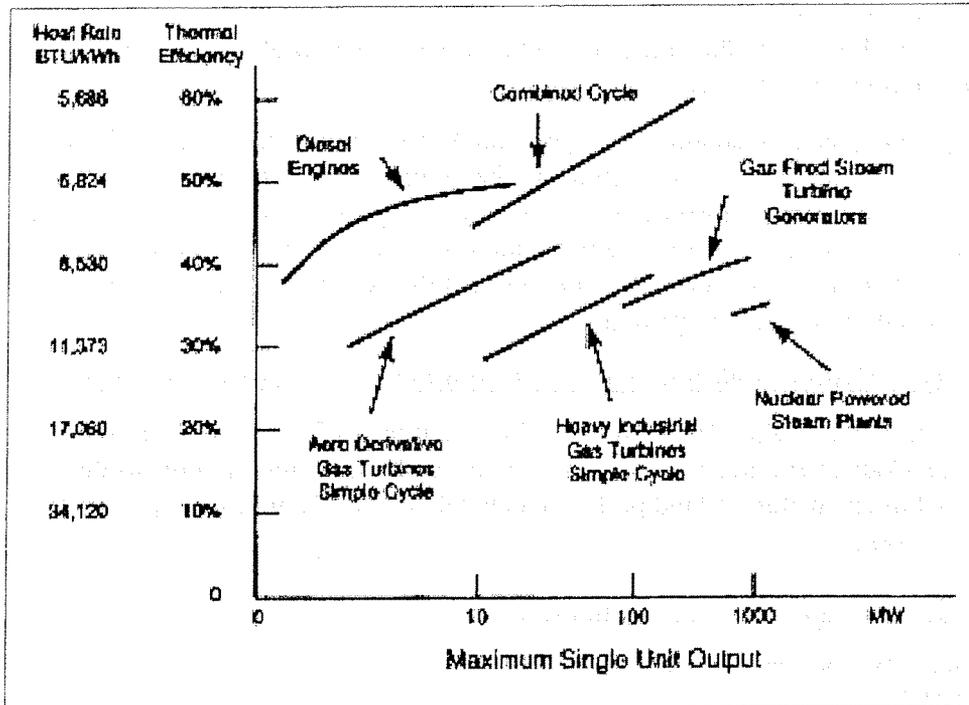
Because of high thermal efficiency, high reliability, and low air emissions,

combined-cycle gas turbines have been the new resource of choice for bulk power generation for well over a decade. Other attractive features include significant operational flexibility, the availability of relatively inexpensive power augmentation for peak period operation and relatively low carbon dioxide production.



**FIGURE 1 - Standard Combined-Cycle Configuration (1)**

As an example, consider a gas turbine cycle that has an efficiency of 40%, which is a representative value for current Brayton Cycle gas turbines, and the Rankine Cycle has an efficiency of 30%. The combined-cycle efficiency would be 58%, which is a very large increase over either of the two simple cycles. Some representative efficiencies and power outputs for different cycles are shown in Figure 2 – Comparison of Efficiency and Power Output of Various Power Products, below.



**FIGURE 2 - Comparison of efficiency and power output of various power products [Bartol (1997)] (2)**

**Current Regulatory Authority for Output-Based Emissions**

Innovative power technologies such as combined-cycle technology offer enormous potential to improve efficiency and enhance the environmental footprint of power generation through the reduction and/or prevention of air emissions to the environment. Currently, two thirds of the fuel burned to generate electricity in traditional fossil-fired steam boilers is lost. Traditional U.S. power generation facility efficiencies have not increased since the 1950s and more than one fifth of the U.S. power plants are more than 50 years old. In addition, these facilities are the leading contributors to U.S. emissions of carbon dioxide, NOx, sulfur dioxide ("SO2"), and other contaminants into the air and water.

The ability to recognize and regulate the efficiency benefits of pollution reduction and/or prevention through the use of combined-cycle technology is achieved through the use of Output-Based emissions standards, incorporated since September 1998 within the U.S. EPA's new source performance standards ("NSPS") for NOx, from both new utility boilers and new industrial boilers. Pursuant to section 407(c) of the Clean Air Act in subpart Da (Electric Utility Steam Generating Units) and subpart Db (Industrial-Commercial-Institutional Steam Generating Units) of 40 CFR part 60, the U.S. EPA revised the NOx emissions limits for steam generating units for which construction, modification, or reconstruction commenced after July 9, 1997 (3). Output-Based regulations are also exemplified by those used in the U.S. EPA's NOx Cap and Trade Program for the NOx State Implementation Plan ("SIP") Call

of 1998, which uses units of measure such as lb/MWh generated or lb concentration ("ppm"), which relate to the emissions to the productive output – electrical generation of the process.(4)

The use of innovative technologies such as combined-cycle units reduces fossil fuel use and leads to multi-media reductions in the environmental impacts of the production, processing transportation, and combustion of fossil fuels. In addition, reducing fossil fuel combustion is a pollution prevention measure that reduces emissions of all products of combustion, not just the target pollutant (currently NOx) of a federal regulatory program.

### **Authority to Expand Pollution Control Equipment & Categories in Texas**

Under Texas House Bill 3732 (“HB3732”) enacted in 2007, Section 11.31 of the Texas Tax Code is amended to add certain plant equipment and systems to the current list of air, water, or land pollution control devices exempt from property taxation in Texas.

Specifically, the language reads as follows:

- SECTION 4. Section 11.31, Tax Code, is amended by adding Subsections (k), (l), and (m) to read as follows:*
- (k) The Texas Commission on Environmental Quality shall adopt rules establishing a nonexclusive list of facilities, devices, or methods for the control of air, water, or land pollution, which must include:*
    - (1) coal cleaning or refining facilities;*
    - (2) atmospheric or pressurized and bubbling or circulating fluidized bed combustion systems and gasification fluidized bed combustion combined-cycle systems;*
    - (3) ultra-supercritical pulverized coal boilers;*
    - (4) flue gas recirculation components;*
    - (5) syngas purification systems and gas-cleanup units;*
    - (6) enhanced heat recovery systems;*
    - (7) exhaust heat recovery boilers;*
    - (8) heat recovery steam generators;*
    - (9) superheaters and evaporators;*
    - (10) enhanced steam turbine systems;*
    - (11) methanation;*
    - (12) coal combustion or gasification byproduct and coproduct handling, storage, or treatment facilities;*
    - (13) biomass cofiring storage, distribution, and firing systems;*
    - (14) coal cleaning or drying processes, such as coal drying/moisture reduction, air jigging, precombustion decarbonization, and coal flow balancing technology;*
    - (15) oxy-fuel combustion technology, amine or chilled ammonia scrubbing, fuel or emission conversion through the use of catalysts, enhanced scrubbing technology, modified combustion technology such as chemical looping, and cryogenic technology;*
    - (16) if the United States Environmental Protection Agency adopts a final rule or regulation regulating carbon dioxide as a pollutant, property that is used, constructed, acquired, or installed wholly or partly to capture carbon dioxide from an anthropogenic source in this state that is geologically sequestered in this state;*
    - (17) fuel cells generating electricity using hydrogen derived from coal, biomass, petroleum coke, or solid waste; and*
    - (18) any other equipment designed to prevent, capture, abate, or monitor nitrogen oxides, volatile organic compounds, particulate matter, mercury, carbon monoxide, or any criteria pollutant.*
  - (l) The Texas Commission on Environmental Quality by rule shall update the list adopted under Subsection (k) at least once every three years. An item may be removed from the list if the commission finds compelling evidence to support the conclusion that the item does not provide pollution control benefits.*
  - (m) Notwithstanding the other provisions of this section, if the facility, device, or method for the*

*control of air, water, or land pollution described in an application for an exemption under this section is a facility, device, or method included on the list adopted under Subsection (k), the executive director of the Texas Commission on Environmental Quality, not later than the 30th day after the date of receipt of the information required by Subsections (c)(2) and (3) and without regard to whether the information required by Subsection (c)(1) has been submitted, shall determine that the facility, device, or method described in the application is used wholly or partly as a facility, device, or method for the control of air, water, or land pollution and shall take the actions that are required by Subsection (d) in the event such a determination is made.*

Under the TCEQ's recently updated "Tax Relief for Pollution Control Property – Application Instructions and Equipment and Categories List – Effective January 2008", the Equipment and Categories List - Part B ("ECL Part B") is a list of the pollution control property categories adopted and set forth in TTC Sec. 26.045(f). The taxpayer is to supply a pollution control percentage for the equipment listed in Part B via calculations demonstrating pollution control, prevention and/or reductions achieved by the listed equipment or systems.

The following property descriptions outline the environmental purpose, including the anticipated environmental benefit of pollution control additions considered under the Application Instructions' ECL Part B that have been constructed and placed into use at the Facility as of its placed-in-service date, or installed subsequent to in-service since 1994:

## Property Descriptions

### **Item #1 & 3 Combined-Cycle Gas Turbine Plant Heat Recovery Steam Generator ("HRSG") and Support Systems Tier IV B-8**

*40 CFR Part 60 Subparts DA and DB, NOx Limits for Electric Utility Steam Generating Units and Industrial-Commercial-Institutional Steam Generating Units for New Source Performance Standards ("NSPS").*

*TAC Rule 106.512, Standard Permit for Electric Generating Units (EGU)*

*NOTE: Permits issued under Texas Clean Air Act's Health & Safety Code Sections 382.011, applies to all electric generating units that emit air contaminants, regardless of size, and it is to reflect Best Available Control Technology ("BACT") for electric generating units on an output basis in pounds of NOx per megawatt hour, adjusted to reflect a simple cycle power plant.*

The heat recovery steam generator ("HRSG") found in the Facility is a heat exchanger that recovers heat from a hot gas stream. It produces steam that can be used in a process or used to drive a steam turbine. A common application for an HRSG is in a combined-cycle power station, where hot exhaust from a gas turbine is fed to an HRSG to generate steam which in turn drives a steam turbine. This combination produces electricity in a more thermally efficient manner than either the gas turbine or steam turbine alone.

The Facility's HRSGs consist of three major components: the Evaporator, Superheater, and Economizer. The different components are put together to meet the operating requirements of the unit. Modular HRSGs normally consist of three sections: an LP (low pressure) section, a reheat/IP (intermediate pressure) section, and an HP (high pressure) section. The reheat and IP sections are separate circuits inside the HRSG. The IP steam partly feeds the reheat section. Each section has a steam drum and an evaporator section where water is converted to steam. This steam then passes through superheaters to raise the temperature and pressure past the saturation point.

### **Item #2 & 4 Steam Turbine and Support Systems Tier IV B-10**

*40 CFR Part 60 Subparts DA and DB, NOx Limits for Electric Utility Steam Generating Units and Industrial-Commercial-Institutional Steam Generating Units for New Source Performance Standards ("NSPS").*

*TAC Rule 106.512, Standard Permit for Electric Generating Units (EGU)*

*NOTE: Permits issued under Texas Clean Air Act's Health & Safety Code Sections 382.011, applies to all electric generating units that emit air contaminants, regardless of size, and it is to reflect Best Available Control Technology ("BACT") for electric generating units on an output basis in pounds of NOx per megawatt hour, adjusted to reflect a simple cycle power plant.*

The steam turbine(s) found in the Facility operate on the Rankine cycle in combination with the Brayton cycle, as described above. Steam created in the Facility HRSG(s) from waste heat that would have otherwise been lost to the atmosphere enters the steam turbine via a throttle valve, where it powers the turbine

and connected generator to make electricity. Use of HRSG/Steam Turbine System combination provides the Facility with an overall efficiency of greater than 50%. Steam turbine systems similar to the Facility's have a history of achieving up to 95% availability on an annual basis and can operate for more than a year between shutdown for maintenance and inspections. (5)

**Pollution Control Percentage Calculation: Avoided Emissions Approach**

To calculate the percentage of the equipment or category deemed to be pollution control equipment, the Avoided Emissions approach has been used. This approach relies on thermal output differences between a conventional power generation system and the combined-cycle system at the Facility. Specifically, the percentage is determined by calculating the displacement of emissions associated with the Facility's thermal output and subtracting these emissions from a baseline emission rate. These displaced emissions are emissions that would have been generated by the same thermal output from a conventional system.

Greater energy efficiency reduces all air contaminant emissions, including the greenhouse gas, carbon dioxide. Higher efficiency processes include combined-cycle operation and combined heat and power ("CHP") generation. For electric generation the energy efficiency of the process expressed in terms of millions of British thermal units ("MMBTU's") per Megawatt-hour. Lower fuel consumption associated with increased fuel conversion efficiency reduces emissions across the board – that is NO<sub>x</sub>, SO<sub>x</sub>, particulate matter, hazardous air pollutants, and greenhouse gas emissions such as CO<sub>2</sub>.

In calculating the percent exempt for the listed items from the ECL-Part B, we utilized Output-Based NO<sub>x</sub> allocation method for both power generation projects that replaced existing facilities and "Greenfield" power and heat generation facilities. We looked at the various fossil fuel technologies in use today and chose the baseline facility to be a natural gas fuel-fired steam generator. We benchmarked this conventional generation to the subject natural gas-fired combined cycle generator at the Facility. By doing so, we narrowed the heat rate factors as much as possible to be conservative and uniform in modeling. The benchmark heat rate factor is the following:

Natural Gas fuel-fired Steam Generator: 10,490 BTU's/kWh

This baseline heat rate purposely omits other fossil fuel sources in order to eliminate impurity type characteristics, which in turn eliminated the NO<sub>x</sub> emission and cost of control differences of each fossil fuel and generator type. Comparing the emissions impact of different energy generation facilities is concise when emissions are measured per unit of useful energy output. For the purpose of our calculations, we converted all the energy output to units of MWh (1 MWh = 3.413 MMBTU), and compared the total emission rate to the baseline facility.

The comparison steps to calculate the NO<sub>x</sub> reduction is as follows:

### **Calculation (Reference Schedule A)**

**Step 1** – Subject Output-Based Limit Calculation (lbs NOx / MWh)

(Input-based Limit (lbs NOx/MMBTU)) X (Heat Rate (Btu/kWh)) / (1,000,000 Btu / 1,000 kWh) =  
Output: (lbs NOx/MWh),

**Step 2** – Subject Output Conversion Calculation (NOx Tons / Year)

(Output (lbs NOx/MWh) X (Unit Design Capacity (MW)) X (Capacity Factor) X ((365 Days) X (24 hrs/day)) / 2,000 lbs = Output: (NOx Tons/Year)

**Step 3** – Baseline Output-Based Limit Calculation (lbs NOx / MWh)

(Input-based Limit (lbs NOx/MWh)) X (Heat Rate (Btu/kWh)) / (1,000,000 Btu / 1,000 kWh) =  
Output: (lbs NOx/MWh)

**Step 4** – Baseline Output Conversion Calculation (NOx Tons / Year)

(Output (lbs NOx/MMBtu) X (Unit Design Capacity (MW)) X (Capacity Factor) X ((365 Days) X (24 hrs/day)) / 2,000 lbs = Output: (NOx Tons/Year)

**Step 5** – Percent NOx Reduction Calculation

$((\text{Output Baseline})_{\text{step 4}} - (\text{Output Subject}))_{\text{step 2}} / (\text{Output Subject})_{\text{step 2}} = \% \text{ Reduction Output Subject}$

**Step 6** – Percent Exempt Calculation

(Total Subject Facility Cost) X (% NOx Reduction) = Capital Cost of NOx Avoidance

**Step 7** – Percent Exempt Calculation

Total Cost of NOx Avoidance / Total Cost of HB 3732 Equipment = % Exempt

- If % Exempt is greater than 100% HB 3732 Equipment is 100% Exempt
- If % Exempt is less than 100% then HB 3732 Equipment is partially exempt at the Step 6 calculation.

NOTE: See the attached calculation sheet for the details regarding Facility-specific calculations and property tax exemption percentage results based upon these calculations.

## REFERENCES

1. "Output-Based Regulations: A Handbook for Air Regulators", U.S. Environmental Protection Agency, Office of Atmospheric Programs – Climate Protection Partnerships Division, August, 2004, p.4.
2. "Output-Based Emissions Standards; Advancing Innovative Energy Technologies", Northeast-Midwest Institute; 2003, p. 9.
3. IBID, p.13.
4. "Output-Based Regulations: A Handbook for Air Regulators", U.S. Environmental Protection Agency, Office of Atmospheric Programs – Climate Protection Partnerships Division, August, 2004, p.4.
5. [http://www.cogeneration.net/Combined\\_Cycle\\_Power\\_Plants.htm](http://www.cogeneration.net/Combined_Cycle_Power_Plants.htm)
6. "Output-Based Emissions Standards; Advancing Innovative Energy Technologies", Northeast-Midwest Institute; 2003, p. 9.

**9. PARTIAL PERCENTAGE CALCULATION**

N/A.

**10. PROPERTY CATEGORIES AND COSTS**

See attached Schedule 10.

**11. EMISSION REDUCTION INCENTIVE GRANT**

Will an application for an Emission Reduction Incentive Grant be on file for this property/project:

Yes       No

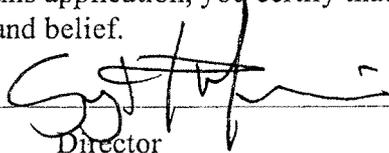
**12. APPLICATION DEFICIENCIES**

After an initial review of the application, the TCEQ may determine that the information provided with the application is not sufficient to make a use determination. The TCEQ may send a notice of deficiency, requesting additional information that must be provided within 30 days of written notice.

**13. FORMAL REQUEST FOR SIGNATURE**

By signing this application, you certify that this information is true to the best of your knowledge and belief.

NAME:



DATE:

22 Apr 12 2008

TITLE:

Director

COMPANY:

Duff and Phelps LLC

Under Texas Penal Code, Section 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.

**14. DELINQUENT FEE/PENALTY PROTOCOL**

This form will not be processed until all delinquent fees and/or penalties owed to the TCEQ or the Office of the Attorney General on behalf of the TCEQ are paid in accordance with the Delinquent Fee and Penalty Protocol. (Effective 9/1/2006)

Navasota - Colorado Bend - Phase I  
 3821 S. State Hwy 60  
 TCEQ Use Determination Application - 2008  
 Schedule 10  
 Tier IV

10. PROPERTY CATEGORIES AND COST

PROPERTY	PROJECT ID. NO.	IN SERVICE DATE	TAXABLE ON OR BEFORE 1/1/94? (Y / N)	TIER IV DECISION FLOW CHART BOX	ECL NUMBER	ESTIMATED PURCHASE COST	% EXEMPT	EXEMPT COST
Heat Recovery Steam Generators (HRSG) Steam Turbine System	1	2007	N	3	B-8	\$ 26,544,805	100%	\$ 26,544,805
	2	2007	N	3	B-10	\$ 10,091,206	100%	\$ 10,091,206
Tier IV Total						\$ 36,636,012		\$ 36,636,012

Navasota - Colorado Bend - Phase I - 3821 S. State Hwy 60  
 TCEQ Use Determination Application - 2008

Navasota - Colorado Bend - Phase II  
 3821 S. State Hwy 60  
 TCEQ Use Determination Application - 2008  
 Schedule 10  
 Tier IV

10. PROPERTY CATEGORIES AND COST

PROPERTY	PROJECT ID. NO.	IN SERVICE DATE	TAXABLE ON OR BEFORE 1/1/94? (Y / N)	TIER IV DECISION FLOW CHART BOX	ECL NUMBER	ESTIMATED PURCHASE COST	% EXEMPT	EXEMPT COST
Heat Recovery Steam Generators (HRSG) Steam Turbine System	3	CWIP	N	3	B-8	\$ 30,018,278	100%	\$ 30,018,278
	4	CWIP	N	3	B-10	\$ 22,386,336	100%	\$ 22,386,336
Tier IV Total						\$ 52,404,614		\$ 52,404,614

Navasota - Colorado Bend - Phase II - 3821 S. State Hwy 60  
 TCEQ Use Determination Application - 2008

52 404 614  
 36 636 012  
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 89 040 636

**Navasota Wharton Energy Partners LP  
Colorado Bend Energy Center - Phase I  
Schedule A - 2008 Thermal Efficiency Calculation**

**Subject Details:**

Average Heat Rate <sup>(1)</sup>	7,746 (Btu/kWh)
NOx Emissions <sup>(2)</sup>	168.6 Tons / year
Plant Capacity <sup>(3)</sup>	275 MW
Capacity Factor <sup>(4)</sup>	100.00%
Technology <sup>(5)</sup>	Combined Cycle
Total Subject Facility Cost <sup>(6)</sup>	\$169,296,979
Total Cost of Tier IV Equipment <sup>(7)</sup>	\$36,636,012

**Baseline Details:**

Average Heat Rate <sup>(8)</sup>	10,490 Btu/kWh
Technology <sup>(9)</sup>	Steam Turbine

**STEP 1  
Subject Output-Based Limit Calculation (lbs NOx / MWh)**

Input-based Limit (lbs NOx/MMBtu)	x	Heat Rate (Btu/kWh)	/	Unit Conversions (1,000,000 Btu / 1000 kWh)	=	Output-based Limit (lbs NOx/MWh)
0.0198		7,746		1,000		0.1533

**STEP 2  
Subject Output Conversion Calculation (NOx Tons / Year)**

Output-based Limit (lbs NOx/MWh)	x	Capacity (MW)	x	Capacity Factor	x	Unit Conversions (365 days * 24 Hours / 2,000 lbs)	=	Output NOx (Tons/Year)
0.1533		275		100.00%		4		168.6

**STEP 3  
Baseline Output-Based Limit Calculation (lbs NOx / MWh)**

Input-based Limit (lbs NOx/MMBtu)	x	Heat Rate (Btu/kWh)	/	Unit Conversions (1,000,000 Btu / 1000 kWh)	=	Output-based Limit (lbs NOx/MWh)
0.0198		10,490		1,000		0.2077

**STEP 4  
Baseline Output Conversion Calculation (NOx Tons / Year)**

Output-based Limit (lbs NOx/MWh)	x	Capacity (MW)	x	Capacity Factor	x	Unit Conversions (365 days * 24 Hours / 2,000 lbs)	=	Output NOx (Tons/Year)
0.2077		275		100.00%		4		228.5

**STEP 5  
Percent NOx Reduction Calculation**

( Output Baseline 228.5	-	Output Subject ) 168.6	/	Output Subject 168.6	=	% NOx Reduction 35.5%
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**STEP 6  
Percent Exempt Calculation**

Total Subject Unit Cost \$169,296,979	x	% NOx Reduction 35.5%	=	Capital Cost of NOx Avoidance \$60,100,428
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**STEP 7  
Percent Exempt Calculation**

Total Cost of NOx Avoidance \$60,100,428	/	Total Cost of HB 3732 Equipment \$36,636,012	=	% Exempt 164.0%
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Conclude	100%
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- (1) - Heat rate represents plant performance test heat rate (HHV) and was provided by the client
- (2) - NOx emissions is the NOx pollutant emission permit limit in tons per year provided by the client
- (3) - Plant capacity is the average nominal capacity and was provided by the client
- (4) - Capacity factor is the maximum operating level allowed under the emissions permit provided by the client
- (5) - Technology represents the actual technology of the subject
- (6) - Total subject facility cost represents the total cost to build the entire facility and it was determined based on data provided by the client
- (7) - Total Tier IV equipment was determined by allocating the eligible TCEQ ECL part B equipment and their associated cost from actual data provide by the client
- (8) - Baseline heat rate was published by the Energy Information Administration ("EIA")
- (9) - Baseline technology represents the technology that the subject would have replaced at the time of the subjects construction

**Navasota Wharton Energy Partners LP  
Colorado Bend Energy Center - Phase II  
Schedule A - 2008 Thermal Efficiency Calculation**

**Subject Details:**

Average Heat Rate <sup>(1)</sup>	7,746 (Btu/kWh)
NOx Emissions <sup>(2)</sup>	168.6 Tons / year
Plant Capacity <sup>(3)</sup>	275 MW
Capacity Factor <sup>(4)</sup>	100.00%
Technology <sup>(5)</sup>	Combined Cycle
Total Subject Facility Cost <sup>(6)</sup>	\$162,042,822
Total Cost of Tier IV Equipment <sup>(7)</sup>	\$52,404,614

**Baseline Details:**

Average Heat Rate <sup>(8)</sup>	10,490 Btu/kWh
Technology <sup>(9)</sup>	Steam Turbine

**STEP 1  
Subject Output-Based Limit Calculation (lbs NOx / MWh)**

Input-based Limit (lbs NOx/MMBtu)	x	Heat Rate (Btu/kWh)	/	Unit Conversions (1,000,000 Btu / 1000 kWh)	=	Output-based Limit (lbs NOx/MWh)
0.0198		7,746		1,000		0.1533

**STEP 2  
Subject Output Conversion Calculation (NOx Tons / Year)**

Output-based Limit (lbs NOx/MWh)	x	Capacity (MW)	x	Capacity Factor	x	Unit Conversions (365 days * 24 Hours / 2,000 lbs) 4	=	Output NOx (Tons/Year)
0.1533		275		100.00%				168.6

**STEP 3  
Baseline Output-Based Limit Calculation (lbs NOx / MWh)**

Input-based Limit (lbs NOx/MMBtu)	x	Heat Rate (Btu/kWh)	/	Unit Conversions (1,000,000 Btu / 1000 kWh)	=	Output-based Limit (lbs NOx/MWh)
0.0198		10,490		1,000		0.2077

**STEP 4  
Baseline Output Conversion Calculation (NOx Tons / Year)**

Output-based Limit (lbs NOx/MWh)	x	Capacity (MW)	x	Capacity Factor	x	Unit Conversions (365 days * 24 Hours / 2,000 lbs) 4	=	Output NOx (Tons/Year)
0.2077		275		100.00%				228.5

**STEP 5  
Percent NOx Reduction Calculation**

( Output Baseline 228.5	-	Output Subject ) 168.6	/	Output Subject 168.6	=	% NOx Reduction 35.5%
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**STEP 6  
Percent Exempt Calculation**

Total Subject Unit Cost \$162,042,822	x	% NOx Reduction 35.5%	=	Capital Cost of NOx Avoidance \$57,525,202
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**STEP 7  
Percent Exempt Calculation**

Total Cost of NOx Avoidance \$57,525,202	/	Total Cost of HB 3732 Equipment \$52,404,614	=	% Exempt 109.8%
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Conclude	100%
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- (1) - Heat rate represents the anticipated heat rate (HHV) and was provided by the client
- (2) - NOx emissions is the NOx pollutant emission permit limit in tons per year provided by the client
- (3) - Plant capacity is the average nominal capacity and was provided by the client
- (4) - Capacity factor is the maximum operating level allowed under the emissions permit provided by the client
- (5) - Technology represents the actual technology of the subject
- (6) - Total subject facility cost represents the total cost to build the entire facility and it was determined based on data provide by the client
- (7) - Total Tier IV equipment was determined by allocating the eligible TCEQ ECL part B equipment and their associated cost from actual data provide by the client
- (8) - Baseline heat rate was published by the Energy Information Administration ("EIA")
- (9) - Baseline technology represents the technology that the subject would have replaced at the time of the subjects construction

# **EXHIBIT B**

**AFFIDAVIT**

STATE OF TEXAS §

COUNTY OF NUECES §

BEFORE ME, the undersigned authority, on this day personally appeared Mark Shepherd, known to me as that person, and after being duly sworn, stated under oath the following:

1. "My name is Mark Shepherd. I am over twenty-one (21) years of age, am fully competent to testify and unless expressly stated otherwise, I have personal knowledge of all facts stated herein, and all such facts are to the best of my knowledge true and correct.

2. I am the current Director of Environmental, Safety and Health at the Barney Davis Power Plant (the "Facility"), a 680 MW combined cycle facility, utilizing (2) Heat Recovery Steam Generators ("HRSGs") in the production of electricity and located in Nueces County, Texas. I have been in this role at the Facility since 2010.

2. I am also the current Director of Environmental, Safety and Health at the Nueces Bay Power Plant (the "Facility"), a 680 MW combined cycle facility, utilizing six Heat Recovery Steam Generators ("HRSGs") in the production of electricity and located in Nueces County, Texas. I have been in this role at the Facility since 2010.

3. I have reviewed the Tier IV Use Determination Applications 07-12210 and 07-12211 (the "Applications"), prepared and submitted to the TCEQ on March 27, 2008. In these Applications, a method of recognizing air emissions (pollution reduction and/or prevention) reductions due to the Facility's combined cycle design is outlined. An Output Based Emissions Model (the "Model") in these Applications attempted to recognize and to quantify the NOx emissions prevention due to the combustion efficiencies inherent in our Facility design.

4. To calculate the percentage of HRSG equipment deemed to be pollution control property ("PCP"), an "avoided emissions" approach was used in the Model. This approach relied upon thermal output differences between a conventional power generation system and the combined cycle system at the Facility. By calculating the displacement of emissions associated with the Facility's thermal output and subtracting these emissions from a baseline emissions rate,

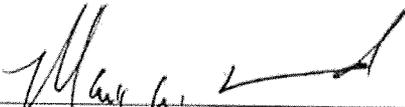
a percentage of the total Facility costs dedicated to PCP functions could be calculated. The displaced emissions were emissions that would have been generated by the same thermal output from a conventional steam power plant. (See Attachments 1 and 2 – Applications 07-12210 and 07-12211)

5. Finally, the Model multiplies the percentage generated above times the Total Capital Cost of the Facility to establish the “Capital Cost of NOx Avoidance”. If this cost was equal to or greater than 100% of the cost of the HRSG, the HRSG was deemed to be 100% property tax exempt as PCP by the Model. (See Attachments 1 and Attachment 2 – Application 07-12210 and 07-12211)

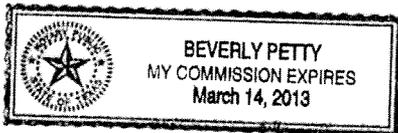
6. In general, the assumptions in the Output Based Emission Model, and the prevention of air emissions, as quantified, are in conformance with the expected capabilities and historical performance of the Facility.

7. In addition to the theoretical demonstration of pollution prevention due to combined cycle power generation efficiencies in the Model, we have specific empirical Facility emissions outputs pre- and post- repowering efforts that support the air emissions reductions per pound of fossil fuel use. These emissions reductions are attached as Attachment 3.

8. FURTHER AFFIANT SAYETH NOT.”

  
\_\_\_\_\_  
Mark Shepherd

BEFORE ME, the undersigned authority on this the 26<sup>th</sup> day of October, 2012, personally appeared Mark Shepherd, who being duly sworn on this oath, deposed and said that he has read the foregoing and that every factual statement made therein is within her knowledge and is true and correct.



  
\_\_\_\_\_  
Notary Public in and for the State of Texas

# Attachment 1

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY  
APPLICATION FOR USE DETERMINATION  
FOR POLLUTION CONTROL PROPERTY

The TCEQ has the responsibility to determine whether a property is a pollution control property. A person seeking a use determination for pollution control property must complete the attached application or use a copy or similar reproduction. For assistance in completing this form refer to the TCEQ guidelines document, *Property Tax Exemptions for Pollution Control Property*, as well as 30 TAC §17, rules governing this program. For additional assistance please contact the Tax Relief for Pollution Control Property Program at (512) 239-3100. The application should be completed and mailed, along with a complete copy and appropriate fee, to: TCEQ MC-214, Cashiers Office, P.O. Box 13088, Austin, Texas 78711-3088.

1. GENERAL INFORMATION

- A. What is the type of ownership of this facility?
  - Corporation
  - Partnership
  - Limited Partnership
  - Sole Proprietor
  - Utility
  - Other
- B. 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

C. Business Description: Electricity Manufacturing (SIC 4911)

2. TYPE OF APPLICATION

- Tier I \$150 Application Fee
- Tier II \$1,000 Application Fee
- Tier III \$2,500 Application Fee
- Tier IV \$500 Application Fee

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.

3. NAME OF APPLICANT

- A. Company Name: Topaz Power Group LLC
- B. Mailing Address (Street or P.O. Box): 2705 Bee Caves Road Suite 340
- C. City, State, ZIP: Austin, TX 78746

4. PHYSICAL LOCATION OF PROPERTY REQUESTING A TAX EXEMPTION

- A. Name of facility: Barney Davis
- B. Type of Mfg Process or Service: Electricity Manufacturing (SIC 4911)
- C. Street Address: 4301 Waldron Rd
- D. City, State, ZIP: Corpus Christi, TX 78418
- E. Tracking Number Assigned by Applicant: DPBarneyDavis B
- F. Customer Number or Regulated Entity Number: N/A

5. APPRAISAL DISTRICT WITH TAXING AUTHORITY OVER PROPERTY

- A. Name of Appraisal District: Nueces
- B. Appraisal District Account Number: TBD/New for 2008

07/2210

**6. CONTACT NAME (must be provided)**

A. Company/Organization Name: Duff and Phelps LLC  
B. Name of Individual to Contact: Greg Maxim  
C. Mailing Address: 919 Congress Ave. Suite 1450  
D. City, State, ZIP: Austin, TX 78701  
E. Telephone number and fax number: (512) 671-5580 Fax (512) 671-5501  
F. E-Mail address (if available): gregory.maxim@duffandphelps.com

**7. RELEVANT RULE, REGULATION, OR STATUTORY PROVISION**

Please reference Section 8. Each item is detailed with the proper statute, regulation, or environmental regulatory provision.

**8. DESCRIPTION OF PROPERTY**

**Background**

The Barney Davis Power Station is located in Nueces County, Texas on the south side of the City of Corpus Christi. The plant has approximately 1,992 acres of land between the Laguna Madre and Oso Creek. Barney Davis contains two intermediate natural gas-fired steam-generating units that were placed in-service in 1974 (Unit 1 - 335 MW) and 1976 (Unit 2 - 347 MW), respectively. The units, which were designed for base load operation, are presently being shuttered in place. As part of the Barney Davis repowering initiative, Topaz will be adding two new GE 7FA combustion turbines and two Heat Recovery Steam Generators (HRSG). With the additional re-tooling of the existing steam turbine, a total of 680 MW generating capacity will go online in 2009.

**Overview of Combined Cycle Technology**

The Facility is a combined-cycle gas turbine power plant consisting of gas Combustion Turbines ("CTs") equipped with heat recovery steam generators to capture heat from the gas turbine exhaust. Steam produced in the heat recovery steam generators powers a steam turbine generator(s) to produce additional electric power. The use of otherwise wasted heat in the turbine exhaust gas results in higher plant thermal efficiency compared to other power generation technologies. Combined-cycle plants currently entering service can convert over 50% of the chemical energy of natural gas into electricity (HHV basis). Employment of the Brayton Thermodynamic Cycle (Gas Turbine Cycle) in combination with the Rankine Thermodynamic Cycle results in the improved efficiency.

The Rankine cycle is a thermodynamic cycle that converts heat from an external source into work. In a Rankine cycle, external heat from an outside source is provided to a fluid in a closed-loop system. This fluid, once pressurized, converts the heat into work output using a turbine. The fluid most often used in a Rankine cycle is water (steam) due to its favorable properties, such as nontoxic and unreactive chemistry, abundance, and low cost, as well as its thermodynamic properties. The thermal efficiency of a Rankine cycle is usually limited by the working fluid. Without pressure reaching super critical the temperature range the

Rankine cycle can operate over is quite small, turbine entry temperatures are typically 565°C (the creep limit of stainless steel) and condenser temperatures are around 30°C. This gives a theoretical Carnot efficiency of around 63% compared with an actual efficiency of 42% for a modern coal-fired power station. This low turbine entry temperature (compared with a gas turbine) is why the Rankine cycle is often used as a bottoming cycle in combined cycle gas turbine power stations.

The Brayton cycle is a constant pressure thermodynamic cycle that converts heat from combustion into work. A Brayton engine, as it applies to a gas turbine system, will consist of a fuel or gas compressor, combustion chamber, and an expansion turbine. Air is drawn into the compressor, mixed with the fuel, and ignited. The resulting work output is captured through a pump, cylinder, or turbine. A Brayton engine forms half of a combined cycle system, which combines with a Rankine engine to further increase overall efficiency. Cogeneration systems typically make use of the waste heat from Brayton engines, typically for hot water production or space heating.

By combining both gas and steam cycles, high input temperatures and low output temperatures can be achieved. The efficiency of the cycles are additive, because they are powered by the same fuel source. A combined-cycle plant has a thermodynamic cycle that operates between the gas turbine's high firing temperature and the waste heat temperature from the condensers of the steam cycle. This large range means that the Carnot efficiency of the cycle is high. The actual efficiency, while lower than this is still higher than that of either plant on its own. The thermal efficiency of a combined-cycle power plant is the net power output of the plant divided by the heating value of the fuel. If the plant produces only electricity, efficiencies of up to 59% can be achieved.

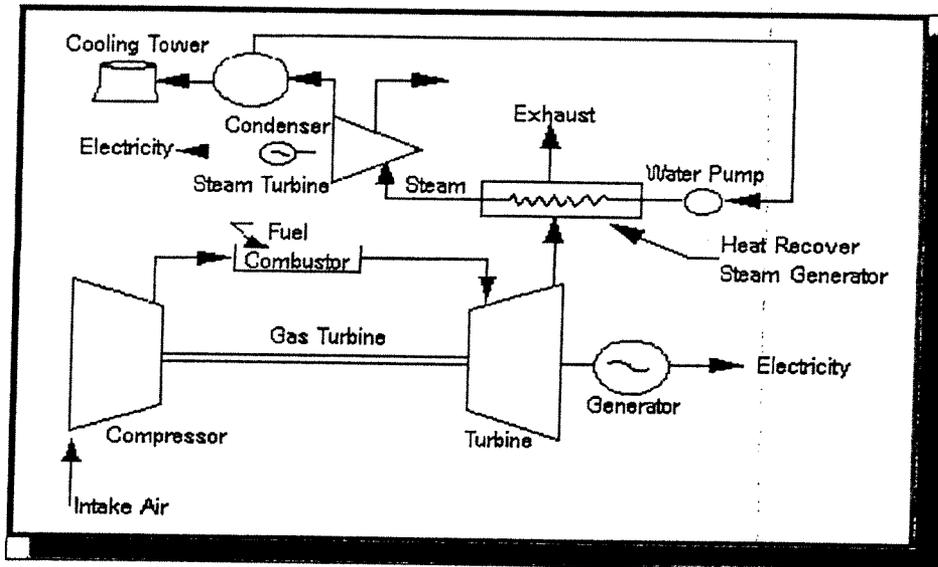
A single-train combined-cycle plant consists of one gas turbine generator, a heat recovery steam generator (HSRG) and a steam turbine generator ("1 x 1" configuration). As an example, an "FA-class" combustion turbine, the most common technology in use for large combined-cycle plants within the state of Texas and other locations throughout the United States, represents a plant with approximately 270 megawatts of capacity.

See Figure 1 – Standard Combined-Cycle Configuration, below.

It is common to find combined-cycle plants using two or even three gas turbine generators and heat recovery steam generators feeding a single, proportionally larger steam turbine generator. Larger plant sizes result in economies of scale for construction and operation, and designs using multiple combustion turbines provide improved part-load efficiency. A 2 x 1 configuration using FA-class technology will produce about 540 megawatts of capacity at International Organization for Standardization ("ISO") conditions. ISO references ambient conditions at 14.7 psia, 59 F, and 60% relative humidity.

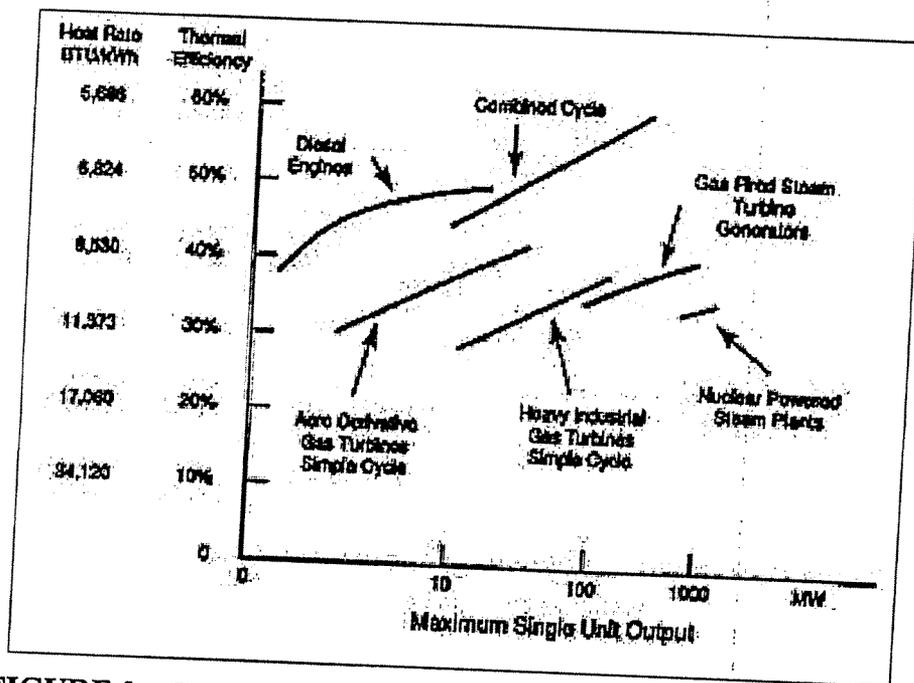
Because of high thermal efficiency, high reliability, and low air emissions,

combined-cycle gas turbines have been the new resource of choice for bulk power generation for well over a decade. Other attractive features include significant operational flexibility, the availability of relatively inexpensive power augmentation for peak period operation and relatively low carbon dioxide production.



**FIGURE 1 - Standard Combined-Cycle Configuration (1)**

As an example, consider a gas turbine cycle that has an efficiency of 40%, which is a representative value for current Brayton Cycle gas turbines, and the Rankine Cycle has an efficiency of 30%. The combined-cycle efficiency would be 58%, which is a very large increase over either of the two simple cycles. Some representative efficiencies and power outputs for different cycles are shown in Figure 2 – Comparison of Efficiency and Power Output of Various Power Products, below.



**FIGURE 2 - Comparison of efficiency and power output of various power products [Bartol (1997)] (2)**

**Current Regulatory Authority for Output-Based Emissions**

Innovative power technologies such as combined-cycle technology offer enormous potential to improve efficiency and enhance the environmental footprint of power generation through the reduction and/or prevention of air emissions to the environment. Currently, two thirds of the fuel burned to generate electricity in traditional fossil-fired steam boilers is lost. Traditional U.S. power generation facility efficiencies have not increased since the 1950s and more than one fifth of the U.S. power plants are more than 50 years old. In addition, these facilities are the leading contributors to U.S. emissions of carbon dioxide, NOx, sulfur dioxide ("SO2"), and other contaminants into the air and water.

The ability to recognize and regulate the efficiency benefits of pollution reduction and/or prevention through the use of combined-cycle technology is achieved through the use of Output-Based emissions standards, incorporated since September 1998 within the U.S. EPA's new source performance standards ("NSPS") for NOx, from both new utility boilers and new industrial boilers. Pursuant to section 407(c) of the Clean Air Act in subpart Da (Electric Utility Steam Generating Units) and subpart Db (Industrial-Commercial-Institutional Steam Generating Units) of 40 CFR part 60, the U.S. EPA revised the NOx emissions limits for steam generating units for which construction, modification, or reconstruction commenced after July 9, 1997 (3). Output-Based regulations are also exemplified by those used in the U.S. EPA's NOx Cap and Trade Program for the NOx State Implementation Plan

("SIP") Call of 1998, which uses units of measure such as lb/MWh generated or lb concentration ("ppm"), which relate to the emissions to the productive output – electrical generation of the process.(4)

The use of innovative technologies such as combined-cycle units reduces fossil fuel use and leads to multi-media reductions in the environmental impacts of the production, processing transportation, and combustion of fossil fuels. In addition, reducing fossil fuel combustion is a pollution prevention measure that reduces emissions of all products of combustion, not just the target pollutant (currently NOx) of a federal regulatory program.

#### Authority to Expand Pollution Control Equipment & Categories in Texas

Under Texas House Bill 3732 ("HB3732") enacted in 2007, Section 11.31 of the Texas Tax Code is amended to add certain plant equipment and systems to the current list of air, water, or land pollution control devices exempt from property taxation in Texas.

Specifically, the language reads as follows:

*SECTION 4. Section 11.31, Tax Code, is amended by adding Subsections (k), (l), and (m) to read as follows:*

*(k) The Texas Commission on Environmental Quality shall adopt rules establishing a nonexclusive list of facilities, devices, or methods for the control of air, water, or land pollution, which must include:*

*(1) coal cleaning or refining facilities;*

*(2) atmospheric or pressurized and bubbling or circulating fluidized bed combustion systems and gasification fluidized bed combustion combined-cycle systems;*

*(3) ultra-supercritical pulverized coal boilers;*

*(4) flue gas recirculation components;*

*(5) syngas purification systems and gas-cleanup units;*

*(6) enhanced heat recovery systems;*

*(7) exhaust heat recovery boilers;*

*(8) heat recovery steam generators;*

*(9) superheaters and evaporators;*

*(10) enhanced steam turbine systems;*

*(11) methanation;*

*(12) coal combustion or gasification byproduct and coproduct handling, storage, or treatment facilities;*

*(13) biomass cofiring storage, distribution, and firing systems;*

*(14) coal cleaning or drying processes, such as coal drying/moisture reduction, air jigging, precombustion decarbonization, and coal flow balancing technology;*

*(15) oxy-fuel combustion technology, amine or chilled ammonia scrubbing, fuel or emission conversion through the use of catalysts, enhanced scrubbing technology, modified combustion technology such as chemical looping, and cryogenic technology;*

*(16) if the United States Environmental Protection Agency adopts a final rule or regulation regulating carbon dioxide as a pollutant, property that is used, constructed, acquired, or installed wholly or partly to capture carbon dioxide from an anthropogenic source in this state that is geologically sequestered in this state;*

*(17) fuel cells generating electricity using hydrogen derived from coal, biomass, petroleum coke, or solid waste; and*

*(18) any other equipment designed to prevent, capture, abate, or monitor nitrogen oxides, volatile organic compounds, particulate matter, mercury, carbon monoxide, or any criteria pollutant.*

*(l) The Texas Commission on Environmental Quality by rule shall update the list adopted under Subsection (k) at least once every three years. An item may be removed from the list if the commission finds compelling evidence to support the conclusion that the item does not provide pollution control benefits.*

*(m) Notwithstanding the other provisions of this section, if the facility, device, or method for the*

*control of air, water, or land pollution described in an application for an exemption under this section is a facility, device, or method included on the list adopted under Subsection (k), the executive director of the Texas Commission on Environmental Quality, not later than the 30th day after the date of receipt of the information required by Subsections (c)(2) and (3) and without regard to whether the information required by Subsection (c)(1) has been submitted, shall determine that the facility, device, or method described in the application is used wholly or partly as a facility, device, or method for the control of air, water, or land pollution and shall take the actions that are required by Subsection (d) in the event such a determination is made.*

Under the TCEQ's recently updated "Tax Relief for Pollution Control Property – Application Instructions and Equipment and Categories List – Effective January 2008", the Equipment and Categories List - Part B ("ECL Part B") is a list of the pollution control property categories adopted and set forth in TTC Sec. 26.045(f). The taxpayer is to supply a pollution control percentage for the equipment listed in Part B via calculations demonstrating pollution control, prevention and/or reductions achieved by the listed equipment or systems.

The following property descriptions outline the environmental purpose, including the anticipated environmental benefit of pollution control additions considered under the Application Instructions' ECL Part B that have been constructed and placed into use at the Facility as of its placed-in-service date, or installed subsequent to in-service since 1994:

## Property Descriptions

### **Item #1 Combined-Cycle Gas Turbine Plant Heat Recovery Steam Generator ("HRSG") and Support Systems Tier IV B-8**

*40 CFR Part 60 Subpart KKKK - Standards of Performance for Stationary Combustion Turbines*

*TAC Rule 116.110 Control of Air Pollution by Permits for New Construction or Modification - New Source Review Permits*

*NOTE: Permits issued under Texas Clean Air Act's Health & Safety Code Sections 382.011, applies to all electric generating units that emit air contaminants, regardless of size, and it is to reflect Best Available Control Technology ("BACT") for electric generating units on an output basis in pounds of NOx per megawatt hour, adjusted to reflect a simple cycle power plant.*

The heat recovery steam generator ("HRSG") found in the Facility is a heat exchanger that recovers heat from a hot gas stream. It produces steam that can be used in a process or used to drive a steam turbine. A common application for an HRSG is in a combined-cycle power station, where hot exhaust from a gas turbine is fed to an HRSG to generate steam which in turn drives a steam turbine. This combination produces electricity in a more thermally efficient manner than either the gas turbine or steam turbine alone.

The Facility's HRSGs consist of three major components: the Evaporator, Superheater, and Economizer. The different components are put together to meet the operating requirements of the unit. Modular HRSGs normally consist of three sections: an LP (low pressure) section, a reheat/IP (intermediate pressure) section, and an HP (high pressure) section. The reheat and IP sections are separate circuits inside the HRSG. The IP steam partly feeds the reheat section. Each section has a steam drum and an evaporator section where water is converted to steam. This steam then passes through superheaters to raise the temperature and pressure past the saturation point.

### **Item #2 Steam Turbine and Support Systems Tier IV B-10**

*40 CFR Part 60 Subpart KKKK - Standards of Performance for Stationary Combustion Turbines*

*TAC Rule 116.110 Control of Air Pollution by Permits for New Construction or Modification - New Source Review Permits*

*NOTE: Permits issued under Texas Clean Air Act's Health & Safety Code Sections 382.011, applies to all electric generating units that emit air contaminants, regardless of size, and it is to reflect Best Available Control Technology ("BACT") for electric generating units on an output basis in pounds of NOx per megawatt hour, adjusted to reflect a simple cycle power plant.*

The steam turbine(s) found in the Facility operate on the Rankine cycle in combination with the Brayton cycle, as described above. Steam created in the Facility HRSG(s) from waste heat that would have otherwise been lost to the atmosphere enters the steam turbine via a throttle valve, where it powers the turbine

and connected generator to make electricity. Use of HRSG/Steam Turbine System combination provides the Facility with an overall efficiency of greater than 50%. Steam turbine systems similar to the Facility's have a history of achieving up to 95% availability on an annual basis and can operate for more than a year between shutdown for maintenance and inspections. (5)

**Pollution Control Percentage Calculation: Avoided Emissions Approach**

To calculate the percentage of the equipment or category deemed to be pollution control equipment, the Avoided Emissions approach has been used. This approach relies on thermal output differences between a conventional power generation system and the combined-cycle system at the Facility. Specifically, the percentage is determined by calculating the displacement of emissions associated with the Facility's thermal output and subtracting these emissions from a baseline emission rate. These displaced emissions are emissions that would have been generated by the same thermal output from a conventional system.

Greater energy efficiency reduces all air contaminant emissions, including the greenhouse gas, carbon dioxide. Higher efficiency processes include combined-cycle operation and combined heat and power ("CHP") generation. For electric generation the energy efficiency of the process expressed in terms of millions of British thermal units ("MMBTU's") per Megawatt-hour. Lower fuel consumption associated with increased fuel conversion efficiency reduces emissions across the board – that is NO<sub>x</sub>, SO<sub>x</sub>, particulate matter, hazardous air pollutants, and greenhouse gas emissions such as CO<sub>2</sub>.

In calculating the percent exempt for the listed items from the ECL-Part B, we utilized Output-Based NO<sub>x</sub> allocation method for both power generation projects that replaced existing facilities and "Greenfield" power and heat generation facilities. We looked at the various fossil fuel technologies in use today and chose the baseline facility to be a natural gas fuel-fired steam generator. We benchmarked this conventional generation to the subject natural gas-fired combined cycle generator at the Facility. By doing so, we narrowed the heat rate factors as much as possible to be conservative and uniform in modeling. The benchmark heat rate factor is the following:

Natural Gas fuel-fired Steam Generator: 10,490 BTU's/kWh

This baseline heat rate purposely omits other fossil fuel sources in order to eliminate impurity type characteristics, which in turn eliminated the NO<sub>x</sub> emission and cost of control differences of each fossil fuel and generator type. Comparing the emissions impact of different energy generation facilities is concise when emissions are measured per unit of useful energy output. For the purpose of our calculations, we converted all the energy output to units of MWh (1 MWh = 3.413 MMBTU), and compared the total emission rate to the baseline facility.

The comparison steps to calculate the NO<sub>x</sub> reduction is as follows:

**Calculation (Reference Schedule A)**

**Step 1 – Subject Output-Based Limit Calculation (lbs NOx / MWh)**

(Input-based Limit (lbs NOx/MMBTU)) X (Heat Rate (Btu/kWh)) / (1,000,000 Btu / 1,000 kWh) =  
Output: (lbs NOx/MWh),

**Step 2 – Subject Output Conversion Calculation (NOx Tons / Year)**

(Output (lbs NOx/MWh) X (Unit Design Capacity (MW)) X (Capacity Factor) X ((365 Days) X (24  
hrs/day)) / 2,000 lbs = Output: (NOx Tons/Year)

**Step 3 – Baseline Output-Based Limit Calculation (lbs NOx / MWh)**

(Input-based Limit (lbs NOx/MWh)) X (Heat Rate (Btu/kWh)) / (1,000,000 Btu / 1,000 kWh) =  
Output: (lbs NOx/MWh)

**Step 4 – Baseline Output Conversion Calculation (NOx Tons / Year)**

(Output (lbs NOx/MMBtu) X (Unit Design Capacity (MW)) X (Capacity Factor) X ((365 Days) X  
(24 hrs/day)) / 2,000 lbs = Output: (NOx Tons/Year)

**Step 5 – Percent NOx Reduction Calculation**

((Output Baseline)<sub>step 4</sub> - (Output Subject))<sub>step 2</sub> / (Output Subject)<sub>step 2</sub> = % Reduction Output Subject

**Step 6 – Percent Exempt Calculation**

(Total Subject Facility Cost) X (% NOx Reduction) = Capital Cost of NOx Avoidance

**Step 7 – Percent Exempt Calculation**

Total Cost of NOx Avoidance / Total Cost of HB 3732 Equipment = % Exempt

- If % Exempt is greater than 100% HB 3732 Equipment is 100% Exempt
- If % Exempt is less than 100% then HB 3732 Equipment is partially exempt at the Step 6 calculation.

NOTE: See the attached calculation sheet for the details regarding Facility-specific calculations and property tax exemption percentage results based upon these calculations.

## REFERENCES

1. "Output-Based Regulations: A Handbook for Air Regulators", U.S. Environmental Protection Agency, Office of Atmospheric Programs – Climate Protection Partnerships Division, August, 2004, p.4.
2. "Output-Based Emissions Standards; Advancing Innovative Energy Technologies", Northeast-Midwest Institute; 2003, p. 9.
3. IBID, p.13.
4. "Output-Based Regulations: A Handbook for Air Regulators", U.S. Environmental Protection Agency, Office of Atmospheric Programs – Climate Protection Partnerships Division, August, 2004, p.4.
5. [http://www.cogeneration.net/Combined\\_Cycle\\_Power\\_Plants.htm](http://www.cogeneration.net/Combined_Cycle_Power_Plants.htm)
6. "Output-Based Emissions Standards; Advancing Innovative Energy Technologies", Northeast-Midwest Institute; 2003, p. 9.

**9. PARTIAL PERCENTAGE CALCULATION**

N/A.

**10. PROPERTY CATEGORIES AND COSTS**

See attached Schedule 10.

**11. EMISSION REDUCTION INCENTIVE GRANT**

Will an application for an Emission Reduction Incentive Grant be on file for this property/project:

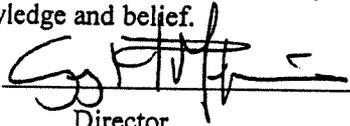
Yes       No

**12. APPLICATION DEFICIENCIES**

After an initial review of the application, the TCEQ may determine that the information provided with the application is not sufficient to make a use determination. The TCEQ may send a notice of deficiency, requesting additional information that must be provided within 30 days of written notice.

**13. FORMAL REQUEST FOR SIGNATURE**

By signing this application, you certify that this information is true to the best of your knowledge and belief.

NAME:       DATE: 22 April 2008

TITLE: Director

COMPANY: Duff and Phelps LLC

Under Texas Penal Code, Section 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.

**14. DELINQUENT FEE/PENALTY PROTOCOL**

This form will not be processed until all delinquent fees and/or penalties owed to the TCEQ or the Office of the Attorney General on behalf of the TCEQ are paid in accordance with the Delinquent Fee and Penalty Protocol. (Effective 9/1/2006)

**Topaz Power Group LLC**  
**Barney Davis**  
**Schedule A - 2008 Thermal Efficiency Calculation**

**Subject Details:**

Average Heat Rate <sup>(1)</sup>	8,000 (Btu/kWh)
NOx Emissions <sup>(2)</sup>	403.0 Tons / year
Plant Capacity <sup>(3)</sup>	680 MW
Capacity Factor <sup>(4)</sup>	100.00%
Technology <sup>(5)</sup>	Combined Cycle
Total Subject Facility Cost <sup>(6)</sup>	\$416,025,975
Total Cost of Tier IV Equipment <sup>(7)</sup>	\$120,879,829

**Baseline Details:**

Average Heat Rate <sup>(8)</sup>	10,490 Btu/kWh
Technology <sup>(9)</sup>	Steam Turbine

**STEP 1**  
**Subject Output-Based Limit Calculation (lbs NOx / MWh)**

Input-based Limit (lbs NOx/MMBtu)	x	Heat Rate (Btu/kWh)	/	Unit Conversion (1,000,000 Btu / 1000 kWh)	=	Output-based Limit (lbs NOx/MWh)
0.0185		8,000		1,000		0.1482

**STEP 2**  
**Subject Output Conversion Calculation (NOx Tons / Year)**

Output-based Limit (lbs NOx/MWh)	x	Capacity (MW)	x	Capacity Factor	x	Unit Conversion (365 days * 24 Hours / 2,000 lbs)	=	Output NOx (Tons/Year)
0.1482		680		100.00%		4		403.0

**STEP 3**  
**Baseline Output-Based Limit Calculation (lbs NOx / MWh)**

Input-based Limit (lbs NOx/MMBtu)	x	Heat Rate (Btu/kWh)	/	Unit Conversion (1,000,000 Btu / 1000 kWh)	=	Output-based Limit (lbs NOx/MWh)
0.0185		10,490		1,000		0.1941

**STEP 4**  
**Baseline Output Conversion Calculation (NOx Tons / Year)**

Output-based Limit (lbs NOx/MWh)	x	Capacity (MW)	x	Capacity Factor	x	Unit Conversion (365 days * 24 Hours / 2,000 lbs)	=	Output NOx (Tons/Year)
0.1941		680		100.00%		4		528.0

**STEP 5**  
**Percent NOx Reduction Calculation**

( Output Baseline	-	Output Subject)	/	Output Subject	=	% NOx Reduction
528.0		403.0		403.0		31.0%

**STEP 6**  
**Percent Exempt Calculation**

Total Subject Unit Cost	x	% NOx Reduction	=	Capital Cost of NOx Avoidance
\$416,025,975		31.0%		\$128,968,052

**STEP 7**  
**Percent Exempt Calculation**

Total Cost of NOx Avoidance	/	Total Cost of HB 3732 Equipment	=	% Exempt
\$128,968,052		\$120,879,829		106.7%

Conclude	106%
----------	------

- (1) - Heat rate represents the anticipated heat rate (HHV) and was provided by the client
- (2) - NOx emissions is the NOx pollutant emission permit limit in tons per year provided by the client
- (3) - Plant capacity is the average nominal capacity and was provided by the client
- (4) - Capacity factor is the maximum operating level allowed under the emissions permit provided by the client
- (5) - Technology represents the actual technology of the subject
- (6) - Total subject facility cost represents the total cost to build the entire facility and it was determined based on data provide by the client
- (7) - Total Tier IV equipment was determined by allocating the eligible TCEQ ECL part B equipment and their associated cost from actual data provide by the client
- (8) - Baseline heat rate was published by the Energy Information Administration ("EIA")
- (9) - Baseline technology represents the technology that the subject would have replaced at the time of the subjects construction

Topaz Power Group LLC  
 Barney Davis Power Project  
 TCEQ Use Determination Application - 2007  
 Schedule 10  
 Tier IV

10. PROPERTY CATEGORIES AND COST

PROPERTY	PROJECT ID. NO.	IN SERVICE DATE	TAXABLE ON OR BEFORE 1/1/94? (Y/N)	TIER IV DECISION FLOW CHART BOX 3	ECL NUMBER	ESTIMATED PURCHASE COST	% EXEMPT	EXEMPT COST
Heat Recovery Steam Generators (HRSG) Steam Turbine Systems	1	CWP	N	3	B-8	\$76,551,046	100%	\$76,551,046
	2	CWP	N	3	B-10	\$44,328,783	100%	\$44,328,783
Tier IV Total						\$120,879,829		\$120,879,829

Barney Davis - 4301 Waldron Rd  
 TCEQ Use Determination Application - 2007

# Attachment 2

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY  
APPLICATION FOR USE DETERMINATION  
FOR POLLUTION CONTROL PROPERTY

The TCEQ has the responsibility to determine whether a property is a pollution control property. A person seeking a use determination for pollution control property must complete the attached application or use a copy or similar reproduction. For assistance in completing this form refer to the TCEQ guidelines document, *Property Tax Exemptions for Pollution Control Property*, as well as 30 TAC §17, rules governing this program. For additional assistance please contact the Tax Relief for Pollution Control Property Program at (512) 239-3100. The application should be completed and mailed, along with a complete copy and appropriate fee, to: TCEQ MC-214, Cashiers Office, P.O. Box 13088, Austin, Texas 78711-3088.

1. GENERAL INFORMATION

- A. What is the type of ownership of this facility?
  - Corporation
  - Partnership
  - Limited Partnership
  - Sole Proprietor
  - Utility
  - Other

- B. 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

C. Business Description: Electricity Manufacturing (SIC 4911)

2. TYPE OF APPLICATION

- Tier I \$150 Application Fee
- Tier II \$1,000 Application Fee
- Tier III \$2,500 Application Fee
- Tier IV \$500 Application Fee

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.

3. NAME OF APPLICANT

- A. Company Name: Topaz Power Group LLC
- B. Mailing Address (Street or P.O. Box): 2705 Bee Caves Road Suite 340
- C. City, State, ZIP: Austin, TX 78746

4. PHYSICAL LOCATION OF PROPERTY REQUESTING A TAX EXEMPTION

- A. Name of facility: Nueces Bay
- B. Type of Mfg Process or Service: Electricity Manufacturing (SIC 4911)
- C. Street Address: 2002 Navigation Blvd
- D. City, State, ZIP: Corpus Christi, TX 78402
- E. Tracking Number Assigned by Applicant: DPNuecesBay B
- F. Customer Number or Regulated Entity Number: N/A

5. APPRAISAL DISTRICT WITH TAXING AUTHORITY OVER PROPERTY

- A. Name of Appraisal District: Nueces
- B. Appraisal District Account Number: TBD/New for 2008

07-12211

**6. CONTACT NAME (must be provided)**

A. Company/Organization Name: Duff and Phelps LLC  
B. Name of Individual to Contact: Greg Maxim  
C. Mailing Address: 919 Congress Ave. Suite 1450  
D. City, State, ZIP: Austin, TX 78701  
E. Telephone number and fax number: (512) 671-5580 Fax (512) 671-5501  
F. E-Mail address (if available): gregory.maxim@duffandphelps.com

**7. RELEVANT RULE, REGULATION, OR STATUTORY PROVISION**

Please reference Section 8. Each item is detailed with the proper statute, regulation, or environmental regulatory provision.

**8. DESCRIPTION OF PROPERTY**

**Background**

The Nueces Bay Power Station is located in Nueces County, Texas near the City of Corpus Christit. The site currently has three generating units which are presently mothballed. As part of the Nueces Bay repowering project, the existing turbines will be removed to make room for the two new GE 7FA gas turbines. Heat Recovery Steam Generators (HRSG) are being added to provide steam to the steam turbine. The existing steam turbine is currently undergoing refurbishment and will be used to drive a new GE steam turbine generator resulting in a total combined generating capacity of 680 MW for all the generating units at the Nueces Bay Power Station. The facility is expected to be completed by 2009.

**Overview of Combined Cycle Technology**

The Facility is a combined-cycle gas turbine power plant consisting of gas Combustion Turbines ("CTs") equipped with heat recovery steam generators to capture heat from the gas turbine exhaust. Steam produced in the heat recovery steam generators powers a steam turbine generator(s) to produce additional electric power. The use of otherwise wasted heat in the turbine exhaust gas results in higher plant thermal efficiency compared to other power generation technologies. Combined-cycle plants currently entering service can convert over 50% of the chemical energy of natural gas into electricity (HHV basis). Employment of the Brayton Thermodynamic Cycle (Gas Turbine Cycle) in combination with the Rankine Thermodynamic Cycle results in the improved efficiency.

The Rankine cycle is a thermodynamic cycle that converts heat from an external source into work. In a Rankine cycle, external heat from an outside source is provided to a fluid in a closed-loop system. This fluid, once pressurized, converts the heat into work output using a turbine. The fluid most often used in a Rankine cycle is water (steam) due to its favorable properties, such as nontoxic and unreactive chemistry, abundance, and low cost, as well as its thermodynamic properties. The thermal efficiency of a Rankine cycle is usually limited by the working fluid. Without pressure reaching super critical the temperature range the Rankine cycle can operate over is quite small, turbine entry temperatures are

typically 565°C (the creep limit of stainless steel) and condenser temperatures are around 30°C. Traditional coal fired and natural gas fired Rankine cycle power generation plants are limited by the inlet pressures and temperatures of the steam turbine design and the condenser vacuum and temperature. The Rankine cycle can achieve thermodynamic cycle efficiency (useful work obtained as a percentage of fuel input) ranging from 33% to 36%. However, if the Rankine cycle is used in conjunction with or as the "bottoming" cycle to the Brayton cycle the efficiencies can be improved as discussed below. This low turbine entry temperature (compared with a gas turbine) is why the Rankine cycle is often used as a bottoming cycle in combined cycle gas turbine power stations.

The Brayton cycle is a constant pressure thermodynamic cycle that converts heat from combustion into work. A Brayton engine, as it applies to a gas turbine system, will consist of a fuel or gas compressor, combustion chamber, and an expansion turbine. Air is drawn into the compressor, mixed with the fuel, and ignited. The resulting work output is captured through a pump, cylinder, or turbine. A Brayton engine forms half of a combined cycle system, which combines with a Rankine engine to further increase overall efficiency. Cogeneration systems typically make use of the waste heat from Brayton engines, typically for hot water production or space heating.

By combining both gas and steam cycles, high input temperatures and low output temperatures can be achieved. The efficiency of the cycles are additive, because they are powered by the same fuel source. A combined-cycle plant has a thermodynamic cycle that operates between the gas turbine's high firing temperature and the waste heat temperature from the condensers of the steam cycle. This large range means that the Carnot efficiency of the cycle is high. The actual efficiency, while lower than this is still higher than that of either plant on its own. The thermal efficiency of a combined-cycle power plant is the net power output of the plant divided by the heating value of the fuel. If the plant produces only electricity, efficiencies of up to 59% can be achieved.

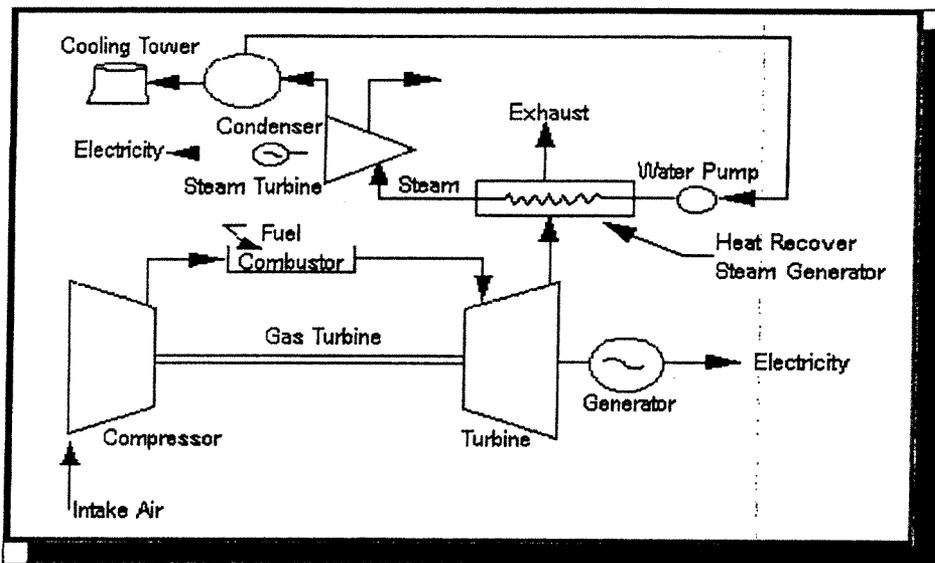
A single-train combined-cycle plant consists of one gas turbine generator, a heat recovery steam generator (HSRG) and a steam turbine generator ("1 x 1" configuration). As an example, an "FA-class" combustion turbine, the most common technology in use for large combined-cycle plants within the state of Texas and other locations throughout the United States, represents a plant with approximately 270 megawatts of capacity.

See Figure 1 – Standard Combined-Cycle Configuration, below.

It is common to find combined-cycle plants using two or even three gas turbine generators and heat recovery steam generators feeding a single, proportionally larger steam turbine generator. Larger plant sizes result in economies of scale for construction and operation, and designs using multiple combustion turbines provide improved part-load efficiency. A 2 x 1 configuration using FA-class technology will produce about 540 megawatts of capacity at International Organization for

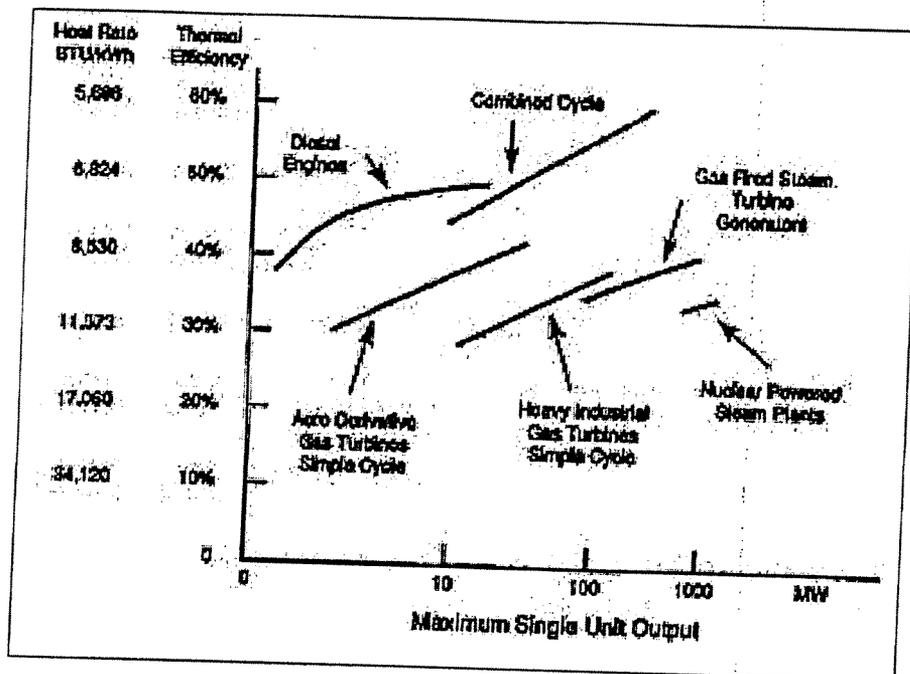
Standardization ("ISO") conditions. ISO references ambient conditions at 14.7 psia, 59 F, and 60% relative humidity.

Because of high thermal efficiency, high reliability, and low air emissions, combined-cycle gas turbines have been the new resource of choice for bulk power generation for well over a decade. Other attractive features include significant operational flexibility, the availability of relatively inexpensive power augmentation for peak period operation and relatively low carbon dioxide production.



**FIGURE 1 - Standard Combined-Cycle Configuration (1)**

As an example, consider a gas turbine cycle that has an efficiency of 40%, which is a representative value for current Brayton Cycle gas turbines, and the Rankine Cycle has an efficiency of 30%. The combined-cycle efficiency would be 58%, which is a very large increase over either of the two simple cycles. Some representative efficiencies and power outputs for different cycles are shown in Figure 2 – Comparison of Efficiency and Power Output of Various Power Products, below.



**FIGURE 2 - Comparison of efficiency and power output of various power products [Bartol (1997)] (2)**

**Current Regulatory Authority for Output-Based Emissions**

Innovative power technologies such as combined-cycle technology offer enormous potential to improve efficiency and enhance the environmental footprint of power generation through the reduction and/or prevention of air emissions to the environment. Currently, two thirds of the fuel burned to generate electricity in traditional fossil-fired steam boilers is lost. Traditional U.S. power generation facility efficiencies have not increased since the 1950s and more than one fifth of the U.S. power plants are more than 50 years old. In addition, these facilities are the leading contributors to U.S. emissions of carbon dioxide, NO<sub>x</sub>, sulfur dioxide ("SO<sub>2</sub>"), and other contaminants into the air and water.

The ability to recognize and regulate the efficiency benefits of pollution reduction and/or prevention through the use of combined-cycle technology is achieved through the use of Output-Based emissions standards, incorporated since September 1998 within the U.S. EPA's new source performance standards ("NSPS") for NO<sub>x</sub>, from both new utility boilers and new industrial boilers. Pursuant to section 407(c) of the Clean Air Act in subpart Da (Electric Utility Steam Generating Units) and subpart Db (Industrial-Commercial-Institutional Steam Generating Units) of 40 CFR part 60, the U.S. EPA revised the NO<sub>x</sub> emissions limits for steam generating units for which construction, modification, or reconstruction commenced after July 9, 1997 (3). Output-Based regulations are also exemplified by those used in the U.S. EPA's NO<sub>x</sub> Cap and Trade Program for the NO<sub>x</sub> State Implementation Plan

("SIP") Call of 1998, which uses units of measure such as lb/MWh generated or lb concentration ("ppm"), which relate to the emissions to the productive output – electrical generation of the process.(4)

The use of innovative technologies such as combined-cycle units reduces fossil fuel use and leads to multi-media reductions in the environmental impacts of the production, processing transportation, and combustion of fossil fuels. In addition, reducing fossil fuel combustion is a pollution prevention measure that reduces emissions of all products of combustion, not just the target pollutant (currently NOx) of a federal regulatory program.

#### **Authority to Expand Pollution Control Equipment & Categories in Texas**

Under Texas House Bill 3732 ("HB3732") enacted in 2007, Section 11.31 of the Texas Tax Code is amended to add certain plant equipment and systems to the current list of air, water, or land pollution control devices exempt from property taxation in Texas.

Specifically, the language reads as follows:

*SECTION 4. Section 11.31, Tax Code, is amended by adding Subsections (k), (l), and (m) to read as follows:*

*(k) The Texas Commission on Environmental Quality shall adopt rules establishing a nonexclusive list of facilities, devices, or methods for the control of air, water, or land pollution, which must include:*

- (1) coal cleaning or refining facilities;*
  - (2) atmospheric or pressurized and bubbling or circulating fluidized bed combustion systems and gasification fluidized bed combustion combined-cycle systems;*
  - (3) ultra-supercritical pulverized coal boilers;*
  - (4) flue gas recirculation components;*
  - (5) syngas purification systems and gas-cleanup units;*
  - (6) enhanced heat recovery systems;*
  - (7) exhaust heat recovery boilers;*
  - (8) heat recovery steam generators;*
  - (9) superheaters and evaporators;*
  - (10) enhanced steam turbine systems;*
  - (11) methanation;*
  - (12) coal combustion or gasification byproduct and coproduct handling, storage, or treatment facilities;*
  - (13) biomass cofiring storage, distribution, and firing systems;*
  - (14) coal cleaning or drying processes, such as coal drying/moisture reduction, air jigging, precombustion decarbonization, and coal flow balancing technology;*
  - (15) oxy-fuel combustion technology, amine or chilled ammonia scrubbing, fuel or emission conversion through the use of catalysts, enhanced scrubbing technology, modified combustion technology such as chemical looping, and cryogenic technology;*
  - (16) if the United States Environmental Protection Agency adopts a final rule or regulation regulating carbon dioxide as a pollutant, property that is used, constructed, acquired, or installed wholly or partly to capture carbon dioxide from an anthropogenic source in this state that is geologically sequestered in this state;*
  - (17) fuel cells generating electricity using hydrogen derived from coal, biomass, petroleum coke, or solid waste; and*
  - (18) any other equipment designed to prevent, capture, abate, or monitor nitrogen oxides, volatile organic compounds, particulate matter, mercury, carbon monoxide, or any criteria pollutant.*
- (l) The Texas Commission on Environmental Quality by rule shall update the list adopted under Subsection (k) at least once every three years. An item may be removed from the list if the commission finds compelling evidence to support the conclusion that the item does not provide pollution control benefits.*

*(m) Notwithstanding the other provisions of this section, if the facility, device, or method for the*

*control of air, water, or land pollution described in an application for an exemption under this section is a facility, device, or method included on the list adopted under Subsection (k), the executive director of the Texas Commission on Environmental Quality, not later than the 30th day after the date of receipt of the information required by Subsections (c)(2) and (3) and without regard to whether the information required by Subsection (c)(1) has been submitted, shall determine that the facility, device, or method described in the application is used wholly or partly as a facility, device, or method for the control of air, water, or land pollution and shall take the actions that are required by Subsection (d) in the event such a determination is made.*

Under the TCEQ's recently updated "Tax Relief for Pollution Control Property – Application Instructions and Equipment and Categories List – Effective January 2008", the Equipment and Categories List - Part B ("ECL Part B") is a list of the pollution control property categories adopted and set forth in TTC Sec. 26.045(f). The taxpayer is to supply a pollution control percentage for the equipment listed in Part B via calculations demonstrating pollution control, prevention and/or reductions achieved by the listed equipment or systems.

The following property descriptions outline the environmental purpose, including the anticipated environmental benefit of pollution control additions considered under the Application Instructions' ECL Part B that have been constructed and placed into use at the Facility as of its placed-in-service date, or installed subsequent to in-service since 1994:

## Property Descriptions

### **Item #1 Combined-Cycle Gas Turbine Plant Heat Recovery Steam Generator ("HRSG") and Support Systems Tier IV B-8**

*40 CFR Part 60 Subpart KKKK - Standards of Performance for Stationary Combustion Turbines*

*TAC Rule 116.110 Control of Air Pollution by Permits for New Construction or Modification - New Source Review Permits*

*NOTE: Permits issued under Texas Clean Air Act's Health & Safety Code Sections 382.011, applies to all electric generating units that emit air contaminants, regardless of size, and it is to reflect Best Available Control Technology ("BACT") for electric generating units on an output basis in pounds of NOx per megawatt hour, adjusted to reflect a simple cycle power plant.*

The heat recovery steam generator ("HRSG") found in the Facility is a heat exchanger that recovers heat from a hot gas stream. It produces steam that can be used in a process or used to drive a steam turbine. A common application for an HRSG is in a combined-cycle power station, where hot exhaust from a gas turbine is fed to an HRSG to generate steam which in turn drives a steam turbine. This combination produces electricity in a more thermally efficient manner than either the gas turbine or steam turbine alone.

The Facility's HRSGs consist of three major components: the Evaporator, Superheater, and Economizer. The different components are put together to meet the operating requirements of the unit. Modular HRSGs normally consist of three sections: an LP (low pressure) section, a reheat/IP (intermediate pressure) section, and an HP (high pressure) section. The reheat and IP sections are separate circuits inside the HRSG. The IP steam partly feeds the reheat section. Each section has a steam drum and an evaporator section where water is converted to steam. This steam then passes through superheaters to raise the temperature and pressure past the saturation point.

### **Item #2 Steam Turbine and Support Systems Tier IV B-10**

*40 CFR Part 60 Subpart KKKK - Standards of Performance for Stationary Combustion Turbines*

*TAC Rule 116.110 Control of Air Pollution by Permits for New Construction or Modification - New Source Review Permits*

*NOTE: Permits issued under Texas Clean Air Act's Health & Safety Code Sections 382.011, applies to all electric generating units that emit air contaminants, regardless of size, and it is to reflect Best Available Control Technology ("BACT") for electric generating units on an output basis in pounds of NOx per megawatt hour, adjusted to reflect a simple cycle power plant.*

The steam turbine(s) found in the Facility operate on the Rankine cycle in combination with the Brayton cycle, as described above. Steam created in the Facility HRSG(s) from waste heat that would have otherwise been lost to the atmosphere enters the steam turbine via a throttle valve, where it powers the turbine

and connected generator to make electricity. Use of HRSG/Steam Turbine System combination provides the Facility with an overall efficiency of greater than 50%. Steam turbine systems similar to the Facility's have a history of achieving up to 95% availability on an annual basis and can operate for more than a year between shutdown for maintenance and inspections. (5)

**Pollution Control Percentage Calculation: Avoided Emissions Approach**

To calculate the percentage of the equipment or category deemed to be pollution control equipment, the Avoided Emissions approach has been used. This approach relies on thermal output differences between a conventional power generation system and the combined-cycle system at the Facility. Specifically, the percentage is determined by calculating the displacement of emissions associated with the Facility's thermal output and subtracting these emissions from a baseline emission rate. These displaced emissions are emissions that would have been generated by the same thermal output from a conventional system.

Greater energy efficiency reduces all air contaminant emissions, including the greenhouse gas, carbon dioxide. Higher efficiency processes include combined-cycle operation and combined heat and power ("CHP") generation. For electric generation the energy efficiency of the process expressed in terms of millions of British thermal units ("MMBTU's") per Megawatt-hour. Lower fuel consumption associated with increased fuel conversion efficiency reduces emissions across the board – that is NO<sub>x</sub>, SO<sub>x</sub>, particulate matter, hazardous air pollutants, and greenhouse gas emissions such as CO<sub>2</sub>.

In calculating the percent exempt for the listed items from the ECL-Part B, we utilized Output-Based NO<sub>x</sub> allocation method for both power generation projects that replaced existing facilities and "Greenfield" power and heat generation facilities. We looked at the various fossil fuel technologies in use today and chose the baseline facility to be a natural gas fuel-fired steam generator. We benchmarked this conventional generation to the subject natural gas-fired combined cycle generator at the Facility. By doing so, we narrowed the heat rate factors as much as possible to be conservative and uniform in modeling. The benchmark heat rate factor is the following:

Natural Gas fuel-fired Steam Generator: 10,490 BTU's/kWh

This baseline heat rate purposely omits other fossil fuel sources in order to eliminate impurity type characteristics, which in turn eliminated the NO<sub>x</sub> emission and cost of control differences of each fossil fuel and generator type. Comparing the emissions impact of different energy generation facilities is concise when emissions are measured per unit of useful energy output. For the purpose of our calculations, we converted all the energy output to units of MWh (1 MWh = 3.413 MMBTU), and compared the total emission rate to the baseline facility.

The comparison steps to calculate the NO<sub>x</sub> reduction is as follows:

**Calculation (Reference Schedule A)**

**Step 1 – Subject Output-Based Limit Calculation (lbs NOx / MWh)**

(Input-based Limit (lbs NOx/MMBTU)) X (Heat Rate (Btu/kWh)) / (1,000,000 Btu / 1,000 kWh) =  
Output: (lbs NOx/MWh),

**Step 2 – Subject Output Conversion Calculation (NOx Tons / Year)**

(Output (lbs NOx/MWh) X (Unit Design Capacity (MW)) X (Capacity Factor) X ((365 Days) X (24 hrs/day)) / 2,000 lbs = Output: (NOx Tons/Year)

**Step 3 – Baseline Output-Based Limit Calculation (lbs NOx / MWh)**

(Input-based Limit (lbs NOx/MWh)) X (Heat Rate (Btu/kWh)) / (1,000,000 Btu / 1,000 kWh) =  
Output: (lbs NOx/MWh)

**Step 4 – Baseline Output Conversion Calculation (NOx Tons / Year)**

(Output (lbs NOx/MMBtu) X (Unit Design Capacity (MW)) X (Capacity Factor) X ((365 Days) X (24 hrs/day)) / 2,000 lbs = Output: (NOx Tons/Year)

**Step 5 – Percent NOx Reduction Calculation**

$((\text{Output Baseline})_{\text{step 4}} - (\text{Output Subject}))_{\text{step 2}} / (\text{Output Subject})_{\text{step 2}} = \% \text{ Reduction Output Subject}$

**Step 6 – Percent Exempt Calculation**

(Total Subject Facility Cost) X (% NOx Reduction) = Capital Cost of NOx Avoidance

**Step 7 – Percent Exempt Calculation**

Total Cost of NOx Avoidance / Total Cost of HB 3732 Equipment = % Exempt

- If % Exempt is greater than 100% HB 3732 Equipment is 100% Exempt
- If % Exempt is less than 100% then HB 3732 Equipment is partially exempt at the Step 6 calculation.

NOTE: See the attached calculation sheet for the details regarding Facility-specific calculations and property tax exemption percentage results based upon these calculations.

## REFERENCES

1. "Output-Based Regulations: A Handbook for Air Regulators", U.S. Environmental Protection Agency, Office of Atmospheric Programs – Climate Protection Partnerships Division, August, 2004, p.4.
2. "Output-Based Emissions Standards; Advancing Innovative Energy Technologies", Northeast-Midwest Institute; 2003, p. 9.
3. IBID, p.13.
4. "Output-Based Regulations: A Handbook for Air Regulators", U.S. Environmental Protection Agency, Office of Atmospheric Programs – Climate Protection Partnerships Division, August, 2004, p.4.
5. [http://www.cogeneration.net/Combined\\_Cycle\\_Power\\_Plants.htm](http://www.cogeneration.net/Combined_Cycle_Power_Plants.htm)
6. "Output-Based Emissions Standards; Advancing Innovative Energy Technologies", Northeast-Midwest Institute; 2003, p. 9.

**9. PARTIAL PERCENTAGE CALCULATION**

N/A.

**10. PROPERTY CATEGORIES AND COSTS**

See attached Schedule 10.

**11. EMISSION REDUCTION INCENTIVE GRANT**

Will an application for an Emission Reduction Incentive Grant be on file for this property/project:

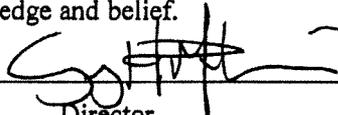
Yes       No

**12. APPLICATION DEFICIENCIES**

After an initial review of the application, the TCEQ may determine that the information provided with the application is not sufficient to make a use determination. The TCEQ may send a notice of deficiency, requesting additional information that must be provided within 30 days of written notice.

**13. FORMAL REQUEST FOR SIGNATURE**

By signing this application, you certify that this information is true to the best of your knowledge and belief.

NAME:       DATE: 22 April 2008  
TITLE: Director  
COMPANY: Duff and Phelps LLC

Under Texas Penal Code, Section 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.

**14. DELINQUENT FEE/PENALTY PROTOCOL**

This form will not be processed until all delinquent fees and/or penalties owed to the TCEQ or the Office of the Attorney General on behalf of the TCEQ are paid in accordance with the Delinquent Fee and Penalty Protocol. (Effective 9/1/2006)

Nueces Bay Power Station  
 2002 East Navigation Blvd  
 TCEQ Use Determination Application - 2007  
 Schedule 10  
 Tier IV

10. PROPERTY CATEGORIES AND COST

PROPERTY	PROJECT ID. NO.	IN SERVICE DATE	TAXABLE ON OR BEFORE 1/1/94? (Y/N)	TIER IV DECISION FLOW CHART BOX #	ECL NUMBER	ESTIMATED PURCHASE COST	% EXEMPT	EXEMPT COST
Heat Recovery Steam Generators (HRSG) Steam Turbine Systems	1	CWIP	N	3	B-8	\$76,366,929	100%	\$76,366,929
	2	CWIP	N	3	B-10	\$44,736,785	100%	\$44,736,785
Tier IV Total						<u>\$121,103,714</u>		<u>\$121,103,714</u>

Nueces Bay Power Station - 2002 East Navigation Blvd  
 TCEQ Use Determination Application - 2007

**Fopaz Power Group LLC**  
**Nueces Bay**  
**Schedule A - 2008 Thermal Efficiency Calculation**

**Subject Details:**

Average Heat Rate <sup>(1)</sup>	8,000 (Btu/kWh)
NOx Emissions <sup>(2)</sup>	403.0 Tons / year
Plant Capacity <sup>(3)</sup>	680 MW
Capacity Factor <sup>(4)</sup>	100.00%
Technology <sup>(5)</sup>	Combined Cycle
Total Subject Facility Cost <sup>(6)</sup>	\$432,941,730
Total Cost of Tier IV Equipment <sup>(7)</sup>	\$121,103,714

**Baseline Details:**

Average Heat Rate <sup>(8)</sup>	10,490 Btu/kWh
Technology <sup>(9)</sup>	Steam Turbine

**STEP 1**

**Subject Output Based Limit Calculation (lbs NOx / MWh)**

Input-based Limit (lbs NOx/MMBtu)	x	Heat Rate (Btu/kWh)	/	Unit Conversions (1,000,000 Btu / 1000 kWh)	=	Output-based Limit (lbs NOx/MWh)
0.0185		8,000		1,000		0.1482

**STEP 2**

**Subject Output Conversion Calculation (NOx Tons / Year)**

Output-based Limit (lbs NOx/MWh)	x	Capacity (MW)	x	Capacity Factor	x	Unit Conversions (365 days * 24 Hours / 2,000 lbs)	=	Output NOx (Tons/Year)
0.1482		680		100.00%		4		403.0

**STEP 3**

**Baseline Output Based Limit Calculation (lbs NOx / MWh)**

Input-based Limit (lbs NOx/MMBtu)	x	Heat Rate (Btu/kWh)	/	Unit Conversions (1,000,000 Btu / 1000 kWh)	=	Output-based Limit (lbs NOx/MWh)
0.0185		10,490		1,000		0.1941

**STEP 4**

**Baseline Output Conversion Calculation (NOx Tons / Year)**

Output-based Limit (lbs NOx/MWh)	x	Capacity (MW)	x	Capacity Factor	x	Unit Conversions (365 days * 24 Hours / 2,000 lbs)	=	Output NOx (Tons/Year)
0.1941		680		100.00%		4		528.0

**STEP 5**

**Percent NOx Reduction Calculation**

( Output Baseline 528.0	-	Output Subject 403.0	/	Output Subject 403.0	=	% NOx Reduction 31.0%
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**STEP 6**

**Percent Exempt Calculation**

Total Subject Unit Cost	x	% NOx Reduction	=	Capital Cost of NOx Avoidance
\$432,941,730		31.0%		\$134,211,936

**STEP 7**

**Percent Exempt Calculation**

Total Cost of NOx Avoidance	/	Total Cost of HB 3732 Equipment	=	% Exempt
\$134,211,936		\$121,103,714		110.8%

Conclude	100%
----------	------

- (1) - Heat rate represents the anticipated heat rate (HHV) and was provided by the client.
- (2) - NOx emissions is the NOx pollutant emission permit limit in tons per year provided by the client.
- (3) - Plant capacity is the average nominal capacity and was provided by the client.
- (4) - Capacity factor is the maximum operating level allowed under the emissions permit provided by the client.
- (5) - Technology represents the actual technology of the subject.
- (6) - Total subject facility cost represents the total cost to build the entire facility and it was determined based on data provide by the client.
- (7) - Total Tier IV equipment was determined by allocating the eligible TCEQ ECL part B equipment and their associated cost from actual data provide by the client.
- (8) - Baseline heat rate was published by the Energy Information Administration ("EIA").
- (9) - Baseline technology represents the technology that the subject would have replaced at the time of the subjects construction.

# Attachment 3

**Pre-Repowering Efficiency and Air Emissions Unit 1**

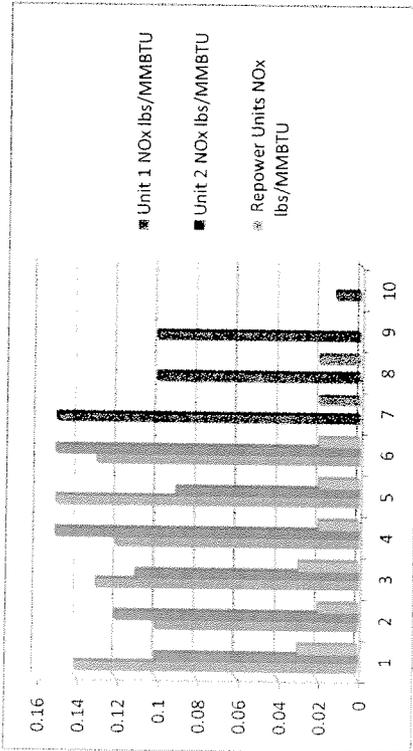
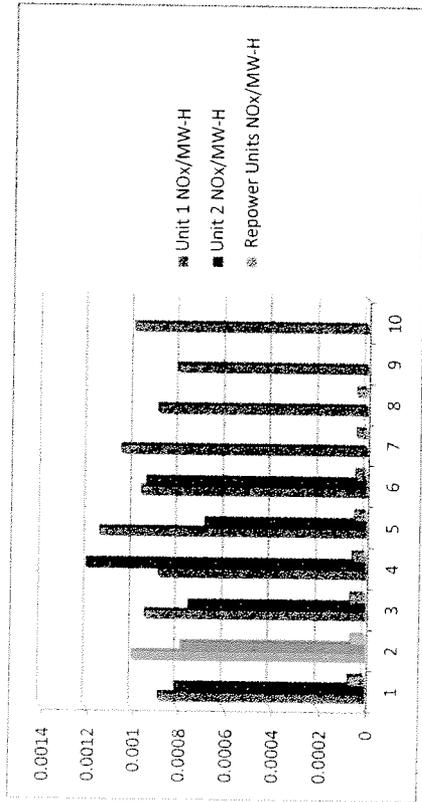
FACILITY_NAME	UNITID	OP_YEAR	HEAT_INPUT	NOX_RATE lbs/MMBTU	NOX_MASS TONS	Gross Load (MW-H)	CO2 Tons	Operating Hours	NOX TONS/MW-HR
Barney M. Davis	1	2003	9,882,095	0.14	814.4	923,389	611,010.3	8,398	0.0009
Barney M. Davis	1	2004	1,365,091	0.1	115.4	115,931	81,133.3	1,273	0.0010
Barney M. Davis	1	2005	4,018,371	0.13	343.1	363,700	238,809.6	3,423	0.0009
Barney M. Davis	1	2006	3,861,536	0.12	319.8	361,211	229,487.0	2,820	0.0009
Barney M. Davis	1	2007	1,815,633	0.15	198.3	173,553	107,904.3	1,658	0.0011
Barney M. Davis	1	2008	4,749,542	0.13	420.8	436,979	282,257.8	3,852	0.0010
Barney M. Davis	1	2009	3,199,412	0.15	332.1	315,615	190,145.3	2,112	0.0011
Barney M. Davis	1	2010	660,763	0.1	48.3	53,988	39,255.9	843	0.0011
Barney M. Davis	1	2011	1,906,567	0.1	131	162,795	113,303.8	1,761	0.0008
Barney M. Davis	1	2012	1,674,769	0.012	138.1	138,581	99,528.2	1,494	0.0010

**Pre-Repowering Efficiency and Air Emissions Unit 2**

FACILITY_NAME	UNITID	OP_YEAR	HEAT_INPUT	NOX_RATE lbs/MMBTU	NOX_MASS TONS	Gross Load (MW-H)	CO2 Tons	Operating Hours	NOX TONS/MW-HR
Barney M. Davis	2	2003	2,094,717	0.1	152.7	189,000	131,053.6	1,606	0.0008
Barney M. Davis	2	2004	11,922,584	0.12	837.6	1,070,886	708,543.8	7,750	0.0008
Barney M. Davis	2	2005	6,256,894	0.11	388.7	516,358	371,836.8	5,580	0.0008
Barney M. Davis	2	2006	2,965,995	0.15	280.5	233,671	176,265.6	1,763	0.0012
Barney M. Davis	2	2007	1,339,322	0.09	82.8	120,870	79,592.2	1,060	0.0007
Barney M. Davis	2	2008	3,419,274	0.15	294.4	312,553	203,201.2	2,679	0.0009

**Post-Repowering Efficiency and Air Emissions BMD Units 3, 4 & NB Units 8, 9**

FACILITY_NAME	UNITID	OP_YEAR	HEAT_INPUT	NOX_RATE lbs/MMBTU	NOX_MASS TONS	Gross Load (MW-H)	CO2 Tons	Operating Hours	NOX TONS/MW-HR
Barney M. Davis	3	2011	8,264,568	0.03	73.3	1,064,646	491,149.8	5637	0.0001
Barney M. Davis	3	2012	5,289,883	0.02	40.1	687,398	314,371.3	3524	0.0001
Barney M. Davis	4	2011	8,092,698	0.03	68.9	1,081,929	480,942.4	5742	0.0001
Barney M. Davis	4	2012	4,943,162	0.02	36.3	663,495	293,764.0	3425	0.0001
Nueces Bay	8	2011	7,989,948	0.02	52.7	1,093,549	474,830.6	5692	0.0000
Nueces Bay	8	2012	5,011,986	0.02	30	687,430	297,856.4	3517	0.0000
Nueces Bay	9	2011	7,978,245	0.02	45.5	1,092,722	474,132.6	5558	0.0000
Nueces Bay	9	2012	5,117,020	0.02	29.5	698,703	304,095.0	3545	0.0000



# Attachment 6



**RICHARD L. "RICK" HARDCASTLE**  
HOUSE OF REPRESENTATIVES

November 1, 2007

Ms. Kristin Smith  
Office of Legal Services, MC 205  
Texas Commission on Environmental Quality  
12100 Park 35 Circle  
Austin TX 78753

*Via Facsimile*

Re: Rple Project Number 2007-055-017-AS

Dear Ms. Smith:

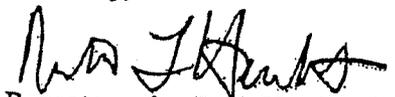
I am writing to provide my comments on the proposed TCEQ rules in the above-referenced rule docket which, in part, involves the implementation of HB 3732. As the author of HB 3732, I support the rules as proposed in the October 3, 2007, Texas Register and commend the TCEQ staff on a job well done in implementing the letter and intent of the Prop. 2 program and the changes to that program passed by HB 3732.

Attached are two letters that I have previously written that relate to issues still under consideration in your rulemaking. The first letter (Attachment 1) was sent to the TCEQ staff and Commissioners on August 1, 2007, in order to address some questions that had been raised at that time regarding the intended scope and applicability of HB 3732. Since that time, some additional questions have been asked and formally posed in both the preamble to the proposed rule and in an opinion request that was submitted by the TCEQ Chairman to the Attorney General of Texas. The second letter (Attachment 2) was sent to the Attorney General on October 31, 2007, in response to the TCEQ Chairman's opinion request.

Together, the two attached letters reflect my views on several of the issues that are still before the Commission in this rulemaking and I include the comments made in those letters in this letter by reference to avoid repetition.

Again, I appreciate your efforts to timely implement HB 3732 and, if I can be of any assistance to you, please don't hesitate to contact me.

Sincerely,

  
Representative Rick Hardcastle

RH/mw

CAPITOL OFFICE:  
P.O. Box 2910  
AUSTIN, TX 78768-2910  
(512) 463-0526

DISTRICT OFFICE:  
1930 PANNIN STREET  
VERNON, TX 76384  
(940) 553-3825

STATE OF TEXAS  
COUNTY OF TARRANT  
OCT 26 2007  
RECEIVED  
TARRANT COUNTY CLERK'S OFFICE



RICHARD L. "RICK" HARDCASTLE  
HOUSE OF REPRESENTATIVES

ATTACHMENT 1

August 1, 2007

Ms. Grace Montgomery Faulkner  
Deputy Director, Administrative Services  
Texas Commission on Environmental Quality  
P.O. Box 13087  
Austin, TX 78711-3087

Ms. Faulkner,

It has come to my attention that questions have arisen about the legislative intent of Section 4 of HB 3732 which amends Section 11.31 of the Tax Code (commonly referred to as the "Prop. 2" or the "pollution control property" tax exemption). As the House author of the bill, I have a few things I would like to clarify regarding the intent and scope of that part of the bill.

1. Scope of Bill and Possible Impact on Industries Other than Electric Power Generation

The reason I filed HB 3732 was to help ensure that Texas continues to maintain and build power plants that are as clean as possible, but still capable of using a diverse range of affordable feedstocks such as coal, biomass, petroleum coke, and solid waste. Helping electricity remain affordable is an important aspect of the bill along with the obvious environmental protection goals of the bill. With that overall intent in mind, we focused the equipment list contained in Sections 4 and 5 of the bill on electric generation projects.

HB 3732 clarifies, but does not alter, the TCEQ's underlying legal authority under the Prop. 2 program. While I was focused on electric generation in filing HB 3732, I am aware that TCEQ has always had the authority (since 1994) under the Prop. 2 program to add items to the predetermined equipment list (PEL), including equipment that resembles equipment included on the HB 3732 list that are used in industries other than the electric generation industry. It was not my intent to alter that authority with this legislation. Nor does this legislation change the fundamental requirement of the Prop. 2 program - that equipment needs to control pollution, in whole or in part, in order to be eligible for a full or partial exemption.

CAPITOL OFFICE:  
P.O. Box 2910  
AUSTIN, TX 78768-2910  
(512) 463-0526

DISTRICT OFFICE:  
1930 FANNON STREET  
VIRRON, TX 76184  
(940) 553-3823

An extreme example of a potential misinterpretation would be to interpret item No. 1 on the list ("coal cleaning or refining facilities") as an exemption for an entire oil refinery. Such an interpretation is entirely without merit given the context of the statute and flies in the face of the bill's fundamental purpose. The "refining" word was added to the bill to clarify that, in addition to coal cleaning, the bill would encourage folks to "refine" coal before it is used. I became aware during the legislative session of the difference between the two technologies and that is why we adjusted the language in the bill.

We made it clear in the legislation that the list was not exclusive and included a general provision (item no. 18) which I intended to give the TCEQ discretion to add additional technologies when supplementing their PEL in the future as they see fit. This provision should not be interpreted as vastly expanding the fundamental purpose and scope of HB 3732.

2. Recognition of Pollution Control Exemption Despite Product or Co-product Generation by the Same Equipment

I understand that there has historically been a debate about whether and to what extent pollution control tax exemptions can be allowed for equipment that might also be involved in production. I am also aware of the debate that has existed when a facility has figured out a way to sell, as a product, materials that accumulate within a pollution control device (e.g., fly ash). One of the goals of the legislation this session was to ensure that TCEQ had the authority and direction from the legislature to recognize that pollution control benefits can be derived from the manner in which fuel is prepared and used, and from increasing the efficiency of certain facilities. By doing so, the amount of fuel needed and the total amount of pollution emitted can be reduced. I did not intend, nor do I support, an interpretation of anything in HB 3732 to prevent electric generating facilities from receiving exemptions for equipment simply because they also derive profit from a given piece of equipment or process. If it reduces pollution, it qualifies.

I am aware that some of the items on the HB 3732 list include entire generation processes like "fluidized bed combustion systems" and "ultra-supercritical pulverized coal boilers" which were included for the reason stated above - the manner in which the fuel is used helps reduce pollution. Consistent with the process put in place by HB 3121 in 2001, if TCEQ receives documentation justifying that less than 100% of an exemption should be granted for such processes, we have afforded the TCEQ discretion under the bill to include an item on the PEL for less than 100%. I understand that the TCEQ's initial plan is to assume a 100% exemption unless documentation establishes a legitimate basis for a lesser percentage. I support that approach because, again, the goal of the legislation is to reduce pollution.



**RICHARD L. "RICK" HARDCASTLE**  
HOUSE OF REPRESENTATIVES

**ATTACHMENT 2**

October 31, 2007

The Honorable Greg Abbott  
Attorney General  
State of Texas  
P.O. Box 12548  
Austin, Texas 78711

Re: Attorney General Opinion Request (RO-0635-GA) for interpretation of the intent of H.B. 3732, 80th Regular Session, Texas Legislature

Dear General Abbott:

This letter is being submitted in response to the request for an attorney general opinion submitted by Buddy Garcia, Chairman, Texas Commission on Environmental Quality ("TCEQ") regarding the legislative intent of H.B. 3732, which I authored and Senator Averitt sponsored in the Senate during the 80<sup>th</sup> Legislature.

The purpose of H.B. 3732 was to encourage the construction of advanced clean energy projects ("ACEPs") to meet the growing demand for electricity in Texas as well as increasing demands for pollution control. The incentives include grants, loans, tax exemptions and a streamlined permitting process. The bill also clarified current law regarding pollution control property exemptions and ensures that new and existing power plants receive expedited determinations for certain categories of pollution control equipment.

The question submitted by Chairman Garcia is whether "H.B. 3732 and its legislative history, limits the TCEQ's rule implementation of §11.31(k) [and §26.045(f)] of the Texas Tax Code to pollution control property associated with advanced clean energy projects, as defined in Texas Health and Safety Code, §382.003?"

It was not and is not my intent as the author of the bill to limit equipment eligible for a property tax exemption under §11.31(k) (or the corresponding change in §26.045(f) ) of the Tax Code to advanced clean energy projects. In addition, I am confident you will not find anything in the legislative history to support that interpretation. In fact, all indicators of intent are quite the opposite. Since it will take several years to bring ACEPs online, we wanted to encourage current power plants to continue installing pollution control equipment.

CAPITOL OFFICE:  
P.O. Box 2910  
AUSTIN, TX 78768-2910  
(512) 463-0526

DISTRICT OFFICE:  
1930 FANNIN STREET  
VERNON, TX 76384  
(940) 553-3825

October 31, 2007  
Page 2

While I have provided this background information to give you some context on why the statute was drafted the way it was, I understand your office will focus primarily on the unambiguous language of the statute. As Attorney General Cornyn stated: "we must first consider the statute's plain and common meaning on the presumption that the legislature intended the plain meaning of its words. If possible, we must ascertain the legislature's intent from the language it used in the statute and not look to extraneous matters for an intent the statute does not state... [w]e look to legislative history only if a statute is ambiguous."

The statute is not ambiguous. Section 11.31(k) states that the "Texas Commission on Environmental Quality shall adopt rules establishing a nonexclusive list of facilities, devices, or methods for the control of air, water, or land pollution, which must include... [a list of 18 types of equipment follows]". As Attorney General Abbott stated in Opinion No. GA-0202, "[w]e presume that every word or phrase in a statute has been chosen for a particular purpose." The opposite is also true, if the legislature chooses not to use a particular word or phrase, it is for a reason.

In drafting §11.31(k) (and the corresponding change in §26.045(f) of the Tax Code, if the legislature wanted to limit its application to pollution control equipment for ACEPs, we could have instructed the TCEQ to adopt rules "establishing a nonexclusive list of facilities, devices, or method for the control of air, water or land pollution associated with advanced clean energy projects..." We did not, however, choose to use these words, and we did not tie it in some other way to the definition of ACEPs. This was no accident.

In fact, the legislature purposely uses the word "nonexclusive," which means it did not want to place any unnecessary limitations on the type of equipment provided an exemption under this section of the Code as long as it met the definition contained in §11.31(b) adopted by the 73<sup>rd</sup> Legislature.<sup>1</sup> Attorney General Opinion No. DM-448 says "[a] statute is presumed to have been enacted by the legislature with complete knowledge of and with reference to the existing law."<sup>2</sup> The law prior to the 80<sup>th</sup> Legislature did not limit the tax exemptions under this section to ACEPs, and by not placing such a limitation in subsection (k), the legislature understood that the existing definition would apply.

<sup>1</sup> Op. Tex. Att'y Gen. No. JC-0567 at 4 (2002).

<sup>2</sup> Op. Tex. Att'y Gen. No. JC-0567 at 4 (2002).

<sup>3</sup> Op. Tex. Att'y Gen. No. GA-0202 at 3 (2004).

<sup>4</sup> Section 11.31(b), Texas Tax Code, defines "facility, device, or method for the control of air, water, or land pollution" as "land that is acquired after January 1, 1994, or any other 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 an 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."

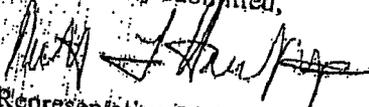
<sup>5</sup> Op. Tex. Att'y Gen. No. DM-448 at 4 (1997).

October 31, 2007  
Page 3

Although the statute's language is unambiguous and there is no reason to look to the legislative history for guidance, it should be pointed out that nothing in the legislative history of the bill contradicts the plain meaning of the statute. I am confident you will not find any evidence to suggest that these tax exemptions should be limited to ACEPs.

Thank you for your service to our great state and your consideration of this letter. I understand that your resources are limited and that you have numerous pending opinion requests to address. That being said, the Commission is under a statutory deadline to adopt rules on this issue by January 1, 2008, so any effort you can make to expedite the response to Chairman Garcia's request would be greatly appreciated.

Respectfully submitted,



Representative Rick Hardcastle

RH/mw