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RIPUC Use Only	GIS Certification #:
Date Application Received:///	
Date Review Completed:///	
Date Commission Action://	
Date Commission Approved: / /	

#### RENEWABLE ENERGY RESOURCES ELIGIBILITY FORM

The Standard Application Form

Required of all Applicants for Certification of Eligibility of Renewable Energy Resource
(Version 7 – June 11, 2010)

## STATE OF RHODE ISLAND PUBLIC UTILITIES COMMISSION Pursuant to the Renewable Energy Act Section 39-26-1 et. seq. of the General Laws of Rhode Island

#### NOTICE:

When completing this Renewable Energy Resources Eligibility Form and any applicable Appendices, please refer to the State of Rhode Island and Providence Plantations Public Utilities Commission Rules and Regulations Governing the Implementation of a Renewable Energy Standard (RES Regulations, Effective Date: January 1, 2006), and the associated RES Certification Filing Methodology Guide. All applicable regulations, procedures and guidelines are available on the Commission's web site: <a href="www.ripuc.org/utilityinfo/res.html">www.ripuc.org/utilityinfo/res.html</a>. Also, all filings must be in conformance with the Commission's Rules of Practice and Procedure, in particular, Rule 1.5, or its successor regulation, entitled "Formal Requirements as to Filings."

- Please complete the Renewable Energy Resources Eligibility Form and Appendices using a typewriter or black ink.
- Please submit one original and three copies of the completed Application Form, applicable Appendices and all supporting documentation to the Commission at the following address:

Rhode Island Public Utilities Commission 89 Jefferson Blvd Warwick, RI 02888 Attn: Renewable Energy Resources Eligibility

In addition to the paper copies, electronic/email submittals are required under Commission regulations. Such electronic submittals should be sent to: Luly E. Massaro, Commission Clerk at lmassaro@puc.state.ri.us

- In addition to filing with the Commission, Applicants are required to send, electronically or electronically and in paper format, a copy of the completed Application including all attachments and supporting documentation, to the Division of Public Utilities and Carriers and to all interested parties. A list of interested parties can be obtained from the Commission's website at <a href="https://www.ripuc.org/utilityinfo/res.html">www.ripuc.org/utilityinfo/res.html</a>.
- Keep a copy of the completed Application for your records.
- The Commission will notify the Authorized Representative if the Application is incomplete.
- Pursuant to Section 6.0 of the RES Regulations, the Commission shall provide a thirty (30) day period for public comment following posting of any administratively complete Application.
- Please note that all information submitted on or attached to the Application is considered to be a public record unless the Commission agrees to deem some portion of the application confidential after consideration under section 1.2(g) of the Commission's Rules of Practice and Procedure.
- In accordance with Section 6.2 of the RES Regulations, the Commission will provide prospective reviews for Applicants seeking a preliminary determination as to whether a facility would be eligible prior to the formal certification process described in Section 6.1 of the RES Regulations. Please note that space is provided on the Form for applicant to designate the type of review being requested.
- Questions related to this Renewable Energy Resources Eligibility Form should be submitted in writing, preferably via email and directed to: Luly E. Massaro, Commission Clerk at <a href="massaro@puc.state.ri.us"><u>lmassaro@puc.state.ri.us</u></a>

#### **SECTION I: Identification Information**

	Name of Generation Unit (sufficient for full and unique identification): Rhode Island FG Genco
1.2	Type of Certification being requested (check one):
	☐ Standard Certification X Prospective Certification (Declaratory Judgment)
1.3	This Application includes: (Check all that apply) <sup>1</sup>
	☐ APPENDIX A: Authorized Representative Certification for Individual Owner or Operator
	X APPENDIX B: Authorized Representative Certification for Non-Corporate Entities Other Than Individuals
	<ul> <li>□ APPENDIX C: Existing Renewable Energy Resources</li> <li>□ APPENDIX D: Special Provisions for Aggregators of Customer-sited or Off-grid Generation Facilities</li> </ul>
	☐ APPENDIX E: Special Provisions for a Generation Unit Located in a Control Area Adjacent to NEPOOL
	X APPENDIX F: Fuel Source Plan for Eligible Biomass Fuels
Pri	imary Contact Person name and title: Stephen Galowitz, Managing Director
1.4	Primary Contact Person address and contact information: Address: 14 Philips Parkway, Montvale, New Jersey 07645 Phone: 201.447.9000 Fax: 201.447.0474 Email: sgalowitz@ridgewoodpower.com
	Backup Contact Person name and title: Randall D. Holmes
1.5	Backup Contact Person address and contact information: Address:
	Same as above
	Phone: Fax: Email:
1.6	Name and Title of Authorized Representative ( <i>i.e.</i> , the individual responsible for certifying the accuracy of all information contained in this form and associated appendices, and whose signature will appear on the application): Stephen Galowitz, Managing Director

Please note that all Applicants are required to complete the Renewable Energy Resources Eligibility Standard Application Form and all of the Appendices that apply to the Generation Unit or Owner or Operator that is the subject of this Form. Please omit Appendices that do not apply.

	Appendix A or B (as appropriate) completed an	d attached?   Yes	□ No	X N/A
1.7	Authorized Representative address and contact i	nformation:		
	same as above_			
	Phone: Email:			
О	Owner name and title: Rhode Island LFG Genco L	LC_		
1.8 O	Owner address and contact information:  Address:			
	same as above			
	Phone:Email:	Fax:		
1.12	Owner business organization type (check one):  Individual Partnership Corporation Other:Limited Liability Company			
1.13	Operator name and title: Rhode Island LFG Ge	nco LLC		
1.14	Operator address and contact information: Address:			
	same as above			
	Phone: Email:	Fax:		
1.15	Operator business organization type (check one Individual Partnership Corporation Other:Limited Liability Company			

#### SECTION II: Generation Unit Information, Fuels, Energy Resources and Technologies ISO-NE Generation Unit Asset Identification Number or NEPOOL GIS Identification 2.1 Number (either or both as applicable): TBD - Precertification 2.2 Generation Unit Nameplate Capacity: 33.4 MW Maximum Demonstrated Capacity: MW – TBD, Precertification application 2.3 Please indicate which of the following Eligible Renewable Energy Resources are used by 2.4 the Generation Unit: (Check ALL that apply) – per RES Regulations Section 5.0 ☐ Direct solar radiation ☐ The wind ☐ Movement of or the latent heat of the ocean ☐ The heat of the earth ☐ Small hydro facilities X Biomass facilities using Eligible Biomass Fuels and maintaining compliance with all aspects of current air permits; Eligible Biomass Fuels may be co-fired with fossil fuels, provided that only the renewable energy fraction of production from multi-fuel facilities shall be considered eligible. ☐ Biomass facilities using unlisted biomass fuel ☐ Biomass facilities, multi-fueled or using fossil fuel co-firing ☐ Fuel cells using a renewable resource referenced in this section 2.5 If the box checked in Section 2.4 above is "Small hydro facilities", please certify that the facility's aggregate capacity does not exceed 30 MW. - per RES Regulations Section 3.32 $\Box$ $\leftarrow$ check this box to certify that the above statement is true ✓ N/A or other (please explain) If the box checked in Section 2.4 above is "Small hydro facilities", please certify that the 2.6 facility does not involve any new impoundment or diversion of water with an average salinity of twenty (20) parts per thousand or less. – per RES Regulations Section 3.32 $\Box$ $\leftarrow$ check this box to certify that the above statement is true ▼ N/A or other (please explain) 2.7 If you checked one of the Biomass facilities boxes in Section 2.4 above, please respond to the following: Please specify the fuel or fuels used or to be used in the Unit: Α. Landfill Methane Gas

Please complete and attach Appendix F, Eligible Biomass Fuel Source Plan.

Appendix F completed and attached?

В.

X Yes No N/A

2.8	Has the Generation Unit been certified as a Renewable Energy Resource for eligibility in another state's renewable portfolio standard?						
X	Yes□ No	If yes, please atta	ch a copy of that sta	ate's certifyin	g order		
	Copy of S	State's certifying ord	der attached?	×	Yes	☐ No	□ N/A
SE	CTION III:	Commercial Opera	ation Date				
Ple	ease provide do	ocumentation to sup	port all claims and	responses to t	he follo	owing que	estions:
3.1		eration Unit first ent  — Precertification A		peration:	_/	/	_ at the
	verification after December 1	nmercial operation of on, such as the utilit ember 31, 1997. Thi ewable Energy Reso	y log or metering da is is needed in order	ata, showing t	that the	meter firs	st spun
	Documen	tation attached?			☐ Yes	s 🗖 No	□ N/A
3.2	Is there an	n Existing Renewab	le Energy Resource	located at the	e site of	f Generati	on Unit?
	☐ Yes X No	0					
3.3		e entered in response Yes" in response to	*				-
	Appendix	C completed and a	ttached?		☐ Yes	□ No	□ N/A
3.4		r any part of the Ger electricity at any oth		on or before I	ecemb(	er 31, 199	97 to
	☐ Yes <b>屆</b> X No						
3.5	equipment	cked "Yes" to questi used and the addres (attach more detail i	ss where such power	r production	equipm		

#### **SECTION IV: Metering**

4.1 Please indicate how the Generation Unit's electrical energy output is verified (check all that apply):

	X ISO-NE Market Settlement System  Self-reported to the NEPOOL GIS Administrator  Other (please specify below and see Appendix D: Eligibility for Aggregations):			
	Appendix D completed and attached?	☐ Yes	□ No	<b>⊠</b> N/A
SECT	ION V: Location			
5.1	Please check one of the following that apply to the General	tion Unit:		
	<ul> <li>X Grid Connected Generation</li> <li>Off-Grid Generation (not connected to a utility transmi</li> <li>Customer Sited Generation (interconnected on the end-electricity meter in such a manner that it displaces all o consumption of the end-use customer)</li> </ul>	use custo	mer side o	of the retail
5.2	Generation Unit address: 40 Shun Pike, Johnston, Rhode	Island		
5.3	Please provide the Generation Unit's geographic location is	nformatio	n:	
	A. Universal Transverse Mercator Coordinates:			
	Zone: 19 Easting: 290390 Northing: 46310	013		
	B. Longitude/Latitude: 41° 48' 11.82" N / 71° 31'	23.28" W		
5.4	The Generation Unit located: (please check the appropriate	box)		
	<ul> <li>X In the NEPOOL control area</li> <li>□ In a control area adjacent to the NEPOOL control area</li> <li>□ In a control area other than NEPOOL which is not adjacent area ← If you checked this box, then the generator does therefore, please do not complete/submit this form.</li> </ul>			
5.5	If you checked "In a control area adjacent to the NEPOOL above, please complete Appendix E.	control as	ea" in Se	ction 5.4
	Appendix E completed and attached?	☐ Yes	□ No	□ N/A

#### **SECTION VI: Certification**

1	Please attach documentation, using one of the applicable forms below, demonstrating the authority of the Authorized Representative indicated in Section 1.8 to certify and submit this Application.						
	Corporations						
	If the Owner or Operator is a corporation, the Authorized I shall provide <b>either</b> :	₹epi	resenta	ative	;		
	(a) Evidence of a board of directors vote granting authority Representative to execute the Renewable Energy Reso					m, e	or
	(b) A certification from the Corporate Clerk or Secretary of Authorized Representative is authorized to execute the Eligibility Form or is otherwise authorized to legally be matters.	Rer	newab	le E	nergy	Res	sources
	Evidence of Board Vote provided?		Yes		No	×	N/A
	Corporate Certification provided?		Yes		No	X	N/A
	<u>Individuals</u>						
	If the Owner or Operator is an individual, that individual statach APPENDIX A, or a similar form of certification from Operator, duly notarized, that certifies that the Authorized authority to execute the Renewable Energy Resources Elig	m th Rep	ne Own resent	ner o ativo	or		
	Appendix A completed and attached?		Yes		No	Ø	N/A
	Non-Corporate Entities						
	(Proprietorships, Partnerships, Cooperatives, etc.) If the Owner or Operator is not an individual or a corporation, it shall complete and attach APPENDIX B or execute a resolution indicating that the Authorized Representative named in Section 1.8 has authority to execute the Renewable Energy Resources Eligibility Form or to otherwise legally bind the non-corporate entity in like matters.						
	Appendix B or resolution completed and attached?			_		_	
		X	Yes		No		N/A

#### 6.2 Authorized Representative Certification and Signature:

I hereby certify, under pains and penalties of perjury, that I have personally examined and am familiar with the information submitted herein and based upon my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties, both civil and criminal, for submitting false information, including possible fines and punishment. My signature below certifies all information submitted on this Renewable Energy Resources Eligibility Form. The Renewable Energy Resources Eligibility Form includes the Standard Application Form and all required Appendices and attachments. I acknowledge that the Generation Unit is obligated to and will notify the Commission promptly in the event of a change in a generator's eligibility status (including, without limitation, the status of the air permits) and that when and if, in the Commission's opinion, after due consideration, there is a material change in the characteristics of a Generation Unit or its fuel stream that could alter its eligibility, such Generation Unit must be re-certified in accordance with Section 9.0 of the RES Regulations. I further acknowledge that the Generation Unit is obligated to and will file such quarterly or other reports as required by the Regulations and the Commission in its certification order. I understand that the Generation Unit will be immediately de-certified if it fails to file such reports.

Signature of Authorized Representative:

SIGNATURE:		\	7
	1/	\//\/	1

\_\_\_\_Managing Director\_\_\_\_\_\_(Title)

9/2/

DATE:

GIS	Cer	tific	ation	#:
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### APPENDIX F (Revised 6/11/10)

### Eligible Biomass Fuel Source Plan (Required of all Applicants Proposing to Use An Eligible Biomass Fuel)

## STATE OF RHODE ISLAND PUBLIC UTILITIES COMMISION Part of Application for Certificate of Eligibility RENEWABLE ENERGY RESOURCES ELIGIBILITY FORM

Pursuant to the Renewable Energy Act Section 39-26-1 et. seq. of the General Laws of Rhode Island

Note to Applicants: Please refer to the RES Certification Filing Methodology Guide posted on the Commission's web site (<a href="www.ripuc.org/utilityinfo/res.html">www.ripuc.org/utilityinfo/res.html</a>) for information, templates and suggestions regarding the types and levels of detail appropriate for responses to specific application items requested below. Also, please see Section 6.9 of the RES Regulations for additional details on specific requirements.

The phrase "Eligible Biomass Fuel" (per RES Regulations Section 3.7) means fuel sources including brush, stumps, lumber ends and trimmings, wood pallets, bark, wood chips, shavings, slash, yard trimmings, site clearing waste, wood packaging, and other clean wood that is not mixed with other unsorted solid wastes<sup>5</sup>; agricultural waste, food and vegetative material; energy crops; landfill methane<sup>6</sup> or biogas<sup>7</sup>, provided that such gas is collected and conveyed directly to the Generation Unit without use of facilities used as common carriers of natural gas; or neat biodiesel and other neat liquid fuels that are derived from such fuel sources.

In determining if an Eligible Biomass Generation Unit shall be certified, the Commission will consider if the fuel source plan can reasonably be expected to ensure that only Eligible Biomass Fuels will be used, and in the case of co-firing ensure that only that proportion of generation attributable to an Eligible Biomass Fuel be eligible. Certification will not be granted to those Generation Units with fuel source plans the Commission deems inadequate for these purposes.

<sup>&</sup>lt;sup>5</sup> Generation Units using wood sources other than those listed above may make application, as part of the required fuel source plan described in Section 6.9 of the RES Regulations, for the Commission to approve a particular wood source as "clean wood." The burden will be on the applicant to demonstrate that the wood source is at least as clean as those listed in the legislation. Wood sources containing resins, glues, laminates, paints, preservatives, or other treatments that would combust or off-gas, or mixed with any other material that would burn, melt, or create other residue aside from wood ash, will not be approved as clean wood.

<sup>&</sup>lt;sup>6</sup> Landfill gas, which is an Eligible Biomass Fuel, means only that gas recovered from inside a landfill and resulting from the natural decomposition of waste, and that would otherwise be vented or flared as part of the landfill's normal operation if not used as a fuel source.

<sup>&</sup>lt;sup>7</sup> Gas resulting from the anaerobic digestion of sewage or manure is considered to be a type of biogas, and therefore an Eligible Biomass Fuel that has been fully separated from the waste stream.

Generating Units proposing to use an Eligible Biomass Fuel (per Section 6.9 of RES Regulations). F.1 The attached Fuel Source Plan includes a detailed description of the type of Eligible Biomass Fuel to be used at the Generation Unit. X Yes ☐ No □ N/A Detailed description attached? Comments: The Generation Unit will only utilize gas recovered from inside the Central Landfill located in Johnston, Rhode Island and resulting from the natural decomposition of waste, and that would otherwise be vented or flared as part of the landfill's normal operation if not used as a fuel source. There will be no other fuels utilized by the Generation Unit. If the proposed fuel is "other clean wood," the Fuel Source Plan should include any F.2 further substantiation to demonstrate why the fuel source should be considered as clean as those clean wood sources listed in the legislation. Further substantiation attached? □ No ☐ Yes X N/A Comments: F.3 In the case of co-firing with ineligible fuels, the Fuel Source Plan must include a description of (a) how such co-firing will occur; (b) how the relative amounts of Eligible Biomass Fuel and ineligible fuel will be measured; and (c) how the eligible portion of generation output will be calculated. Such calculations shall be based on the energy content of all of the proposed fuels used. Description attached? ☐ Yes □ No X N/A Comments: The Fuel Source Plan must provide a description of what measures will be taken to F.4 ensure that only the Eligible Biomass Fuel are used, examples of which may include: standard operating protocols or procedures that will be implemented at the Generation Unit, contracts with fuel suppliers, testing or sampling regimes. Description provided? X Yes ☐ No  $\square$  N/A Comments:

This Appendix must be attached to the front of Applicant's Fuel Source Plan required for

F.5 Please include in the Fuel Source Plan an acknowledgement that the fuels stored at or brought to the Generation Unit will only be either Eligible Biomass Fuels or fossil fuels used for co-firing and that Biomass Fuels not deemed eligible will not be allowed at the premises of the certified Generation Unit. And please check the following box to certify that this statement is true.

	<ul><li>X ← check this box to certify that the above statement is true</li><li>□ N/A or other (please explain)</li></ul>				
F.6	If the proposed fuel includes recycled wood waste, please submit documentation that such fuel meets the definition of Eligible Biomass Fuel and also meets material separation, storage, or handling standards acceptable to the Commission and furthermore consistent with the RES Regulations.				
	Documentation attached? ☐ Yes ☐ No X N/A Comments:				
F.7	Please certify that you will file all reports and other information necessary to enable the Commission to verify the on-going eligibility of the renewable energy generators pursuant to Section 6.3 of the RES Regulations. Specifically, RES Regulations Section 6.3(i) states that Renewable Energy Resources of the type that combust fuel to generate electricity must file quarterly reports due 60 days after the end of each quarter on the fuel stream used during the quarter. Instructions and filing documents for the quarterly reports can be found on the Commissions website or can be furnished upon request.  X   check this box to certify that the above statement is true  N/A or other (please explain)				
7.8	Please attach a copy of the Generation Unit's Valid Air Permit or equivalent authorization.				
	Valid Air Permit or equivalent attached? X Yes □ No □ N/A Comments:				
.9	Effective date of Valid Air Permit or equivalent authorization:				
	05 /12 /2009				
7.10	State or jurisdiction issuing Valid Air Permit or equivalent authorization: Rhode Island				

## Fuel Source Plan Rhode Island LFG Genco LLC Johnston Rhode Island

The Generation Unit will only utilize gas that is recovered from inside the Central Landfill located in Johnston, Rhode Island and resulting from the natural decomposition of waste, and that would otherwise be vented or flared as part of the landfill's normal operation if not used as a fuel source. There will be no other fuels utilized by the Generation Unit.

The landfill methane gas will be collected from the Central Landfill through a series of horizontal trenches, vertical wells, headers and collection blowers and conveyed to a central processing point near the perimeter of the landfill. The gas will be processed to remove water, sulfur and siloxanes and will then be compressed to the pressure required by the combustion turbines.

Once the gas is compressed, it will be conveyed through a dedicated private pipeline to the power island approximately a half-mile away where it will enter the turbines. The pipeline is not a common carrier and will not be used for any natural gas. The landfill gas will be metered at several points in the process and will not be mixed with any non-qualified fuels. There will be no opportunity for non-qualified fuels to be used in the combustion turbines and there will be no connections with natural gas pipelines or other non-qualified fuel systems.

#### Noncorporate Authorization Rhode Island LFG Genco Johnston Rhode Island

See attached Written Consent of Sole Manager of Rhode Island LFG Genco, LLC

### WRITTEN CONSENT OF SOLE MANAGER OF RHODE ISLAND LFG GENCO, LLC

Ridgewood Renewable Power, LLC, as the sole manager (the "Sole Manager") of Rhode Island LFG Genco, LLC (the "Company"), hereby consents in writing to the following resolutions.

WHEREAS it has come to the attention of the Sole Manager that the change in title of Stephen Galowitz to Managing Director of the Company was not recorded in the Company's books and records as of its effective date of January 1, 2009 and the Sole Manager deems it appropriate and necessary to record the above changes in the books and records of the Company; and

WHEREAS the Sole Manager deems it appropriate and necessary to appoint the Company's officers as of the date hereof.

#### NOW, THEREFORE, IT IS:

**RESOLVED** that effective as of January 1, 2009, Stephen Galowitz was elected and appointed to serve, and has and continues to serve, as Managing Director of the Company; and it is further

**RESOLVED** that, as of the date hereof, the following persons be, and each of them hereby are, elected and appointed to serve as officers of the Company in the office(s) set forth opposite his or her name below, and each of whom shall serve in such office(s) until he or she is replaced at the discretion of the Sole Manager, retires, resigns or is otherwise unable to fulfill his or her duties as an officer:

Randall D. Holmes President & Chief Executive Officer

Jeffrey H. Strasberg Executive Vice President & Chief Financial Officer

Daniel V. Gulino Senior Vice President, General Counsel & Secretary

Kathleen P. McSherry Vice President of Systems & Administration & Assistant Secretary

Kevin Hubanks Vice President of Operations

Stephen Galowitz Managing Director

Douglas R. Wilson Managing Director

#### and it is further

**RESOLVED**, that each of the officers the Company, as an officer is and remains expressly authorized to act on behalf of the Company, including, without limitation, to enter into and execute all contracts, applications, loans, notes, documents and other agreements and shall thereby fully bind the Company; and it is further

**RESOLVED**, that the officers of the Company be, and each of them hereby are, authorized and directed to do or cause to be done all acts and things and to make and execute all agreements, instruments, certificates and other documents that may be necessary or appropriate in the discretion of the officer taking such action or executing such document to carry out the intent of the foregoing resolutions, the taking of any such action or the execution of any such

document to be conclusive evidence of the authorized exercise of the discretionary authority herein conferred; and it is further

**RESOLVED**, that a copy of this Written Consent shall be maintained with the minutes of the proceedings of the Sole Manager of the Company.

IN WITNESS WHEREOF, the undersigned Sole Manager of the Company has executed this Written Consent on September 10, 2009.

Ridgewood Renewable Power, LLC

Robert E. Swanson, Sole Manager

# CT and MA RPS Precertifications Rhode Island LFG Genco Johnston Rhode Island

Attached are RPS precertifications from the State of Connecticut and the State of Massachusetts for the above referenced Generation Unit. Please note that the configuration of the Generation Unit has been simplified in the time since these precertifications were originally sought. Specifically, the configuration anticipated at the time these precertifications were requested included a "behind-the-meter" electric supply component whereby a portion of the electrical output from the Generation Unit could be used to supply the gas collection, pretreatment and compression equipment. Based on the current configuration, the gas collection, pretreatment and compression equipment will be powered by the local electric distribution company through a separate retail account. The station service electrical requirements of the power island located at 40 Shun Pike, Johnston Rhode Island will continue to be supplied using a portion of the electrical output from the Generation Unit.

#### STATE OF CONNECTICUT



#### DEPARTMENT OF PUBLIC UTILITY CONTROL TEN FRANKLIN SQUARE NEW BRITAIN, CT 06051

DOCKET NO. 09-11-23 PETITION OF RHODE ISLAND CENTRAL GENCO, LLC FOR A DECLARATORY RULING APPROVING OF ITS PROPOSED LANDFILL METHANE GAS FUELED ELECTRICITY GENERATING FACILITY AS A CLASS I RENEWABLE ENERGY SOURCE

February 24, 2010

By the following Commissioners:

John W. Betkoski, III Kevin M. DelGobbo Anthony J. Palermino

#### **DECISION**

#### I. INTRODUCTION

#### A. SUMMARY

In this Decision, the Department of Public Utility Control determines that the proposed Rhode Island Central Genco, LLC generating facility will qualify as a Class I renewable energy source as a methane gas from landfill facility. However, an independent third party will be required to audit and verify any generation that is behind-the-meter.

#### B. BACKGROUND OF THE PROCEEDING

By request dated November 23, 2009, Rhode Island Central Genco, LLC (RICG or Petitioner) requested that the Department of Public Utility Control (Department) determine that the proposed landfill gas project generating facility qualifies as a Class I renewable energy source.

RICG's proposed project will be a methane gas from landfill facility located in Johnston, Rhode Island (Central Landfill). RICG's Central Landfill project is expected to have a rated capacity of 41 megawatts with a portion being utilized behind-the-meter.

#### C. CONDUCT OF THE PROCEEDING

There is no statutory requirement for a hearing, no person requested a hearing, and none was held.

#### D. PARTICIPANTS IN THE PROCEEDING

The Department recognized Rhode Island Central Genco, LLC, 947 Linwood Avenue, Ridgewood, New Jersey 07450; and the Office of Consumer Counsel, Ten Franklin Square, New Britain, Connecticut 06051, as participants in this proceeding.

#### II. PETITIONER REQUEST

According to the Petitioner, RICG plans to build a renewable energy electric generation facility (RICG Generating Facility). The RICG Generating Facility will be fueled entirely by landfill methane gas (LMG) that is produced at the Central Landfill. The RICG Generating Facility and Central Landfill are both located in Johnston, Rhode Island.

The RICG Generating Facility will consist of five Solar Taurus 60 combustion turbine generators located at 40 Shun Pike in Johnston, Rhode Island. The steam produced by each of the five heat recovery steam generators will be combined to drive a sixth, single steam turbine generator. Petition, p. 1. The LMG will be produced at the Central Landfill located across the street from the RICG Generating Facility. The total gross output will be approximately 41 megawatts with a parasitic load of approximately one megawatt. Thus, approximately 40 megawatts will be available for export. Id. RICG indicates that it intends to use approximately five (5) megawatts behind-themeter. Petition, p. 2. Specifically, a portion of the electricity will be delivered across the street over a newly constructed privately-owned electricity line dedicated to serve a newly constructed gas collection, flaring, filtering and compression facility (Gas Site). The Gas Site, which will have an electric load of approximately 5 megawatts, will be operated by Ridgewood Gas Services, an entity affiliated with RICG. Id.

The behind-the-meter usage will be separately metered by a revenue quality meter. Petition, pp. 1-2. The meter will be a revenue quality meter that will be installed, maintained, read and reported as required by the out-of-state behind-the-meter requirements. RICG states that it will select a competent entity to audit, review, verify

and enter all behind-the-meter generation in the NEPOOL Generation Information System on RICG's behalf. Petition, p. 4.

The Gas Site will be served by a separate retail electric grid connection provided and metered by National Grid, the local distribution company. Petition, p. 2. After the LMG is collected and processed at the Gas Site, a new private dedicated LMG pipeline will be constructed and directed to an existing 6 megawatts reciprocating engine plant (Existing 6 MW Facility) fueled by landfill gas located several hundred feet away. This Existing 6 MW Facility is owned by an affiliate of RICG and is already certified by the Department as a renewable energy electric generating facility pursuant to Docket No. 03-12-81, and will continue to operate concurrently with RICG. Id. In connection with the expansion of the Central Landfill, new gas piping and processing facilities will be constructed to reroute the LMG that is currently supplied to the Existing 6MW Facility through the Gas Site. Petition, p. 3. The RICG Generating Facility and the Gas Site will be largely independent processes and, with a few minor modifications to the equipment and controls, either facility could be operated independently of the other. Id.

The behind-the-meter usage generated by RICG and used by the affiliate will be metered by a separate revenue quality meter. No electricity other than the electricity generated by the RICG Generating Facility, fueled by LMG and delivered to the Gas Site via the dedicated line will be permitted to flow through the revenue quality meter. Petition, p. 4. All electricity provided by National Grid will flow through a separate retail Grid meter and none of the National Grid retail electricity will flow through the revenue quality meter. <u>Id</u>.

RICG is in the process of negotiating financing for this proposal. At the current time, RICG requests that the Department determine that its proposed LMG facility qualify as a Class I renewable energy source as a methane gas from landfill facility conditioned upon the selection of a qualified Department approved third party verifier. Petition, p. 5.

#### III. DEPARTMENT ANALYSIS

Pursuant to the General Statutes of Connecticut (Conn. Gen. Stat.), §16-1(a)(26), "Class I renewable energy source" includes energy derived from methane gas from landfills.

As provided in the request, the RICG Facility will be fueled entirely by methane gas from a landfill located across the street from the generators in Johnston, Rhode Island. The Facility will be located at 40 Shun Pike in Johnston, Rhode Island. RICG indicates that the facility will have a rated capacity of 40 MW with 5 MW being used on-site/behind-the meter.

In the Decision dated October 12, 2004 in Docket No. 04-05-13, <u>Application of Pratt & Whitney for Connecticut Renewable Generator Qualification-Cape Cod Community College Fuel Cell</u>, the Department established standards for behind-themeter generators that are eligible to participate in Connecticut's RPS program. The Department requires that out-of-state behind-the-meter generators provide documentation that their generation output is audited and verified quarterly by an entity

Docket No. 09-11-23 Page 4

with competent jurisdiction. Docket No. 04-05-13, pp. 8-9. The Department stated further that it would review other entities on a case-by-case basis to determine if they can provide the necessary verification and auditing documentation. Docket No. 04-05-13, footnote 7.

With behind-the-meter generation, the RICG will be a NEPOOL GIS self-reporting entity for its behind-the-meter generation/usage. As stated in the Petition, the behind-the-meter usage generated by RICG will be metered by a separate revenue quality meter and no other electricity generated by the RICG Generating Facility, fueled by LMG and delivered to the Gas Site via the dedicated line will be permitted to flow through the revenue quality meter. Petition, p. 4. This is different than grid connected generators whose generation is settled and reported electronically to NEPOOL GIS through the ISO-NE. With the self reporting a concern, the Department will require, as proposed by RICG, third-party assurance that the generation is audited and verified, and accurately entered into the NEPOOL GIS on behalf of RICG. This will balance the need to maintain the integrity of the NEPOOL GIS market and provide assurance that what is being claimed as renewable is actually what is being generated and consumed.

Upon review of the petitioner's evidence, the Department concludes pursuant to Conn. Gen. Stat. § 16-1(a)(26) that the RICG Facility would qualify as a Class I renewable energy source as a methane gas from landfill facility. Once the facility is operational and an independent third party process has been established, RICG is required to file an application. In an attachment to the application, RICG is required to identify the independent third party, include related third party experience, and provide details on how the generation is to be verified and entered on behalf of RICG. The independent third party will be required to submit to the Department on a quarterly basis, calculations that support the behind-the-meter portion of the generation.

The Department has created an electronic application process to apply for a Connecticut Renewable Portfolio Standards registration. The application is available on the Department's website located at www.ct.gov/dpuc. The application should be submitted electronically along with a single hard-copy filing.

#### IV. CONCLUSION

Based upon RICG's proposal as described in the request, the Department finds that the RICG project would qualify as a Class I renewable generation source pursuant to Conn. Gen. Stat. § 16-1(a)(26).

### DOCKET NO. 09-11-23

PETITION OF RHODE ISLAND CENTRAL GENCO, LLC FOR A DECLARATORY RULING APPROVING OF ITS PROPOSED LANDFILL METHANE GAS FUELED ELECTRICITY GENERATING FACILITY AS A CLASS I RENEWABLE ENERGY SOURCE

This Decision is adopted by the following Commissioners:

John W. Betkoski, III

Kevin M. DelGobbo

Anthony J. Palermino

#### CERTIFICATE OF SERVICE

The foregoing is a true and correct copy of the Decision issued by the Department of Public Utility Control, State of Connecticut, and was forwarded by Certified Mail to all parties of record in this proceeding on the date indicated.

Kimberley J. Santopie ro

**Executive Secretary** 

Department of Public Utility Control



#### Deval L. Patrick Governor

Timothy P. Murray Lieutenant Governor

Ian A. Bowles
Secretary, Executive Office of Energy
and Environmental Affairs

Philip Giudice Commissioner

### COMMONWEALTH OF MASSACHUSETTS EXECUTIVE OFFICE OF ENERGY AND ENTREMENTAL AFFAIRS

ENERGY AND ENVIRONMENTAL AFFAIRS

DEPARTMENT OF ENERGY RESOURCES

100 CAMBRIDGE ST., SUITE 1020 BOSTON, MA 02114

> Internet: www.Mass.Gov/DOER Email: Energy@State.MA.US

> > TELEPHONE 617-626-7300

FACSIMILE 617-727-0030 617-727-0093

June 29, 2010

Randall D. Holmes President & CEO Rhode Island Central Genco, LLC 947 Linwood Avenue Ridgewood, NJ 07450

RE: RPS Class I Eligibility Decision

Rhode Island LFG Genco LLC, ST and ST #2, 41 MW

in Johnston, RI (LG-1130-10)

Dear Mr. Holmes,

On behalf of the Department of Energy Resources (the Department or DOER), I am pleased to inform you that the Statement of Qualification Application for the Rhode Island LFG Genco LLC, ST and ST #2 Generation Unit pursuant to the Massachusetts Renewable Energy Portfolio Standard (RPS) – Class I Regulations is hereby approved. The Department finds that the Generation Unit meets the requirements for eligibility as an RPS Class I Renewable Generation Unit pursuant to 225 CMR 14.05. The NEPOOL GIS certificates for the Unit will be qualified for MA RPS Class I as of its RPS Effective Date, which will be the same as its Commercial Operation Date. You must inform DOER of that date within 15 days after that date. Please note that the enclosed Statement of Qualification will *expire* if the Commercial Operation Date is not reached within 48 months from the date of the Statement of Qualification and DOER has not granted an extension.

Each Massachusetts Class I Renewable Generation Unit is assigned a unique Massachusetts RPS Class I Identification Number (MA RPS Class I ID#). The MA RPS Class I ID# stated on the Statement of Qualification must be included in all correspondence with the Department. The Unit's MA RPS Class I ID# is <u>LG-1130-10</u>.

Please note the details of the Statement of Qualification's finding and instruction with regard to the Capacity Obligation provisions in 225 CMR 14.05(e).

The Department wishes to remind you of the notification requirements for changes in eligibility status contained in 225 CMR 14.06(3) and for changes in generation capacity, contact information, and the identity of the Owner, Operator, or Authorized Representative contained in 225 CMR 14.06(6). The Owner, Operator, or Authorized Representative of the Generation Unit shall submit notification of such changes to the Department no later than five days following the end of the month during which such changes were implemented.

In addition, the Department wishes to remind you to be cognizant of the Operating Rules and the reporting requirements of the NEPOOL GIS, which may be amended from time to time, and compliance with which may affect the RPS qualification of the Generation Unit's GIS certificates.

Finally, please note the following regarding the limits to the Statement of Qualification. First, RPS Class I qualification behind-the-meter generation from the Unit is contingent on DOER approval of an Application for such generation and subsequent amendment of the Statement of Qualification, as well as registration of a Non-participant Generation Asset at the NEPOOL GIS. Second, the Statement of Qualification for LG-1130-10 has no bearing on conditions of the RPS Class I qualification of any of the facilities included under RPS ID# LG-1020-02, located at the Central Landfill in Johnston, RI, for which the Statement of Qualification was most recently amended on January 30, 2004. However, given the relationship between the pending new Unit approved herein and those older facilities, you are reminded of your obligation to report any changes in the physical and operational status of those older facilities, as well as their contact information, pursuant to 225 CMR 14.06(3) and (6).

If you have any questions or concerns about the Statement of Qualification or any aspect of the RPS program, please contact Howard Bernstein, RPS Program Manager, at the Department's address, or (617) 626-7355, or <a href="https://doi.org/10.2016/journal.org/10.2016

Sincerely,

Robert Sydney General Counsel

Relx Spay

Encl: Statement of Qualification

## Commonwealth of Massachusetts Executive Office of Energy and Environmental Affairs DEPARTMENT OF ENERGY RESOURCES

#### STATEMENT OF QUALIFICATION

### Pursuant to the Renewable Energy Portfolio Standard – Class I 225 CMR 14.00

This Statement of Qualification, provided by the Massachusetts Department of Energy Resources (DOER or the Department), signifies that the Generation Unit identified below, as described in a Statement of Qualification Application dated November 23, 2009, meets the requirements for eligibility as an RPS Class I Renewable Generation Unit, pursuant to the Renewable Energy Portfolio Standard – Class I, 225 CMR 14.05. Therefore, this Generation Unit is duly qualified as an RPS Class I Renewable Generation Unit, as of this 29<sup>th</sup> day of June, 2010.

Authorized Representative's Name and Address:

Randall D. Holmes President & CEO

Rhode Island Central Genco, LLC

947 Linwood Avenue Ridgewood, NJ 07450

Generation Unit Names, Capacities, and Location:

Rhode Island LFG Genco LLC, ST and ST #2 41 MW Johnston, RI

This RPS Class I Renewable Generation Unit is assigned a unique Massachusetts RPS Identification Number, listed below. Please include the ID number on all correspondence with DOER.

#### MA RPS Class I ID #: <u>LG-1130-10</u>

This Unit's NEPOOL GIS Generation Unit Asset Identification Number is: (pending)

The Owner of the Generation Unit is responsible for expeditiously informing DOER of the NEPOOL GIS Generation Asset Identification Number upon its assignment by the NEPOOL GIS Administrator.

The RPS Effective Date of the Generation Unit will be the same as the Commercial Operation Date of the Unit. The Owner, Operator, or Authorized Representative of the Unit shall notify the Department of the Commercial Operation Date no later than 15 days after that date. The Expiration Date of this Statement of Qualification is June 28, 2014, unless the Commercial Operation Date occurs before that date or unless the Department grants an extension of the Expiration Date.

The electrical energy output of the Generation Unit that qualifies as RPS Class I Renewable Generation under this Statement of Qualification is limited to the output that is monitored and reported by the ISO New England. This Statement of Qualification will be amended to include qualification of output from the Unit that is used "behind the meter" for non-parasitic loads near

the Unit upon the Department's review and approval of a Statement of Qualification Application for such qualification.

Qualification of this Generation Unit as an RPS Class I Renewable Generation Unit is subject to all applicable provisions in 225 CMR 14.00, including but not limited to the following.

Pursuant to 225 CMR 14.05(1)(e)(1) and (1)(e)(2), the amount of the generation capacity of the Unit whose electrical energy output is claimed as RPS Class I Renewable Generation shall not be committed to any Control Area other than the ISO-NE Control Area, and such amount shall be committed to the ISO-NE Control Area by means of participation in the earliest applicable ISO-NE Forward Capacity Auction (FCA). The Unit has satisfied these provisions for the five year period of 2011 through 2015 as a result of the FCA for 2011/12. No later than 90 days prior to the expiration of that five year capacity obligation, the Owner, Operator, or Authorized Agent of the Unit must provide documentation and assurances acceptable to the Department of its continued compliance with the Capacity Obligation provisions of 225 CMR 14.05(1)(e) as then in force.

Pursuant to 225 CMR 14.06(5) and (6), the Unit's Owner, Operator, or Authorized Agent is obligated to notify DOER of its choice of generation equipment, as required for Section III.5 of the Statement of Qualification Application, as well as any changes in the characteristics of the Unit that could affect its eligibility status, as well as any changes in the Unit's ownership, Authorized Representative, contact information, or generation capacity.

Pursuant to 225 CMR 14.11, DOER may conduct site visits, as well as audits and inspections of documents related to the Unit's compliance with 225 CMR 14.00, including the provisions of this Statement of Qualification.

DOER may suspend or revoke this Statement of Qualification if the Owner, Operator, or Authorized Agent fails to comply with 225 CMR 14.00, including the provisions of this Statement of Qualification.

Philip Stendice

June 29, 2010

Date:

Philip Giudice Commissioner

Department of Energy Resources

12 May 2009

Mr. Kevin Hubanks Vice President-Operations Ridgewood Power Management 160B Guthrie Lane, Suite 3 Brentwood, CA 94513

Dear Mr. Hubanks:

The Department of Environmental Management, Office of Air Resources has reviewed and approved your application for a major source permit for installation of a landfill gas fired combustion turbine, combined cycle power plant at your facility located at 65 Shun Pike, Johnston.

Enclosed is a major source permit issued pursuant to our review of your application (RI-PSD-8).

If there are any questions concerning this permit, please contact me at 222-2808, extension 7011.

Sincerely,

Douglas L. McVay

Acting Chief

Office of Air Resources

cc: Michael North - GZA

Stephen Galowitz - Ridgewood

Ida McDonnell - USEPA

## STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR RESOURCES

#### MAJOR SOURCE PERMIT

RHODE ISLAND CENTRAL GENCO, LLC

#### RI-PSD-8

Pursuant to the provisions of Air Pollution permit is issued to:	Control Regulation No. 9, this major source
Ridgewood Power	Management LLC
For the following:	
Installation of five Solar Taurus 60 combustion tu	rbines, five heat recovery steam generators, one
steam turbine, five selective catalytic reduction (Se	
discharge to the atmosphere and a four cell coolin	g tower. Installation of a gas treatment plant
and auxiliary cooling tower. Installation of a ULE	flare and two enclosed flares.
Located at:65 Shun Pike, Johns	iton
This permit shall be effective from the date of revoked by or surrendered to the Department Central Genco, LLC from compliance with applications and regulations. The design, constructions and entire to the attached permit conditions and entire to the attached permit conditions.	This permit does not relieve Rhode Island licable state and federal air pollution control on and operation of this equipment shall be
Douglas McVay, Acting Chief	Date of issuance
Office of Air Resources	

## STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR RESOURCES

Permit Conditions and Emission Limitations

#### RHODE ISLAND CENTRAL GENCO, LLC

#### RI-PSD-8

#### A. Emission Limitations

- 1. Combustion Turbines
  - a. Nitrogen oxides (as nitrogen dioxide (NO<sub>2</sub>))
    - (1) The concentration of nitrogen oxides discharged to the atmosphere from each combustion turbine shall not exceed 25 ppmv, on a dry basis, corrected to 15 percent O<sub>2</sub> (1-hour average).
    - (2) The emission rate of nitrogen oxides discharged to the atmosphere from each combustion turbine shall not exceed 7.95 lbs/hr.
  - b. Carbon Monoxide (CO)
    - (1) The concentration of carbon monoxide discharged to the atmosphere from each combustion turbine shall not exceed 100 ppmv, on a dry basis, corrected to 15 percent O<sub>2</sub> (1-hour average) at full load conditions and 200 ppmv, on a dry basis, corrected to 15 percent O<sub>2</sub> (1-hour average) at load conditions other than full load. Full load conditions shall mean 95-100% load.
    - (2) The emission rate of carbon monoxide discharged to the atmosphere from each combustion turbine shall not exceed 34.86 lbs/hr.
  - c. Total nonmethane hydrocarbons (NMHC)
    - (1) The concentration of total nonmethane hydrocarbons discharged to the atmosphere from each combustion turbine shall not exceed 10 ppmv, on a dry basis, corrected to 15 percent O<sub>2</sub> (1-hour average) at full load conditions and 20 ppmv, on a dry basis, corrected to 15 percent O<sub>2</sub> (1-hour average) at load conditions other than full load. Full load conditions shall mean 95-100% load.

(2) The emission rate of total nonmethane hydrocarbons discharged to the atmosphere from each combustion turbine shall not exceed 1.99 lbs/hr.

#### d. Particulate Matter less than 10 microns (PM<sub>10</sub>)

The emission rate of particulate matter less than 10 microns from each combustion turbine shall not exceed 0.024 lb/MMBTU or a maximum of 1.90 lbs per hour, whichever is more stringent.

#### e. Sulfur Dioxide (SO<sub>2</sub>)

- (1) The owner/operator shall not burn in each combustion turbine any landfill gas which contains total potential sulfur emissions in excess of 0.034 lb SO<sub>2</sub>/MMBtu heat input.
- (2) The emission rate of sulfur dioxide discharged to the atmosphere from each combustion turbine shall not exceed 2.70 lbs/hr.

#### f. Ammonia (NH<sub>3</sub>)

- (1) The concentration of ammonia discharged to the atmosphere from each combustion turbine shall not exceed 20 ppmv, on a dry basis, corrected to 15 percent O<sub>2</sub> (1-hour average).
- (2) The emission rate of ammonia discharged to the atmosphere from each combustion turbine shall not exceed 2.35 lbs/hr.
- g. Visible emissions from each combustion turbine shall not exceed 10% opacity except for a period or periods aggregating no more than three minutes in any one hour.

#### 2. ULE flare (Regen flare)

a. Nitrogen oxides (as Nitrogen dioxide (NO<sub>2</sub>))

The emission rate of nitrogen oxides discharged to the atmosphere from the ULE flare shall not exceed 0.025 lbs per million BTU or 0.52 lbs/hr, whichever is more stringent.

#### b. Carbon Monoxide (CO)

The emission rate of carbon monoxide discharged to the atmosphere from the ULE flare shall not exceed 0.060 lbs per million BTU or 1.25 lbs/hr, whichever is more stringent.

c. Non-methane Organic Compounds (NMOC)

The ULE flare shall reduce non-methane organic compound emissions by 99% unless the outlet non-methane organic compound concentration has been reduced to 5 ppmvd, or less, as hexane at 3% oxygen.

d. The ULE flare shall be operated with no visible emissions.

#### 3. Enclosed flares (Backup flares)

a. Nitrogen oxides (as Nitrogen dioxide (NO<sub>2</sub>))

The emission rate of nitrogen oxides discharged to the atmosphere from each enclosed flare shall not exceed 0.06 lbs per million BTU or 5.94 lbs/hr, whichever is more stringent.

b. Carbon Monoxide (CO)

The emission rate of carbon monoxide discharged to the atmosphere from each enclosed flare shall not exceed 0.20 lbs per million BTU or 19.80 lbs/hr, whichever is more stringent.

c. Non-methane Organic Compounds (NMOC)

Each enclosed flare shall reduce non-methane organic compound emissions by 98% unless the outlet non-methane organic compound concentration has been reduced to 5 ppmvd, or less, as hexane at 3% oxygen.

d. Each enclosed flare shall be operated with no visible emissions.

#### B. Operating Requirements

#### 1. Combustion turbines

a. Landfill gas shall be the primary fuel for the combustion turbines. The use of propane as an auxiliary fuel shall be limited to startup only.

- b. The maximum heat input rate to each combustion turbine shall not exceed 80.04 million BTUs per hour at 0°F.
- c. The landfill gas shall be filtered, dewatered, and compressed prior to use in the turbines in accordance with the provisions of 40 CFR 60.752(b)(2)(iii)(C).
- d. The SCR system shall be operated at all times that the inlet temperature of the SCR catalyst is 600° F or greater.
- e. Ammonia shall be injected into the SCR system whenever the inlet temperature of the SCR catalyst is at or above 600°F.

#### 2. ULE flare (regen flare)

- a. The minimum operating temperature of the ULE flare shall be 1500°F.
- b. The ULE flare shall be equipped with an interlock system that ensures ignition of the pilot flame before purge gas is discharged to the device.
- c. The ULE flare shall be equipped with a flame failure alarm that automatically shuts off the blowers which deliver landfill gas and purge gas to the flare.
- d. Landfill gas shall be the primary fuel for the ULE flare. The use of propane as an auxiliary fuel shall be limited to startup only.
- e. The ULE flare shall be operated at all times when purge gas is being vented to it.
- f. The ULE flare shall be operated according to its design specifications whenever purge gas is being routed to the device.
- g. The owner/operator shall not flare any landfill gas which contains hydrogen sulfide in excess of 100 ppmv, on a dry basis.

#### 3. Enclosed flares (backup flares)

- a. The minimum operating temperature of each enclosed flare shall be 1500°F.
- b. Each enclosed flare shall be equipped with an interlock system that ensures ignition of the pilot flame before landfill gas or purge gas is discharged to the device.

- c. Each enclosed flare shall be equipped with a flame failure alarm that automatically shuts off the blowers which deliver landfill gas and purge gas to the flare.
- d. Landfill gas shall be the primary fuel for each enclosed flare. The use of propane as an auxiliary fuel shall be limited to startup only.
- e. The enclosed flare shall be operated at all times when landfill gas or purge gas is being vented to it.
- f. Each enclosed flare shall be operated according to its design specifications whenever the collected landfill gas or purge gas is being routed to the device.
- g. The owner/operator shall not flare any landfill gas which contains hydrogen sulfide in excess of 100 ppmv, on a dry basis.

#### C. Monitoring

#### 1. Combustion turbines

- a. Total landfill gas flow to the combustion turbines shall be continuously measured and recorded.
- b. Gross electrical power generation (kw-hrs) shall be continuously measured and recorded for each turbine individually and for the five turbines combined.
- c. Each combustion turbine shall be equipped with a non-resetable elapsed time meter to indicate, in cumulative hours, the elapsed turbine operating time.
- d. Inlet temperature to the SCR catalyst shall be continuously measured and recorded.
- e. The owner/operator shall conduct quarterly analyses of the landfill gas being used as a fuel. At a minimum, the landfill gas should be analyzed for the following compounds: acetone, acrylonitrile, benzene, bromodichloromethane, carbon disulfide, carbon tetrachloride, carbonyl sulfide, chlorobenzene, chlorodifluoromethane, chloroform, cyclohexane, cyclohexane, 1,4 dichlorobenzene, cis-1,2 dichloroethene, trans-1,2 dichloroethene, ethyl benzene, ethyl chloride, ethylene dibromide, etylene dichloride, ethylidene dichloride, hexane, hydrogen sulfide, isopropanol, mercury, methyl chloride, methyl chloroform, methyl ethyl ketone, methyl

isobutyl ketone, methylene chloride, propylene dichloride, styrene, 1,1,2,2 tetrachloroethane, tetrachloroethylene, toluene, total chlorides, trichloroethylene, trichlorofluoromethane, vinyl chloride, vinylidene chloride and xylenes. The owner/operator shall keep records of these analyses and provide such records to the Office of Air Resources upon request.

#### f. Sulfur Dioxide (SO<sub>2</sub>)

- (1) The owner/operator shall monitor the total sulfur content of the landfill gas being fired in each combustion turbine daily. A representative sample of the landfill gas shall be collected following ASTM D5287. A single sample may be collected from a common header for the turbines rather than individually from each turbine. The total sulfur content of the landfill gas shall be determined using ASTM D1072 or alternatively D3246, D4084, D4468, D4810, D6228, D6667 or Gas Processors Association Standard 2377.
- (2) The analyses may be performed by the owner/operator, a service contractor retained by the owner/operator or any other qualified agency.
- (3) The owner/operator may develop a custom schedule for determination of the total sulfur content of the landfill gas following the requirements in 40 CR 60.4370(c).
- g. The owner/operator shall measure the concentration, in parts per million (ppm), of nitrogen oxides at the inlet and outlet of the SCR system once per month. Testing shall be conducted using a portable analyzer in accordance with a protocol approved by the Office of Air Resources.

#### 2. ULE flare (regen flare)

#### a. Temperature Monitoring

- (1) The owner/operator shall install, calibrate, operate, and maintain a temperature monitoring device equipped with a continuous recorder and having a minimum accuracy of ±1 percent of the temperature being measured expressed in degrees Celsius or ±0.5 degrees Celsius, whichever is greater.
- (2) The thermocouple used to measure flare operating temperature shall be above the flame zone and at least three feet below the top of the flare shroud.

- (3) The owner/operator shall verify the accuracy of the temperature monitor once each calendar year with a reference temperature monitor (traceable to National Institute of Standards and Technology (NIST) standards or an independent temperature measurement device dedicated for this purpose). During accuracy checking, the probe of the reference device shall be at the same location as that of the temperature monitor being tested.
- b. The owner/operator shall install, calibrate and maintain a gas flow rate measuring device that shall record the flow of landfill gas to the ULE flare at least every fifteen minutes when the flare is in operation.
- c. The owner/operator shall monitor, at least daily, Monday through Saturday (excluding holidays), the methane content of the landfill gas being combusted by the ULE flare.
  - d. The flare shall be equipped with a failure alarm with an automatic blower and landfill gas supply valve shut-off system to isolate the flare from the landfill gas supply line, to shut off the blower and to notify a responsible party of the shutdown.
  - The owner/operator shall conduct quarterly analyses of the landfill gas e. being combusted in the ULE flare. At a minimum, the landfill gas should be analyzed for the following compounds: acetone, acrylonitrile, benzene, bromodichloromethane, carbon disulfide, carbon tetrachloride, carbonyl sulfide, chlorobenzene, chlorodifluoromethane, chloroform, cyclohexane, cyclohexane, 1,4 dichlorobenzene, cis-1,2 dichloroethene, trans-1,2 dichloroethene, ethyl benzene, ethyl chloride, ethylene dibromide, etylene dichloride, ethylidene dichloride, hexane, hydrogen sulfide, isopropanol, mercury, methyl chloride, methyl chloroform, methyl ethyl ketone, methyl isobutyl ketone, methylene chloride, propylene dichloride, styrene, 1,1,2,2 tetrachloroethane, tetrachloroethylene, toluene, total chlorides, trichloroethylene, trichlorofluoromethane, vinyl chloride, vinylidene chloride and xylenes. The owner/operator shall keep records of these analyses and provide such records to the Office of Air Resources upon request.
- 3. Enclosed flares (backup flares)
  - a. Temperature Monitoring
    - (1) The owner/operator shall install, calibrate, operate, and maintain a temperature monitoring device equipped with a continuous recorder

- and having a minimum accuracy of  $\pm 1$  percent of the temperature being measured expressed in degrees Celsius or  $\pm 0.5$  degrees Celsius, whichever is greater.
- (2) The thermocouple used to measure flare operating temperature shall be above the flame zone and at least three feet below the top of the flare shroud.
- (3) The owner/operator shall verify the accuracy of the temperature monitor once each calendar year with a reference temperature monitor (traceable to National Institute of Standards and Technology (NIST) standards or an independent temperature measurement device dedicated for this purpose). During accuracy checking, the probe of the reference device shall be at the same location as that of the temperature monitor being tested.
- b. The owner/operator shall install, calibrate and maintain a gas flow rate measuring device that shall record the flow of landfill gas to each enclosed flare at least every fifteen minutes when the flare is in operation.
- c. The owner/operator shall monitor, at least daily, Monday through Saturday (excluding holidays), the methane content of the landfill gas being combusted by each enclosed flare.
- d. Each enclosed flare shall be equipped with a failure alarm with an automatic blower and landfill gas supply valve shut-off system to isolate the flare from the landfill gas supply line, to shut off the blower and to notify a responsible party of the shutdown.
- The owner/operator shall conduct quarterly analyses of the landfill gas e. being combusted in each enclosed flare. At a minimum, the landfill gas should be analyzed for the following compounds: acetone, acrylonitrile, benzene, bromodichloromethane, carbon disulfide, carbon tetrachloride, carbonyl sulfide, chlorobenzene, chlorodifluoromethane, chloroform, cyclohexane, cyclohexane, 1,4 dichlorobenzene, cis-1,2 dichloroethene, trans-1,2 dichloroethene, ethyl benzene, ethyl chloride, ethylene dibromide, etylene dichloride, ethylidene dichloride, hexane, hydrogen sulfide, isopropanol, mercury, methyl chloride, methyl chloroform, methyl ethyl ketone, methyl isobutyl ketone, methylene chloride, propylene dichloride, styrene, 1,1,2,2 tetrachloroethane, tetrachloroethylene, toluene, total chlorides, trichloroethylene, trichlorofluoromethane, vinyl chloride, vinylidene chloride and xylenes. The owner/operator shall keep records of these analyses and provide such records to the Office of Air Resources upon request.

#### D. Compliance Demonstration/Stack Testing

#### 1. Combustion turbines

a. Within 180 days of start-up, initial performance testing shall be conducted on the combustion turbines. Performance testing shall be conducted for nitrogen oxides, carbon monoxide and total non-methane hydrocarbons. Start-up shall mean when a combustion turbine goes on-line to produce power for sale.

Thereafter, performance testing shall be conducted annually to determine compliance with the nitrogen oxide emission limitation.

- b. A stack testing protocol shall be submitted to the Office of Air Resources at least 60 days prior to the performance of any stack tests. The owner/operator shall provide the Office of Air Resources at least 60 days prior notice of any performance test.
- c. All test procedures used for stack testing shall be approved by the Office of Air Resources prior to the performance of any stack tests. Performance testing for nitrogen oxides shall be conducted using the methodologies in 40 CFR 60.4400
- d. The owner/operator shall install any and all test ports or platforms necessary to conduct the required stack testing, provide safe access to any platforms and provide the necessary utilities for sampling and testing equipment.
- e. All testing shall be conducted under operating conditions deemed acceptable and representative for the purpose of assessing compliance with the applicable emission limitation.
- f. A final report of the results of stack testing shall be submitted to the Office of Air Resources no later than 60 days following completion of the testing.
- g. All stack testing must be observed by the Office of Air Resources or its authorized representatives to be considered acceptable, unless the Office of Air Resources provides authorization to the owner/operator to conduct the testing without an observer present.

#### 2. ULE flare (regen flare)

a. Compliance with the emission limitation in specified in Conditions A.2.a-c shall be demonstrated within 180 days of start up of the ULE flare. Testing

shall be conducted in accordance with the test methods in 40 CFR 60 as amended or another EPA approved method which has been accepted by the Director.

During the initial compliance test, the owner/operator shall also measure PM-10 emissions for the purpose of developing an emission factor to calculate annual emissions from the ULE flare.

Thereafter, testing shall be conducted every three years for nitrogen oxides.

- b. During each performance test, the owner/operator shall determine the average operating temperature of the ULE flare. The average operating temperature is the temperature monitored, averaged over the course of the performance test.
- c. The owner/operator shall provide the Office of Air Resources at least 30 days prior notice of any stack test.
- d. All testing shall be conducted under operating conditions deemed acceptable and representative for the purpose of assessing compliance with the applicable emissions limitation.
- e. A final report of the results of stack testing shall be submitted to the Office of Air Resources no later than 60 days following completion of testing.
- 3. Enclosed flares (backup flares)
  - a. Compliance with the emission limitation in specified in Conditions A.3.a-c shall be demonstrated within 180 days of start up of each enclosed flare.
     Testing shall be conducted in accordance with the test methods in 40 CFR 60 as amended or another EPA approved method which has been accepted by the Director.

During the initial compliance test, the owner/operator shall also measure PM-10 emissions for the purpose of developing an emission factor to calculate annual emissions from each enclosed flare.

Thereafter, testing shall be conducted every three years for nitrogen oxides.

b. During each performance test, the owner/operator shall determine the average operating temperature of each enclosed flare. The average operating temperature is the temperature monitored, averaged over the course of the performance test.

- c. The owner/operator shall provide the Office of Air Resources at least 30 days prior notice of any stack test.
- d. All testing shall be conducted under operating conditions deemed acceptable and representative for the purpose of assessing compliance with the applicable emissions limitation.
- e. A final report of the results of stack testing shall be submitted to the Office of Air Resources no later than 60 days following completion of testing.

## E. Recordkeeping and Reporting

- 1. The owner/operator shall maintain the following records on a monthly basis:
  - a. The hours of operation of each combustion turbine, including any start-up, shutdown or malfunction in the operations of the facility.
  - b. The total landfill gas flow to each combustion turbine.
  - c. Gross electrical power generation in kw-hr for each turbine and for the five turbines combined.
  - d. Any malfunction of the air pollution control system.
  - e. Inlet temperature to the SCR catalyst
- 2. The owner/operator shall continuously measure and record the operating temperature of the ULE flare and each enclosed flare.
- 3. The owner/operator shall notify the Office of Air Resources, in writing, within 15 days after the end of the calendar quarter, if the quarterly analyses of the landfill gas being used as a fuel show that the concentration of any compound exceeds the reportable concentrations in Table 1.
- 4. The owner/operator shall maintain records of the landfill gas flow rate and daily methane content of the landfill gas being combusted in the ULE flare and each enclosed flare.
- 5. The permittee shall maintain up-to-date, readily accessible records for the life of each flare, the data listed below, as measured during the initial performance test. Records of subsequent tests or monitoring shall be maintained for a minimum of 5 years. Records of vendor specifications for each flare shall be maintained until removal:

- a. The average combustion temperature measured at least every 15 minutes and averaged over the same time period of the performance test; and
- b. The percent reduction of NMOC determined as specified in 40 CFR 60.752(b)(2)(iii)(B) achieved by each flare.
- 6. The owner/operator shall notify the Office of Air Resources, in writing, of the date of actual start-up of the combustion turbines no later than fifteen days after such date.
- 7. The owner/operator shall submit excess emissions and monitoring systems performance report and/or summary report form for the combustion turbines to the Office of Air Resources and the USEPA semiannually. All reports shall be postmarked by the 30th day following the end of each six-month period.
  - a. The excess emissions and monitoring systems performance report shall include the following information:
    - (1) The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.
    - (2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.
    - (3) The date and time identifying each period of monitor downtime and the nature of any corrective action.
    - (4) When no excess emissions have occurred or the monitoring system has not been down, such information shall be stated in the report.
  - b. The summary report form shall contain the information and be in the format shown in figure 1 in 40 CFR 60.7(d). One summary report form shall be submitted for sulfur dioxide.
    - (1) If the total duration of excess emissions for the reporting period is less than 1 percent of the total operating time for the reporting period and CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, only the summary report form shall be submitted and the excess emission

- report need not be submitted unless requested by the Office of Air Resources or USEPA.
- (2) If the total duration of excess emissions for the reporting period is 1 percent or greater of the total operating time for the reporting period or the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the summary report form and the excess emission report shall both be submitted.
- c. An excess emission occurs each unit operating hour included in the period beginning on the date and hour of any sample for which the sulfur content of the landfill gas being fired in a combustion turbine exceeds the emission limitation in A.1.e.(1) and ending on the date and hour that a subsequent sample is taken that demonstrates compliance with the sulfur limit.
- d. A period of monitor downtime begins when a required sample is not taken by its due date. A period of monitor downtime also begins on the date and hour of a required sample, if invalid results are obtained. The period of monitor downtime ends on the date and hour of the next valid sample.
- 8. All 3-hour periods of operation during which the average combustions temperature of a flare was more than 28°C below the average combustion temperature during the most recent performance test at which compliance was determined constitute exceedances that shall be recorded and reported. The owner/operator shall maintain up-to-date, readily accessible records for all 3-hour periods of operation during which the average combustions temperature was more than 28°C below the average combustion temperature during the most recent performance test at which compliance was determined.
- 9. Any breakdown or malfunction of the ULE flare or the enclosed flares resulting in the emission of raw landfill gas shall be reported to the Office of Air Resources within one hour after the occurrence. A written report of any breakdown or malfunction shall be submitted within five (5) days of the breakdown or malfunction. The following information shall be provided in each report:
  - a. The date the breakdown or malfunction occurred
  - b. The suspected reason for the malfunction
  - c. The corrective action taken
  - d. The time needed to make repairs

A copy of each report shall be kept at the facility.

10. The owner/operator shall, on a monthly basis, no later than 15 days after the first of each month, determine the an average monthly BTU/scf value for landfill gas combusted by the ULE flare and each enclosed flare using daily methane values and the following equation:

Heating Value of Landfill Gas (BTU/scf) = Methane Content (%) x 1012 BTU/scf

- 11. The owner/operator shall prepare an annual emissions report of total emissions of nitrogen oxides, carbon monoxide, sulfur dioxide and PM-10 from the ULE flare and each enclosed flare for the previous calendar year. This report shall be submitted to the Office of Air Resources with the annual emission report required by Air Pollution Control Regulation No. 14.
- 12. The owner/operator shall notify the Office of Air Resources in writing of any planned physical or operational change to any equipment that would:
  - a. Change the representation of the facility in the application.
  - b. Alter the applicability of any state or federal air pollution rules or regulations.
  - c. Result in the violation of any terms or conditions of this permit.
  - d. Qualify as a modification under APC Regulation No. 9.

Such notification shall include:

- Information describing the nature of the change.
- Information describing the effect of the change on the emission of any air contaminant.
- The scheduled completion date of the planned change.

Any such change shall be consistent with the appropriate regulation and have the prior approval of the Director.

13. The owner/operator shall notify the Office of Air Resources of any anticipated noncompliance with the terms of this permit or any other applicable air pollution control rules and regulations.

- 14. Deviations from permit conditions, including those attributable to upset conditions as defined in this permit, shall be reported, in writing, within five (5) business days of the deviation, to the Office of Air Resources. A copy of any such report shall be sent to the USEPA Region I. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken.
- 15. All records required as a condition of this permit must be made available to the Office of Air Resources or its representative upon request. These records must be maintained for a minimum of five years after the date of each record.

#### F. Other Permit Conditions

- 1. To the extent consistent with the requirements of this permit and applicable federal and state laws, the facility shall be designed, constructed and operated in accordance with the representation of the facility in the permit application dated December 2007, prepared by GZA GeoEnvironmental, Inc and the addendum to the permit application dated August 2008, prepared by GZA GeoEnvironmental.
- 2. Employees of the Office of Air Resources and its authorized representatives shall be allowed to enter the facility at all times for the purpose of inspecting any air pollution source, investigating any condition it believes may be causing air pollution or examining any records required to be maintained by the Office of Air Resources.
- 3. Operation of this equipment shall not result in the release of raw landfill gas to the atmosphere.
- 4. The owner/operator shall install and maintain an automatic fail-safe block valve on each combustion turbine. The fail-safe block valve must stop the flow of landfill gas in the event of a combustion turbine failure.
- 5. Excess landfill gas, not used as a fuel in a combustion turbine, must be flared or combusted in the Caterpillar engines.
- 6. At all times, including periods of startup, shutdown and malfunction, the owner/operator shall, to the extent practicable, maintain and operate the facility in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Office of Air Resources which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures and inspection of the source.
- 7. The owner/operator shall not initiate start-up of the facility until a minimum of 116 tons of NO<sub>x</sub> emission offsets has been purchased. The NO<sub>x</sub> emission offsets shall

be those generated by the the voluntary installation of an SCR system at the Medical Area Total Energy Plant (MATEP) in Boston, MA and the shutdown of equipment associated with the Lawrence RDF and the Ogden Martin Systems of Haverhill plants located in Lawrence, MA. Offsets purchased from any other source must have the prior approval of the Office of Air Resources.

8. The owner/operator shall not initiate start-up of the facility until a minimum of 36 tons of VOC emission offsets has been purchased. The VOC emission offsets shall be those generated by the shutdown of the Quebecor Printing Providence, Inc. facility in Providence, RI in 1998. Offsets purchased from any other source must have the prior approval of the Office of Air Resources.

# G. Startup/Shutdown Conditions and Initial Commissioning

- 1. Turbine startup/shutdown shall be defined as that period of time from initiation of combustion turbine firing until the unit reaches steady state load operation. Steady state operation shall be reached when the combustion turbine reaches minimum load (70%). This period shall not exceed 60 minutes for a hot start, 180 minutes for a warm start, or 240 minutes for a cold start. A warm start shall be defined as startup when the generating unit has been down for more than 2 hours and less than or equal to 24 hours. A cold start shall be defined as startup when the generating unit has been down for more than 24 hours. Unit shutdown shall be defined as that period of time from steady state operation to cessation of combustion turbine firing. This period shall not exceed 60 minutes.
- 2. Initial turbine commissioning shall be defined as the first 100 hours of combustion turbine operation following initial startup or to commercial acceptance whichever is less.
- 3. The emission limitations of Conditions A.1-4 shall not apply to the turbine startup/shutdown conditions or to initial turbine commissioning. Within twelve months of the initial performance testing required by Condition D.1, the owner/operator shall propose to the Office of Air Resources, numerical emission limits to apply during turbine startup and shutdown conditions. Continuous emission monitoring and/or stack test data gathered during startups and shutdowns shall be used as the basis for these limits and calculation of these emission limits shall be based on statistical methods, numerical methods or other appropriate analytical methodology that is deemed acceptable by the Office of Air Resources.
- 4. The owner/operator shall follow proper operating procedures during turbine startup/shutdown conditions and initial turbine commissioning to minimize the emissions of air contaminants to the maximum extent practical. The owner/operator shall submit to the Office of Air Resources for review and approval, at least 90 days prior to startup, the procedures to be followed during turbine startup/shutdown

conditions and initial turbine commissioning. The procedures shall be designed to minimize the emission of air contaminants to the maximum extent practical.

#### H. Malfunctions

- 1. In the case of a malfunction of any air pollution control device, all reasonable measures shall be taken to assure resumption of the designed control efficiency as soon as possible. In the event that the malfunction of the air pollution control device is expected or may reasonably be expected to continue for longer than 24 hours and if the owner or operator wishes to continue to operate the air pollution control device and/or the equipment vented to that air pollution control device at any time beyond that period, the Director shall be petitioned for a variance under Section 23-23-15 of the General Laws of Rhode Island, as amended. Such petition shall include, but is not limited to, the following:
  - a. Identification of the specific air pollution control device and source on which it is installed;
  - b. The expected period of time that the air pollution control device will be malfunctioning or out of service;
  - c. The nature and quantity of air contaminants likely to be emitted during said period;
  - d. Measures that will be taken to minimize the length of said period;
  - e. The reasons that it would be impossible or impractical to cease the source operation during said period.
- 2. The owner/operator may seek to establish that a malfunction of any air pollution control device that would result in noncompliance with any of the terms of this permit or any other applicable air pollution control rules and regulations was due to unavoidable increases in emissions attributable to the malfunction. To do so, the owner/operator must demonstrate to the Office of Air Resources that:
  - a. The malfunction was not attributable to improperly designed air pollution control equipment, lack of preventative maintenance, careless or improper operation, or operator error;
  - b. The malfunction was not part of a recurring pattern indicative of inadequate design, operation, or maintenance;
  - c. Repairs necessary to bring the air pollution control system back to normal and proper operation were performed in an expeditious fashion. Off-shift

labor and overtime should be utilized, to the extent practicable, to ensure that such repairs were completed as expeditiously as practicable. Any parts or material needed should be shipped overnight where possible or practical.

- d. All possible steps were taken to minimize emissions during the period of time that the repairs were performed.
- e. Emissions during the period of time that the repairs were performed will not:
  - (1) Cause an increase in the ground level ambient concentration at or beyond the property line in excess of that allowed by Air Pollution Control Regulation No. 22 and any Calculated Acceptable Ambient Levels; and
  - (2) Cause or contribute to air pollution in violation of any applicable state or national ambient air quality standard.
- f. The reasons that it would be impossible or impractical to cease the source operation during said period.

This demonstration must be provided to the Office of Air Resources, in writing, within two working days of the time when the malfunction occurred and contain a description of the malfunction, any steps taken to minimize emissions and corrective actions taken.

The owner/operator shall have the burden of proof in seeking to establish that noncompliance was due to unavoidable increases in emissions attributable to the malfunction.

Table 1
Reportable Concentrations

Pollutant	CAS Number	Reportable Concentration (ppm)
Benzene	71432	130
1,4 Dichlorobenzene	106467	61
Ethylidene dichloride	75343	629
Hydrogen sulfide	7783064	6100
Mercury	7439976	0.13
Methylene chloride	75092	2236
Tetrachloroethylene	127184	124
Trichloroethylene	79016	383
Trichlorofluoromethane	75694	86,667
Vinyl Chloride	75014	324
Hydrogen Chloride	7647010	537

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# STATE OF RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR RESOURCES

In Re: Proposal to issue a Major Source Permit to Rhode Island Central Genco, LLC

# Response to Comments and Decision

### Introduction

Rhode Island Central Genco, LLC, (RICG) proposes to install five, landfill gas-fired combustion turbines and three flares at its existing facility at 65 Shun Pike, Johnston, RL. An application for a Major Source Permit for this facility was received by the Office of Air Resources on 28 December 2007. The application was determined to be complete on 10 March 2008. On 28 August 2008 RICG submitted an addendum to their application proposing to add three flares to the project. This Response to Comments and Decision will respond to substantial comments made on the draft permit and present the Department's final action on RICG's Major Source Permit application.

On 11March 2009 a Notice of Public Hearing and Comment Period was published in the Providence Journal and was mailed and/or e-mailed to interested parties announcing a public hearing and the opportunity for public comment on the Office of Air Resources' proposal to issue a Major Source Permit to Rhode Island Central Genco, LLC. The public notice contained the information required by Section 9.12.2 of APC Regulation No. 9. The public notice was sent to those persons required to be sent a public notice by Section 9.12.3 of APC Regulation No. 9 and other interested persons. A fact sheet was prepared for the draft permit, which includes the information required by Section 9.12.4 of APC Regulation No. 9.

A copy of the draft Major Source Permit and supporting documentation was made available at the Office of Air Resources. The availability of these materials at this location was announced in the public notice.

A public hearing was held on 16 April 2009 at the Rhode Island Department of Environmental Management's offices, 235 Promenade Street, Providence, RI at 7:00 PM. The written comment period closed at 4:00 PM on 16 April 2009, 36 days after the date of initial public notice. A transcript of the public hearing was prepared.

Written comments were received from the United States Environmental Protection Agency and Domenic Parisella. No individuals provided comments on the record at the public hearing. The following is the Office of Air Resources' responses to the written comments.

## Response to Comments

The following are the comments of the USEPA contained in a 7 April 2009 letter from Donald Dahl to Doug McVay followed by DEM's response.

Comment: The BACT analysis for the combustion turbines supports establishing the permit emission limits as provided for in the Preliminary Determination and not at the emission limits in

the draft NSR permit. The BACT analysis in the Preliminary Determination for the combustion turbine has a finding of 100 ppmv and 10 ppmv, respectively, on a dry basis, corrected to 15%  $O_2$  (1-hour average) for the CO and VOC emission limits respectively, representative of full load conditions. The emission limits for CO and VOC of 200 ppmv and 20 ppmv, respectively, on a dry basis, corrected to 15%  $O_2$  (1-hour average)in the draft NSR permit do not represent BACT but appear to be emission limits determined over a range of load conditions. EPA recommends changing the permit emission limits to reflect the BACT analysis as discussed in the Preliminary Determination.

Response:

DEM has revised the permit emission limits for carbon monoxide (CO) and total nonmethane hydrocarbons (NMHC) (aka VOC) to be consistent with the statements in the BACT evaluation.

The emission limitation for CO has been revised to read:

The concentration of carbon monoxide discharged to the atmosphere from each combustion turbine shall not exceed 100 ppmv, on a dry basis, corrected to 15 percent  $O_2$  (I-hour average) at full load conditions and 200 ppmv, on a dry basis, corrected to 15 percent  $O_2$  (I-hour average) at load conditions other than full load Full load conditions shall mean 95-100% load

The emission limitation for NMHC has been revised to read:

The concentration of total nonmethane hydrocarbons discharged to the atmosphere from each combustion turbine shall not exceed 10 ppmv, on a dry basis, corrected to 15 percent  $O_2$  (1-hour average) at full load conditions and 20 ppmv, on a dry basis, corrected to 15 percent  $O_2$  (1-hour average) at load conditions other than full load Full load conditions shall mean 95-100% load

Comment:

The emission limit in the draft NSR permit for  $SO_2$  for the combustion turbines is 0.060 lb  $SO_2$ /MMBtu. Although this limit represents the emission limit found in 40 CFR 60, Subpart KKKK, Standards of Performance for Stationary Combustion Turbines, it is not consistent with the BACT emission limit of 0.034 lb  $SO_2$ /MMBtu established in the Preliminary Determination. EPA recommends changing the permit emission limit for  $SO_2$  to reflect the BACT analysis as discussed in the Preliminary Determination.

Response:

The emission limit in the permit has been revised to 0.034 lb SO<sub>2</sub>/MMBtu to be consistent with the BACT analysis in the Preliminary Determination.

Comment:

DEM should establish a minimum operating temperature for the operation of the SCR system in support of the permit conditions requiring the owner/operator to continuously monitor the inlet temperature of the SCR catalyst.

Response:

DEM has added two conditions to the Operating Requirements section of the permit to require that the SCR unit be in operation at all times that the inlet temperature of the SCR catalyst is 600° F or greater and that ammonia injection occur when the inlet temperature of the SCR catalyst is 600° F or greater.

The new conditions read:

The SCR system shall be operated at all times that the inlet temperature of the SCR catalyst is 600°F or greater and,
Ammonia shall be injected into the SCR system whenever the inlet temperature of the SCR catalyst is at or above 600°F.

Domenic Parisella provided the following comment in an e-mail to Doug McVay dated 8 April 2009:

Comment:

I strongly object to any proposal that might contribute to any additional odor. Any increase in air pollution emissions is not acceptable.

Response:

The landfill gas-fired turbines would not be expected to generate odors that would be objectionable beyond the property line. However, unreacted ammonia is emitted from the SCR system used to control nitrogen oxides emissions. The maximum predicted 1-hour average impact of ammonia from the air quality modeling was 15.324  $\mu g/m^3$  (0.021 ppm). This impact is less than the lowest reported odor threshold for ammonia.

Additionally, the applicant has demonstrated in the air quality impact analysis that:

- This facility will not cause or contribute to air pollution in violation of any National Ambient Air Quality Standard.
- Emissions from the facility will not cause an increase in the ground level ambient concentration at or beyond the property line in excess of that allowed by Air Pollution Control Regulation No. 22 ("Air Toxics").

## Decision

The Department finds that the applicant has satisfied all the applicable provisions of APC Regulation No. 9, Section 9.4 relative to the requirements for issuance of a Major Source Permit for a major modification in a nonattainment area and Section 9.5 relative to the requirements for issuance of a Major Source Permit for a major modification in an attainment area.

Based on the comments received on the proposal to issue a Major Source Permit to Rhode Island Central Genco, LLC, it is the decision of the Office of Air Resources to amend the draft permit as indicated in the response to comments above and issue the Major Source Permit, as revised.

Date

Susan Forcier, Hearing Officer Office of Legal Services