TCEQ

829801 RECD

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)

Electric 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:	**Tenaska Gateway Partners, Ltd.**
B. Mailing Address (Street or P.O. Box):	**1044 N. 115 Street, Suite 400**
C. City, State, and Zip	**Omaha, NE 68154-4446**

4. PHYSICAL LOCATION OF PROPERTY REQUESTING A TAX EXEMPTION

A. Name of Facility or Unit:	**Tenaska Gateway Generating Station**
B. Type of Mfg. Process or Service:	**Natural Gas- Fueled, Combined-Cycle Generation**
C. Street Address:	**SH 315**
D. City, State, and Zip:	**Mt. Enterprise, Texas 75681-0697**
E. Tracking Number (*Optional*):	**GATEWAY-2008-1**
F. Company or Registration Number *(Optional)*:	

5. APPRAISAL DISTRICT WITH TAXING AUTHORITY OVER PROPERTY

A. Name of Appraisal District:	**Rusk County Appraisal District**
B. Appraisal District Account Number:	

6. CONTACT NAME

A. Company/Organization Name	**Tenaska, Inc.**
B. Name of Individual to Contact:	**David D. Johnson**
C. Mailing Address (Street or P.O. Box):	**1044 N. 115 Street, Suite 400**
D. City, State, and Zip:	**Omaha, NE 68154-4446**
E. Telephone number and fax number:	**Tel:(402)691-9533 Fax:(402) 691-9552**
F. E-Mail address (if available):	

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	Title 40 of the Code of Federal Regulations, Chapter 1, Subchapter C, Part 60, Subpart D, Section 60.44a ("40 CFR 60.44Da") Title 30 of the Texas Administrative Code, Part 1, Chapter 117,Subchapter E, Division 1, Rule 117.3010 ("30 TAC 117.3010")
Water	
Waste	

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.

Heat Recovery Steam Generators and Enhanced Steam Turbine
Tier IV

Statutes and Regulations

40 CFR 60.44Da establishes standards of performance for NOx for electric utility steam generating units for which construction commenced after September 18, 1978. 30 TAC 117.3010 establishes emissions specifications for NOx for utility electric generation in East and Central Texas, which includes Rusk County.

Property/Equipment Description

The Tenaska Gateway Generating Station (the Plant) is an 845 MW (nominal net capacity) natural gas-fueled, combined-cycle electric generating station. The Plant is a combined-cycle facility including three 170 Megawatt (MW) combustion turbine generators coupled with three thermally efficient heat recovery steam generators (HRSGs) and a single 335 MW steam turbine.

A combined cycle facility consists of one or more gas and steam turbines. The air expansion that occurs during the combustion process turns the gas turbine that drives the generator to produce electricity. The combustion in the gas turbine also produces a hot exhaust gas. In a combined cycle unit the heat produced during the combustion of natural gas is directed to the HRSG to generate steam used to turn a steam turbine. Therefore, both the gas and steam turbines generate electricity, achieving efficiencies of up to 55%. [1]

[1] Bay Area 2005 Ozone Strategy
[2] EPA-452/F-03-032

A simple-cycle plant contains gas turbines without HRSGs or steam turbines. The air expansion that occurs during the combustion process turns the turbine that drives the generator to produce electricity and produces a hot exhaust gas.

One of the benefits of a combined cycle facility is lower NOx emissions per Megawatt-hour (MWh) generated. Assuming the same MWh production, a NOx pollution control device would have to be installed at simple cycle facility to achieve the lower NOx emissions achieved by a combined cycle process. NOx pollution control devices include selective catalytic reduction systems (SCR). A SCR unit reduces NOx emissions by injecting ammonia into the exhaust stream to react with the nitrous oxides to form nitrogen and water under the presence of a catalyst. The chemical reaction proceeds as follows:

$6\ NO_2 + 8\ NH_3 \rightarrow 7\ N_2 + 12\ H_2O$

The SCR unit consists of a catalytic honeycomb structure installed downstream of the combustion turbine prior the main exhaust stack and an ammonia injection skid. For the large 7FA GE turbines, the SCR installed capital costs range from $2,000,000 to $4,500,000 per gas turbine. [1, 2] Based on the literature review, catalyst cost escalation since the publication of the literature, and the physical location of the plant (Rusk County), $4,000,000 per turbine is the estimated cost to install a SCR unit at the Tenaska Gateway Plant.

In the combined-cycle configuration specific to the Plant, the HRSGs and the enhanced steam turbine provide an additional 335 MW capacity without the installation of SCR units to meet the NOx emissions requirements on a lbs-NOx per MW-hour generation basis. The total installed costs of the HRSGs and enhanced steam turbine is $48,038,345.

Comparing the NOx emissions on a MWh basis shows that a simple cycle configuration would yield approximately 66% more NOx. The calculations are demonstrated by the following:

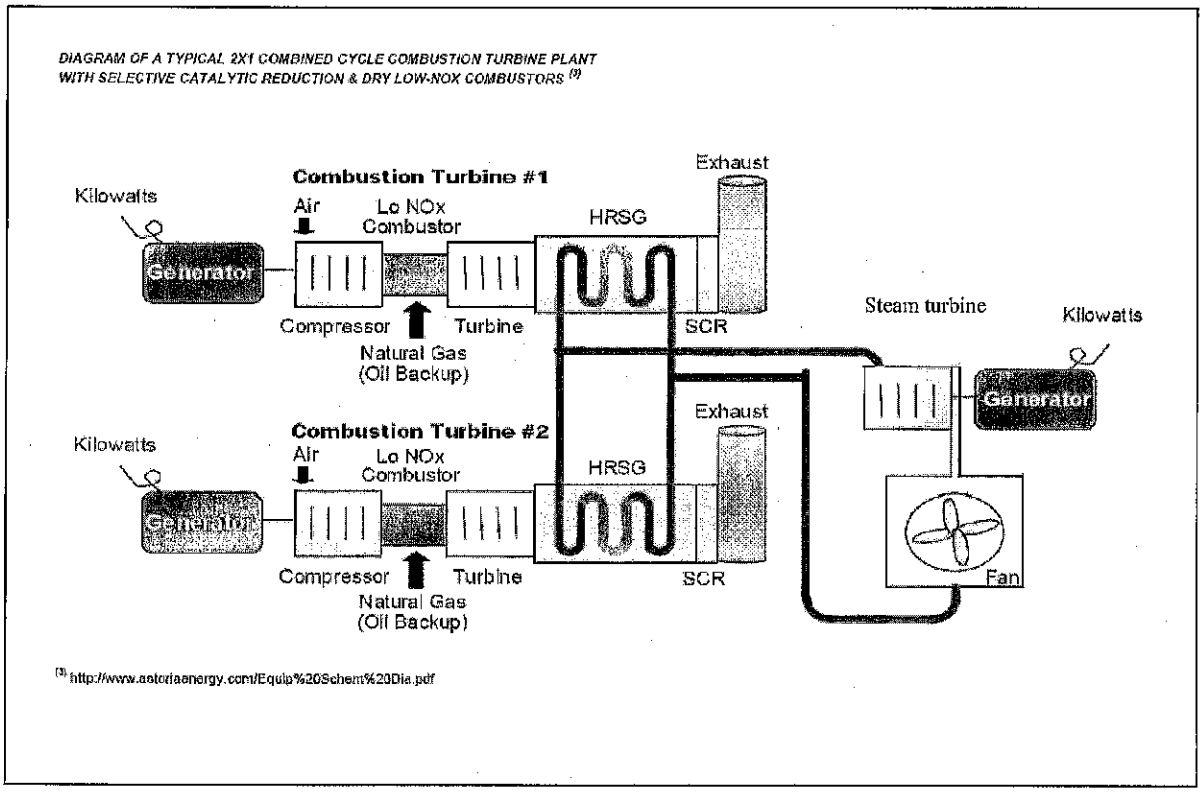
Configuration	MW	Capacity Factor	Calculated MW	Increased NOx Emissions
Combined Cycle	845	1.00	=845	
Simple Cycle	510	1.66	=845	**66%**

To achieve the reduced NOx emissions demonstrated by the combined cycle configuration, the simple cycle plant must install a SCR. Recognizing that the heat recovery steam generators and subsequent enhanced steam turbines have an economic benefit associated with them, the basis of this application is predicated on a substitution basis. If Tenaska did not install the additional heat recovery equipment, they would have had to install NOx pollution control devices in addition to the existing low NOx burner currently installed. The hypothetical installation of SCR units on each gas turbine would achieve the corresponding NOx emissions reductions. Therefore, this application seeks only the equivalent SCR cost for the exemption value of the HRSG and enhanced steam turbines.

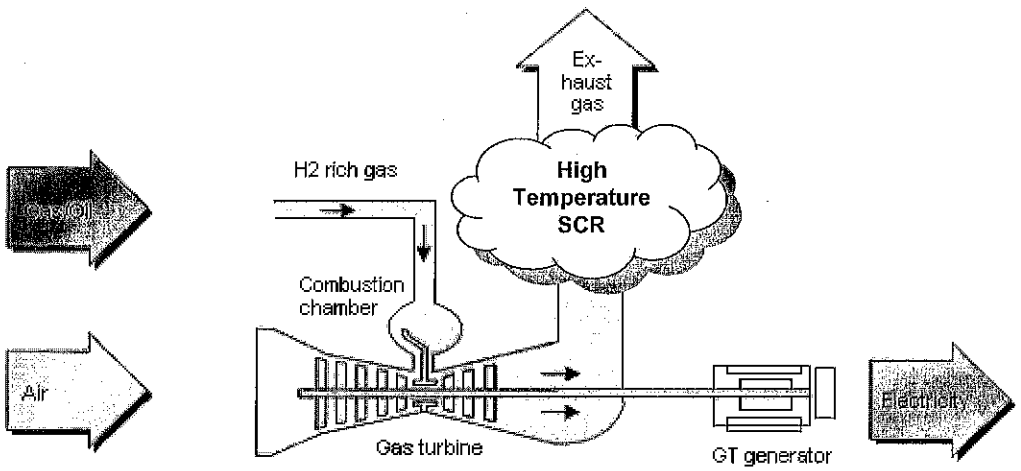
Tenaska Gateway Tier IV Methodology

	Generation / Emission Technology	
	HRSG / Steam Turbine	SCR Technology
HRSG Cost	$34,640,309	-
Enhanced Steam Turbine	13,398,037	-
SCR Equivalent Cost	-	12,000,000
Total Capital Costs	$48,038,346	$12,000,000
Exemption %	25%	100%

The following diagram depicts a normal combined cycle configuration with low NOx combustion system and an SCR controlling the NOx emissions. This diagram is shown to show the normal configuration of a SCR installation.



The following diagram depicts a simple cycle power plant with a hypothetical high temperature SCR installed at the heat exhaust point of the simple cycle gas turbines.



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.

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 Generators / Enhanced Steam Turbine	No	B,3	B-8 / B-9	$48,038,346	25%
Totals				$48,038,346	25%

11. EMISSION REDUCTION INCENTIVE GRANT

$12 009 587

(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: Jerry K C Date: 3/7/08

Title: Chief Financial Officer of

Company: Temaska VII, Inc. General Partner of Temaska VII Partners, L.P. Managing General Partner

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)

Tax Relief for Pollution Control Property

Application Form – Effective January 2008

TCEQ-00611 (Revised January 2008)

DISCLAIMER

This document is intended to assist persons in applying for a use determination, pursuant to Title 30 Texas Administrative Code Chapter 17 (30 TAC 17). Conformance with these guidelines is expected to result in applications that meet the regulatory standards required by the Texas Commission on Environmental Quality (TCEQ). However, the TCEQ will not in all cases limit its approval of applications to those that correspond with the guidelines in this document. These guidelines are not regulation and should not be used as such. Personnel should exercise discretion in using this guidelines document. It should be used along with other relevant information when developing an application.

Bryan W. Shaw, Ph.D., *Chairman*
Carlos Rubinstein, *Commissioner*
Toby Baker, *Commissioner*
Zak Covar, *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

July 10, 2012

Mr. David D. Johnson
Director of Tax and Finance
Tenaska, Inc.
1044 North 115th Street, Suite 400
Omaha, NE 68154-4446

Re: Notice of Negative Use Determination
Tenaska Gateway Partners, Ltd.
Tenaska Gateway Generating Station
State Highway 315
Mt. Enterprise (Rusk County)
Application Number: 07-11914; Tracking Number: GATEWAY-2008-1

Dear Mr. Johnson:

This letter responds to Tenaska Gateway Partners, Ltd's Application for Use Determination for the Tenaska Gateway Generating Station, remanded to the executive director on June 29, 2012, pursuant to the Texas Commission on Environmental Quality's (TCEQ) Tax Relief for Pollution Control Property Program

The TCEQ has completed the review for application #07-11914 and has issued a Negative Use Determination for the property in accordance with Title 30 Texas Administrative Code (TAC) §17.4 and §17.6. Heat recovery steam generators are used solely for production and, therefore, are not eligible for a positive use determination.

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,

cgoodi

Chance Goodin, Team Leader
Stationary Source Programs
Air Quality Division

CG/RH

cc: Chief Appraiser, Rusk County Appraisal District, PO Box 7, Henderson, Texas 75652-0007