



# **Tax Relief for Pollution Control Property**

**Application Form – Effective January 2008**

12826

**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.

**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?

- |   |  |
|---|--|
| <input type="checkbox"/> Corporation                    | <input type="checkbox"/> Sole Proprietor |
| <input type="checkbox"/> Partnership                    | <input type="checkbox"/> Utility         |
| <input checked="" type="checkbox"/> Limited Partnership | <input type="checkbox"/> Other:          |

B. Size of company: Number of Employees

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> 1 to 99 | <input type="checkbox"/> 1,000 to 1,999 |
| <input type="checkbox"/> 100 to 499         | <input type="checkbox"/> 2,000 to 4,999 |
| <input type="checkbox"/> 500 to 999         | <input type="checkbox"/> 5,000 or more  |

C. Business Description: (Provide a brief description of the type of business or activity at the facility)

The Plant is a utility cogeneration facility producing electricity and steam.

**2. TYPE OF APPLICATION**

- |  |   |
|--|---|
| <input type="checkbox"/> Tier I \$150 Fee    | <input type="checkbox"/> Tier III \$2,500 Fee         |
| <input type="checkbox"/> Tier II \$1,000 Fee | <input checked="" type="checkbox"/> 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: GIM Channelview Cogeneration LLC  
B. Mailing Address (Street or P.O. Box): Tower 49, 12 East 49<sup>th</sup> Street, 38<sup>th</sup> Floor  
C. City, State, and Zip: New York, NY 10017

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

A. Name of Facility or Unit: Channelview Cogeneration Facility  
B. Type of Mfg. Process or Service: Power Generation  
C. Street Address: 8580 Sheldon Road  
D. City, State, and Zip: Houston, TX 77049  
E. Tracking Number (Optional): CCF-2008-1 (Revised)  
F. Company or Registration Number (Optional): \_\_\_\_\_

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

A. Name of Appraisal District: Harris Central Appraisal District  
B. Appraisal District Account Number: 0502120000015

6. CONTACT NAME

A. Company/Organization Name GIM Channelview Cogeneration LLC  
 B. Name of Individual to Contact: Salim G. Samaha  
 C. Mailing Address (Street or P.O. Box): Tower 49, 12 East 49<sup>th</sup> St, 38<sup>th</sup> Floor  
 D. City, State, and Zip: New York, NY 10017  
 E. Telephone number and fax number: (212) 315-8199 (Tel) / (646) 282-1599 (Fax)  
 F. E-Mail address (if available): Salim.Samaha@global-infra.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	Title 40 of the Code of Federal Regulations, Chapter 1, Subchapter C, Part 60, Subpart GG, Section 332 ("40 CFR 60.332") Title 30 of the Texas Administrative Code, Part 1, Chapter 117, Subchapter C, Division 3, Rule 117.1205 ("30 TAC 117.1205")
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.

See attached property descriptions.

Land: If a use determination is being requested for land, provide a legal description and an accurate drawing of the property in question.

N/A

## **AIR POLLUTION CONTROL PROPERTY**

### **Channelview Units 1-4 – Heat Recovery Steam Generators (“HRSGs”)**

*ECL Item Number B-8*

#### **Statutes and Regulations**

40 CFR 60.332 establishes standards of performance for nitrogen oxides (NO<sub>x</sub>) emissions for stationary gas turbine generators. 30 TAC 117.1205 establishes the allowable amount of NO<sub>x</sub> emissions in the Houston-Galveston-Brazoria ozone non-attainment areas for utility electric generation sources.

#### **Property/Equipment Description**

The heat recovery steam generators (“HRSGs”) on Units 1-4 use waste heat from the Westinghouse 501DF2 gas turbines to produce steam. Without an HRSG to ensure combined-cycle operation, the heat energy would be lost. The steam produced by the HRSGs is used to power a steam turbine, as well as meeting the cogeneration steam needs. Without the energy recovered by the HRSGs and steam turbine, the Channelview Cogeneration Facility (“Channelview” or the “Facility”) would need to add more gas turbines or an equivalent type of generation to supply a similar amount of power. The additional generation would increase air emissions of NO<sub>x</sub>.

The partial percentage calculations and further descriptions are provided in Section 9 of this document.

GIM Channelview Cogeneration LLC – The Units 1-4 HRSGs were acquired in July 2008.

### **Channelview Unit 5 – Enhanced Steam Turbine**

*ECL Item Number B-10*

#### **Statutes and Regulations**

40 CFR 60.332 establishes standards of performance for NO<sub>x</sub> for stationary gas turbine generators. 30 TAC 117.1205 establishes the allowable amount of NO<sub>x</sub> emissions in the Houston-Galveston-Brazoria ozone non-attainment areas for utility electric generation sources.

#### **Property/Equipment Description**

The Unit 5 enhanced steam turbine uses the steam generated by the recovered heat in the HRSGs on Units 1-4 to produce electricity. The steam turbine allows the waste heat from the gas turbines to be converted to electricity. Without the power recovered by the HRSGs and steam turbine, Channelview would need to add another gas turbine or equivalent type of generation to supply a similar amount of power. The additional generation would increase air emissions of NO<sub>x</sub>.

The partial percentage calculations and descriptions are provided in Section 9 of this document.

GIM Channelview Cogeneration LLC – The Unit 5 Heat Enhanced Steam Turbine was acquired in July 2008.

**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.

Channelview is an 830 Megawatt (“MW<sub>e</sub>”) (nominal net capacity) natural gas-fired, facility that generates electricity and steam. The Facility utilizes four 170 (MW<sub>e</sub>) combustion turbine generators coupled with four thermally efficient heat recovery steam generators (HRSGs). The HRSGs supply steam to a single 150 MW<sub>e</sub> steam turbine, as well as cogeneration steam needs. The steam turbine extracts steam at a high and low pressure. The high-pressure (HP) steam is 1500 psig, at 900F, with a flow rate of 1,250,000 lb<sub>m</sub>/hr; and the low-pressure (LP) steam is 600 psig, at 700F, with a flow rate of 500,000 lb<sub>m</sub>/hr.

Without the HRSGs and the steam turbine, the Facility would have a short-fall in the production of steam and electricity. The Facility would need to replace the steam from the HRSGs with an equivalent output, necessitating additional fossil fuel burning sources. The steam turbine and HRSGs would likely be replaced with additional pollutant emitting sources to meet the equivalent energy output. The additional fossil fuel fired sources needed to replace the energy output would lead to more air pollutant emissions when compared to the HRSGs and steam turbine. The following paragraphs describe why the HRSGs and steam turbine should be considered pollution control for property tax purposes, and what partial percentage should be used for pollution control property tax exemptions.

**Steam Generation**

The export steam generated by the Facility has the ability to perform work that could result in electrical power. Using steam tables and basic thermodynamic equations the thermal energy of the steam can be determined. The formula for determining the thermal power required to produce steam is as follows (all calculations with values are provided on page 8):

$$\dot{W}_{\text{Thermal}} = (h_1 - h_0) \times \dot{m} \tag{1}$$

Where  $\dot{W}_{\text{Thermal}}$  is the thermal power required to change saturated water to steam,  $h_0$  is the initial enthalpy of the saturated liquid ( $h_f$ ),  $h_1$  is the enthalpy of steam at a given temperature and pressure (for Channelview the temperature and pressure values are supplied), and  $\dot{m}$  is the mass-flow rate of the steam. Listed below are the thermodynamic properties (these values have been taken from the steam tables of the Engineer-In-Training manual).

Thermodynamic Properties		
Steam Properties	Enthalpy( $h_x$ ) kJ/kg	Mass Flow( $\dot{m}$ ) kg/s
600 psi – 700F	3141.5	63.0
1500 psi – 900F	3322.6	157.5
Saturated Liquid @ 80F	111.8	-

**Table 1 – Thermodynamic Properties for Steam and Saturated Liquid**

Using Equation 1, for steam at 600 psi and 700F,  $\dot{W}_{\text{Thermal}}$  is 191MW<sub>t</sub>. For steam at 1500 psi and 900F,  $\dot{W}_{\text{Thermal}}$  is 506MW<sub>t</sub>. The combined thermal energy of the steam is 697MW<sub>t</sub>. To compare the thermal and electrical energies captured by the HRSGs, the thermal energy must be converted to electrical energy. Typical steam turbine thermal efficiencies for non-nuclear application range from 30% to 42%, not including ultra-critical units. For this example, the average thermal efficiency,  $\eta_{\text{Thermal}}$ , will be 36%. The equation for electrical efficiency is as follows:

$$\dot{W}_{\text{Electrical}} = \dot{W}_{\text{Thermal}} \times \eta_{\text{Thermal}} \tag{2}$$

Using Equation 2,  $W_{\text{Electrical}}$  is 250MW<sub>e</sub>. Without the HRSGs and the steam turbine, the equivalent of 250MW<sub>e</sub> of electrical power is lost. In order to replace the equivalent electrical power generation of 250MW<sub>e</sub>, the facility would need to recover the production with new pollution emitting gas turbines.

### **Pollution Reduction Percentage**

On December 3, 2008, the Executive Director (“the Director”) of the TCEQ issued a response to the Tier IV HRSG Appeals. In the appeal the Director states that a percentage of 61% was created by the workgroup tasked with finding a reasonable use determination percentage that could be applied uniformly to combined cycle facilities. The percentage stated in Section IV of the response is based on the fact that an HRSG increases the efficiency of facilities by approximately 39% so the production value for a combined-cycle HRSG is 61%. Therefore the partial percentage for HRSGs is equal to 61%.

Furthermore, in the same response document dated December 3, 2008, the Director is also recommending 0% exemption for the enhanced steam turbine.

### Partial Pollution Control Percentage Calculations

$$\text{Eq. 1(a)} \quad 191 \text{ MW}_t = \left( 3,141.5 \frac{\text{kJ}}{\text{kg}} - 111.8 \frac{\text{kJ}}{\text{kg}} \right) \times 63 \frac{\text{kg}}{\text{s}} \times \frac{1 \text{ MJ}}{1,000 \text{ kJ}}$$

$$\text{Eq. 1(b)} \quad 506 \text{ MW}_t = \left( 3,322.6 \frac{\text{kJ}}{\text{kg}} - 111.8 \frac{\text{kJ}}{\text{kg}} \right) \times 157.5 \frac{\text{kg}}{\text{s}} \times \frac{1 \text{ MJ}}{1,000 \text{ kJ}}$$

$$\text{Eq. 2} \quad 697 \text{ MW}_t = 191 \text{ MW}_t + 506 \text{ MW}_t$$

**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	Property Taxable on 1/10/94	DFC Box	ECL Number	Estimated Cost (Historical Cost)	Partial Percentage
<i>Land</i>					
<i>Property</i>					
Heat Recovery Steam Generators – Units 1-4	No	7	B-8	\$ 72,970,741	61%
Enhanced Steam Turbine - Unit 5	No	7	B-10	20,766,535	0%
<b>Total</b>				<b>\$ 93,737,276</b>	
<b>Total Pollution Control Exemption</b>				<b>\$ 44,512,152</b>	

**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

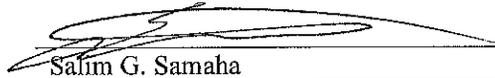
**12. APPLICATION DEFICIENCIES**

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:

  
Salim G. Samaha

Date: 01/29/09

Title:

VICE PRESIDENT

Company:

GIM Channelview Cogeneration 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)

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. Salim Samahas  
Vice President  
GIM Channelview Cogeneration LLC  
Tower 49 38th Floor  
12 East 49th  
New York, New York 10017

Re: Notice of Negative Use Determination  
GIM Channelview Cogeneration LLC  
Channelview Cogeneration Facility  
8580 Sheldon Road  
Houston (Harris County)  
Application Number: 12826; Tracking Number: CCF-2008-1

Dear Mr. Samaha:

This letter responds to GIM Channelview Cogeneration LLC's Application for Use Determination, received December 30, 2008, pursuant to the Texas Commission on Environmental Quality's (TCEQ) Tax Relief for Pollution Control Property Program for the Channelview Cogeneration Facility.

The TCEQ has completed the review for application #12826 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 and steam turbines are used solely for production; 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](mailto: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,

A handwritten signature in cursive script, appearing to read "cgoodin".

Chance Goodin, Team Leader  
Stationary Source Programs  
Air Quality Division

CG/RH

Mr. Salim Samahas  
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cc: Chief Appraiser, Harris County Appraisal District, P. O. Box 922004, Houston, Texas 77292