APPEAL OF THE EXECUTIVE DIRECTOR'S NEGATIVE USE DETERMINATION ISSUED TO MIDLOTHIAN ENERGY LIMITED PARTNERSHIP	§	**BEFORE THE TEXAS COMMISSION**
	§	
	§	
	§	**ON**
	§	
	§	
APPLICATION NUMBER 12271	§	**ENVIRONMENTAL QUALITY**

MIDLOTHIAN ENERGY, LLC's APPEAL OF THE EXECUTIVE DIRECTOR'S NEGATIVE USE DETERMINATION

TO THE HONORABLE COMMISSIONERS AND GENERAL COUNSEL OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY:

Midlothian Energy, LLC ("Midlothian Energy" or "the Applicant")[1] submits this Appeal of the Executive Director's ("ED's") negative use determination issued to Midlothian Energy under the Texas Commission on Environmental Quality's ("TCEQ's") Tax Relief for Pollution Control Property Program. For the reasons set forth below, Midlothian Energy respectfully requests that the Commission overturn the ED's negative use determination for the heat recovery steam generators ("HRSGs") and dedicated ancillary equipment installed at the Midlothian Energy Plant, and that the Commission direct the ED to issue a positive use determination for the HRSGs that recognizes the HRSGs' pollution control benefit consistent with the use determination methodology proposed by the Applicant.

I. Introduction

By now, the Commission is familiar with the history of the Proposition 2 HRSG applicants impacted by the ED's most-recent negative use determinations. More than six years after Midlothian Energy originally filed its application, and 18 months after the Commission last dealt with the HRSG Proposition 2 applicants by remanding the ED's negative use determinations, the issue is back before the Commission.

Midlothian Energy filed an "Application for Use Determination for Pollution Control Property" on April 25, 2008, seeking a partial positive use determination for the HRSGs that had been installed at the Midlothian Energy Plant located in Ellis County ("the Application"). The Application sought a Tier IV partial positive use determination for the HRSGs, which had been installed at the plant in 2001 and 2002.

The ED assigned the application number 12271, notified the Ellis County Appraisal District of the Application, and on April 29, 2008 sent a letter to Midlothian Energy's designated

[1] On December 23, 2013, Midlothian Energy filed a Certificate of Conversion with the Delaware Secretary of State converting to a limited liability company and changing its name from Midlothian Energy Limited Partnership to Midlothian Energy, LLC.

contact stating that the Application had been declared administratively complete. The ED failed to act on the Application, however, until July 10, 2012, at which time the ED issued a short, form-letter "Notice of Negative Use Determination" for the Application and a number of other long-pending Proposition 2 applications for HRSG installations. Midlothian Energy timely appealed the July 2012 negative use determination, and on December 5, 2012, the Commissioners overturned the ED's determination and remanded the Application (and many other HRSG applications) to the ED.

Following the Commission's remand, the ED issued a Notice of Technical Deficiency ("NOD") dated February 21, 2013, and in response Midlothian Energy filed its "Resubmission of Use Determination Application No. 12271 and Response to Notice of Technical Deficiency" on June 24, 2013. The ED issued yet another NOD on February 4, 2014, and in response Midlothian Energy filed its "Resubmission of Use Determination Application No. 12271 and Response to February 4, 2014 Notice of Technical Deficiency" on March 7, 2014. The NOD responses updated and supplemented the Application ("Supplemental Application"). The ED issued a Notice of Negative Use Determination for the Supplemental Application on June 17, 2014 ("NUD Notice"), triggering this appeal.

II. This Appeal is Timely

Under 30 Tex. Admin. Code ("TAC") § 17.25(b), an appeal of a use determination made by the ED must be filed within 20 days after the receipt of the determination letter. The ED's Notice of Negative Use Determination for the Application is dated June 17, 2014, and was transmitted by electronic mail to the Applicant's property tax representative, Duff & Phelps LLC, on that day. In accordance with 30 TAC § 17.25(b), an appeal of the ED's determination is timely if filed with the Office of the Chief Clerk on or before July 7, 2014.

III. Required Elements of the Appeal

A. Person Filing the Appeal

Ms. Sydney Free
Midlothian Energy Limited Partnership
Midlothian Energy Plant
4601 Brookhollow Drive
Midlothian, Texas 76065
Phone: (713) 636-1608

B. Entity to which the Use Determination was Issued

Midlothian Energy Limited Partnership
Midlothian Energy Project
Midlothian (Ellis County)
Regulated Entity Number: RN102596400
Customer Reference Number: CN600131379

c/o Ms. Kathryn Tronsberg Macciocca
Director
Duff & Phelps, LLC
2000 Market Street, Ste 2700
Philadelphia, PA 19103

C. Application Number for Use Determination and Copy of the Negative Use Determination

Application No. 12271; Tracking No. 08-RC-MEL 2008. A copy of the June 17, 2014 Negative Use Determination is attached as Exhibit A.

D. Appraisal District Information

Ellis County Appraisal District
P.O. Box 878
Waxahachie, Texas 75615

E. Request for Commission Consideration of the ED's Use Determination

The Applicant requests that the Commission overturn the ED's Negative Use Determination and direct that the ED issue a Positive Use Determination for the pollution control property included in the Application, consistent with the use determination calculation methodology presented in the Tier IV Application.

F. Basis for the Appeal

The ED offered the following explanation in issuing its negative use determination for the Application: the ED "does not find" the Applicant's method for determining the use determination percentage to be reasonable. The ED is not correct. The ED errs in disregarding the Applicant's proposed "Avoided Emissions Methodology" for calculating the use determination percentage, both by imposing the Cost Analysis Procedure ("CAP") on a Tier IV application to which it is not required, and then by applying the CAP in a manner that generates an absurd result, based on the use of unreasonably and inaccurate model inputs. If the CAP is to be used to calculate the use determination percentage for the Application, the Modified Cap Calculation presented in the Supplemental Application defines key variables in a manner that allows the CAP to reasonably reflect the pollution prevention benefit of HRSGs.

In contrast to other negative use determinations issued by the ED on the same day that it issued the NUD Notice to Midlothian Energy, the ED effectively conceded either (1) that Midlothian Energy was not required to cite a rule that it meets or exceeds using the HRSGs, or (2) that Midlothian Energy had cited a rule that it meets or exceeds using the HRSGs in its Supplemental Application that satisfied the ED. In its Supplemental Application and NOD responses, Midlothian Energy objected to the ED's request for a citation as inconsistent with statutory requirements. Midlothian Energy also identified a number of air quality rules that the Midlothian Energy Plant meets and exceeds using the HRSGs, over that objection. For this

Application, the only question for the Commission is whether the ED properly disregarded the Applicant's use determination calculations.

1. The Applicant's proposed "Avoided Emissions Methodology" reasonably calculates a use determination percentage for the HRSGs.

a. The Application is not required to use the CAP.

Midlothian Energy is a Tier IV applicant, and is not required to use the CAP for purposes of calculating the use determination percentage for the HRSGs. *See* 30 TAC § 17.17(d) (2008). The Supplemental Application proposes a Tier IV Use Determination calculation that is based on an avoided emissions methodology. As requested by the ED, the Applicant also provided use determination calculations based on the CAP – both the CAP as requested by the ED, and a Modified CAP Calculation that defines certain variables in a manner that more accurately accounts for the dual purposes served by HRSGs.

b. The Avoided Emissions Methodology reasonably values the pollution control benefit of the HRSGs.

The Supplemental Application uses a Tier IV use determination calculation that is based on an approach recognized and approved by the U.S. EPA for measuring pollution prevention, as outlined in its handbook titled "Output-Based Regulations: A Handbook for Air Regulators." With regard to the avoided emissions approach, EPA states:

> The displaced emissions are the emissions that would otherwise have been generated to provide the same thermal output from a conventional (*i.e.*, Baseline Plant) system . . .

U.S. EPA, Office of Atmospheric Protection Programs, *Output-Based Regulations: A Handbook for Air Regulators,* pp. 31-33 (August 2004).

The Applicant proposed the Avoided Emissions Methodology in its Supplemental Application. Consistent with EPA's guidelines, the formula the Applicant used is as follows:

$$\frac{\text{Emissions Output}_{\text{Baseline Plant}} - \text{Emissions Output}_{\text{Subject Plant}}}{\text{Emissions Output}_{\text{Subject Plant}}}$$

By dividing the numerator by the Emissions Output of the Subject Plant, the Application has proposed a methodology that calculated the percentage of NOx emissions avoided through the installation of the HRSGs, as compared to a natural gas-fired steam generator.

c. The Avoided Emissions Methodology fairly balances the HRSGs' pollution control and production values.

The Applicant's methodology selected provides for a positive use determination percentage of 44%, less than 100%, to be applied to the capital costs of the subject Pollution Control Property. In the NUD Notice, the ED states that the Avoided Emissions Methodology does not attribute any value to production. By calculating a partial use determination percentage that reflects the pollution prevention benefit of a HRSG, while not generating a 100% positive use determination, the Avoided Emissions Methodology fairly reflects that HRSGs have both a pollution prevention and production purpose. The balance of the capital costs of the subject Pollution Control Property can be considered taxable production property.

d. There is no requirement that the Tier IV methodology apportion tax relief between the HRSG and other pollution control property.

In the NUD Notice, the ED states that, by attributing the entire avoided emissions to the HRSGs, this approach ignores nitrogen oxides (NO_x) reductions related to other property for which a positive use determination has been issued. The fact that a piece of pollution control property works in conjunction with other property at the site to control or prevent pollution does not disqualify it from earning tax relief under Proposition 2.

The applicant's Tier IV methodology, per statutory and rule language in effect at the time, did not require the applicant to attribute NO_x emissions reductions between various types of pollution control property installed for a common purpose at the applicant's facility. Rather, the applicant established, as required, that portion of the subject property dedicated to a pollution control purpose, *i.e.*, NO_x emissions reduction/prevention, 44%; and that portion dedicated to a production purposes, 56%.

The NUD Notice raises a new methodological concern not previously raised in the NODs on the Application. More importantly, the ED's concern is inconsistent with TCEQ practice in reviewing and approving unit-wide, or facility-wide, pollution control/prevention efforts by multiple types of pollution control property installed for a common purpose.

Historically, the TCEQ has not required the attribution of emissions reductions for NO_x or other air pollutants to be established on a percentage basis between pollution control property installed for a common pollution control purpose, *i.e.*, NO_x emissions reduction/prevention. For example, the use of Low NO_x HRSG duct burners and/or SCR Systems on combined cycle power generation facilities each receive 100% positive use determinations, although the amount of unit-specific NO_x reduced or prevented is the same. Switching combustion technologies, both the installation of Low NO_x burner retrofits in conjunction with an SCR installation within a traditional fossil-fuel fired boiler unit train have both been provided 100% positive use determinations for the subject equipment.

The Avoided Emissions Methodology appropriately accounts for the pollution prevention attributable to the HRSGs. The Applicant requests that the Commission direct the ED to make a partial positive use determination on remand based on the Avoided Emissions Methodology proposed by the Applicant.

2. The CAP as applied by the ED generates an unreasonable and absurd result.

The ED's NUD Notice presents the results of applying the CAP as proposed by the ED: a negative 3023% use determination. As directed by the ED, the CAP will *always* generate a negative result for HRSGs, despite the equipment's indisputable pollution control benefit. The Applicant objects to the ED's application of the CAP equation to its application.

The Applicant objects to the ED's application of the CAP equation to its application. The CAP set forth in 30 TAC § 17.17 was not added to the TCEQ's rules until 2010. As stated by the TCEQ in the preamble to this rule, the revised rules do not apply to applications filed prior to January 1, 2009. The applicant submitted its Application on April 25, 2008. The TCEQ should not consider the CAP model contained in 30 TAC § 17.17 for the appropriate percentage use determination for this Application. Not only is the CAP not required to be used for this Application, but as applied by the ED, it generates an absurd result.

In the NUD Notice, the ED states, "[t]he fact that the CAP calculated results in a negative number shows that the HRSGs pollution prevention benefit is negated its ability to produce a product." For purposes of responding to the NOD only, the Applicant performed the CAP calculations requested by the ED and presented the results as an Appendix in its NOD response. The applicant ran the CAP formula in the manner proposed by the ED (*i.e.*, incorporating the cost for a like-sized natural gas boiler for Capital Cost Old ("CCO")), which generates a dramatic negative use percentage of -3023.08%. This "result" does nothing more than underscore the manipulative effect(s) possible with the CAP formula employed by the ED.

If not allowed to represent the variable conditions in the CAP model accurately, the Applicant is denied the ability to accurately reflect the pollution prevention function attributable to the HRSGs. The result of requiring only certain values to be utilized for variables within the TCEQ CAP model denies the Applicant a positive use determination. This is at odds with the Legislature's mandate on HRSGs.

In remanding the Application to the ED, the Commission should direct the ED not to impose the CAP as proposed by the ED, because it is not required for the Application and produces an absurd result. The Applicant requests that, for this Tier IV application, Commission direct the ED to calculate a use determination percentage using the Applicant's proposed Avoided Emissions Methodology or the Modified CAP Calculation presented in the Supplemental Application.

3. The Applicant has proposed a Modified CAP Calculation that recognizes the dual purpose of the Applicant's HRSGs.

The Applicant submitted a Modified CAP Calculation in its Supplemental Application, defining key variables in a manner that reflects the real-world circumstances associated with the installation of a HRSG. Not surprisingly, the Modified CAP Calculation generates a partial use determination percentage that – unlike the CAP as-proposed by the ED – reflects both the production *and* pollution prevention purpose of a HRSG.

a. It is proper to include the steam turbines and ancillary equipment in Capital Cost New ("CCN") for the Modified CAP Calculation.

In the NUD Notice, the ED challenges the inclusion of steam turbines and water systems as part of CCN in the Modified CAP. However, the economic value of the HRSG cannot be considered in isolation, without consideration of the necessary ancillary equipment necessary to produce electricity. To remove the steam turbine and associated equipment from CCN inaccurately represents the capital expenditures necessary for the HRSG to operate. Electricity is not generated by the HRSG equipment alone; the economic component of the HRSGs must be considered in association with all its component parts, which includes the steam turbine, water systems, and their ancillary equipment. Without the steam turbine and other associated equipment, the applicant's HRSGs would not and could not produce a by-product or marketable by-product.

b. It is proper to define Capital Cost Old ("CCO") as $0 where a HRSG is not replacement equipment.

In the NUD Notice, the ED characterizes HRSGs as "alternate production equipment" and maintains the position that CCO should be defined as the cost of a boiler with similar steam production capabilities, rejecting the Applicant's proposed use of $0 for CCO in the Modified CAP Calculation.

The Applicant used $0 for CCO in the Modified CAP Calculation because no other value accurately reflects the circumstances surrounding the installation of the HRSGs. A boiler would not be installed in a combined cycle facility as a replacement for the HRSGs. A boiler generates heat to produce steam, as compared to the function of the HRSG, which is to capture the exhaust heat from the gas turbine to produce steam (and electricity). A boiler cannot perform the function of the HRSG. HRSGs are not replacement equipment, but rather new equipment that provides both a production benefit and a pollution prevention benefit. As a result, CCO should be $0, which is consistent with the TCEQ's definition of CCO because no equipment is being replaced and no comparable equipment without the pollution control feature exists. *See* 30 TAC §17.2(2) (defining CCO as "the cost of the equipment that is being or has been replaced by the equipment contained in the application") (emphasis added).

The Modified CAP Calculation proposed by the Applicant in the Supplemental Application more accurately reflects the circumstances surrounding HRSG installation and defines key variables in a manner that more accurately apportions between the production and pollution prevention roles of a HRSG, consistent with the intent behind partial use determinations in the Proposition 2 program. If the Commission finds that the ED should continue to use a form of the CAP in evaluating the Application on remand, the Applicant requests that the Commission direct the ED to define CCN and CCO in a manner consistent with the Modified CAP Calculation proposed in the Supplemental Application.

4. Additional Arguments Incorporated by Reference

The Applicant attaches and hereby incorporates by reference the arguments set forth in the following documents: "Resubmission of Use Determination Application No. 12202 and Response to Notice of Technical Deficiency" (June 24, 2013) (Exhibit B); "Resubmission of Use Determination Application No. 12202 and Response to February 4, 2014 Notice of Technical Deficiency" (March 7, 2014) (Exhibit C).

IV. Conclusion and Prayer

For these reasons, the Applicant requests that the Commission once again overturn the ED's negative use determination for the HRSGs and dedicated ancillary equipment installed at the Midlothian Energy Plant, and that the Commission put an end to the ongoing dispute over the HRSGs' status under the Proposition 2 program by directing the ED to issue a positive use determination for the HRSGs that fairly recognizes the HRSG's pollution control benefit, consistent with the Avoided Emissions Methodology or the Modified CAP Calculation proposed in the Applicant's Tier IV application.

Respectfully submitted,

KATTEN MUCHIN ROSENMAN LLP

By: _____

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ATTORNEYS FOR MIDLOTHIAN ENERGY, LLC

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

June 17, 2014

Ms. Kathryn Tronsberg Macciocca
Director
Duff & Phelps, LLC
2000 Market Street, Ste 2700
Philadelphia, PA 19103

Re: Notice of Negative Use Determination
Midlothian Energy Limited Partnership
Midlothian Energy Project
Midlothian (Ellis County)
Regulated Entity Number: RN102596400
Customer Reference Number: CN600131379
Application Number: 12271
Tracking Number: 08-RC-MEL 2008

Dear Ms. Macciocca:

This letter responds to Midlothian Energy Limited Partnership's Application for Use Determination for Midlothian Energy Project, originally submitted on April 29, 2008 and remanded to the executive director (ED) on December 5, 2012 by the Texas Commission on Environmental Quality (TCEQ) commissioners. Your Tier IV partial use determination application seeks a use determination for six Heat Recovery Steam Generators (HRSGs), twelve steam turbines, and dedicated ancillary systems.

The ED has completed the review for application #07-12271 and the associated notice of deficiency (NOD) responses and has issued a Negative Use Determination for the property in accordance with Title 30 Texas Administrative Code (TAC) Chapter 17. The Negative Use Determination is issued because the methods for determining the use determination percentage were not reasonable.

The Tier IV application process, in place in commission rules between February 2008 and December 2010, allowed an applicant to propose a method for calculating a partial use determination. The commission rules allow for determinations that distinguish the proportion of property that is used to control, monitor, prevent, or reduce pollution from the proportion of property that is used to produce goods or services. If the property is not used wholly for the control of air, water, or land pollution, the applicant must present information in the application for the determination of the proportion of the property that is pollution control. It is the responsibility of the applicant to propose a reasonable method for determining the use determination percentage. It is the responsibility of the ED to review the proposed method and make the final determination.

After careful review of the three methods for calculating a partial positive use determination included in the applicant's submittals, the ED has determined that all but one of the methods are unacceptable. The two methods proposed by the applicant do not reasonably distinguish the proportion of the HRSGs, steam turbines, and dedicated ancillary equipment that provides a purported pollution control benefit from the proportion of the equipment that produces steam that is used in a process or to produce electricity for use or sale. The one method that the ED does find acceptable, the Cost Analysis Procedure (CAP) adopted by the commission, produces a negative number. Therefore, the property is not eligible for a positive use determination.

The following is an explanation of the ED's review of the methodologies presented in your application:

- Avoided Emissions Approach (44%): This approach is not reasonable because it does not distinguish the proportion of property used to control or prevent pollution from the proportion used to produce a product. Furthermore, the avoided emission approach does not attribute any value to production. By attributing the entire avoided emissions to the HRSGs and associated equipment, this approach ignores nitrogen oxides (NOx) reductions related to other property for which a positive use determination has been issued.

- Modified CAP Calculations (56%): Capital Cost New (CCN) includes a steam turbine and water systems. Allowing Capital Cost Old (CCO) to be $0 ignores that HRSGs and other equipment are alternative production equipment. CCO is the cost of comparable equipment without the pollution control. If the HRSGs produce steam, then comparable equipment that produces steam without pollution control is a boiler. The ED does not find it reasonable to attribute $0 cost to CCO in the CAP.

- CAP as proposed by the executive director (-3023%): The CAP formula was adopted by the commission to provide a methodology for determinations that distinguishes the proportion of property that is used to control, monitor, prevent, or reduce pollution from the proportion of property that is used to produce goods or services. The fact that the CAP calculated results in a negative number shows that the HRSGs, steam turbines, and dedicated ancillary equipment's pollution prevention benefit is negated by its ability to produce a product.

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

If you have questions regarding this letter or need further assistance, please contact Ronald Hatlett of the Tax Relief for Pollution Control Property Program by telephone at (512) 239-6348, by e-mail at ronald.hatlett@tceq.texas.gov, or write to the Texas

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

Sincerely,

David Brymer, Director
Air Quality Division

DB/rh

cc: Chief Appraiser, Ellis County Appraisal District, P.O. Box 878, Waxahachie, Texas, 75165-0878

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

June 24, 2013

Re: Resubmission of Use Determination Application No. 12271
Response to Notice of Technical Deficiency
Midlothian Energy Limited Partnership
Midlothian Energy – Heat Recovery Steam Generator
Tracking No. 08-RC-MEL-2008

Dear Mr. Hatlett:

Enclosed please find one original and one copy of a supplemental application (the "Supplemental Application") for property tax exemptions for certain qualifying pollution control property from applicant Midlothian Energy Limited Partnership ("Midlothian Energy" or the "Applicant") at the Midlothian Energy Plant, 500 W Jones Road, Venus, Ellis County, Texas. Pursuant to 30 TAC §17.12(2)(A), the Supplemental Application is being submitted in response to the Notice of Technical Deficiency ("NOD") dated February 21, 2013 and the March 20, 2013 letter clarifying the NOD and granting an extension to the NOD response deadline.

The NOD cited six (6) issues related to the original submission of the Application:

Issue #1: Please review the enclosed application that all information is still current.

Response to Issue #1:

As stated above, Midlothian Energy has included a Supplemental Application as part of this NOD response. Certain information included in this NOD response and the Supplemental Application specifically corrects and supplements parts of Midlothian Energy's original application, dated April 29, 2008. All of the information in the enclosed Supplemental Application is current. Any information included in the original application that is not current has been corrected in the Supplemental Application.

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Issue #2: Please remove the steam turbine generators from this application. This equipment has been evaluated and determined to be not eligible.

Response to Issue #2:

While this NOD response and the attached Supplemental Application seek a use determination for the Midlothian Energy plant's heat recovery steam generators ("HRSGs"), the cost of the enhanced steam turbines ("ESTs") that were installed with and serve as dedicated ancillary equipment for the HRSGs has been included in both (1) Midlothian Energy's application of the cost analysis procedure ("CAP") (in response to Issue #5) and (2) Midlothian Energy's proposed Tier IV use determination methodology (in response to Issue #6).

The ESTs included in the two use determination calculations presented in this NOD response and the Supplemental Application are in dedicated service to the HRSGs that are the subject of the Supplemental Application. Most importantly, the ESTs are necessary for the generation of the Marketable Product, as defined in the requested CAP Model, that generates the HRSGs' income streams. A HRSG produces steam. It is the EST that turns that steam into a marketable product (electricity), and it is inconsistent and a misapplication of the statute and rules that make up the Tax Relief for Pollution Control Property Program ("Prop 2 Program") to use electricity as the marketable product while excluding equipment (ESTs) that actually generates that marketable product. For this reason, it is appropriate to include the cost of the ESTs in the use determination calculations for the HRSGs.

Similar to the ESTs, costs for makeup water (feed water) systems, circulating/cooling water systems, and dedicated piping, structural steel, instrumentation and control, and electrical additions to support the ESTs and these additional dedicated ancillary systems are integral to the operation of the HRSG and the production of the marketable product. The inclusion of the ESTs and other dedicated ancillary equipment in the proposed use determination calculations is consistent with the TCEQ's historical practice under all Tiers of use determination applications under the Prop 2 Program.

The inclusion of ESTs in Section 11.31(k) of the Texas Tax Code further supports the inclusion of EST costs in calculating the proper use determination percentage for HRSGs. Section 11.31(m) of the Tax Code directs the TCEQ to determine whether a device listed in Section 11.31(k) "is used wholly or partly as a device for the control of air, water or land pollution." Exclusion of the ESTs from the use determination for Midlothian Energy's HRSGs is inconsistent with the statutory treatment of ESTs, and is inconsistent with the Expedited Review List included in 30 TAC § 17.17(b) of the TCEQ's own rules.

ESTs are eligible for property tax relief under the Prop 2 Program. The ESTs included in the Supplemental Application are in dedicated service to the HRSGs, and necessary for the production of any marketable product. Including the cost of those ESTs as part of the total costs of the Tier IV equipment in the attached Supplemental Application appropriately accounts for ESTs in determining appropriate tax relief for the HRSGs.

Issue #3: Title 30 TAC §106.512(7) states, "Upon issuance of a standard permit for electric generating units, registrations under this section for engines or turbines used to generate electricity will no longer be accepted, except for: (A) engines or turbines used to provide power for the operation of facilities registered under the Air Quality Standard Permit for Concrete Batch Plants; (B) engines or turbines satisfying the conditions for facilities permitted by rule under Subchapter E of this title (related to Aggregate and Pavement); or (C) engines or turbines used exclusively to provide power to electric pumps used for irrigating crops." Because none of this exceptions apply to the equipment and a standard permit for electric generating units has been issued, the citation of 30 TAC §106.512 does not appear appropriate. If you contend this citation still applies, please explain.

Response to Issue #3:

The citations from the original application have been updated and supplemented for purposes of this NOD response and the Supplemental Application, consistent with the opportunity recognized by Chairman Shaw during the December 2012 Commission Agenda on the pending HRSG appeals.

HRSGs are included on the list of facilities, devices or methods for the control of pollution adopted under Texas Tax Code section 11.31(k). The Tax Code directs the TCEQ Executive Director to determine if HRSGs and the other devices listed under section 11.31(k) are used wholly or partly for the control of pollution, "***[n]otwithstanding the other provisions of this section.***" TEXAS TAX CODE §11.31(m) (emphasis added). Thus, section 11.31(m) eliminates the need for an applicant to identify, or for the Executive Director to determine, a rule or regulation adopted by the U.S. EPA or the TCEQ for the prevention, monitoring, control or reduction of air pollution, when a Prop 2 Program application concerns a device listed under section 11.31(k).

Additionally, Midlothian Energy disagrees with the position that, to be eligible for the pollution control tax exemption, installation of the device or equipment must be required by an environmental rule. To the contrary, the Texas Tax Code requires that the equipment be used in whole or in part to satisfy an environmental rule for the prevention, monitoring, control, or reduction of air, water, or land pollution. TEXAS TAX CODE § 11.31(b). The Tax Code does not require that the environmental rule require the installation of a HRSG in order to receive a tax credit.

While the Texas Tax Code does not require that the Executive Director identify a rule or regulation in its technical review of a Prop 2 Program application for a HRSG, Midlothian Energy is identifying several state and federal rules that it meets or exceeds using the HRSGs, for purposes of providing a complete NOD response and Supplemental Application.

Midlothian Energy's HRSGs are used for the prevention of air pollution. As the Executive Director has previously recognized, HRSGs act as a fuel substitute, and allow owners/operators like Midlothian Energy to produce more electricity for the same amount of fuel (and thus emissions) by capturing unused heat of combustion from the plant's combustion turbines ("CTs") and using that heat to produce additional power. *See* Executive Director's Response Brief, 2008 HRSG Positive Use Determination Appeal at 6, 10 (2008).

Midlothian Energy meets or exceeds multiple state and federal air quality rules using the increased efficiency provided by the HRSGs. Some of these regulations, such as the federal Clean Air Interstate Rule ("CAIR"), directly rely upon the increased fuel efficiency provided by the HRSGs for compliance, while others regulate NOx (and other pollutants) from Midlothian Energy using other standards. Midlothian Energy uses the energy efficiency and associated NOx emissions reductions from the HRSGs that are the subject of the Supplemental Application to meet or exceed the following requirements:

- The Clean Air Interstate Rule ("CAIR"). CAIR was implemented by the EPA to reduce the interstate transport of emissions, including NOx and sulfur dioxide ("SO2"). The TCEQ's implementing regulations are found at 30 TAC §§ 101.500-.508. CAIR requires NOx reductions from fossil fuel-fired combustion turbines like those operated by Midlothian Energy, and TCEQ's emissions cap-based CAIR rules require sources subject to CAIR to rely upon increased energy efficiency to meet or exceed the NOx reductions required to comply with CAIR. 30 TAC § 101.506 requires NOx reductions under CAIR.

- State and federal best available control technology ("BACT") requirements are met or exceeded by the use of HRSGs. BACT is defined as the reduction in total emissions that can be achieved through the use of either: (i) add-on pollution control equipment; or (ii) production processes, systems, methods, or work practices. 30 TAC § 116.10(1). BACT can be an add-on pollution control device *or* a "production process." Midlothian Energy's combined-cycle units use selective catalytic reduction ("SCR") for emissions control, and the HRSGs are integral parts of the SCR systems.

  Additionally, the energy efficiency benefits of a HRSG are an important part of satisfying BACT requirements under the federal greenhouse gas ("GHG")

permitting program. Federal BACT requirements are found at 40 CFR § 52.21(j), and EPA has expanded the federal Prevention of Significant Deterioration ("PSD") program to GHGs. 40 CFR § 52.21(b)(49)(v). EPA has identified energy efficiency as the primary method by which a source will meet BACT requirements for greenhouse gases ("GHGs"). EPA, *PSD and Title V Permitting Guidance for Greenhouse Gases* at 21 (March 2011).

- Permit No. 384191 & PSD-TX-906 establishes hourly, annual and concentration limits for NOx from the combustion turbines, and notes in Special Condition 2 (Emissions Specifications and Operating Specifications) that CTs are "in combined cycle with heat recovery steam generators (HRSGs) and steam turbines are authorized by this permit."

- NSPS Subpart GG. The gas-fired turbines at Midlothian Energy's facility are subject to the NOx emissions standards established in NSPS Subpart GG, 40 CFR 60.332. While NSPS Subpart GG is a NOx concentration standard, Midlothian Energy relies on the HRSGs in the Supplemental Application to meet or exceed the NOx emission limits of NSPS Subpart GG while meeting the facility's production demands.[1]

- 30 TAC Chapter 117.1310, *Dallas-Fort Worth Ozone Nonattainment Area Utility Electric Generating Sources, Emissions Specifications for 8-hour Attainment Demonstration.* While section 117.1310 is a NOx concentration standard, Midlothian Energy relies on the HRSGs in the Supplemental Application to meet or exceed the applicable Chapter 117 NOx emission limits while meeting the facility's production demands.

- The National Ambient Air Quality Standard ("NAAQS") for nitrogen dioxide ("NO_2") established in 40 CFR § 50.11. The Midlothian Energy plant may not cause or contribute to an exceedance of the NAAQS, and Midlothian Energy was required to demonstrate that it did not cause or contribute to an exceedance of the NO_2 NAAQS when it was authorized to construct the combined cycle units that employ the HRSGs that are the subject of the Supplemental Application. The HRSGs help the Midlothian Energy plant satisfy production demands while meeting its obligation not to cause or contribute to an exceedance of the NO_2 NAAQS.

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[1] While the combustion turbines at the site are not subject to NSPS Subpart KKKK, the benefit that the HRSGs provide in helping the site meet the Subpart KKKK output-based NOx emission limits is an example of Midlothian Energy performing at levels beyond those set by currently-applicable rules, and qualifies as the use of HRSGs to exceed emissions-reduction requirements.

Issue #4: Please explain how the use of HRSGs meets or exceeds the requirements contained in 30 TAC §111.111, §111.151, and §111.153.

Response to Issue #4:

Please see the response to Issue #3 above and the Supplemental Application.

Issue #5: In addition to the proposed calculation use the cost analysis procedure (CAP) contained in 30 TAC §17.17 to calculate a proposed use determination percentage.

$$\frac{(\text{Production Capacity Factor} \times \text{Capital Cost New}) - \text{Capital Cost Old} - \text{NPVMP}}{\text{Capital Cost New}} \times 100$$

The variables used in the CAP should be calculated as follows:

- Production Capacity Factor: calculated by dividing the capacity of the existing equipment or process by the capacity of the new equipment or process.
- Capital Cost New: Cost of HRSGs
- Capital Cost Old: Cost of a boiler(s) required to produce the same amount of steam produced by the HRSGs
- Net Present Value of the Marketable Product: The net present value of the marketable product recovered for the expected lifetime of the property, calculated using the equation in §17.17(c)(2).

$$\text{NPVMP} = \sum_{t=1}^{n} \frac{(\text{Marketable Product Value} - \text{Production Cost})_t}{(1 + \text{Interest Rate})^t}$$

- Marketable Product:

  1. If steam is used to generate electricity that is sold to external parties or used on site, then the value of the marketable product is considered the value of electricity sold or used on site as a result of the steam generated by the HRSG.

  2. If steam is sold to an external party, then the value of the marketable product is considered to be the retail value of the steam sold.

  3. If steam is used on site, then the value of the marketable product is the value assigned to the steam for internal accounting purposes. It is the

responsibility of the applicant to show that the internally assigned value is comparable to the value assigned by other similar producers of steam.

For 1 above, the thermal power of steam generated by the facility is converted into electrical power. Using steam tables and basic thermodynamic equations, the thermal power of the steam can be determined.

$W_{thermal}=(h_1-h_0)\times m$

Where h_0 is the initial specific enthalpy of the liquid (the HRSG feedwater) and h_1 is the final specific enthalpy of the steam at a given temperature and pressure exiting the HRSG. m is the mass flow rate of the steam. Use the steam tables to determine the specific enthalpy of the steam based on the required specifications (temperature and pressure) of the steam produced.

To determine the electrical power represented by $W_{thermal}$, $W_{thermal}$ must be converted to electrical power using the thermal efficiency ($\eta_{thermal}$) of the steam turbine(s). You may either use the rated efficiency of the actual steam turbine at the facility or assume $\eta_{thermal}$ of 36%, which is an average steam turbine thermal efficiency for non-nuclear applications.

$W_{electrical}= W_{thermal} \times \eta_{thermal}$

$W_{electrical}$ represents the electrical power generation associated with the HRSG. In order to determine the marketable product value, multiply this value by the number of hours the HRSG operated in each of the last three years while the electricity was being generated for sale or use on site. This value should then be multiplied by the average retail rate of electricity sold during each of the last three years in order to determine the marketable product value of the steam used to generate electricity sold to external parties or sued on site for the last three years. The marketable product values for the last three years should be added and the sum divided by three to obtain the average marketable product value over the last three years.

- Production Cost: Itemized costs of production directly attributed to the operation of the HRSG excluding non-cash costs, such as overhead and depreciation and excluding costs related to operating the gas turbine, associated duct burners, or the steam turbine including fuel costs.
- Interest Rate: 10%
- n: estimated useful life in years of the HRSG

Response to Issue #5:

The NOD recognizes that Midlothian Energy, as a Tier IV applicant, is not required to use the cost analysis procedure ("CAP") for purposes of calculating the use

determination percentage for the HRSGs. The Supplemental Application submitted along with this NOD response includes a new Tier IV Use Determination calculation that is based upon an avoided emissions methodology, as discussed in greater detail in response to Issue #6.

Midlothian Energy is also submitting a proposed use determination percentage calculation based upon the CAP Model as requested. Specifically, we have utilized the following CAP formula, as directed in the NOD:

$$\frac{\text{(Production Capacity Factor} \times \text{Capital Cost New)-Capital Cost Old-NPVMP}}{\text{Capital Cost New}} \times 100$$

CAP Model Evolution – 2008 to Current

The CAP Model identified in the NOD is <u>not</u> the CAP Model defined by statute or in use by the TCEQ Guideline Documents at the time of the original application's filing in 2008. The NOD CAP was added to TCEQ rules in 2010, following legislative direction to develop uniform standards and methods for use determinations. 35 *Tex. Reg.* 10964, 10965 (Dec. 10, 2010). The CAP Model in effect at the time the application was submitted was the following:

$$\frac{\text{(Production Capacity Factor} \times \text{Capital Cost New)-Capital Cost Old-Byproduct}}{\text{Capital Cost New}} \times 100$$

While the current CAP Model reflected in the NOD uses NPVMP, the CAP formula in place in 2008 used "byproduct." Per 30 TAC §17.17(c)(1), Byproduct Value is defined as:

"the retail value of the recovered byproduct for a one year period. Typically, the most recent three-year average price of the <u>material</u> as sold on the open market should be used in the calculation. If the price varies from state-to-state, the applicant shall calculate an average, and explain how the figures were determined." (emphasis added)

There is a difference between "recovered byproduct" and "marketable product." The CAP Model analysis the TCEQ is requesting in the NOD is an analysis not envisioned under the original application filing, even under the CAP. The NOD appears to recognize this inconsistency by giving Midlothian Energy the opportunity to present the results of a Tier IV use determination calculation. Midlothian Energy challenges the validity and use of the results of the retroactive application of the 2010 CAP Model as requested in the NOD.

CAP Model Weaknesses when Applied to HRSGs

Before describing the specific assumptions used and the results of the Applicant's final CAP Model analysis, it must be recognized that such a model's outcome is flawed. The pollution prevention benefits from HRSGs in a natural gas combined-cycle plant are a result of the plant's use of a two-cycle (Brayton and Rankine) thermodynamic plant design, resulting in more of the chemical energy inherent in the fuel (natural gas) utilized by the Plant being converted into electricity. As a result, air emissions produced are lessened for the same amount of electrical production.

The current way that the CAP Model measures the pollution control and/or prevention function of a device – comparison of equipment costs less revenues – does not account for the type of pollution prevention provided by energy efficient devices such as HRSGs. Therefore, in a CAP Model where property tax exemption benefits available to eligible pollution control/prevention equipment are reduced by the equipment's contribution to revenues, an energy efficiency investment will always be penalized for its performance enhancements, rather than rewarded for its emissions reduction capabilities. This does not reflect the objective of the State, as that result is at odds with the objective of reducing or preventing air emissions from a system, plant or process by the installation of any pollution control property. The failure of the current CAP Model to appropriately account for the pollution prevention benefits of equipment like HRSGs is illustrated by the fact that the CAP Model rewards inefficiency: burning more fuel within a combined-cycle design, with a resulting increase in air emissions for the same electrical output, generates a greater positive use determination percentage.

Finally, the current CAP Model is best suited to measure the use determination percentage generated by an upgrade or modification to production facilities that generate pollution control benefits as a consequence of such a modification. Midlothian Energy was not replacing an older, traditional steam-fired boiler with a more efficient combined-cycle unit. Rather, Midlothian Energy's Plant, inclusive of its HRSGs, was designed and installed as a greenfield power generation facility. As a result, the CAP Model presented in the NOD does not generate a use determination percentage that accurately reflects the pollution prevention benefit of a HRSG.

CAP Model Results – Applicant Assumptions

While Midlothian Energy disputes the retroactive application of the CAP Model set forth in the NOD to its 2008 application, it has prepared and is submitting CAP Model results for purposes of this NOD response. As described below, Midlothian Energy has run the CAP Model as defined in the NOD. Recognizing the absurd results generated by the CAP Model as defined in the NOD, Midlothian Energy has also

incorporated in the CAP Model the most accurate cost and revenue assumptions for each of this model's variables, where those proposed by the TCEQ in the NOD do not represent these values.

Midlothian Energy has prepared two CAP Model scenarios using assumptions that are different from those proposed in the NOD:

- Scenario (1) in which the Capital Cost Old ("CCO") is assumed to equal zero, to reflect the greenfield design of the Midlothian Energy plant; and

- Scenario (2) in which CCO is assumed to be the cost of a flue gas ducting spacer, or "spool piece," which would be in place if the plant's HRSGs and their dedicated ancillary equipment were eliminated from the plant design.

Midlothian Energy's assumptions used in these CAP Model scenarios, and a summary of the resulting use determination percentages, are presented below.

Applicant's CAP Model Assumptions

Midlothian Energy has defined certain cost and revenue variables in applying the CAP Model in a way that allows the CAP to accurately reflect the Facility's costs and revenues, and to incorporate them into a calculation that results in a more reliable use determination percentage for a pollution prevention device like a HRSG.

$$\frac{(\text{Production Capacity Factor} \times \text{Capital Cost New}) - \text{Capital Cost Old} - \text{NPVMP}}{\text{Capital Cost New}} \times 100$$

Where NPVMP is defined as "*the net present value of the marketable product recovered for the expected lifetime of the property, calculated using the equation in paragraph (2) of this subsection [30 TAC §17.17(c)(1)]. Typically, the most recent three-year average price of the material as sold on the open market should be used in the calculation. If the price varies from state-to-state, the application shall calculate an average and explain how the figures were determined.*" 30 TAC § 17.17(c)(1), Note 4.

Specifically, Midlothian Energy has used the following assumptions regarding the variables to be used in the CAP Model:

- Production Capacity Factor ("PCF"): value has been assumed to equal 1.

  No older, less-efficient equipment was replaced by the installation of the subject equipment and the Midlothian Energy plant was constructed from a greenfield design. Therefore, any theoretical consideration of a comparable, older design in the CAP Model would be assumed to be at

the same productive capacity as the subject equipment at the plant. A HRSG does not provide for an increase in capacity; rather, it provides for a reduction in fuel use. ***Precedent exists from prior TCEQ Tier III Application filings for the use and acceptance of a PCF value of 1.***

- Capital Cost New ("CCN"): has been assumed to include the installed cost of the HRSGs and all dedicated ancillary equipment necessary to generate the marketable product assumed in this CAP Model.

  CCN includes the installed costs of the HRSGs and their dedicated ancillary equipment, including the Enhanced Steam Turbines ("ESTs"). As stated previously, HRSGs alone cannot produce electricity as a fuel substitute; the HRSG works in conjunction with additional equipment to convert the heat of combustion from the CTs into electricity. That additional equipment, including circulating water systems, cooling water systems, cooling towers/air cooled condensers, water treatment systems, and the ESTs, must be included in CCN. ***Precedent from prior TCEQ Tier I, II, and III Application filings exists for the use and acceptance of applicant-defined Historical Costs, including dedicated ancillary equipment costs.***

- Capital Cost Old ("CCO"): has been defined as zero.

  As stated above, the HRSGs were not installed as a replacement of similar, less efficient equipment. The combined-cycle units with HRSGs have been installed as more fuel-efficient, pollution-preventing alternatives to simple cycle units. There is no "comparable equipment without the pollution control feature" on which to base CCO (*see* 30 TAC § 17.17(c)(1) (2008 rules)) because the pollution prevention feature of a combined-cycle unit is inherent – there is no combined cycle unit without the pollution control feature. ***Precedent exists from prior TCEQ Tier III Application filings for the use and acceptance of a CCO value of zero.***

  For purposes of this NOD Response, Midlothian Energy has also run the CAP Model after defining CCO as the cost of the ductwork that would serve in the place of the HRSG systems if HRSGs were eliminated from the plant design.

- Net Present Value of the Marketable Product ("NPVMP"): has assumed the following:

  - Production Cost ("PC"): has been modified to include the cost of fuel attributable to the MW output of the ESTs.

The NOD directs Midlothian Energy to exclude such fuel costs. The fuel used to create the steam is a raw material used in HRSG operation. The CAP Model should not consider the Marketable Product value (revenues) of the electricity produced by the subject equipment while excluding the fuel costs (O&M costs) necessary to create that Marketable Product. Without fuel, the HRSG cannot generate steam; therefore, no Marketable Product would be created. Fuel costs must be included in Production Costs in any rational application of this CAP Model.

It is an oversimplification to assume all fuel costs within the combined-cycle system are attributable to the CTs alone. Fuel costs to generate Marketable Product should be assumed to be incurred by the CTs; the HRSG Duct Burners; and the HRSGs.

- Three-Year average inputs (2005-2007) for the following:
  - Facility Capacity Factor (%);
  - Facility Heat Rate ("UNITS");
  - Annual O&M Costs for HRSGs & Ancillary Equipment;
  - ERCOT Houston Zone electricity pricing; and
  - Katy Hub Fuel pricing.

- Annual O&M Costs included O&M costs for the following Facility systems:
  - HRSGs;
  - Circulating Water System;
  - Cooling Water System;
  - Cooling Towers/Air Cooled Condenser(s);
  - Make Up Water Treatment System; and
  - ESTs.

Attachment A, entitled **"Applicant CAP Model Assumptions and Resulting Use Determination Percentages"**, details Midlothian Energy's CAP Model assumptions and the resulting use determination percentages to be applied to the Facility's eligible HRSG historical costs for the following modeling scenarios:

- CCO = 0; and
- CCO = Cost of Spool Piece

Attachment A also provides any needed supporting documentation for the Applicant's variable assumptions used in the CAP Model to generate the resulting use determination percentages.

Table 1 below summarizes the outcomes of the two CAP Model scenarios prepared.

Table 1: CAP Model Outcomes

CAP Model Scenario	Description	Partial Use Determination %	Eligible Pollution Control Cost
Tier III – CAP Model w/ CCO = $0	HRSG & Dedicated Ancillary Systems	56.51%	$119,743,711
Tier III – CAP Model w/ CCO = Spool Piece	HRSG & Dedicated Ancillary Systems	56.10%	$118,881,437

CAP Model Results – NOD Assumptions Requested by the TCEQ

For purposes of submitting a complete NOD response, and to further illustrate how the CAP Model as set forth in the NOD wholly fails to account for the pollution prevention benefits of HRSGs, Midlothian Energy has also run the CAP Model using the assumptions requested by the Executive Director in the NOD. **Table 2** below presents the results of using the CAP Model generated by the Applicant, then changing each model variable listed to the variable assumption requested by the TCEQ in the NOD. The final case in Table 2 presents the results with all requested variables modeled as requested in NOD.

Table 2: Results of CAP Model Using TCEQ Variable Assumptions

Case No.	TCEQ CAP Model Variable Assumption	TCEQ CAP Model Inputs	TCEQ CAP Model Output
1	**Production Capacity Factor (PCF):** Calculated by dividing the capacity of the existing equipment or process by the capacity of the new equipment or process.	PCF = 0; undefined Capacity of Existing Equipment = 0 Capacity of New Equipment/Process = 462	

2	**Capital Cost New (CCN):** Cost of HRSGs ONLY	CCN = $ 39,821,504	
3	**Capital Cost Old (CCN):** Cost of a boiler(s) required to produce the same amount of steam produced by the HRSGs.	CCO = $115,326,213 See developed assumption for CCO in attached model.	
4	**Net Present Value of the Marketable Product (NPVPM):** The net present value of the marketable product recovered for the expected lifetime of the property, calculated using the equation in §17.17(c)(2) 1. If steam is used to generate electricity that is sold to external parties or used on site, then the value of the marketable product is considered the value of electricity sold or used on site as a result of the steam generated by the HRSG. For 1 above, the thermal power of steam generated by the facility is converted into electrical power. Using steam tables and basic thermodynamic equations, the thermal power of the steam can be determined.	Substituted actual steam turbine net generation in MegaWatt-Hours for the 2005-2007 period[2]	
5	**Production Cost (PC):** Itemized costs directly attributed to the operation of the HRSG excluding non-cash costs, such as overhead and depreciation and excluding costs related to operating the gas turbine, associated duct burners, or the steam turbine including fuel costs.	HRSG-Only O&M: $645,759 (NOTE: No Fuel Costs Included)	
6	**Interest Rate:**	10%; Use in current CAP Model	
7	**n:** Estimated Useful Life in years of the HRSG	Use 20 year useful life, Assumed	
8	**ALL Assumptions Above**	All	-3,023.08%

[2] TCEQ-requested steam enthalpy calculations in the NOD require multiple assumptions regarding atmospheric conditions and HRSG operating characteristics. Midlothian Energy has chosen to use the most accurate representation of its marketable product output by modeling actual steam turbine net generation (electricity attributable to the HRSG).

As these CAP modeling results show, the variable assumptions requested in the NOD appear to have been chosen not to reflect the most accurate answer relative to the resulting use determination percentage from the CAP Model, but rather to generate a series of negative use determination percentages. This is not consistent with the objectives of the Texas Tax Code, which explicitly recognizes pollution prevention as eligible for tax relief and in § 11.31(k) provides for a positive use determination for HRSGs as pollution control property. Moreover, the absurd result generated through the use of these assumptions illustrates the inability of the CAP Model as-defined in the NOD to appropriately account for the pollution prevention benefits of HRSGs.

The Applicant will provide the backup calculations performed in preparing Table 2 upon request.

Issue #6: Under the administrative rules in place at the time this application was filed the applicant could propose the method of calculating a use determination percentage for a HRSG. Please be advised that the proposed calculation has errors. If you wish to proceed with the calculation, provide supporting documentation for all variables used in the calculation, excluding the standard unit conversion factors.

Because this application is for the HRSGs, NOx emission reductions attributable to equipment other than the HRSGs should not be considered. Likewise, the cost of equipment other than the HRSGs should not be included in the percent exempt calculations. Please resubmit the calculation with the exempt percentage applied only to the value of the HRSGs. Please explain why the "Efficiency Gain" is considered to be the pollution control. Please provide more detail on the calculation and support all variables and formulas used. Why was the lower heating value (LHV) used for heat input rather than higher heating value (HHV)?

Response to Issue #6:

Midlothian Energy is submitting a Supplemental Application with this response to the NOD that includes a revised Tier IV use determination calculation methodology. Midlothian Energy requests that the TCEQ consider the proposed method included in the Supplemental Application as a substitute for the calculation method included in the original 2008 application. The proposed calculation method included in the Supplemental Application addresses and corrects any perceived errors in the original calculation. As requested, Midlothian Energy has provided the supporting documentation for the variables used in the new calculation method.

Consistent with recent discussions with TCEQ, the proposed calculation method included in the Supplemental Application is an Avoided Emissions methodology. The Avoided Emissions methodology has been developed and is proposed as a

methodology for calculating the emissions-reduction benefits of integrated design features (such as HRSGs) that produce lower emissions on a per-megawatt-hour basis. It is a technically sound method for calculating a use determination percentage based on actual environmental benefit and avoids the problems described earlier when applying the CAP Model to an emissions-reducing / efficiency-enhancing equipment addition. As noted earlier, the CAP Model counter-intuitively assigns a higher use determination percentage to less-efficient equipment operation.[3] Additional information regarding the proposed revised Tier IV calculation methodology is found in the Supplemental Application.

Avoided Emissions Model – Applicant Assumptions & Results

Midlothian Energy has prepared two modeling scenarios using the Avoided Emissions Model detailed in the Supplemental Application:

- Scenario (1) in which the capital cost of the pollution control property eligible for positive use determination considers the cost of the Facility's HRSGs inclusive of the cost of all dedicated ancillary equipment necessary to generate the emissions reductions assumed; and

- Scenario (2) in which the capital cost of the pollution control property eligible for positive use determination considers the cost of the Facility's HRSGs only.

Midlothian Energy considers the results in Scenario (1) to be the appropriate and accurate application of the use determination percentage resulting from the Avoided Emissions Model presented. Midlothian Energy has prepared Scenario (2) to be responsive to the TCEQ's directions in the NOD. Midlothian Energy does not, however, consider Scenario (2) to be a valid method for calculating the appropriate Prop 2 tax relief for the HRSGs installed at the plant.

As noted earlier in Response #2, the plant's HRSGs produce steam. It is the plant's ESTs that turn that steam into a marketable product – electricity. For this reason, it is appropriate to include the cost of the ESTs (and other dedicated ancillary equipment) in the use determination calculations for the HRSGs. Similar to the ESTs, certain makeup water (feed water) systems, circulating/cooling water systems, and dedicated piping, structural steel, instrumentation and control, and electrical additions to support the ESTs and/or the make-up water and steam cooling/condensing

[3] In this respect, the CAP Model results are subject to the same criticism levied against Midlothian Energy's original calculation method in the March 20, 2013 letter from Chance Goodin of TCEQ to Midlothian Energy. The March 20, 2013 letter questions the "1 - efficiency gain" calculation method in Midlothian Energy's original 2008 application because the greater the efficiency gain, the lower the environmental benefit.

systems are integral to the operation of the HRSG and the production of the marketable product, electricity. The inclusion of the cost of the plant's ESTs and the other dedicated ancillary equipment within the eligible capital costs to which the resulting use determination percentage resulting from the Avoided Emissions Model is applied is consistent with the TCEQ's historical practice under Prop 2 Program. The Executive Director should not change its practices when evaluating Midlothian Energy's Supplemental Application for the HRSGs.

Table 3 below presents the result of the Tier IV NOx Emissions Avoidance Model.

Table 3: Avoided Emissions Methodology Outcomes

Property/ Model	Description	Partial Use Determination %	Eligible Pollution Control Cost
Tier IV	HRSGs & Dedicated Ancillary Systems	44%	$92,391,810
Tier IV	HRSG Costs Only	44%	$17,362,176

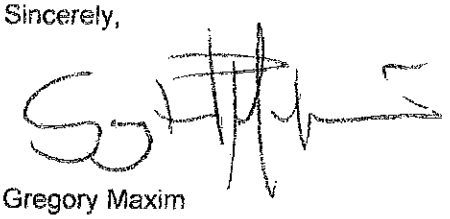
The Supplemental Application attached includes the information enumerated above.

Please send one copy of the completed property tax exemption Use Determination to the following address:

Duff & Phelps, LLC
c/o Greg Maxim
919 Congress Avenue, Suite 1450
Austin, TX 78701

If you have any questions regarding the Supplemental Application or the information supplied in the NOD response, please contact Greg Maxim of Duff & Phelps, LLC at (512) 671-5580 or e-mail at gregory.maxim@duffandphelps.com.

Sincerely,



Gregory Maxim
Managing Director
Specialty Tax

ATTACHMENT A-1

<< CONFIDENTIAL >>

Taxpayer:	*GDF Suez NA*
Plant:	*Midlothian Energy Project*
Plant Summary:	*1438MW 6x6 Single Shaft Configuration Natural Gas-Fired Combined Cycle Plant*
Plant Location:	*Ellis County, TX*
Project:	*Cost Analysis Procedure ("CAP") Calculations*
Date:	*June 24, 2013*
Rev:	*0*

Source Legend		
		Eff. Date
C	Calculated Assumption	6/17/2013
S	Suez Client-Provided Data	4/23/2013
KH	Katy Hub Natural Gas Pricing	6/17/2013
ERCOT	ERCOT Electricity Pricing	6/17/2013
D&P	D&P Combined Cycle Cost Database	6/17/2013
30 TAC	30 TAC Chapter 17	12/13/2010

I. Assumptions

Plant Design Profile

PC Property			*Source*
PC Property Capital Cost[1]	$	211,907,821	S
PC Property Capital Cost ($/kW)	$	459	C
PC Property Capacity (MW)		462	S
PC Property Net Annual Generation Capacity (kWh)		2,264,753,828	C
PC Property Net Annual Generation Capacity (MWh)		2,264,754	C
Plant Capacity Factor		55.96%	S
Plant Heat Rate (btu/kWh)		7,248	S
Plant Heat Rate (MMBTU/kWh)		0.01	C
Capital Cost Old ("CCO")			
Comparable Technology Cost	$	-	
Comparable Technology		-	
Design Capacity Factor		0%	
Capacity ("MW")		-	

Conversion Factors

Hours/Year	8,760
kW/MW	1,000
lb/kg	2.20
s/hour	3,600
btu/mmbtu	1,000,000

Economic Assumptions

			Source
NPVMP Discount Rate		10.0%	30 TAC
NPVMP Interest Rate		10.0%	30 TAC
Periods		20	S
Fuel Cost ($/MMBTU)[2]	$	6.99	KH
PC Property Annual O&M Cost	$	3,002,077	S
ERCOT Electricity Pricing ($/MWh)[3]	$	56.74	ERCOT

[1] Based upon detailed engineering estimates.
[2] 3-year average daily historical gas pricing for Katy Hub, 2005-2007.
[3] 3-year average daily historical electricity rates for ERCOT Houston Zone, 2005-2007.

<< CONFIDENTIAL >>

Taxpayer:	*GDF Suez NA*
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Date:	*June 24, 2013*
Rev:	*0*

II. Cost Analysis Procedure ("CAP")

Formula:

$$\frac{[(PCF \times CCN) - CCO - MP]}{CCN}$$

A. Definitions (provided by TCEQ)[3]

1. Production Capacity Factor ("PCF")
   The ratio of the capacity of the existing equipment or process to the capacity of the new equipment or process.

2. Capital Cost New ("CCN")
   CCN is the estimated total capital cost of the new equipment or process.

3. Capital Cost Old ("CCO")
   CCO is the cost of comparable equipment or a comparable process without the pollution control.
   The standards for calculating CCO are:

   3.1 If comparable equipment without the pollution control feature is on the market in the U.S., then use the average market price of the most recent generation of technology must be used.

   3.2 If the conditions in variable 3.1 do not apply and the company is replacing an existing unit that already has received a positive use determination, the company shall use the CCO from the application for the previous use determination.

   3.3 If the conditions in variable 3.1 and 3.2 do not apply and the company is replacing an existing unit, then the company shall convert the original cost of the unit to today's dollars by using a published industry specific standard. If the production capacity of the new equipment or process is lower than the production capacity of the old equipment or process CCO is divided by the PCF to adjust CCO to reflect the same capacity as CCN.

   3.4 If the conditions in variables 3.1, 3.2 and 3.3 do not apply and the company can obtain an estimate to manufacture the alternative equipment without the pollution control feature, then an average estimated cost to manufacture the unit must be used. The comparable unit must be the most recent generation of technology. A copy of the estimate must be provided with the worksheet including the specific source of the information.

4. Marketable Product ("MP")
   Anything produced or recovered using pollution control property that is sold as a product, is accumulated for later use, or is used as raw material in a manufacturing process. Marketable product includes, but is not limited to, anything recovered or produced using the pollution control property sold, traded, accumulated for later use, or used in a manufacturing process (including at a different facility). Marketable product does not include any emission credits or emission allowances that result from installation of the pollution control property.

5. Marketable Product Value ("MPV")
   The marketable product value may be calculated in one of two ways:
   1. The retail value of the product produced by the equipment for one year periods. Typically, the most recent three-year average price of the material as sold on the market should be used in the calculation. If the price varies from state-to-state, the applicant shall calculate an average and explain how the figures were determined.

   2. If the material is used as an intermediate material in a production process, then the value assigned to the material for internal accounting purposes may be used. It is the responsibility of the applicant to show that the internally assigned value is comparable to the value assigned by other similar producers of the product.

6. Direct Costs of Production ("DCP")
   The costs directly attributed to the production of the product, including raw materials, storage, transportation, and personnel, but excluding non-cash costs, such as overhead and depreciation.

7. n Factor
   The estimated useful life in years of the equipment that is being evaluated for a use determination.

8. t Factor
   Year One.

9. Interest Rate
   10%.

[3] Title 30, Texas Administrative Code, Chapter 17

B. CAP Formulas (provided by TCEQ)

Partial Use Determination = $\frac{[(PCF \times CCN) - CCO - NPVMP]}{CCN}$

Where,

Production Capacity Factor ("PCF") = $\frac{\text{Production Capacity of Existing Equipment or Process}}{\text{Production Capacity of New Equipment or Process}}$

And where

NPVMP = $\sum_{t=1}^{n} \frac{MPV - PC}{(1 + \text{Interest Rate})^t}$

C. CAP Formulas for PC Property

Marketable Product Value ("MPV") = Electricity Price ($/MWh) × MWh per Year from Steam Turbine

Direct Cost of Production ("DCP") = Annual O&M ($) + Annual Fuel Cost ($)

Taxpayer: *GDF Suez NA*
Plant: *Midlothian Energy Project*
Plant Summary: *1438MW 6x6 Single Shaft Configuration Natural Gas-Fired Combined Cycle Plant*
Plant Location: *Ellis County, TX*
Project: *Cost Analysis Procedure ("CAP") Calculations*
Date: *June 24, 2013*
Rev: *0*

III. Cost Analysis Procedure ("CAP") Calculations for Midlothian HRSGs

Formula: $\frac{(PCF \times CCN) - CCO - NPVMP}{CCN}$

A. Marketable Product Value ("MPV")

Electricity Price			PC MWh		=	($) MPV
	$/MWh	×	/ Year		=	
$56.74	$/MWh	×	2,264,754 MWh/Year		=	$128,501,905

B. Production Cost ("PC")

Heat Rate			PC kWh		Fuel Cost		=	Allocated Fuel Costs ($)
	mmbtu/kWh	×	/ Year	×		$/mmbtu	=	
0.01	mmbtu/kWh	×	2,264,753,828 kWh/Year	×	$6.99	$/mmbtu	=	$114,674,266

Annual O&M Cost	+	Allocated Fuel Costs	=	Annual Production Cost ($)
$3,002,077	+	$114,674,266	=	$117,676,343

Net Present Value Marketable Product ("NPVMP") Calculation

$$\sum_{t=1}^{n} \frac{(\$)\ MPV - (\$)\ PC}{(1 + Interest\ Rate)^t} = \boxed{NPVMP\ (\$)}$$

$$\sum_{t=1}^{n} \frac{\$128,501,905 - \$117,676,343}{(1 + 10\%)^t} = \$92,164,109 = \boxed{\begin{matrix}NPVMP\\ \$92,164,109\end{matrix}}$$

* If MP is ≤ 0, then MP = 0.

Taxpayer: *GDF Suez NA*
Plant: *Midlothian Energy Project*
Plant Summary: *1439MW 6x6 Single Shaft Configuration Natural Gas-Fired Combined Cycle Plant*
Plant Location: *Ellis County, TX*
Project: *Cost Analysis Procedure ("CAP") Calculations*
Date: *June 24, 2013*
Rev: *0*

C. Production Capacity Factor ("PCF")

$$\frac{\text{Production Capacity of Existing Equipment or Process}}{\text{Production Capacity of New Equipment or Process}} = \text{PCF}$$

$$\frac{0}{462\ \text{MW} * 55.96\%} = \text{PCF}\ 1.000$$

D. Capital Cost New ("CCN")
PC Property = CCN $211,907,821

E. Capital Cost Old ("CCO")
Comparable Technology = CCO $0

Partial Use Determination Calculation

$$\frac{(\text{PCF} \times \text{CCN}) - \text{CCO} - (\text{AP})}{\text{CCN}} = \text{Partial Use Determination \%}$$

$$\frac{1.000 \times \$211,907,821 - \$0 - \$92,164,109}{\$211,907,821} = 56.51\%$$

TCEQ Use Determination Application Section 12, use:		
Use Percentage		56.51%
Estimated Dollar Value	$	211,907,821

Eligible HRSG Costs = $ 119,743,711
(Partial Use Determination % x PC Property Cost)

Electricity - PV Calculations

Difference	Period	Interest Rate	PV - Period
$10,825,562	1	1.10000	$ 9,841,420
$10,825,562	2	1.21000	$ 8,946,745
$10,825,562	3	1.33100	$ 8,133,405
$10,825,562	4	1.46410	$ 7,394,004
$10,825,562	5	1.61051	$ 6,721,822
$10,825,562	6	1.77156	$ 6,110,747
$10,825,562	7	1.94872	$ 5,555,225
$10,825,562	8	2.14359	$ 5,050,204
$10,825,562	9	2.35795	$ 4,591,095
$10,825,562	10	2.59374	$ 4,173,723
$10,825,562	11	2.85312	$ 3,794,293
$10,825,562	12	3.13843	$ 3,449,358
$10,825,562	13	3.45227	$ 3,135,780
$10,825,562	14	3.79750	$ 2,850,709
$10,825,562	15	4.17725	$ 2,591,553
$10,825,562	16	4.59497	$ 2,355,958
$10,825,562	17	5.05447	$ 2,141,780
$10,825,562	18	5.55992	$ 1,947,072
$10,825,562	19	6.11591	$ 1,770,066
$10,825,562	20	6.72750	$ 1,609,151
NPVMP:			**$ 92,164,109**

ATTACHMENT A-2

<< CONFIDENTIAL >>

Taxpayer:	*GDF Suez NA*
Plant:	*Midlothian Energy Project*
Plant Summary:	*1438MW 6x6 Single Shaft Configuration Natural Gas-Fired Combined Cycle Plant*
Plant Location:	*Ellis County, TX*
Project:	*Cost Analysis Procedure ("CAP") Calculations*
Date:	*June 24, 2013*
Rev:	*0*

Source Legend		Eff. Date
C	Calculated Assumption	6/17/2013
S	Suez Client-Provided Data	4/23/2013
KH	Katy Hub Natural Gas Pricing	6/17/2013
ERCOT	ERCOT Electricity Pricing	6/17/2013
D&P	D&P Combined Cycle Cost Database	6/17/2013
30 TAC	30 TAC Chapter 17	12/13/2010

I. Assumptions

Plant Design Profile

PC Property		*Source*
PC Property Capital Cost[1]	$ 211,907,821	S
PC Property Capital Cost ($/kW)	$ 459	C
PC Property Capacity (MW)	462	S
PC Property Net Annual Generation Capacity (kWh)	2,264,753,828	C
PC Property Net Annual Generation Capacity (MWh)	2,264,754	C
Plant Capacity Factor	55.96%	S
Plant Heat Rate (btu/kWh)	7,248	S
Plant Heat Rate (MMBTU/kWh)	0.01	C
Capital Cost Old ("CCO")		
Comparable Technology Cost	$ 862,275	D&P
Comparable Technology	Spool Piece	
Design Capacity Factor	0%	
Capacity ("MW")	-	

Conversion Factors

Hours/Year	8,760
kW/MW	1,000
lb/kg	2.20
s/hour	3,600
btu/mmbtu	1,000,000

Economic Assumptions

		Source
NPV/MP Discount Rate	10.0%	30 TAC
NPV/MP Interest Rate	10.0%	30 TAC
Periods	20	S
Fuel Cost ($/MMBTU)[2]	$ 6.99	KH
PC Property Annual O&M Cost	$ 3,002,077	S
ERCOT Electricity Pricing ($/MWh)[3]	$ 56.74	ERCOT

[1] Based upon detailed engineering estimates.
[2] 3-year average daily historical gas pricing for Katy Hub, 2005-2007.
[3] 3-year average daily historical electricity rates for ERCOT North Zone, 2005-2007.

<< CONFIDENTIAL >>

Taxpayer:	*GDF Suez NA*
Plant:	*Midlothian Energy Project*
Plant Summary:	*1438MW 6x6 Single Shaft Configuration Natural Gas-Fired Combined Cycle Plant*
Plant Location:	*Ellis County, TX*
Project:	*Cost Analysis Procedure ("CAP") Calculations*
Date:	*June 24, 2013*
Rev:	*0*

II. Cost Analysis Procedure ("CAP")

Formula:

$$\frac{[(PCF \times CCN) - CCO - MPV]}{CCN}$$

A. Definitions (provided by TCEQ)[3]

1. Production Capacity Factor ("PCF")
The ratio of the capacity of the existing equipment or process to the capacity of the new equipment or process.

2. Capital Cost New ("CCN")
CCN is the estimated total capital cost of the new equipment or process.

3. Capital Cost Old ("CCO")
CCO is the cost of comparable equipment or a comparable process without the pollution control.
The standards for calculating CCO are

3.1 If comparable equipment without the pollution control feature is on the market in the U.S., then use the average market price of the most recent generation of technology must be used.

3.2 If the conditions in variable 3.1 do not apply and the company is replacing an existing unit that already has received a positive use determination, the company shall use the CCO from the application for the previous use determination.

3.3 If the conditions in variable 3.1 and 3.2 do not apply and the company is replacing an existing unit, then the company shall convert the original cost of the unit to today's dollars by using a published industry specific standard. If the production capacity of the new equipment or process is lower than the production capacity of the old equipment or process CCO is divided by the PCF to adjust CCO to reflect the same capacity as CCN.

3.4 If the conditions in variables 3.1, 3.2 and 3.3 do not apply, and the company can obtain an estimate to manufacture the alternative equipment without the pollution control feature, then an average estimated cost to manufacture the unit must be used. The comparable unit must be the most recent generation of technology. A copy of the estimate must be presented with the worksheet including the specific source of the information.

4. Marketable Product ("MP")
Anything produced or recovered using pollution control property that is sold as a product, is accumulated for later use, or is used as raw material in a manufacturing process. Marketable product includes, but is not limited to, anything recovered or produced using the pollution control property sold, traded, accumulated for later use, or used in a manufacturing process (including at a different facility). Marketable product does not include any emission credits or emission allowances that result from installation of the pollution control property.

5. Marketable Product Value ("MPV")
The marketable product value may be calculated in one of two ways

1. The retail value of the product produced by the equipment for one year periods. Typically, the most recent three-year average price of the material as sold on the market should be used in the calculation. If the price varies from state-to-state, the applicant shall calculate an average and explain how the figures were determined.

2. If the material is used as an intermediate material in a production process, then the value assigned to the material for internal accounting purposes may be used. It is the responsibility of the applicant to show that the internally assigned value is comparable to the value assigned by other similar producers of the product.

6. Direct Costs of Production ("DCP")
The costs directly attributed to the production of the product, including raw materials, storage, transportation, and personnel, but excluding non-cash costs, such as overhead and depreciation.

7. n Factor
The estimated useful life in years of the equipment that is being evaluated for a use determination.

8. t Factor
Year One.

9. Interest Rate
10%.

[3] Title 30, Texas Administrative Code, Chapter 17

B. CAP Formulas (provided by TCEQ)

$$\text{Partial Use Determination} = \frac{[(PCF \times CCN) - CCO - NPVMP]}{CCN}$$

Where:

$$\text{Production Capacity Factor ("PCF")} = \frac{\text{Production Capacity of Existing Equipment or Process}}{\text{Production Capacity of New Equipment or Process}}$$

And where

$$NPVMP = \sum_{t=1}^{n} \frac{MPV - PC}{(1 + \text{Interest Rate})^t}$$

C. CAP Formulas for PC Property

$$\text{Marketable Product Value ("MPV")} = \text{Electricity Price (\$/MWh)} \rightarrow \text{MWh per Year from Steam Turbine}$$

$$\text{Direct Cost of Production ("DCP")} = \text{Annual O\&M (\$)} \rightarrow \text{Annual Fuel Cost (\$)}$$

Taxpayer: *GDF Suez NA*
Plant: *Midlothian Energy Project*
Plant Summary: *1438MW 6x6 Single Shaft Configuration Natural Gas-Fired Combined Cycle Plant*
Plant Location: *Ellis County, TX*
Project: *Cost Analysis Procedure ("CAP") Calculations*
Date: *June 24, 2013*
Rev: *0*

III. Cost Analysis Procedure ("CAP") Calculations for Midlothian HRSGs

Formula: $\frac{(PCF \times CCN) - CCO - NPVMP}{CCN}$

A. Marketable Product Value ("MPV")

Electricity Price	$/MWh	×	PC MWh/Year	=	($) MPV
$58.74	$/MWh	×	2,264,754 MWh/Year	=	$128,501,905

B. Production Cost ("PC")

Heat Rate	mmbtu/kWh	×	PC kWh/Year	×	Fuel Cost $/mmbtu	=	Allocated Fuel Costs ($)
0.01	mmbtu/kWh	×	2,264,753,828 kWh/Year	×	$6.99 $/mmbtu	=	$114,674,266

Annual O&M Cost	+	Allocated Fuel Costs	=	Annual Production Cost ($)
$3,002,077	+	$114,674,266	=	$117,676,343

Net Present Value Marketable Product ("NPVMP") Calculation

$$\sum_{t=t}^{n} \frac{(\$)\ MPV - (\$)\ PC}{(1 + \text{Interest Rate})^t} = \boxed{NPVMP\ (\$)}$$

$$\sum_{t=1}^{n} \frac{\$128,501,905 - \$117,676,343}{(1 + 10\%)^t} = \$92,164,109 = \boxed{\begin{matrix}NPVMP\\ \$92,164,109\end{matrix}}$$

* If MP is ≤ 0, then MP = 0.

Taxpayer: GDF Suez NA
Plant: Midlothian Energy Project
Plant Summary: 1438MW 6x6 Single Shaft Configuration Natural Gas-Fired Combined Cycle Plant
Plant Location: Ellis County, TX
Project: Cost Analysis Procedure ("CAP") Calculations
Date: June 24, 2013
Rev: 0

C. Production Capacity Factor ("PCF")

Production Capacity of Existing Equipment or Process / Production Capacity of New Equipment or Process	=	PCF
0 / 462 MW * 55.96%	=	PCF 1.000

D. Capital Cost New ("CCN")
PC Property

	=	CCN $211,907,821

E. Capital Cost Old ("CCO")
Comparable Technology

	=	CCO $362,275

Partial Use Determination Calculation

$$\frac{(PCF \times CCN) - CCO - MP}{CCN} = \text{Partial Use Determination \%}$$

$$\frac{1.000 \times \$211,907,821 - \$362,275 - \$92,164,109}{\$211,907,821} = 56.10\%$$

TCEQ Use Determination Application Section 12, use:		
Use Percentage		56.10%
Estimated Dollar Value	$	211,907,821

Eligible HRSG Costs = $ 118,881,437
(Partial Use Determination % x PC Property Cost)

Electricity - PV Calculations

Difference	Period	Interest Rate	PV - Period
$10,825,562	1	1.10000	$ 9,841,420
$10,825,562	2	1.21000	$ 8,946,745
$10,825,562	3	1.33100	$ 8,133,405
$10,825,562	4	1.46410	$ 7,394,004
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$10,825,562	14	3.79750	$ 2,850,709
$10,825,562	15	4.17725	$ 2,591,553
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$10,825,562	19	6.11591	$ 1,770,066
$10,825,562	20	6.72750	$ 1,609,151
NPVMP:			$ 92,164,109

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 must complete the attached application or 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 the appropriate fee, to: TCEQ MC-214, Cashiers Office, PO Box 13088, Austin, Texas 78711-3088.

Information must be provided for each field unless otherwise noted.

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: (Provide a brief description of the type of business or activity at the facility)

Natural Gas-Fired Electricity Generation

2. TYPE OF APPLICATION

- ☐ **Tier I** $150 Fee
- ☐ **Tier II** $1,000 Fee
- ☐ **Tier III** $2,500 Fee
- ☒ **Tier IV** $500 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:	Midlothian Energy Limited Partnership c/o Sydney Free, Tax Director, GDF SUEZ Energy North America, Inc.
B. Mailing Address (Street or P.O. Box):	1990 Post Oak Blvd., Suite 1900
C. City, State, and Zip	Houston, TX 77956

4. PHYSICAL LOCATION OF PROPERTY REQUESTING A TAX EXEMPTION

A. Name of Facility or Unit:	Midlothian Energy Project
B. Type of Mfg. Process or Service:	
C. Street Address:	4601 Brookhollow Dr.
D. City, State, and Zip:	Midlothian, TX 76065
E. Tracking Number (*Optional*):	08-RC-MEL 2008
F. Company or Registration Number (*Optional*):	

5. APPRAISAL DISTRICT WITH TAXING AUTHORITY OVER PROPERTY

A. Name of Appraisal District: Ellis County Appraisal District

B. Appraisal District Account Number: 216908

6. CONTACT NAME

A. Company/Organization Name	Duff and Phelps, LLC
B. Name of Individual to Contact:	Greg Maxim
C. Mailing Address (Street or P.O. Box):	919 Congress Avenue, Suite 1450
D. City, State, and Zip:	Austin, TX 78701
E. Telephone number and fax number:	(512) 671-5500 / (512) 351-7911
F. E-Mail address (if available):	gregory.maxim@duffandphelps.com

7. RELEVANT RULE, REGULATION, OR STATUTORY PROVISION

For each media, please list the specific environmental rule or regulation that is met or exceeded by the installation of this property.

MEDIUM	Rule/Regulation/Law
Air	Clean Air Interstate Rule ("CAIR") and 30 TAC 101.506; NSPS Subpart Db and 40 CFR 60.44b; NSPS Subpart GG and 40 CFR 60.332; 40 CFR 50.11 (NAAQS); BACT and permit limits for NOx; 30 TAC 117.1310. See NOD Response Letter dated Jun 24, 2013 incorporated herein for further details.
Water	N/A
Waste	N/A

8. DESCRIPTION OF PROPERTY (Complete for all applications)

Describe the property and how it will be used at your facility. **Do not simply repeat the description from the Equipment & Categories List.** Include sketches of the equipment and flow diagrams of the processes where appropriate. Use additional sheets, if necessary.

Background

The Midlothian Energy Project is a 1,438 MW natural gas-fired combined-cycle power generation facility located in Ellis County, Texas near the city of Midlothian. The Facility consists of six single shaft combined cycle units that were placed in service in 2000 (Unit 1, 2, 3, 4) and 2001 (Unit 5 and Unit 6), respectively.

The use of innovative technologies such as combined cycle units reduces fossil fuel use and leads to multi-media reductions on 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.

Overview of Combined Cycle Technology[1]

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 heat of combustion from the Facility CTs' turbine exhaust gas for this process 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.

[1] http://www.cogeneration.net/Combined_Cycle_Power_Plants.html.

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 degrees Celsius (the creep limit of stainless steel) and condenser temperatures are around 30 degrees Celsius. 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 heat from Brayton engines, typically for hot water production 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 ISO conditions. International Organization for Standardization (ISO) reference ambient conditions at 14.7 psia, 59 degrees Fahrenheit, and 60% relative humidity.

Because of high thermal efficiency, low initial cost, high reliability, relatively low gas prices 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.

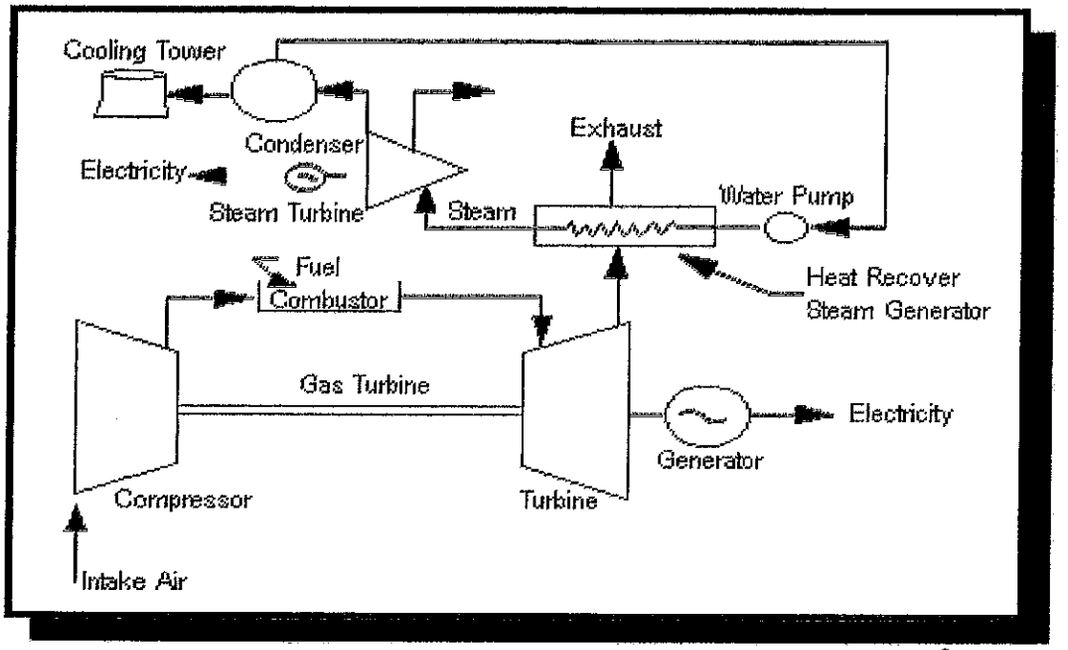

Figure 1 – Standard Combined-Cycle Configuration[2]

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.

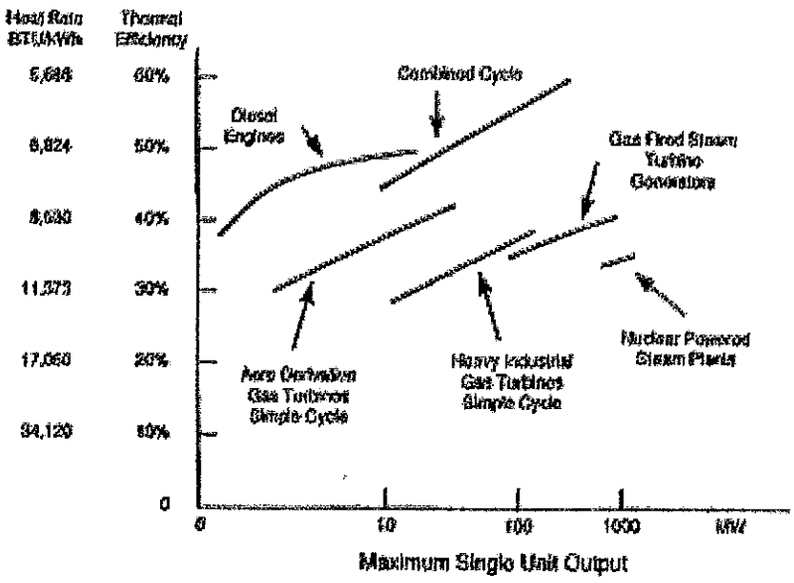

Figure 2 – Comparison of efficiency and power output of various power products [Bartol (1997)][3]

[2] Ibid.
[3] http://web.mit.edu/16.unified/www/FALL/thermodynamics/notes/node67.html.

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 Facility in-service date, or installed subsequent to in-service since 2000.

Property Description - Combined-Cycle Gas Turbine Plant Heat Recovery Steam Generator ("HRSG") and Dedicated Ancillary Systems

The heat recovery steam generator or HRSG found in the Facility is, at its heart, 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 more efficiently 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. 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.

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 the heat of combustion from the Facility CTs 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 shut down for maintenance and inspections.

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.[4]

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 MMBTU per Megawatt-hr. Lower fuel consumption associated with

[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.22.

increased fuel conversion efficiency reduces emissions across the board – that is NOx, SOx, particulate matter, hazardous air pollutants, and greenhouse gas emissions such as CO2.[5]

In calculating the percent exempt for the listed items from the ECL-Part B, we utilized Output-Based NOx allocation method for both "Greenfield" and "Replacement" power and heat generation. 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: 10,440 BTU's/kWh

This baseline heat rate purposely omits other fossil fuel source in order to eliminate impurity type characteristics, which in turn eliminated the NOx emission and cost of control differences of each fossil fuel and generator type. Comparing the emissions impacts of different energy generation facilities is easy and clear when emissions are measured per unit of useful energy output. For the purposed of our calculations, we converted all the energy output to units of MWh (1 MWh = 3.413 MMBtu), and compares the total emission rate to the baseline facility.

The comparison steps to calculate the NOx reduction is as follows:

Calculation (Reference Schedule A)

Step 1 – Subject Output-Based Limit Calculations (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)

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

Step 5 – Percent NOx Reduction Calculation (Partial Use Determination Percentage)

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

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

[5] Ibid, p.6.

9. PARTIAL PERCENTAGE CALCULATION

This section is to be completed for Tier III and IV applications. For information on how to conduct the partial percentage calculation, see the application instructions document. Attach calculation documents to completed application.

See calculations in the Tier IV Avoided Emissions Partial Use Determination Calculation Sheet attached.

10. PROPERTY CATEGORIES AND COSTS

List each control device or system for which a use determination is being sought. Provide additional attachments for more than 3 properties.

Property	Taxable on 1/01/94?	DFC Box	ECL #	Estimated Cost	Use %
Land					
Property Heat Recovery Steam Generator & Dedicated Ancillary Systems	N	3	B-8	$ 211,907,821	44%
Totals				$ 211,907,821	

11. EMISSION REDUCTION INCENTIVE GRANT

(For more information about these grants, see the Application Instruction document).

Will an application for an Emission Reduction Incentive Grant be filed 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 the 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: June 24, 2013

Title: Managing Director

Company: Duff & 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 September 1, 2006)

Midlothian Energy Limited Partnership << CONFIDENTIAL >>
Tier IV Avoided Emissions Partial Use Determination Calculation

Taxpayer:	*GDF Suez NA*
Plant:	*Midlothian Energy Project*
Plant Summary:	*1438MW 6x6 Single Shaft Configuration Natural Gas-Fired Combined Cycle Plant*
Plant Location:	*Ellis County, TX*
Project:	*2013 Revised Tier IV Avoided Emissions Calculations*
Date:	*June 24, 2013*
Rev:	*0*

Assumptions	
Subject Details:	
Average Heat Rate[1]	7,248 Btu/kWh
NOx Emissions[2]	310.40 Tons / year
Plant Capacity[3]	1423 MW
Capacity Factor[4]	55.96%
Technology[5]	Combined Cycle
Total Subject Facility Cost[6]	$ 543,529,799
Total Cost of Tier IV Equipment[7]	$ 211,907,821
Baseline Details:	
Average Heat Rate[8]	10,440 Btu/kWh
Technology[8]	Conventional Steam Boiler/Turbine Configuration

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)
0.0134		7,248		1,000		0.0974

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)
0.0974		1423		55.96%		4		310.4

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)
0.0134		10,440		1,000		0.1399

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)
0.1399		1423		55.96%		4		445.6

STEP 5
Percent NOx Reduction Calculation

(Output Baseline	-	Output Subject)	/	Output Subject	=	% NOx Reduction
445.6		310.4		310.4		43.6%

Conclude % Exempt	44%

[1] Heat rate represents plant actual 3-year average heat rate (HHV) from 2005-2007 and was provided by the client
[2] NOx emissions is the actual 3-year average NOx pollutant for 2005-2007 produced in tons/year and was provide by the client
[3] Plant capacity is the average nominal capacity and was provided by the client
[4] Capacity factor represents a 3-year average annual capacity factor from 2005-2007 and was 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 includes costs for Heat Recovery Steam Generator(s) and Dedicated Ancillary Support Systems. Costs are based upon detailed engineering estimates.
[8] Baseline heat rate was published by the Energy Information Administration ("EIA"), U.S. Energy Information Administration, Form EIA-860, 'Annual Electric Generator Report.', 2012

DUFF&PHELPS

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

March 7, 2014

Re: Resubmission of Use Determination Application No. 12271
Response to February 4, 2014 Notice of Technical Deficiency
Midlothian Energy Limited Partnership
Midlothian Energy Project – Heat Recovery Steam Generator
Tracking Number: 08-RC-MEL 2008

Dear Mr. Hatlett:

Enclosed please find one original and one copy of the response to the Notice of Technical Deficiency ("NOD Response") from Proposition 2 program applicant Midlothian Energy Limited Partnership (the "Applicant"). The NOD Response is being submitted pursuant to 30 TAC § 17.12(2)(A) in response to the Texas Commission on Environmental Quality ("TCEQ") Executive Director's ("ED's") February 4, 2014 NOD for the Applicant's June 24, 2013 Application for Use Determination ("Supplemental Application") for heat recovery steam generators ("HRSGs") at the Midlothian Energy Project, 4601 Brookhollow Drive, Midlothian, Ellis County, Texas. The Applicant incorporates this NOD Response into the Supplemental Application dated June 24, 2013 and requests that the ED issue a Positive Use Determination for the property included in the Supplemental Application, as revised and supplemented by this NOD Response.

The NOD sets forth the ED's interpretation of Texas Tax Code §§ 11.31(k) and (m), then cites two (2) issues relating to the Supplemental Application. For purposes of this NOD Response, the Applicant has repeated the ED's interpretation and the two issues in the NOD, with the Applicant's response following each issue.

Interpretation of Texas Tax Code §§ 11.31(k) and (m)

The Executive Director interprets TTC §11.31(k) and (m) as establishing an expedited review process and exempting an application from providing detailed information regarding the anticipated environmental benefit for property on the k-list. Because Article VIII, Section 1-l, of the state constitution authorizes the exemption only for property used to meet or exceed an environmental rule, the Executive Director does not interpret Texas Tax Code § 11.31

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subsection (m) as exempting §11.31(k)-listed property from the TCEQ's review standards at Title 30 Texas Administrative Code (TAC) Chapter 17 or mandating the issuance of a positive use determination, when the property is not used, constructed, acquired, or installed to meet or exceed an environmental rule.

Response to the ED's Interpretation: The ED's interpretation of Texas Tax Code section 11.31(m) contradicts the plain language of the Texas Tax Code. Moreover, when read in conjunction with Issue 1, it appears that the ED has, for purposes of reviewing the Supplemental Application, converted the standard set forth in law and rule to a different standard, where a particular piece of equipment *"is required to meet a requirement"* of an environmental rule to qualify for tax relief under Proposition 2. There is a difference between (A) the statutory and regulatory requirement of "used, constructed, acquired, or installed to meet or exceed an environmental rule" and (B) the ED's interpretation of "required to meet a requirement" of an environmental rule. In the NOD, the ED is misinterpreting the Texas Tax Code and applying a review standard to the Supplemental Application that is inconsistent with the Tax Code, the Texas Constitution, and the TCEQ's own rules. The Applicant requests that the ED reconsider its erroneous construction and process the Supplemental Application consistent with the statutory and regulatory requirements that govern the Proposition 2 program.

The ED is Ignoring the Plain Language of the Texas Tax Code

HRSGs are included on the list of facilities, devices or methods for the control of pollution established by the Texas Legislature in Texas Tax Code section 11.31(k). The Tax Code directs the ED to undertake an abbreviated and simplified review for those devices:

> *Notwithstanding the other provisions of this section, if a 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…*

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

The plain language of the Tax Code directs the ED to determine if the devices listed in section 11.31(k) are used "wholly or partly" for pollution control. More importantly, the statute gives the ED this directive *"[n]otwithstanding the other provisions of this section."* In other words, the ED is to make that whole-or-part use determination, without regard to whether the Applicant submits any information about the anticipated environmental benefits of the property, and ignoring any part of section 11.31 that could be interpreted as establishing additional criteria for making that determination.

The Applicant's HRSGs help it meet and exceed applicable air quality rules. Nevertheless, by requiring the Applicant to make that demonstration, the ED is ignoring the plain language of section 11.31(m) and reading the phrase "notwithstanding the other provisions of this section" out of the law. The ED does not have this discretion, as the Commission itself noted in adopting changes to the Proposition 2 program rules in 2008:

> As a state agency, the commission is required to follow the mandates of the legislature regarding implementation of the statues it enforces. When implementing a statute, the commission gives effect to its "plain language."

33 Tex. Reg. 932, 936 (Feb. 1, 2008). For HRSGs and other property listed in section 11.31(k), section 11.31(m) eliminates the need for a Proposition 2 applicant to identify, or for the ED to determine, a rule or a regulation for the prevention, monitoring, control or reduction of air pollution that is met or exceeded using the pollution control property in question. The ED's interpretation of Texas Tax Code sections 11.31(k) and (m) set forth in the NOD does not follow the mandate of the legislature and does not give effect to the "plain language" of section 11.31(m).

The ED is Applying a Review Standard to the Application that has No Basis in Law or Rule

Under section 11.31(m), HRSG applicants should not be required to demonstrate that the HRSGs are used "to meet or exceed an environmental rule." The ED nevertheless interprets the governing statutes and laws to require such a demonstration, and the Applicant has made that demonstration for the HRSGs in question. Reading Issue 1 and Issue 2 of the NOD together, however, it is apparent that the ED is applying a review standard that is inconsistent with the Texas Constitution, the Texas Tax Code, the TCEQ's own rules, and the agency's past statements about the scope of this demonstration. The Applicant requests that the ED, in reviewing the Supplemental Application and NOD Response, apply a review standard that is consistent with the governing laws and rules (and its own past statements) regarding what it means "to meet or exceed an environmental rule" for purposes of Proposition 2.

The NOD requests that, for each rule cited in the Supplemental Application, the Applicant "provide an explanation for how the equipment is used to meet a requirement of the rule." The ED appears to be applying a review standard under which tax relief would only be granted under Proposition 2 where rule language explicitly requires the installation and operation of a particular device or piece of equipment. The ED's request is based on an erroneous and unlawfully narrow interpretation of Proposition 2 requirements.

The interpretation offered by the ED is contrary to the Texas Constitution, Sec. 1-1(a), which allows for the exemption of property "used, constructed, acquired, or installed wholly or partly to meet or exceed rules or regulations adopted by an environmental protection agency." Nothing in the Texas Constitution supports the narrow interpretation offered by the ED. The ED's interpretation is similarly inconsistent with the definition of "facility, device, or method for the control of air, water, or land pollution" found in Texas Tax Code section 11.31(b):

> In this section, "facility, device, or method for the control of air, water, or land pollution" means . . . any structure, building, installation, excavation, machinery, equipment, or device . . . that is used, constructed, acquired, or installed wholly or partly *to meet or exceed* rules or regulations adopted by any environmental protection agency. . . .

Tex. Tax Code § 11.31(b) (emphasis added). This same "meet or exceed" language is found in Chapter 17 of TCEQ's Proposition 2 rules. See 30 TAC § 17.4(a) ("To obtain a positive use determination, the pollution control property must be used, constructed, acquired, or installed wholly or partly to meet or exceed laws, rules, or regulations adopted by any environmental protection agency").

In reviewing the Supplemental Application, as reflected in the NOD, the ED has converted the requirement that an application contain "the specific sections of the law(s), rule(s), or regulation(s) being met or exceeded by the use, installation, construction, or acquisition of the pollution control property" (see 30 TAC § 17.10(d)(4)) into a new requirement that is inconsistent with the underlying constitutional, statutory and regulatory standards for what qualifies for tax relief under Proposition 2. The regulatory requirement is to identify the rule *that is being met or exceeded*, wholly or partly, through the use of the property — NOT a requirement to identify the rule *that requires the installation of the property*.

The ED's interpretation is flatly inconsistent with a statement made by the Texas Natural Resource Conservation Commission ("TNRCC") when it promulgated the Proposition 2 regulations. In the preamble to the final rule, the Commission stated:

> The legislation and proposition provide for an exemption from property taxes for pollution control property purchased, acquired, installed,

> constructed, replaced, or reconstructed after January 1, 1994, to meet or exceed federal, state, or local environmental laws, rules, or regulations. *The term "exceed" is interpreted to include voluntary projects which go beyond the minimum requirements of environmental laws, rules, or regulations, provided that the projects are initiated pursuant to or in compliance with an adopted or enacted law, rule, or regulation.*

19 Tex. Reg. 7737, 7793 (Sept. 30, 1994) (emphasis added); see also 19 Tex. Reg. 5602 (July 19, 1994) (same statement in the proposed rule). The ED reiterated this point in the response to public comment, stating that "[t]he staff believes that the term 'exceed' is interpreted to include voluntary projects which go beyond the minimum requirements of environmental law, rules, or regulations." 19 Tex. Reg. at 7793.

Importantly, the Proposition 2 rules adopted in 1994 included requirements for the contents of applications that are substantively identical to those currently in effect – including the requirement to include a regulatory citation in the application. *Compare* 30 TAC 277.10(1)-(8) (adopted Sept. 30, 1994) *with* 30 TAC 17.10(d)(1)-(8). The requirement to identify regulatory citations has been a consistent element of the program; however, the ED is now applying that standard differently and in a way that is inconsistent with the "meet or exceed" language found in the rule and governing statute.

The agency took the same position with regard to voluntary pollution reduction measures when describing the Proposition 2 program in 1999, again recognizing the statutory intent to provide tax relief for pollution control property, even when that property is not required by rule:

> The enacting legislation [Tax Code section 13.11] was to encourage business, industry, and political subdivisions to take *voluntary* steps to reduce pollution through prevention, control, monitoring, or reduction of pollution.

24 Tex. Reg. 4424, 4425 (June 11, 1999) (final rule) (emphasis added); see also 24 Tex. Reg. 920, 921 (Feb. 12, 1999) (same statement in preamble to the proposed rule). The TCEQ's recognition of potential tax relief under Proposition 2 for pollution control property voluntarily installed to go beyond the requirements of an environmental rule lies in stark contrast to the position taken by the ED in the NOD.

Properly applied, the requirement that property be used "to meet or exceed an environmental rule" does not require that an applicant identify or explain how the property is necessary to meet a requirement of an environmental rule. Rather, consistent with the agency's historic construction of the program, this element can be

satisfied by *voluntary* measures that *prevent* pollution and in doing so "*go beyond the minimum requirements*" of an environmental law or rule.

The gas-fired turbines included in the Supplemental Application comply with applicable air quality rules, and the HRSGs allow the Applicant to "go beyond" the minimum requirements through pollution prevention. Pollution prevention is an environmental benefit recognized by TCEQ's Proposition 2 rules. *See* 30 TAC § 17.2(4). Nothing in the Texas Constitution, the Texas Tax Code, or Chapter 17 supports the ED's contention in the NOD that the applicant must explain how the HRSGs are required by a particular rule. The ED's position regarding the applicant's HRSGs flatly contradicts the agency's *Texas Register* statements quoted above, and would deny relief to any pollution control property that could be considered "voluntary" or that is otherwise used to "go beyond" minimum regulatory requirements. The Applicant requests that the ED recognize the difference between the applicable statutory requirement ("used, constructed, acquired, or installed to meet or exceed an environmental rule") and the interpretation set forth in the NOD ("required to meet a requirement" of an environmental rule) and that the ED process the Supplemental Application consistent with the applicable statutory requirements.

Issue 1 – Review of Environmental Rule Citations

In review of the facility's air permits and associated filings, the following comments on rule citations are in part based on representations made in permit documents. It does not appear that sufficient information has been provided to establish a clear connection between the listed equipment and the cited rules. For each cited rule please provide an explanation of how the equipment is used to meet a requirement in the rule.

Regarding the Clean Air Interstate Rule (CAIR), CAIR is a cap and trade program that allocates allowances to all electric generating units. Please explain how a Heat Recovery Steam Generator (HRSG) is required to meet a CAIR requirement.

Best Available Control Technology (BACT) analysis is completed in conjunction with construction and amendment air permit applications. A thorough review of documentation for air permit 38191 was conducted including the initial permit application submitted in April 1998 and subsequent amendments and alterations. Potential controls considered for control of nitrogen oxides (NO_x) were selective catalytic reduction (SCR), non-selective catalytic reduction, selective non-catalytic reduction, dry low-NO_x design, and water injection. Our review did not disclose any representation that the HRSGs provide pollution control. The proposed and approved BACT for control of NO_x was dry low-NO_x combustion turbine technology and SCR.

The HRSG recovers heat from the turbine exhaust for production purposes. The fact that production equipment is instrumental in adjusting exhaust temperature to the optimum range for a particular SCR catalyst does not make the aforementioned production equipment BACT

or even more generally pollution control. As previously noted, BACT determinations are made in conjunction with construction or amendment air permit applications. Professional engineers who filed applications for air permit 38191 did not consider the HRSGs to provide pollution control or contribute to BACT. It is not appropriate to revise a BACT analysis in order to justify a property tax exemption.

Title 40 CFR §52.21(b)(49)(v) states, "Beginning July 1, 2011, in addition to the provisions in paragraph (b)(49)(iv) of this section, the pollutant greenhouse gases (GHGs) shall also be subject to regulation (a) at a new stationary source that will emit or have the potential to emit 100,000 tpy carbon dioxide equivalent (CO_2e); or (b) At an existing source that emits or has the potential to emit 100,000 tpy CO_2e, when such stationary source undertakes a physical change or change in the method of operation that will result in an emissions increase of 75,000 tpy CO_2e or more." The Midlothian Energy Project construction air permit 38191 was issued October 2, 1998 and construction was commenced November 19, 1998. Therefore, criterion (a) above does not apply. There is no documentation that the site has undergone a modification which would trigger criterion (b) above. Similarly, the application has not demonstrated that the site has gone through a major modification which would trigger a control technology review as described in 40 CFR §52.21(j). An applicant cannot claim eligibility for a positive use determination based on exceeding a rule that the applicant is not required to meet.

NSPS Subpart GG applies to stationary gas turbines with construction, modification, or reconstruction dates after October 3, 1977. Subpart GG provides an allowable NO_x emission concentration limit based on the heat rate and bound nitrogen in the gas turbine fuel. Subpart GG does not apply to the HRSG and operation of the HRSG does not appear to affect the facility's ability to meet the GG standard. 30 TAC §117.1310 also provides a NO_x emission limit for gas turbines based on the heat input and fuel. Furthermore, based on *30 TAC §117.1303(a)(1), it appears that the Midlothian Energy Facility gas turbines are exempt from 30 TAC §117.1310. While the HRSG may reduce the amount of natural gas fired in the turbine, it does not affect the quantity of NO_x emissions per MMBtu of natural gas fired in the turbine or the nitrogen bound in the fuel fired in the turbine. If you contend otherwise, please provide emissions data and calculations in support of your position.*

The application cites 40 CFR §50.11 which is the National Ambient Air Quality Standard (NAAQS) for NO_2. States employ state implementation plans and incorporated air permitting programs to ensure continued compliance with the NAAQS in attainment areas and reasonable progress toward attainment in non-attainment areas. NAAQS are ambient air concentrations promulgated by the EPA to protect public health and welfare. The NAAQS is not an emission limit for a particular facility or source of pollution and does not require specific facilities to use any particular pollution controls.

Response to Issue 1: The NOD requests that, for the environmental requirements cited in the Supplemental Application, "the Applicant provides an explanation of how

the equipment is used to meet a requirement in the rule." As explained above, the Applicant should not be required to explain how a HRSG is *required* to meet a particular regulatory requirement. Rather, the Applicant can explain how a HRSG is used "to meet or exceed an environmental rule," including any explanation of how the HRSG allows the Applicant to "go beyond" minimum regulatory requirements through pollution prevention.

In response to the specific issues raised in the NOD:

- **The Clean Air Interstate Rule ("CAIR").** There is no requirement under Proposition 2 that a HRSG be "required to meet a CAIR requirement"; if HRSGs allow the Applicant to meet CAIR, or to "go beyond" the minimum CAIR requirements, they can qualify for tax relief.

  CAIR was implemented by the EPA to reduce the interstate transport of emissions, including oxides of nitrogen ("NO_x") and sulfur dioxide ("SO_2"). The TCEQ's implementing regulations are found at 30 TAC §§ 101.500-.508. 30 TAC § 101.506 requires NO_x reductions under CAIR. CAIR requires NO_x reductions from fossil fuel-fired combustion turbines like those operated by the Applicant, and TCEQ's emissions cap-based CAIR rules require sources subject to CAIR to rely upon increased energy efficiency to meet or exceed the NO_x reductions required to comply with CAIR. The Applicant uses the HRSGs to generate sufficient power to meet demand while maintaining compliance with CAIR requirements.

- **New Source Performance Standards**

  NSPS Subpart GG. The Applicant's gas-fired turbines are subject to the NO_x emissions standards established in NSPS Subpart GG, 40 CFR § 60.332. The Applicant relies on the HRSGs in the Supplemental Application to meet and exceed NSPS Subpart GG requirements, which the Applicant acknowledges is a NO_x concentration standard. If a simple-cycle turbine could comply with NSPS Subpart GG, the combined cycle turbines help the Applicant *exceed* the applicable NSPS Subpart GG requirements. The more-efficient generation afforded by HRSGs allows the Applicant to meet NSPS Subpart GG NO_x limits and produce more energy with the same amount of fuel and emissions.

  The Applicant's combined cycle units are not subject to NSPS Subpart KKKK, due to the dates of construction. However, the HRSGs allow the units to operate at levels that meet the more-stringent NSPS Subpart KKKK standards that would apply if the units had been constructed post-February 18, 2005. In that regard, the HRSGs allow the Applicant to *exceed* applicable environmental rules. The applicant meets the applicable NSPS

standards; in addition, the applicant's use of the HRSGs allows it to exceed those standards and generate power with sufficient efficiency to meet the more-stringent standards that apply to newer units subject to NSPS Subpart KKKK.

- **State and federal Best Available Control Technology ("BACT") requirements.** Proposition 2 does not mandate that the pre-construction air permit application process have explicitly imposed the use of HRSGs as BACT. The Applicant in this case proposed gas-fired turbines that satisfied BACT requirements. The combined cycle turbines in the air permit application do not just meet BACT; the Applicant *exceeds* the efficiency of a simple cycle turbine that meets BACT by generating additional power with no additional emissions. From an efficiency perspective, the combined-cycle turbines exceed the BACT requirement that was necessary to authorize construction. Moreover, as explained below, the HRSGs were necessary to operate the BACT emissions controls required for the gas turbines, whether or not that was fully explained in the air permit application.

  As stated in the Supplemental Application, Air Quality Permit Nos. 38191 and PSD-TX-906 establish hourly, annual and concentration limits for NO_x from the combustion turbines, and recognizes in Special Condition No. 2 that there are six HRSGs installed at the plant. The Applicant uses the HRSGs to meet those mass-based and concentration limits while, through increased energy efficiency, producing more power than would a simple-cycle turbine complying with those same emission limits.

  Additionally, as stated in the Supplemental Application (and acknowledged in the NOD), the HRSGs do contribute to the units meeting BACT emission limits. The units are equipped with selective catalytic reduction (SCR) to meet BACT emission rates, and the HRSGs cool the gas turbine exhaust sufficiently that SCR can subsequently be used to reduce the NO_x emissions in the exhaust to meet BACT. At the time the units were authorized, HRSGs were necessary to cool the exhaust in order to successfully operate the SCR systems. The NOD states that "[t]here was no representation that the HRSG was needed for the selective catalytic reduction system (SCR) to function." In doing so, the NOD appears to elevate a need for permit application representations over the actual function of a piece of equipment. If the HRSGs provide the temperature reduction necessary to operate the SCR (and meet BACT emission limits), they help the Applicant "meet or exceed" that requirement, whether or not the application happened to include such a statement. Given that the HRSGs were an inherent part of the combined cycle project, there was no need to justify the HRSGs or explain their role in the operation of the SCR at the time that the Applicant sought authorization for the project. The critical role of the HRSGs in allowing the Applicant to

operate the BACT SCR system satisfies even the ED's "required to meet a rule" standard, without regard to permit application representations.

The Applicant acknowledges that it has not triggered GHG BACT for the turbines in question. However, the fact that the HRSGs increase the energy efficiency of the turbines at the plant should be viewed as another example of "exceeding" regulatory requirements. The turbines may be subject to GHG BACT review at some point in the future, and EPA also intends to regulate GHGs from existing power generation sources with an NSPS-like mechanism. By increasing the efficiency of the turbines and providing for "early" compliance with any potential future GHG emission standards that rely on energy efficiency, the HRSGs help the Applicant exceed current regulatory requirements.

- **The National Ambient Air Quality Standard ("NAAQS") for nitrogen dioxide ("NO_2") established in 40 CFR § 50.11.** The ED dismisses the reference to the NAAQS because it is not an emission limit and does not require the installation of particular pollution controls. However, that is not the test under the Proposition 2 program. The Applicant was required to demonstrate that the plant would not cause or contribute to an exceedance of the NO_2 NAAQS when it was authorized to construct the combined cycle units that employ the HRSGs that are the subject of the Supplemental Application. The applicant uses the HRSGs to generate additional power while maintaining compliance with the emission limits necessary to demonstrate compliance with the NAAQS. Theoretically, the Applicant could have made that demonstration based on the emissions from simple-cycle turbines. However, the Applicant chose to go beyond those requirements and spend additional capital in order to equip the turbines with HRSGs. While the HRSGs have productive capacity, the HRSGs prevent pollution and reduce fuel consumption by increasing the energy efficiency of the turbines. Even where the installation of HRSGs was not required to show compliance with the NAAQS, the Applicant's decision to install more-efficient HRSG-equipped turbines, at considerable additional expense, is yet another example of how the Applicant meets or exceeds applicable environmental rules using the HRSGs.

* * *

Under section 11.31(m) of the Texas Tax Code, approval of the Proposition 2 application for section 11.31(k)-listed property like HRSGs does not require a demonstration that the property is used to meet or exceed an environmental rule. Nevertheless, at the request of the ED, the Applicant has identified a number of air quality-related rules in the Supplemental Application, and the ED has challenged the sufficiency of the Applicant's demonstration in the NOD.

If one were to assume that HRSGs were not listed pursuant to 11.31(k) and that the Applicant must demonstrate that the HRSGs are used to meet or exceed an environmental rule, the standard of review set forth in the NOD is inconsistent with statutory requirements and the agency's own (non-HRSG) explanation of this demonstration. Applicants are not required to demonstrate that a particular device "is required to meet a requirement of the rule." Rather, applicants can demonstrate that the device is used to meet or exceed regulatory requirements, including voluntary steps to reduce pollution through pollution prevention that go beyond the basic regulatory requirements. The HRSGs allow the Applicant to do just that, as explained above. The Applicant requests that the ED drop this unlawful hurdle to a positive use determination for the Supplemental Application and process the Application consistent with the applicable statutory and regulatory requirements.

Issue 2 – Calculation of an Appropriate Partial Positive Use Determination

[Note that, for purposes of the NOD Response, the Applicant has assigned sub-headings to parts of Issue 2 that correspond with the responses that follow.]

Avoided Emissions Approach

The supplemental application received on June 24, 2013, proposes an Avoided Emissions approach as a method for calculating the appropriate positive partial use determination. The Avoided Emissions approach compares the thermal output of a combined cycle facility and a simple cycle facility. Please correct Step 5 of the calculation. The percentage NO_x emissions reduction attributable to the HRSG is more accurately calculated as (Output Baseline – Output Subject)/Output Baseline.

CAP Calculations

In addition to the Avoided Emissions approach your response included three proposed use determination calculations based on the Cost Analysis Procedure (CAP). One method uses the CAP as proposed by the TCEQ in the February 21, 2013 request for additional information. One defines Capital Cost New (CCN) to include the HRSGs, enhanced steam turbines, and other dedicated ancillary equipment; Capital Cost Old (CCO) to be a spool piece; and the Production Cost variable in the Net Present Value of Marketable Product (NPVMP) calculation to include fuel costs. The third method uses the same definitions for CCN and Production Costs, but defines CCO to be $0.

CAP Calculations / CCN: Steam Turbines and Dedicated Ancillary Equipment

First, all three proposed CAP calculations include steam turbines and other dedicated equipment in CCN. We do not agree that this equipment should be included on the application. During the 2008 technical review the executive director evaluated steam turbines and determined that they are installed for the sole purpose of producing electricity and not as pollution control equipment. As such, enhanced steam turbines are not eligible for a positive

use determination. Please remove the steam turbines from the application. The remaining items listed as dedicated ancillary equipment are production equipment for which the TCEQ has consistently issued negative use determinations since it is not used to prevent, control, monitor, or reduce air, water, or land pollution. Please remove the dedicated ancillary equipment from the application.

CAP Calculations / CCO: CCO = Zero or CCO = Ductwork/Spool Piece

The spool piece would be used to convey exhaust gases from the combustion chamber to a control device or stack. HRSG's are used to convert energy contained in waste heat into steam. The appropriate comparable equipment is a boiler sized to create the same amount of steam as the HRSG. Allowing CCO to be $0 or the value of a spool piece would lead to a determination that the piece of production equipment, the HRSG, was installed for the single purpose of preventing pollution rather than for the purpose of producing steam for sale or use in producing electricity.

CAP Calculations: Production Costs

Production costs are the costs related to operating the equipment for which the positive use determination is being requested. In the request for additional information we stated that Production Costs were to exclude "costs related to operating the gas turbine, associated duct burners, or the steam turbine including fuel costs." The appropriate costs to be included in Production Costs are those costs related to operating the HRSG. We agree that this includes the costs related to the operation of the duct burners including fuel costs. We do not agree that production costs include costs related to operating the gas turbine, the water systems, or the steam turbine.

Response to Issue 2:

Avoided Emissions Approach

Midlothian Energy Limited Partnership is a Tier IV applicant, and is not required to use the cost analysis procedure (CAP) for purposes of calculating the use determination percentage for the HRSGs. The Supplemental Application uses a Tier IV Use Determination calculation that is based on an avoided emissions methodology. As requested by TCEQ, the Supplemental Application also includes use determination calculations based on the CAP.

The Applicant disagrees with the ED's position that the equation in Step 5 requires a correction. In our NOD response dated June 24, 2013, the equation provided in Step 5 of the Avoided Emissions Approach is calculated as:

$$\frac{\text{Emissions Output}_{\text{Baseline Plant}} - \text{Emissions Output}_{\text{Subject Plant}}}{\text{Emissions Output}_{\text{Subject Plant}}}$$

Upon further review, for purposes of this NOD Response and the Supplemental Application, the Applicant has more accurately described the result calculated by the equation in Step 5 as the "NO_x Emissions Avoided by Subject Plant" or:

$$\frac{445.6\ TPY_{Baseline\ Plant} - 310.4\ TPY_{Subject\ Plant}}{310.4\ TPY_{Subject\ Plant}} = \text{43.6\% TPY } NO_x \text{ Emissions Avoided by Subject Plant}$$

The term "NO_x Emissions Reduction" implies a measure from the Baseline Plant's emissions, which is consistent with the TCEQ's requested calculation change. This is not the intended measure to be calculated by the equation in Step 5.

Rather, the formula used in Step 5 relies on an "Avoided Emissions" approach described by the US EPA in its 2004 document, *"Output-Based Regulations: A Handbook for Air Regulators."* In describing this approach, the US EPA states the following:

> *"...The displaced emissions are the amount of emissions that would have otherwise have been generated to provide the same thermal output from a conventional (i.e., Baseline Plant) system."*

US EPA, Office of Atmospheric Protection Programs, *Output-Based Regulations: A Handbook for Air Regulators*, pp. 31-33 (2004).

By dividing the numerator outlined in the equation in Step 5 by the Emissions Output of the Subject Plant (TPY NO_x "Avoided by the Subject Plant"), the Applicant has calculated the percentage of NO_x emissions avoided by use of the Subject Plant. Making the change requested by the ED (using Output Baseline) in the denominator would not more-accurately calculate the NO_x emissions avoidance percentage attributable to the HRSGs that are the subject of the Application.

CAP Calculations / CCN: Steam Turbines and Dedicated Ancillary Equipment

To clarify, only two (2) of the three (3) proposed CAP calculations presented in the Applicant's June 2013 Supplemental Application and NOD response include the cost of the steam turbine and dedicated ancillary equipment costs within CCN. In the case where we ran the CAP Model using all assumptions requested by the Executive Director in the NOD, including CCN = HRSG costs only, the CAP Model generated a result of -3023.08%.

Table 2 on page 12 of the June 2013 NOD response summarizes this requested CAP Model's inputs and the resulting CAP Model outcome. As noted in the Table, CCN is defined as the Cost of the Facility HRSGs only. For reference, we have provided this Table again below with no changes to the version submitted in June 2013.

Table 2: Results of CAP Model Using TCEQ Variable Assumptions

	TCEQ CAP Model Variable Assumption	TCEQ CAP Model Inputs	TCEQ CAP Model Output
1	**Production Capacity Factor (PCF):** Calculated by dividing the capacity of the existing equipment or process by the capacity of the new equipment or process.	PCF = 0; undefined Capacity of Existing Equipment = MW Capacity of New Equipment/Process = MW	
2	**Capital Cost New (CCN):** Cost of HRSGs ONLY	CCN = $	
3	**Capital Cost Old (CCO):** Cost of a boiler(s) required to produce the same amount of steam produced by the HRSGs.	CCO = $ See developed assumption for CCO in attached model.	
4	**Net Present Value of the Marketable Product (NPVPM):** The net present value of the marketable product recovered for the expected lifetime of the property, calculated using the equation in §17.17(c)(2) 1. If steam is used to generate electricity that is sold to external parties or used on site, then the value of the marketable product is considered the value of electricity sold or used on site as a result of the steam generated by the HRSG. For 1 above, the thermal power of steam generated by the facility is converted into electrical power. Using steam tables and basic thermodynamic equations, the thermal power of the steam can be determined.	Substituted actual steam turbine net generation in MegaWatt-Hours for the 2005-2007 period[1]	
5	**Production Cost (PC):** Itemized costs directly attributed to the operation of the HRSG excluding non-cash costs, such as overhead and depreciation and excluding costs related to operating the gas turbine, associated duct burners, or the steam turbine including fuel costs.	HRSG-Only O&M: $ (NOTE: No Fuel Costs Included)	
6	**Interest Rate:**	10%; Use in current CAP Model	
7	**n:** Estimated Useful Life in years of the HRSG	Use 20 year useful life, Assumed	
8	**ALL Assumptions Above**	All	**- 3023.08%**

NOTE: (Capital Cost New = HRSG Capital Costs only in Line 2 above)

The Applicant disagrees with the ED that the steam turbine and other dedicated equipment costs included in our additional two (2) CAP Model scenarios provided in the June 2013 Supplemental Application and NOD response should be removed from the CCN. Without these Balance-of-Plant equipment installations, HRSGs would not and could not produce a byproduct or marketable product. That is, no electricity or steam could be produced, measured and sold through the installation and use of Facility HRSGs. If required to remove the steam turbine and other dedicated equipment costs from the two additional CAP Model scenarios' CCN variable assumptions, then one should also eliminate any Marketable Product Value (revenue) estimated for any byproduct or marketable product within the CAP Model. Such revenue could not be generated by the HRSG equipment alone; this equipment must be installed within a total productive plant configuration.

As discussed in detail later in this response, the Applicant's two (2) additional CAP Model scenarios incorporate Production Cost variable assumptions that include O&M costs associated with the steam turbine and other dedicated equipment. Such equipment is essential to the HRSG's functions – both in the contribution to pollution control and production output - and, therefore, such O&M costs should be included in the Production Cost and Net Present Value of Marketable Product ("NPVMP") calculations within these CAP Model alternatives.

CAP Calculations / CCO: CCO = Zero or CCO = Ductwork/Spool Piece

TCEQ Proposition 2 rules at 30 TAC §17.2(2) provide a definition of the CAP Model variable Capital Cost Old (or "CCO") as follows:

> *"The cost of the equipment that is being or has been replaced by the equipment covered in an application. The value of this variable in the cost analysis procedure is calculated using one of the four hierarchal methods for this variable in the figure in §17.17(b)(1) of this title (relating to Partial Determinations)."*

Conversely, CCO is defined in 30 TAC §17.17(c)(1), Note 3, as:

> *"...the cost of comparable equipment or process without the pollution control...."*

30 TAC §17.17(c)(1), Note 3, goes on further to provide four (4) calculation methods for CCO.

These two definitions of CCO are very different. The former definition would require that the HRSG be a replacement or a partial replacement of existing equipment.

Such an event is represented in the CAP Model scenario provided in the Applicant's June 2013 Supplemental Application and NOD response in which CCO equals the cost of ductwork or a "spool piece". In this case, the HRSG's installation in a combined-cycle retrofit of an existing simple-cycle facility represents the upgrade or retrofit of a simple-cycle combustion turbine ("CT") configuration. Specifically, it would require the replacement of that section of ductwork between the Facility's CT(s) and stack(s). Further, the 30 TAC §17.2(2) definition of CCO, when applied to units originally constructed in a combined cycle configuration, would be zero (0), since no equipment is being replaced.

In the definition of CCO in 30 TAC §17.17(c)(1), Note 3, comparable equipment or process without the pollution control feature would be considered. Sub notes 3.2 and 3.3 to this section consider a replacement scenario that would revert to the 30 TAC §17.2(2) definition of CCO. Sub notes 3.1 and 3.4 require that a HRSG without the pollution control benefits actually exist, which is not the case. The pollution control benefits are inherent in the HRSG design, where waste heat from the combustion turbine is utilized to create efficiencies and, as a consequence, reduce pollution from power generation.

Further, a natural gas boiler could not be considered as a "comparable equipment or process," as suggested in the NOD. Such a natural gas boiler would not be installed in a combined cycle configuration with a combustion turbine and would, therefore, *not* be replaced by a HRSG, per 30 TAC §17.2(2) and 30 TAC §17.17(c)(1), Note 3. Additionally, a natural gas boiler is not comparable equipment because a boiler can self-generate heat to create steam, while the HRSG is incapable of creating its own heat for steam and/or electric generation.

Finally, the Applicant disagrees that allowing CCO to be $0 or the cost of ductwork/spool pieces represents a determination that the HRSG was installed for the sole purpose of preventing pollution. The HRSGs prevent pollution and provide a production benefit to the Applicant, which is a category of property that is eligible for relief under the Proposition 2 program, and for which the CAP – if properly applied – should assign a partial use determination percentage recognizing both functions. Indicating CCO is $0 or cost of ductwork/spool pieces simply means that no equipment is being replaced by the HRSG. Subtracting the NPVMP from the cost of the HRSG (CCN) accounts for the production benefits of the HRSG, and any further deduction would be superfluous.

CAP Calculations: Production Costs

The Applicant disagrees that Production Costs in the CAP should exclude costs related to operating the gas turbine, including fuel, or the steam turbine and dedicated equipment. As described in the CCN discussion above, the steam turbine and dedicated equipment are essential to production of a byproduct or marketable

product from the HRSG. If the use determination calculation is going to use the value of the marketable product generated by the HRSG, it must also take into account the equipment and costs associated with producing that marketable product.

Operating & Maintenance ("O&M") costs associated with the steam turbine and dedicated equipment are necessary for the operation of these systems and their contribution to the manufacture of steam and/or electricity by the HRSG, and should be included in the Production Cost and NPVMP calculations within the CAP Model scenarios.

O&M costs and fuel costs related to the gas turbine and/or duct burners are also essential to producing a byproduct or marketable product from the HRSG. While the HRSG uses waste heat, such a heat source is not "free" and must be generated through combustion of natural gas within the combustion turbine. The Applicant's combined cycle unit design does not include HRSG duct burners, and so no duct burner fuel costs have been included in the Supplemental Application. While the TCEQ's allowance of the duct burner O&M and fuel costs to be included in Production Costs is correct for plant designs featuring such duct burners, such allowance accounts only for a small fraction of the heat needed to generate a byproduct and/or marketable product.

The CAP model, properly applied, should include the costs related to operating the gas turbine (including fuel), the steam turbine, and associated dedicated equipment in the production costs, for the reasons set forth above and in the Supplemental Application.

* * *

The Applicant incorporates this NOD Response into the June 24, 2013 Supplemental Application and requests that the ED issue a Positive Use Determination for the property included in the Supplemental Application, as revised and supplemented by this NOD Response.

Please send one copy of the completed property tax exemption Use Determination to the following address:

Duff & Phelps, LLC
c/o Kathryn Tronsberg Macciocca
2000 Market Street, Suite 2700
Philadelphia, PA 19103

If you have any questions regarding the Supplemental Application or the information supplied in the NOD Response, please contact Kathryn Tronsberg Macciocca of Duff & Phelps, LLC at (215) 430-6059 or e-mail at kathryn.tronsberg@duffandphelps.com

Sincerely,

Kathryn Tronsberg Macciocca
Director
Property Tax