

Petition for Order Granting a Certificate of Public Convenience & Necessity

#### **EXHIBITS**

Submitted by:
Cricket Valley Energy Center, LLC
P.O. Box 407
Dover Plains, NY 12522
(October 2011)



Project: Cricket Valley Energy

#### **EXHIBITS**

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Petition For Order Granting Certificate of Public Convenience & Necessity

Project: Cricket Valley Energy

# EXHIBIT 1 Notice Pursuant to 16 NYCRR 21.10(a)(2010)

Petition For Order Granting Certificate of Public Convenience & Necessity

#### LEGAL NOTICE

TAKE NOTICE That on or about October 31, 2011, Cricket Valley Energy Center, LLC ("CVE") filed with the New York State Public Service Commission a PETITION FOR ORDER GRANTING CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY AND ESTABLISHING A LIGHTENED REGULATORY REGIME. The requested Order would authorize CVE to construct, own and operate a combined cycle, natural gas-powered 1,000 megawatt electric generating facility in Dover, Dutchess County, New York. CVE has moved that the public hearing required by the Public Service Law be held before the Commission on the basis of the petition and such exhibits, prepared testimony and any other information as may have been filed by any party or staff counsel, and that oral testimony not be taken. Any person opposed to the Petition should, within 10 days of the date of the publication of this notice, notify in writing the secretary of the Public Service Commission at Agency Building 3, Empire State Plaza, Albany, NY 12223, of the reasons for the opposition.

Project: Cricket Valley Energy

## **EXHIBIT 2 CVE Certificate of Formation**

Petition For Order Granting Certificate of Public Convenience & Necessity

#### FILING RECEIPT

ENTITY NAME: CRICKET HILL ENERGY CENTER, LLC

DOCUMENT TYPE: ARTICLES OF ORGANIZATION (DOM LLC)

COUNTY: DUTC

EXT. ED. 04/02/2000 DUDATION. \*\*\*\*\*\*\* GAGIH. 000402000256 FILM #.000402000232

FILED: 04/02/2009 DURATION: \*\*\*\*\*\* CASH#: 090402000256 FILM #: 090402000232

FILER:

EXIST DATE

NIXON PEABODY LLP 50 JERICHO QUADRANGLE, SUITE 300 04/02/2009

JERICHO, NY 11753-2728

ADDRESS FOR PROCESS:

C/O ARNOLD R. WALLENSTEIN, ESQ. 31 MILK STREET, SUITE 1001

BOSTON, NY 02109

REGISTERED AGENT:



SERVICE COMPANY: CORPORATION SERVICE COMPANY - 45 SERVICE CODE: 45 \*

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#### STATE OF NEW YORK

#### **DEPARTMENT OF STATE**

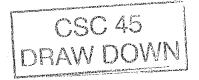
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WITNESS my hand and official seal of the Department of State, at the City of Albany, on April 2, 2009.

Paul De Painte

Paul LaPointe Special Deputy Secretary of State



New York State
Department of State
Division of Corporations, State Records
and Uniform Commercial Code
41 State Street
Albany, NY 12231
www.dos.state.ny.us

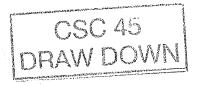
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### ARTICLES OF ORGANIZATION OF

Cricket Hill Energy Center, LLC
(Insert name of Limited Liability Company)

Under Section 203 of the Limited Liability Company Law

FIRST: The name of the limited liability company is: Cricket Hill Energy Center, LLC
SECOND: The county within this state in which the office of the limited liability company is to be located is:  Dutchess
THIRD: The Secretary of State is designated as agent of the limited liability company upo whom process against it may be served. The address within or without this state to which th Secretary of State shall mail a copy of any process against the limited liability company served upo him or her is:
Cricket Hill Energy Center, LLC, c/o Arnold R. Wallenstein, Esq.
31 Milk Street, Suite 1001
Boston, MA 02109
Kelly Tallaksen (signature of organizer)  (print or type name of organizer)



#### ARTICLES OF ORGANIZATION OF

Cricket Hill Energy Center, LLC (Insert name of Limited Liability Company)

Under Section 203 of the Limited Liability Company Law

************		
Filed by:	(Name)	
	50 Jericho Quadrangle, Suite 300 (Mailing address)	
	Jericho, New York 11753-2728 (City, State and ZIP code)	945508 KXK
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STATE OF NEW YORK DEPARTMENT OF STATE

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DOS-1336 (Rev. 3/03)

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New York State
Department of State
Division of Corporations, State Records
and Uniform Commercial Code
One Commerce Plaza, 99 Washington Avenue
Albany, NY 12231
www.dos.state.ny.us

# OF ARTICLES OF ORGANIZATION OF

#### CRICKET HILL ENERGY CENTER, LLC

(Insert Name of Domestic Limited Liability Company)
Under Section 211 of the Limited Liability Company Law

FIRST: The name of the limited liability company is:

Cricket Hill Energy Center, LLC

If the name of the limited liability company has been changed, the name under which it was organized is:

SECOND: The date of filing of the articles of organization is: 04/02/2009

THIRD: The arriendment effected by this certificate of amendment is as follows: (Set forth each amendment in a separate paragraph providing the subject matter and full text of each amended paragraph. For example, or amendment changing the name of the limited liability company would read as follows: Paragraph First of the Articles of Organization relating to the limited liability company name is hereby amended to read as follows: First: The name of the limited liability company is ... (new name) ...)

Paragraph First of the Articles of Organization relating to the limited liability company name

is hereby amended to read as follows:

First: The name of the limited liability company is: Cricket Valley Energy Center, LLC

Amold R. Wallenstein

(Type or print name)

Authorized Signatory

(Title of signer)

090604000 270



#### CERTIFICATE OF AMENDMENT OF ARTICLES OF ORGANIZATION OF

Cricket Hill Energy Center, LLC

(Insert Name of Domestic Limited Liability Company)

Under Section 211 of the Limited Liability Company Law

NOTE:

27-0605498

Filed by:

Nixon Peabody LLP

(Vante)

50 Jericho Quadrangle, Suite 300

(Mailing address)

Jericho, New York 11763-2728

(City, State and Zip code)

CUSTOMER REF. #

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(For office use only.)

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# STATE OF NEW YORK DEPARTMENT OF STATE

I hereby certify that the annexed copy has been compared with the original document in the custody of the Secretary of State and that the same is a true copy of said original.



WITNESS my hand and official seal of the Department of State, at the City of Albany, on June 4, 2009.

Daniel E. Shapiro

First Deputy Secretary of State

Rev. 05/09

#### FILING RECEIPT

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ENTITY NAME: CRICKET VALLEY ENERGY CENTER, LLC

DOCUMENT TYPE: AMENDMENT (DOM LLC)

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COUNTY: DUTC

FILED: 06/04/2009 DURATION: \*\*\*\*\*\* CASH#: 090604000294 FILM #:090604000270

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Project: Cricket Valley Energy **EXHIBIT 3 CVE Site Location Map** Petition For Order Granting Certificate of Public Convenience & Necessity

Project: Cricket Valley Energy

## **EXHIBIT 4 CVE Artist's Rendering & Site Photos**

Petition For Order Granting Certificate of Public Convenience & Necessity

Exhibit 4
Artist's Rendering of the CVE Facility

Aerial View looking ENE, Route 22 in foreground, Swamp River in background, ConEd/Iroquois Rights-of-Way depicted in top right



Exhibit 4
Artist's Rendering of the CVE Facility

Ground View of the Facility looking ENE, Administrative Building and Parking in foreground, Main plant buildings & stacks in background



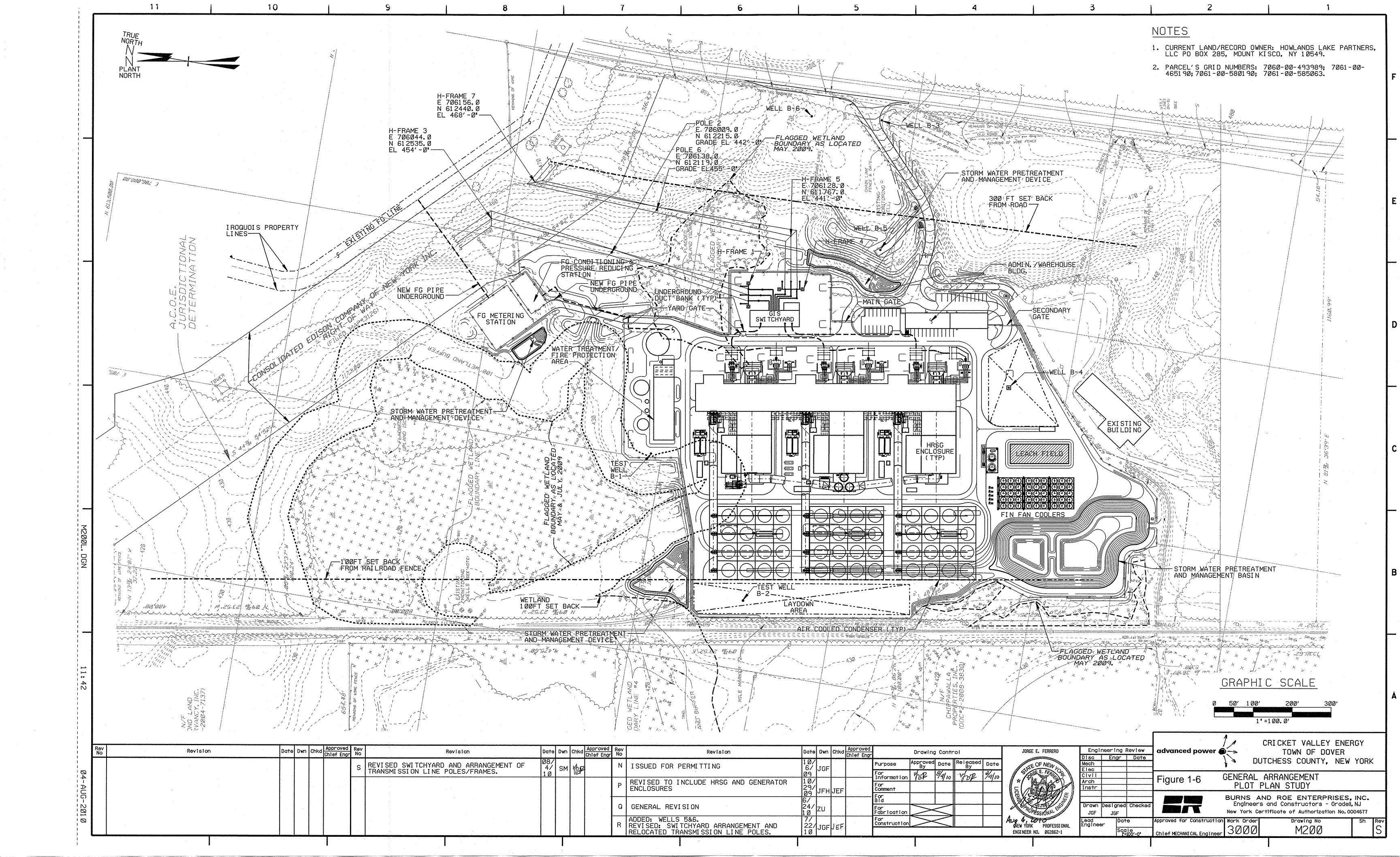
Existing Conditions







Project: Cricket Valley Energy **EXHIBIT 5 CVE Site Plan** Petition For Order Granting Certificate of Public Convenience & Necessity



Project: Cricket Valley Energy

# **EXHIBIT 6 Security Constrained Economic Dispatch Study**

Petition For Order Granting Certificate of Public Convenience & Necessity

# Cricket Valley Energy Project: SecurityConstrained Economic Dispatch Analysis

Prepared for: GE Energy Global Development and Strategic Initiatives

Prepared by: Energy Consulting (May 20, 2011 update)



#### **Foreword**

General Electric International, Inc prepared this document as a service through the Energy Consulting group. It is submitted to:

David Malcolm

GE Energy Global Development and Strategic Initiatives.

Technical correspondence concerning this document should be referred to:

Steven Oltmanns

GE Energy, Principal

**Energy Consulting** 

1333 West Loop South Houston, TX 77027 (713) 803-0375 steven.oltmanns@ge.com

Commercial questions and correspondence concerning this document should be referred to:

David Houghtaling

GE Energy, Commercial Operations Manager

**Energy Consulting** 

1 River Road Schenectady, NY 12345 Phone #: 518-385-4196

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#### 1 Executive Summary

GE Energy Global Development and Strategic Initiatives (GDSI) contacted the Energy Consulting (EC) group to conduct a Security-Constrained Economic Dispatch (SCED) study in support of the Environmental Impact Study (EIS) for the proposed 1,000 MW Cricket Valley Energy Project (Cricket Valley) in New York. To perform the SCED study, EC used GE Energy's Multi-Area Production Simulation (GE-MAPS<sup>TM</sup>) software application for a transmission constrained, production simulation of the regions surrounding Cricket Valley within the Eastern Interconnection (EI) for years 2015 through 2020. This was accomplished by incorporating cost and performance assumptions specific to the Cricket Valley in EC's current non-proprietary EI database.

Generally speaking, the addition of Cricket Valley to the New York Pool results in an increase in energy production within the NY Pool, fewer imports from adjacent pools and a lower Total Annual Load-Weighted Cost to Serve (M\$ per year) across the region (New York, New England, PJM and Ontario). Generally speaking, both NOx and SO2 production (total tons per year) decrease across the region and within most pools, while Ontario shows a slight increase in both effluents in certain years (due to a slight increase in Ontario coal-fired generation, with the addition of Cricket Valley). Total CO2 production (total tons per year) across the region decreases as a result of Cricket Valley, but the total amount of CO2 produced in the NY Pool increases slightly (about 2% annually over the study period), due to the increase energy production (about 2% annually over the study periods) within the NY Pool.

A sensitivity analysis was also performed to consider the possible retirement of a nuclear generating unit in the region. Currently, the EI database used for this SCED study assumes the Indian Point Units 2 and 3 will receive an operating license extension beyond the current operating licenses, due to expire in September 2013 and December 2015, respectively. For purposes of this study, it did not seem unreasonable to assume a scenario where the operating license for Unit 2 may not be extended beyond September 2013.

The results from the Indian Point Unit 2 sensitivity cases are summarized in Section 4 below. In general, the relative impact of adding Cricket Valley to the New York Pool with Indian Point Unit 2 retired in 2013 is consistent with the observed results assuming Indian Point Unit 2 remains in service beyond the expiration of its current operating license.

Licenses for the GE-MAPS software application and the EI database used for this study are not included as deliverables for this study.

#### 2 Analysis

EC performed the SCED study by incorporating cost and performance assumptions specific to the Cricket Valley in EC's current non-proprietary EI database. (See Appendix A for a summary of the non-proprietary database assumptions.) The assumptions for Cricket Valley are summarized below:

**Table 2.1:** Cricket Valley Cost and Performance Assumptions

<u>Parameter</u>	<u>Assumption</u>
GE-MAPS Gas Node:	NGNYEAST
Summer Capacity:	912 MW CC (+ 124 MW Duct Firing)
Winter Capacity:	962 MW CC (+ 122 MW Duct Firing)
Summer FLHR:	6,654 Btu/kWh
Winter FLHR:	6,657 Btu/kWh
Duct Firing IHR (Summer):	9,045 Btu/kWh
Duct Firing IHR (Winter):	9,049 Btu/kWh
NOx Rate:	2.0 ppm
Variable O&M:	\$2.45/MWh
Fixed O&M:	\$12.00/kW-yr
Start-Up Cost:	\$36,000/start
COD:	May 1, 2015
Forced Outage Rate:	3.3%
Planned Outage Rate:	4.0%
Min Down Time:	8 hours
Inflation Rate:	2.4%
Interconnection:	345 kV line from Pleasant Valley to
	Long Mountain approximately 9 miles

Using these assumptions, EC performed a transmission constrained, production simulation using the GE-MAPS software application (see Appendix B for a summary brochure describing the GE-MAPS software application). Two production simulations were performed: one case without Cricket Valley (Base Case) and a second case with Cricket Valley (Cricket Valley Case). Using the results from these two simulations, the impact of Cricket Valley on the New York ISO and on adjacent systems (ISO-New England, PJM, Ontario IESO) was analyzed. The variables selected for this analysis include Total Annual Load-Weighted Cost to Serve (M\$), Total Annual Energy Production (GWh) and Total Annual Emissions Production (NOx, SO2 and CO2) for each of the four "pools" analyzed (NY Pool, NE Pool, Ontario and PJM).

from Pleasant Valley

The results from these two cases are summarized in Section 3 below.

A sensitivity analysis was also performed to consider the possible retirement of a nuclear generating unit in the region. Currently, the EI database used for this SCED study assumes

the Indian Point Units 2 and 3 will receive an operating license extension beyond the current operating licenses, due to expire in September 2013 and December 2015, respectively. The recent New York State Energy Research Development Authority (NYSERDA) State Energy Plan² included a scenario where both Units 2 and 3 were retired in 2015. While the likelihood of retiring both nuclear units in the same year may appear questionable today, it did not seem unreasonable for purposes of this study to assume a scenario where the operating license for Unit 2 may not be extended beyond September 2013.

The results from the Indian Point Unit 2 sensitivity cases are summarized in Section 4 below.

3

http://www.nysenergyplan.com/Supporting\_Documents/Electricity%20Modeling%20Assumptions.pdf?cf03800915=C307807C!MjA0MDUxNTAxOmNvcnByYWRpdXNzc286vQh0XRLzhAsnwQhEoGFlnw==

<sup>&</sup>lt;sup>1</sup> http://www.entergy-nuclear.com/plant information/indian point.aspx

<sup>&</sup>lt;sup>2</sup> http://www.nysenergyplan.com/

#### 3 Results

Table 3.1 below summarizes the Total Cost to Serve in each of the pools analyzed. The underlying competitive wholesale market structure within each of these pools assumes supply offers based on each individual unit's marginal costs. Generally speaking, the majority of the decrease in Total Cost to Serve is shared between the NY Pool and PJM.

Table 3.1 Total Annual Load-Weighted Cost to Serve (M\$) by Pool

		<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	2020
Base Case (M\$)	NE Pool	\$ 8,215	\$ 8,545	\$ 8,856	\$ 9,090	\$ 9,709	\$ 9,957
	NY Pool	\$ 10,586	\$ 11,086	\$ 11,400	\$ 11,704	\$ 12,532	\$ 12,842
	Ontario	\$ 6,872	\$ 7,485	\$ 7,678	\$ 8,085	\$ 8,303	\$ 8,635
	PJM	\$ 43,081	\$ 45,087	\$ 45,209	\$ 46,964	\$ 49,922	\$ 51,825
	TOTAL	\$ 68,755	\$ 72,203	\$ 73,143	\$ 75,843	\$ 80,465	\$ 83,259
Cricket Valley Case (M\$)	NE Pool	\$ 8,124	\$ 8,383	\$ 8,729	\$ 8,903	\$ 9,545	\$ 9,759
	NY Pool	\$ 10,425	\$ 10,869	\$ 11,211	\$ 11,429	\$ 12,280	\$ 12,608
	Ontario	\$ 6,853	\$ 7,454	\$ 7,677	\$ 8,024	\$ 8,261	\$ 8,564
	PJM	\$ 42,911	\$ 44,819	\$ 44,968	\$ 46,727	\$ 49,581	\$ 51,630
	TOTAL	\$ 68,312	\$ 71,524	\$ 72,585	\$ 75,082	\$ 79,667	\$ 82,562
Increase (Decrease) (M\$)	NE Pool	\$ (92)	\$ (162)	\$ (128)	\$ (188)	\$ (164)	\$ (198)
	NY Pool	\$ (162)	\$ (217)	\$ (189)	\$ (275)	\$ (252)	\$ (234)
	Ontario	\$ (20)	\$ (32)	\$ (2)	\$ (61)	\$ (42)	\$ (71)
		\$ (170)	\$ (269)	\$ (240)	\$ (237)	\$ (340)	\$ (195)
	TOTAL	\$ (443)	\$ (679)	\$ (559)	\$ (761)	\$ (798)	\$ (697)
% Increase (Decrease)	NE Pool	(1.1%)	(1.9%)	(1.4%)	(2.1%)	(1.7%)	(2.0%)
	NY Pool	(1.5%)	(2.0%)	(1.7%)	(2.4%)	(2.0%)	(1.8%)
	Ontario	(0.3%)	(0.4%)	(0.0%)	(0.8%)	(0.5%)	(0.8%)
	PJM	(0.4%)	(0.6%)	(0.5%)	(0.5%)	(0.7%)	(0.4%)
	TOTAL	(0.6%)	(0.9%)	(0.8%)	(1.0%)	(1.0%)	(0.8%)

Table 3.2 below illustrates the impact on total energy production within each pool, as a result of adding Cricket Valley to the NY Pool. Generally speaking, the increase in energy production within New York serves to decrease imports from adjacent pools, thereby lowering energy production in each of those pools.

Table 3.2 Total Annual Energy Production (GWh) by Pool

Base Case (GWh)	NE Pool NY Pool Ontario PJM TOTAL	2015 120,492 148,035 143,708 735,037 1,147,272	2016 121,789 149,226 144,511 739,106 1,154,633	2017 122,396 153,738 144,216 747,167 1,167,517	2018 124,031 156,701 144,244 751,786 1,176,762	2019 126,229 158,174 144,654 758,825 1,187,881	2020 127,615 163,212 144,829 757,786 1,193,441
Cricket Valley Case (GWh)	NE Pool	119,674	120,728	121,214	122,893	125,006	126,396
	NY Pool	150,004	152,267	156,927	159,768	161,550	166,495
	Ontario	143,742	144,363	143,983	144,005	144,417	144,650
	PJM	733,950	737,463	745,492	750,115	756,998	755,926
	TOTAL	1,147,370	1,154,820	1,167,616	1,176,780	1,187,971	1,193,468
Increase (Decrease) (GWh)	NE Pool	(818)	(1,061)	(1,182)	(1,138)	(1,223)	(1,219)
	NY Pool	1,969	3,040	3,190	3,067	3,376	3,283
	Ontario	34	(149)	(233)	(239)	(237)	(178)
	PJM	(1,087)	(1,644)	(1,675)	(1,672)	(1,827)	(1,860)
	TOTAL	98	187	99	17	90	27
% Increase (Decrease)	NE Pool	(0.7%)	(0.9%)	(1.0%)	(0.9%)	(1.0%)	(1.0%)
	NY Pool	1.3%	2.0%	2.1%	2.0%	2.1%	2.0%
	Ontario	0.0%	(0.1%)	(0.2%)	(0.2%)	(0.2%)	(0.1%)
	PJM	(0.1%)	(0.2%)	(0.2%)	(0.2%)	(0.2%)	(0.2%)
	TOTAL	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Tables 3.3 through 3.5 below summarize the total impact on emissions production within each pool as a result of adding Cricket Valley to the NY Pool. Generally speaking, both NOx and SO2 production decrease across the region and within most pools, while Ontario shows a slight increase in both effluents in certain years.

Table 3.3 Total Annual NOx Production (Tons) by Pool

		<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
Base Case (Tons)	NE Pool	14,398	14,529	15,530	14,737	15,068	15,144
	NY Pool	26,254	26,788	27,677	26,998	27,916	27,926
	Ontario	2,102	2,133	2,106	2,100	2,080	2,096
	PJM	320,234	316,280	327,105	318,475	318,351	311,774
	TOTAL	362,988	359,730	372,417	362,310	363,415	356,941
Cricket Valley Case (Tons)	NE Pool	14,249	14,324	15,329	14,518	14,846	14,914
	NY Pool	25,817	26,231	27,118	26,408	27,338	27,308
	Ontario	2,105	2,127	2,096	2,093	2,075	2,096
	PJM	319,756	315,518	326,276	317,679	317,584	311,149
	TOTAL	361,926	358,199	370,818	360,698	361,844	355,466
Increase (Decrease) (Tons)	NE Pool	(149)	(205)	(201)	(219)	(222)	(230)
	NY Pool	(437)	(557)	(559)	(590)	(578)	(618)
	Ontario	4	(6)	(10)	(7)	(5)	(1)
	PJM	(479)	(763)	(829)	(796)	(767)	(626)
	TOTAL	(1,061)	(1,531)	(1,599)	(1,612)	(1,571)	(1,475)
% Increase (Decrease)	NE Dool	(1.00/)	(1 (0/)	(1.70/)	/1 E0/\	/1 E0/\	(1 = 0/)
% increase (Decrease)	NE Pool	(1.0%)	(1.4%)	(1.3%)	(1.5%)	(1.5%)	(1.5%)
	NY Pool	(1.7%)	(2.1%)	(2.0%)	(2.2%)	(2.1%)	(2.2%)
	Ontario	0.2%	(0.3%)	(0.5%)	(0.3%)	(0.2%)	(0.0%)
	PJM	(0.1%)	(0.2%)	(0.3%)	(0.2%)	(0.2%)	(0.2%)
	TOTAL	(0.3%)	(0.4%)	(0.4%)	(0.4%)	(0.4%)	(0.4%)

Table 3.4 Total Annual SO2 Production (Tons) by Pool

		<u>2015</u>	<u> 2016</u>	<u>2017</u>	<u> 2018</u>	<u> 2019</u>	2020
Base Case (Tons)	NE Pool	75,077	75,905	83,425	76,414	77,512	78,309
	NY Pool	51,076	52,364	55,576	53,185	54,031	54,090
	Ontario	20,228	20,449	20,164	20,094	19,668	19,898
	PJM	1,807,060	1,756,709	1,795,020	1,743,189	1,730,725	1,674,074
	TOTAL	1,953,440	1,905,428	1,954,186	1,892,882	1,881,936	1,826,370
Cricket Valley Case (Tons)	NE Pool	74,660	75,354	83,120	76,068	76,957	77,899
	NY Pool	50,437	51,329	55,081	52,465	53,116	53,007
	Ontario	20,267	20,440	20,141	20,119	19,710	19,963
	PJM	1,805,210	1,753,217	1,791,724	1,739,698	1,727,205	1,671,250
	TOTAL	1,950,574	1,900,342	1,950,066	1,888,349	1,876,988	1,822,120
Increase (Decrease) (Tons)	NE Pool	(417)	(551)	(305)	(346)	(554)	(409)
	NY Pool	(638)	(1,035)	(495)	(721)	(915)	(1,082)
	Ontario	39	(9)	(23)	25	42	65
	PJM	(1,850)	(3,491)	(3,296)	(3,491)	(3,520)	(2,823)
	TOTAL	(2,867)	(5,086)	(4,120)	(4,533)	(4,948)	(4,250)
% Increase (Decrease)	NE Pool	(0.6%)	(0.7%)	(0.4%)	(0.5%)	(0.7%)	(0.5%)
	NY Pool	(1.2%)	(2.0%)	(0.9%)	(1.4%)	(1.7%)	(2.0%)
	Ontario	0.2%	(0.0%)	(0.1%)	0.1%	0.2%	0.3%
	PJM	(0.1%)	(0.2%)	(0.2%)	(0.2%)	(0.2%)	(0.2%)
	TOTAL	(0.1%)	(0.3%)	(0.2%)	(0.2%)	(0.3%)	(0.2%)

Table 3.5 below illustrates that, while total CO2 production across the region decreases as a result of Cricket Valley, the total amount of CO2 produced in the NY Pool increases slightly (about 2% annually over the study period), due to the increase energy production (about 2% annually over the study periods) within the NY Pool (Table 3.2).

Table 3.5 Total Annual CO2 Production (Tons) by Pool

Base Case (Tons)	NE Pool NY Pool Ontario PJM TOTAL	2015 43,129,318 43,479,260 9,320,627 426,452,174 522,381,380	2016 43,086,285 43,781,477 9,541,108 424,264,527 520,673,397	2017 44,978,154 45,125,219 9,440,267 432,499,292 532,042,932	2018 44,289,028 44,716,534 9,427,543 427,210,980 525,644,086	2019 44,835,766 46,314,790 9,548,769 427,827,876 528,527,200	2020 45,601,366 46,331,325 9,557,390 419,341,384 520,831,466
Cricket Valley Case (Tons)	NE Pool	42,753,795	42,587,434	44,444,738	43,764,002	44,243,532	45,028,331
	NY Pool	43,986,254	44,688,292	46,123,903	45,664,163	47,390,749	47,351,628
	Ontario	9,335,598	9,471,738	9,331,756	9,323,678	9,451,650	9,491,943
	PJM	425,756,207	423,291,330	431,516,247	426,175,425	426,738,014	418,270,603
	TOTAL	521,831,855	520,038,794	531,416,643	524,927,268	527,823,945	520,142,505
Increase (Decrease) (Tons)	NE Pool	(375,523)	(498,851)	(533,416)	(525,026)	(592,234)	(573,036)
	NY Pool	506,994	906,815	998,684	947,628	1,075,959	1,020,303
	Ontario	14,971	(69,369)	(108,511)	(103,865)	(97,119)	(65,447)
	PJM	(695,966)	(973,197)	(983,045)	(1,035,555)	(1,089,862)	(1,070,781)
	TOTAL	(549,525)	(634,602)	(626,288)	(716,818)	(703,256)	(688,961)
% Increase (Decrease)	NE Pool	(0.9%)	(1.2%)	(1.2%)	(1.2%)	(1.3%)	(1.3%)
	NY Pool	1.2%	2.1%	2.2%	2.1%	2.3%	2.2%
	Ontario	0.2%	(0.7%)	(1.1%)	(1.1%)	(1.0%)	(0.7%)
	PJM	(0.2%)	(0.2%)	(0.2%)	(0.2%)	(0.3%)	(0.3%)
	TOTAL	(0.1%)	(0.1%)	(0.1%)	(0.1%)	(0.1%)	(0.1%)

#### 4 Indian Point Unit 2 Retirement Sensitivity Results

In general, while the impact of retiring Indian Point Unit 2 results in an increase in the Total Annual Load-Weighted Cost to Serve and overall emissions production across the region (Appendix C), the relative impact of adding Cricket Valley to the New York Pool with Indian Point Unit 2 retired in 2013 is consistent with the observed results assuming Indian Point Unit 2 remains in service beyond the expiration of its current operating license. Table 4.1 below summarizes the impact of Cricket Valley on the Total Cost to Serve in each of the pools analyzed, assuming Indian Point Unit 2 is retired.

Table 4.1 Total Annual Load-Weighted Cost to Serve (M\$) by Pool

Base Case w/ Indian Point Unit 2 Retirement (M\$)	NE Pool NY Pool Ontario PJM TOTAL	\$ \$ \$ \$ \$ \$	2015 8,262 10,940 6,847 43,357 69,406	\$ \$ \$ \$	2016 8,570 11,431 7,492 45,405 72,897	\$ \$ \$ \$ \$	11,721 7,700 45,384	\$ \$ \$ \$ \$	2018 9,141 12,053 8,091 47,163 76,447	\$ \$ \$ \$	2019 9,759 12,927 8,328 50,074 81,088	\$ \$ \$ \$	2020 10,031 13,260 8,637 52,093 84,022
Cricket Valley Case w/ Indian Point Unit 2 Retirement (M\$)	NE Pool NY Pool Ontario PJM TOTAL	\$ \$ \$ \$ \$	8,159 10,792 6,841 43,215 69,007	\$ \$ \$ \$	8,407 11,217 7,467 45,164 72,255	\$ \$ \$ \$	11,527 7,693 45,147	\$ \$ \$ \$	8,952 11,814 8,056 46,981 75,803	\$ \$ \$ \$	9,589 12,693 8,279 49,816 80,377	\$ \$ \$ \$	9,824 13,029 8,578 51,922 83,353
Increase (Decrease) (M\$)	NE Pool NY Pool Ontario PJM TOTAL	\$ \$ \$ \$ \$ \$	(103) (148) (5) (143) (400)	\$ \$ \$	(163) (214) (24) (241) (643)	\$ \$ \$ \$		\$ \$ \$	(189) (239) (34) (181) (645)	\$ \$ \$	(171) (234) (49) (258) (711)	\$ \$ \$	(207) (231) (60) (170) (669)
% Increase (Decrease)	NE Pool NY Pool Ontario PJM TOTAL		(1.3%) (1.4%) (0.1%) (0.3%) (0.6%)		(1.9%) (1.9%) (0.3%) (0.5%) (0.9%)		(1.7%) (1.7%) (0.1%) (0.5%) (0.8%)		(2.1%) (2.0%) (0.4%) (0.4%) (0.8%)		(1.7%) (1.8%) (0.6%) (0.5%) (0.9%)		(2.1%) (1.7%) (0.7%) (0.3%) (0.8%)

Table 4.2 below illustrates the impact on total energy production within each pool, as a result of adding Cricket Valley to the NY Pool, assuming Indian Point Unit 2 is retired.

Table 4.2 Total Annual Energy Production (GWh) by Pool

		2015	<u>2016</u>	2017	2018	<u>2019</u>	2020
Base Case w/ Indian Point	NE Pool	121,512	122,774	123,449	125,113	127,217	128,676
Unit 2 Retirement (GWh)	NY Pool	144,810	146,109	150,600	153,206	154,922	159,744
	Ontario	143,718	144,518	144,243	144,382	144,744	145,008
	PJM	737,154	741,074	749,241	753,912	760,895	759,867
	TOTAL	1,147,195	1,154,475	1,167,534	1,176,612	1,187,778	1,193,294
Cricket Valley Case w/	NE Pool	120,688	121,692	122,261	123,941	125,960	127,362
Indian Point Unit 2	NY Pool	146,962	149,458	154,156	156,684	158,779	163,429
Retirement (GWh)	Ontario	143,763	144,383	144,077	144,090	144,487	144,766
	PJM	735,832	739,110	747,014	752,018	758,693	757,845
	TOTAL	1,147,245	1,154,643	1,167,508	1,176,733	1,187,920	1,193,402
Increase (Decrease) (GWh)	NE Pool	(824)	(1,082)	(1,188)	(1,172)	(1,256)	(1,314)
	NY Pool	2,152	3,349	3,555	3,479	3,857	3,686
	Ontario	45	(135)	(167)	(292)	(257)	(241)
	PJM	(1,323)	(1,964)	(2,227)	(1,894)	(2,202)	(2,022)
	TOTAL	50	168	(26)	121	142	108
% Increase (Decrease)	NE Pool	(0.7%)	(0.9%)	(1.0%)	(0.9%)	(1.0%)	(1.0%)
	NY Pool	1.5%	2.3%	2.4%	2.3%	2.5%	2.3%
	Ontario	0.0%	(0.1%)	(0.1%)	(0.2%)	(0.2%)	(0.2%)
	PJM	(0.2%)	(0.3%)	(0.3%)	(0.3%)	(0.3%)	(0.3%)
	TOTAL	0.0%	0.0%	(0.0%)	0.0%	0.0%	0.0%

Tables 4.3 through 4.5 below summarize the total impact on emissions production within each pool as a result of adding Cricket Valley to the NY Pool, assuming Indian Point Unit 2 is retired. Generally speaking, both NOx and SO2 production decrease across the region and within most pools, while Ontario shows a slight increase in both effluents in certain years.

Table 4.3 Total Annual NOx Production (Tons) by Pool

		<u>2015</u>	2016	2017	<u>2018</u>	2019	2020
Base Case w/ Indian Point	NE Pool	14,508	14,633	15,646	14,822	15,158	15,279
Unit 2 Retirement (Tons)	NY Pool	27,315	27,841	28,502	27,948	28,884	28,855
	Ontario	2,100	2,132	2,102	2,103	2,079	2,098
	PJM	321,177	317,233	327,894	319,300	319,290	312,823
	TOTAL	365,100	361,839	374,144	364,173	365,411	359,055
Cricket Valley Case w/	NE Pool	14,355	14,428	15,428	14,611	14,933	15,005
Indian Point Unit 2	NY Pool	26,860	27,237	27,938	27,353	28,297	28,227
Retirement (Tons)	Ontario	2,105	2,127	2,098	2,094	2,076	2,096
	PJM	320,892	316,526	327,054	318,806	318,570	312,073
	TOTAL	364,212	360,316	372,519	362,864	363,874	357,401
Increase (Decrease) (Tons)	NE Pool	(152)	(205)	(218)	(211)	(225)	(275)
	NY Pool	(455)	(604)	(564)	(595)	(588)	(628)
	Ontario	4	(5)	(4)	(9)	(3)	(2)
	PJM	(285)	(707)	(840)	(494)	(721)	(749)
	TOTAL	(889)	(1,522)	(1,625)	(1,309)	(1,537)	(1,654)
% Increase (Decrease)	NE Pool	(1.1%)	(1.4%)	(1.4%)	(1.4%)	(1.5%)	(1.8%)
	NY Pool	(1.7%)	(2.2%)	(2.0%)	(2.1%)	(2.0%)	(2.2%)
	Ontario	0.2%	(0.2%)	(0.2%)	(0.4%)	(0.2%)	(0.1%)
	PJM	(0.1%)	(0.2%)	(0.3%)	(0.2%)	(0.2%)	(0.2%)
	TOTAL	(0.2%)	(0.4%)	(0.4%)	(0.4%)	(0.4%)	(0.5%)

Table 4.4 Total Annual SO2 Production (Tons) by Pool

Base Case w/ Indian Point Unit 2 Retirement (Tons)	NE Pool NY Pool Ontario PJM TOTAL	2015 75,733 52,242 20,205 1,811,431 1,959,611	2016 76,545 53,650 20,431 1,761,710 1,912,336	2017 83,994 56,392 20,118 1,799,974 1,960,477	2018 76,769 54,168 20,074 1,747,856 1,898,866	2019 77,866 54,933 19,623 1,735,674 1,888,096	2020 79,001 55,053 19,851 1,678,548 1,832,453
Cricket Valley Case w/ Indian Point Unit 2 Retirement (Tons)	NE Pool NY Pool Ontario PJM TOTAL	75,255 51,597 20,248 1,809,912 1,957,013	76,012 52,472 20,430 1,757,783 1,906,697	83,588 55,821 20,137 1,795,792 1,955,337	76,354 53,399 20,093 1,745,013 1,894,858	77,470 54,151 19,686 1,732,221 1,883,529	78,299 53,972 19,925 1,675,649 1,827,846
Increase (Decrease) (Tons)	NE Pool	(478)	(533)	(406)	(415)	(396)	(702)
	NY Pool	(645)	(1,178)	(571)	(770)	(781)	(1,080)
	Ontario	44	(1)	19	19	64	74
	PJM	(1,519)	(3,926)	(4,182)	(2,842)	(3,453)	(2,899)
	TOTAL	(2,599)	(5,638)	(5,140)	(4,008)	(4,567)	(4,608)
% Increase (Decrease)	NE Pool	(0.6%)	(0.7%)	(0.5%)	(0.5%)	(0.5%)	(0.9%)
	NY Pool	(1.2%)	(2.2%)	(1.0%)	(1.4%)	(1.4%)	(2.0%)
	Ontario	0.2%	(0.0%)	0.1%	0.1%	0.3%	0.4%
	PJM	(0.1%)	(0.2%)	(0.2%)	(0.2%)	(0.2%)	(0.2%)
	TOTAL	(0.1%)	(0.3%)	(0.3%)	(0.2%)	(0.2%)	(0.3%)

Table 4.5 Total Annual CO2 Production (Tons) by Pool

		<u>2015</u>	<u>2016</u>	<u>2017</u>	2018	2019	2020
Base Case w/ Indian Point	NE Pool	43,595,529	43,536,684	45,441,151	44,765,693	45,263,246	46,082,928
Unit 2 Retirement (Tons)	NY Pool	45,955,876	46,180,994	47,356,204	47,068,064	48,517,082	48,376,677
	Ontario	9,322,668	9,542,984	9,441,215	9,483,667	9,577,454	9,625,816
	PJM	427,776,195	425,569,214	433,779,988	428,523,674	429,133,279	420,652,703
	TOTAL	526,650,267	524,829,876	536,018,557	529,841,098	532,491,060	524,738,124
Cricket Valley Case w/	NE Pool	43,206,678	43,017,526	44,902,246	44,216,523	44,669,733	45,448,943
Indian Point Unit 2	NY Pool	46,511,440	47,162,600	48,508,642	48,225,565	49,828,127	49,567,089
Retirement (Tons)	Ontario	9,344,530	9,477,979	9,370,594	9,357,031	9,479,169	9,535,539
	PJM	427,010,221	424,422,207	432,517,007	427,495,666	427,920,577	419,477,654
	TOTAL	526,072,869	524,080,313	535,298,490	529,294,785	531,897,606	524,029,226
Increase (Decrease) (Tons)	NE Pool	(388,851)	(519,159)	(538,905)	(549,170)	(593,513)	(633,986)
	NY Pool	555,564	981,607	1,152,439	1,157,501	1,311,045	1,190,412
	Ontario	21,862	(65,004)	(70,621)	(126,636)	(98,285)	(90,276)
	PJM	(765,973)	(1,147,007)	(1,262,980)	(1,028,009)	(1,212,702)	(1,175,048)
	TOTAL	(577,398)	(749,563)	(720,068)	(546,314)	(593,455)	(708,898)
% Increase (Decrease)	NE Pool	(0.9%)	(1.2%)	(1.2%)	(1.2%)	(1.3%)	(1.4%)
	NY Pool	1.2%	2.1%	2.4%	2.5%	2.7%	2.5%
	Ontario	0.2%	(0.7%)	(0.7%)	(1.3%)	(1.0%)	(0.9%)
	PJM	(0.2%)	(0.3%)	(0.3%)	(0.2%)	(0.3%)	(0.3%)
	TOTAL	(0.1%)	(0.1%)	(0.1%)	(0.1%)	(0.1%)	(0.1%)

Appendix C presents a comparison (Cost to Serve, Energy Production, Emissions Production) for the Base Case (without Cricket Valley), assuming Indian Point Unit 2 receives an operating license extension as compared against its retirement in 2013.

5 Appendix A – GE-MAPS™ Database Documentation (Eastern Interconnection (EI) Database, Revision 1.6, August 6, 2010)

## 6 Appendix B - GE-MAPS™ Brochure

## 7 Appendix C - Indian Point Unit 2 Retirement Scenario Comparison

Tables 7.1 through 7.5 below compare the Base Case results from Section 3 (Indian Point Unit 2 operating license extension) against the Base Case results under the Indian Point Unit 2 Retirement Scenario in Section 4.

**Table 7.1** Total Annual Load-Weighted Cost to Serve (M\$) by Pool: Indian Point Unit 2 Retirement Scenario Comparison

		2015	2016	2017	2018	2019	2020
Base Case (M\$)	NE Pool	\$ 8,215	\$ 8,545	\$ 8,856	\$ 9,090	\$ 9,709	\$ 9,957
	NY Pool	\$ 10,586	\$ 11,086	\$ 11,400	\$ 11,704	\$ 12,532	\$ 12,842
	Ontario	\$ 6,872	\$ 7,485	\$ 7,678	\$ 8,085	\$ 8,303	\$ 8,635
	PJM	\$ 43,081	\$ 45,087	\$ 45,209	\$ 46,964	\$ 49,922	\$ 51,825
	TOTAL	\$ 68,755	\$ 72,203	\$ 73,143	\$ 75,843	\$ 80,465	\$ 83,259
Base Case w/ Indian Point	NE Pool	\$ 8,262	\$ 8,570	\$ 8,912	\$ 9,141	\$ 9,759	\$ 10,031
Unit 2 Retirement (M\$)	NY Pool	\$ 10,940	\$ 11,431	\$ 11,721	\$ 12,053	\$ 12,927	\$ 13,260
	Ontario	\$ 6,847	\$ 7,492	\$ 7,700	\$ 8,091	\$ 8,328	\$ 8,637
	PJM	\$ 43,357	\$ 45,405	\$ 45,384	\$ 47,163	\$ 50,074	\$ 52,093
	TOTAL	\$ 69,406	\$ 72,897	\$ 73,717	\$ 76,447	\$ 81,088	\$ 84,022
Increase (Decrease) (M\$)	NE Pool	\$ 47	\$ 25	\$ 55	\$ 51	\$ 50	\$ 75
	NY Pool	\$ 354	\$ 345	\$ 322	\$ 349	\$ 395	\$ 418
	Ontario	\$ (26)	\$ 6	\$ 21	\$ 6	\$ 25	\$ 3
	PJM	\$ 276	\$ 318	\$ 176	\$ 199	\$ 153	\$ 268
	TOTAL	\$ 651	\$ 694	\$ 574	\$ 605	\$ 623	\$ 763
% Increase (Decrease)	NE Pool	0.6%	0.3%	0.6%	0.6%	0.5%	0.7%
	NY Pool	3.3%	3.1%	2.8%	3.0%	3.2%	3.3%
	Ontario	(0.4%)	0.1%	0.3%	0.1%	0.3%	0.0%
	PJM	0.6%	0.7%	0.4%	0.4%	0.3%	0.5%
	TOTAL	0.9%	1.0%	0.8%	0.8%	0.8%	0.9%

**Table 7.2** Total Annual Energy Production (GWh) by Pool: Indian Point Unit 2 Retirement Scenario Comparison

Base Case (GWh)	NE Pool NY Pool Ontario PJM TOTAL	2015 120,492 148,035 143,708 735,037 1,147,272	2016 121,789 149,226 144,511 739,106 1,154,633	2017 122,396 153,738 144,216 747,167 1,167,517	2018 124,031 156,701 144,244 751,786 1,176,762	2019 126,229 158,174 144,654 758,825 1,187,881	2020 127,615 163,212 144,829 757,786 1,193,441
Base Case w/ Indian Point Unit 2 Retirement (GWh)	NE Pool NY Pool Ontario PJM TOTAL	121,512 144,810 143,718 737,154 1,147,195	122,774 146,109 144,518 741,074 1,154,475	123,449 150,600 144,243 749,241 1,167,534	125,113 153,206 144,382 753,912 1,176,612	127,217 154,922 144,744 760,895 1,187,778	128,676 159,744 145,008 759,867 1,193,294
Increase (Decrease) (GWh)	NE Pool	1,020	985	1,053	1,082	988	1,061
	NY Pool	(3,225)	(3,118)	(3,137)	(3,496)	(3,252)	(3,468)
	Ontario	10	7	27	138	90	179
	PJM	2,117	1,968	2,074	2,125	2,070	2,081
	TOTAL	(77)	(158)	17	(151)	(104)	(147)
% Increase (Decrease)	NE Pool	0.8%	0.8%	0.9%	0.9%	0.8%	0.8%
	NY Pool	(2.2%)	(2.1%)	(2.0%)	(2.2%)	(2.1%)	(2.1%)
	Ontario	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%
	PJM	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
	TOTAL	(0.0%)	(0.0%)	0.0%	(0.0%)	(0.0%)	(0.0%)

**Table 7.3** Total Annual NOx Production (Tons) by Pool: Indian Point Unit 2 Retirement Scenario Comparison

		<u>2015</u>	<u>2016</u>	<u>2017</u>	2018	<u>2019</u>	<u>2020</u>
Base Case (Tons)	NE Pool	14,398	14,529	15,530	14,737	15,068	15,144
	NY Pool	26,254	26,788	27,677	26,998	27,916	27,926
	Ontario	2,102	2,133	2,106	2,100	2,080	2,096
	PJM	320,234	316,280	327,105	318,475	318,351	311,774
	TOTAL	362,988	359,730	372,417	362,310	363,415	356,941
Base Case w/ Indian Point	NE Pool	14,508	14,633	15,646	14,822	15,158	15,279
Unit 2 Retirement (Tons)	NY Pool	27,315	27,841	28,502	27,948	28,884	28,855
	Ontario	2,100	2,132	2,102	2,103	2,079	2,098
	PJM	321,177	317,233	327,894	319,300	319,290	312,823
	TOTAL	365,100	361,839	374,144	364,173	365,411	359,055
Increase (Decrease) (Tons)	NE Pool	110	104	116	86	90	135
	NY Pool	1,062	1,053	825	949	968	928
	Ontario	(1)	(1)	(3)	3	(1)	2
	PJM	943	952	789	825	939	1,048
	TOTAL	2,113	2,108	1,727	1,862	1,996	2,114
% Increase (Decrease)	NE Pool	0.8%	0.7%	0.7%	0.6%	0.6%	0.9%
	NY Pool	4.0%	3.9%	3.0%	3.5%	3.5%	3.3%
	Ontario	(0.1%)	(0.0%)	(0.2%)	0.1%	(0.0%)	0.1%
	PJM	0.3%	0.3%	0.2%	0.3%	0.3%	0.3%
	TOTAL	0.6%	0.6%	0.5%	0.5%	0.5%	0.6%

**Table 7.4** Total Annual SO2 Production (Tons) by Pool: Indian Point Unit 2 Retirement Scenario Comparison

Base Case (Tons)	NE Pool NY Pool Ontario PJM TOTAL	2015 75,077 51,076 20,228 1,807,060 1,953,440	2016 75,905 52,364 20,449 1,756,709 1,905,428	2017 83,425 55,576 20,164 1,795,020 1,954,186	2018 76,414 53,185 20,094 1,743,189 1,892,882	2019 77,512 54,031 19,668 1,730,725 1,881,936	2020 78,309 54,090 19,898 1,674,074 1,826,370
Base Case w/ Indian Point Unit 2 Retirement (Tons)	NE Pool NY Pool Ontario PJM TOTAL	75,733 52,242 20,205 1,811,431 1,959,611	76,545 53,650 20,431 1,761,710 1,912,336	83,994 56,392 20,118 1,799,974 1,960,477	76,769 54,168 20,074 1,747,856 1,898,866	77,866 54,933 19,623 1,735,674 1,888,096	79,001 55,053 19,851 1,678,548 1,832,453
Increase (Decrease) (Tons)	NE Pool	656	640	568	355	355	693
	NY Pool	1,166	1,285	816	983	902	963
	Ontario	(23)	(18)	(46)	(21)	(45)	(47)
	PJM	4,371	5,001	4,954	4,667	4,949	4,475
	TOTAL	6,171	6,908	6,291	5,984	6,160	6,084
% Increase (Decrease)	NE Pool	0.9%	0.8%	0.7%	0.5%	0.5%	0.9%
	NY Pool	2.3%	2.5%	1.5%	1.8%	1.7%	1.8%
	Ontario	(0.1%)	(0.1%)	(0.2%)	(0.1%)	(0.2%)	(0.2%)
	PJM	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%
	TOTAL	0.3%	0.4%	0.3%	0.3%	0.3%	0.3%

**Table 7.5** Total Annual CO2 Production (Tons) by Pool: Indian Point Unit 2 Retirement Scenario Comparison

		<u>2015</u>	<u>2016</u>	2017	2018	<u>2019</u>	<u>2020</u>
Base Case (Tons)	NE Pool	43,129,318	43,086,285	44,978,154	44,289,028	44,835,766	45,601,366
	NY Pool	43,479,260	43,781,477	45,125,219	44,716,534	46,314,790	46,331,325
	Ontario	9,320,627	9,541,108	9,440,267	9,427,543	9,548,769	9,557,390
	PJM	426,452,174	424,264,527	432,499,292	427,210,980	427,827,876	419,341,384
	TOTAL	522,381,380	520,673,397	532,042,932	525,644,086	528,527,200	520,831,466
Base Case w/ Indian Point	NE Pool	43,595,529	43,536,684	45,441,151	44,765,693	45,263,246	46,082,928
Unit 2 Retirement (Tons)	NY Pool	45,955,876	46,180,994	47,356,204	47,068,064	48,517,082	48,376,677
	Ontario	9,322,668	9,542,984	9,441,215	9,483,667	9,577,454	9,625,816
	PJM	427,776,195	425,569,214	433,779,988	428,523,674	429,133,279	420,652,703
	TOTAL	526,650,267	524,829,876	536,018,557	529,841,098	532,491,060	524,738,124
Increase (Decrease) (Tons)	NE Pool	466,211	450,399	462,997	476,665	427,480	481,562
	NY Pool	2,476,615	2,399,516	2,230,984	2,351,530	2,202,292	2,045,352
	Ontario	2,041	1,876	948	56,124	28,685	68,426
	PJM	1,324,021	1,304,688	1,280,696	1,312,694	1,305,403	1,311,319
	TOTAL	4,268,888	4,156,479	3,975,626	4,197,012	3,963,860	3,906,658
% Increase (Decrease)	NE Pool	1.1%	1.0%	1.0%	1.1%	1.0%	1.1%
	NY Pool	5.7%	5.5%	4.9%	5.3%	4.8%	4.4%
	Ontario	0.0%	0.0%	0.0%	0.6%	0.3%	0.7%
	PJM	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
	TOTAL	0.8%	0.8%	0.7%	0.8%	0.7%	0.8%

### 8 Appendix D - Production Cost Results

Tables 8.1 and 8.2 below compare the impact on total annual production costs as a result of adding Cricket Valley to the NY Pool for the Base Case in Section 3, and for the Base Case under the Indian Point Unit 2 Retirement Scenario in Section 4.

**Table 8.1** Total Annual Production Costs by Pool:

Production Cost (\$M Dollars)		Year								
Case	Pool_Names	2015	2016	2017	2018	2019	2020			
Baseline (El v14)	NEP	5,158	5,297	5,528	5,691	5,959	6,214			
	NYP	5,589	5,726	5,714	5,792	6,153	6,072			
	ONT	1,557	1,609	1,618	1,655	1,726	1,748			
	PJM	26,641	27,259	27,331	28,763	29,973	30,389			
Cricket Valley (El v15)	NEP	5,106	5,225	5,447	5,610	5,866	6,120			
	NYP	5,549	5,690	5,670	5,751	6,114	6,032			
	ONT	1,557	1,599	1,602	1,637	1,707	1,732			
	PJM	26,578	27,154	27,217	28,650	29,840	30,258			
Delta (\$M)	NEP	(53)	(72)	(81)	(81)	(93)	(94)			
	NYP	(40)	(36)	(44)	(41)	(40)	(40)			
	ONT	0	(11)	(16)	(19)	(19)	(16)			
	PJM	(63)	(105)	(114)	(113)	(133)	(131)			
% Delta	NEP	-1.0%	-1.4%	-1.5%	-1.4%	-1.6%	-1.5%			
	NYP	-0.7%	-0.6%	-0.8%	-0.7%	-0.6%	-0.7%			
	ONT	0.0%	-0.7%	-1.0%	-1.1%	-1.1%	-0.9%			
	PJM	-0.2%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%			

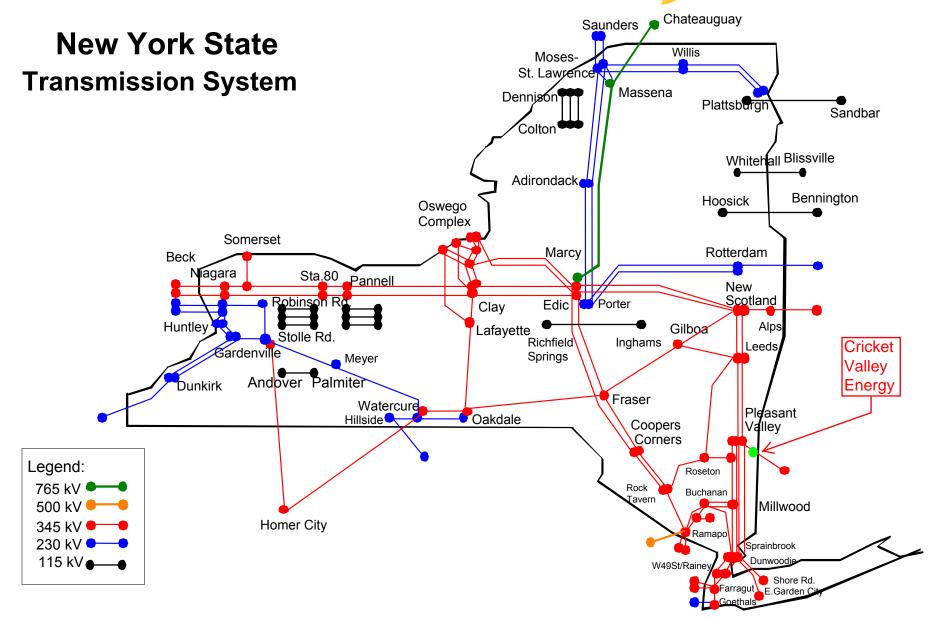
**Table 8.2** Total Annual Production Costs by Pool: Indian Point Unit 2 Retirement Scenario Comparison

Production Cost (\$M Dollars)				Ye	ar		
Case	Pool_Names	2015	2016	2017	2018	2019	2020
Baseline IP2 Retirement (El v16)	NEP	5,218	5,355	5,592	5,761	6,023	6,287
	NYP	6,009	6,151	6,117	6,241	6,599	6,512
	ONT	1,558	1,611	1,621	1,666	1,733	1,763
	PJM	26,771	27,390	27,461	28,902	30,113	30,544
Cricket Valley IP2 Retirement (EI v17)	NEP	5,166	5,282	5,510	5,676	5,928	6,185
	NYP	5,964	6,099	6,066	6,201	6,551	6,466
	ONT	1,559	1,600	1,608	1,644	1,713	1,742
	PJM	26,694	27,266	27,310	28,772	29,957	30,398
Delta (\$M)	NEP	(53)	(74)	(82)	(85)	(95)	(102)
	NYP	(45)	(52)	(51)	(40)	(48)	(46)
	ONT	1	(11)	(13)	(22)	(20)	(21)
	PJM	(77)	(124)	(152)	(130)	(156)	(146)
% Delta	NEP	-1.0%	-1.4%	-1.5%	-1.5%	-1.6%	-1.6%
	NYP	-0.8%	-0.8%	-0.8%	-0.6%	-0.7%	-0.7%
	ONT	0.1%	-0.7%	-0.8%	-1.3%	-1.2%	-1.2%
	PJM	-0.3%	-0.5%	-0.6%	-0.4%	-0.5%	-0.5%

Project: Cricket Valley Energy **EXHIBIT 7 NYISO Transmission Map** 

Petition For Order Granting Certificate of Public Convenience & Necessity





Project: (	Cricket Valley Energy
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# **EXHIBIT 8 CVE Public Outreach Summary**

Petition For Order Granting Certificate of Public Convenience & Necessity

## PETITION FOR ORDER GRANTING CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY AND ESTABLISHING A LIGHTENED REGULATORY REGIME

####

#### **CVE Public Outreach Efforts**

CVE's development team and its consultants have developed and implemented a comprehensive community outreach program to ensure residents of Dover and its surrounding towns are well informed of project developments. The outreach program includes:

- Web Site and Email List: CVE established a project web site (<a href="www.cricketvalley.com">www.cricketvalley.com</a>) in June 2009 to provide the public with important project information. The web site is regularly updated with CVE permit filings, meeting announcements, presentations, and outreach materials. In addition, the development team maintains an email listserve, which is used to inform interested parties of upcoming meetings and events.
- Local Office: CVE has maintained an office at 5 Market Street in Dover Plains, NY since September 2009. The community outreach office is open Tuesday-Thursday, or by appointment, to respond to public inquiries. It has been used for community Open Houses in December 2009 and July 2011, and for a series of Advisory Working Group meetings, described in further detail below.
- Advisory Working Groups: CVE established local Advisory Working Groups in January 2010. The groups were created to allow residents, environmental groups and other interested parties to be involved in the development process and hear from CVE experts on the latest project developments. The Advisory Working Groups, which meet quarterly at CVE's Dover office, are announced via direct mail to each Dover household and advertisements in local newspapers (see Attachment A).
- Newsletters: CVE has published a series of newsletters which it mails to Dover household on a quarterly basis. The newsletters, which were first published in April 2010, recap recent project news and inform residents of upcoming events and meeting. Sample newsletters are presented in Attachment B and are available on the CVE web site.
- **Public Meetings:** In addition to its December 2009 and July 2011 Open Houses, the CVE team has participated in seven formal public outreach meetings. The first two meetings were hosted by the Dover Town Board in April and May 2009 to introduce the project prior to any applications. In addition, two Scoping Hearings and two DEIS Public Hearings were hosted by the NYSDEC in June 2010 and June 2011 respectively as part of the State Environmental Quality Review (SEQR) process. The Town Board of the Town of Dover also hosted a public comment session on the DEIS in July 2011 to allow for additional public input on the DEIS.

## Attachment A Examples of CVE Direct Mailers



### Cricket Valley Energy

Find out how to measure air—and get answers to your questions about this proposed facility in Dover, New York

Advisory Working Groups (AWG) Schedule
Share your ideas and questions at one, two or all three groups

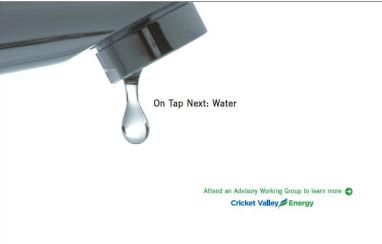
Air Quality Thursday, April 15, 7-8 pm

Water, Wetlands & Wildlife Thursday, April 29, 7-8 pm

Traffic and Safety Thursday, May 13, 7-8 pm

To register, call 845-877-0596 or email: info@cricketvalley.com. Attendance is limited.

AWGs meet at: The Cricket Valley Energy Community Outreach Office, 5 Market Street, Dover Plains, New York



### Cricket Valley Energy

Attend a Cricket Valley Energy Advisory Working Group
—and ask your questions about this
proposed facility in Dover, New York

Advisory Working Groups (AWG) Schedule
Share your ideas and questions at one, two or all three groups.

Water, Wetlands & Wildlife Thursday, August 26, 2010, 7-8 pm

Air Quality
Thursday, September 16, 2010, 7-8 pm

Traffic & Safety
Thursday, September 23, 2010, 7-8 pm

To register, call 845-877-0596 or email: info@cricketvalley.com. Space is limited.

No experience or expertise needed to participate. AWGs meet at the: Cricket Valley Energy Community Outreach Office 5 Market Street, Dover Plains, New York



### Cricket Valley Energy

Please join us for our next Advisory Working Groups (AWG) and meet with project team experts to learn more about:

Traffic & Safety Thursday, March 10, 2011, 7-8 pm

Water, Wetlands & Wildlife Thursday, March 24, 2011, 7-8 pm

Air Quality Thursday, April 7, 2011, 7-8 pm

No experience or expertise needed to participate. AWGs meet at the: Cricket Valley Energy Community Outreach Office 5 Market Street, Dover Plains, New York

#### Attachment B

#### **Examples of CVE Quarterly Newsletter**

## Cricket Valley Energy Vol 1, Issue No. 1, Spring, 2010

"We're happy to

organizations-or

with a group of neighbors..

· Getting Involved

• Issues & Topics

· About the Process

Schedule a Meeting

Contact us to schedule a meeting for your organization or neighborhood group.

Email: info@cricketvalley.com or call 845-877-0596.

sit down with

#### Quarterly Newsletter Launched

To keep the community up-to-date on progress related to Cricket Valley Energy, we will publish and distribute a quarterly newaletter with news and information. The newsletter will be posted at the project Web site, www.cricketvalley.com, and will be mailed to subscribers. To subscribe to this newsletter, please email into@cricketvalley.com and write "subscribe" in the subject line, call 845-877-0596 or visit www.cricketvalley.com



#### Advisory Working Groups Offer **Community Forum**

Community Forum
Cricket Valley Energy has introduced
three hands-on Advisory Working
Groups to supplement the formal
public outreach process required
by the State Environmental Quality
Review Act, and to provide a
forum for the exchange of ideas
and information about topics
related to the project.
"We found that many people
and groups warted more information
about key topics," said Matt
Martin, Associate Project Manager.
"We developed the Advisory
Working Groups to create an

Working Groups to create an informal opportunity for local residents and organizations to meet with project Cont on pg. 3

#### **Proposed Facility** will Revitalize **Dormant Dover** Site

Site
Cricket Valley Energy Corp, LLC,
a leading energy development
company and a subsidiary of
international energy developer
Advanced Power AG, filed a
Special Permit Application with
the Town of Dover in November
2009, to start the permitting
process required to develop a
state-of-the-art, combined-cycle
power plant at an inactive
industrial site off Route 2.2 The
project, known as Cricket Valley
Energy, promotes a highly efficient
environmentally-responsible Energy, promotes a highly efficient, environmentally-responsible process of converting clean-burning American natural gas into electricity. That's power for nearly one million homes—and economic benefits for the community.

Cricket Valley Energy By the Numbers

Up to 750-jobs during three \$4 Million—potential annual tax contribution 25-30—permanent jobs

25-30-permanent Jobs
Once operational, Cricket
Valley Energy will be among the
most efficient energy producers
In New York-and will generate
substantial economic benefits
And the Control benefits
Mev York State, Located at the
Mid-Hudson Recycling Park, the
property has existing energy
infrastructure, including electric
power lines and a natural gras
pipeline, as well as a

Cont. on pg. 2

Cont. on pg. 2

#### Cricket Valley Energy UPDATE Vol.1 Issue No. 3 Summer 2010

Scoping Period Ends For Environmental Review SEQR Process Next Steps

The Scoping Process for Cricket Valley Energy, a combined cycle power plant planned for an inactive industrial site off Route 22, ended on June 18, 2010, completing the second mile-stone in the State Environmental Quality Review, or SEQR, process.

Solde in the state choice of SEOR, process.

The Sooping Process included numerous opportunities for public participation, including the distribution of a draft Sooping Document in May, announcements to keep the public informed about the deadline for submission of comments to the projects lead agency, the New York Department of Environmental Conservation (DEC). The Cricket Valley Energy them supported the roce that included advertisements and direct mail to encourage public participation, along with newsletter articles, press releases and meetings of Cricket Valley Energy's three Advisory Working Groups.

The final Scoping Document is available online at:

o DEC Website: www.dec.ny.gov/permits/6061.html

o Cricket Valley Energy Website: www.cricketvallev.com

o Town of Dover Website: www.townofdoverny.us

New York's SEQR process is the New York's SECIA process is the framework for environmental decision-making in the state. The process requires that an Environmental Impact Statement (EIS) be prepared for projects that could affect the environment, and includes such topics as air quality, water supply,





The CVE team answers questions at SEQR Scoping Hearing.

wetlands, wildlife, traffic, safety and economic impacts. The process for Cricket Valley Energy was initiated in November 2009 with the filing of a Special Permit Application to the Town of Dover.

Town of Dover.

The next step in the SEQR process will be the submission of a Draft EIS (DEIS) by Cricket Valley Energy, addressing all of the topics of addressing all of the topics of the property of the p

A robust public outreach effort will be conducted following submission of the DEIs to encourage participation in public hearings that will be held to solict comments. Feedback gathered during these hearings will be reviewed by the DEC and incorporated, as appropriate, into the Final Environmental Impact Statement.

"We will continue to support the environmental review process with etrost state exceed requirements and encourage everyone interested to share their ideas and stay involved," said Bob De Meyere, Cricket Valley Energy Project Manager.

Cricket Valley Energy will distribute fact sheets and newsletters, place local advertisements, and update its Website to ensure the public is well informed as the process advances.

Inside

• Issues & Topics

 Advisory Working Groups Report

Schedule a Speaker Contact us to schedule a speaker for your organization or neighborhood group's next meeting. Email: Info@cricketvalley.com or call (845) 877-0596.

#### Cricket Valley Energy's Role in **Regional Air Quality**

CVE recently completed a Dispatch Analysis—an air qualify study to model the regional impacts of the project on air qualify. The study demonstrated that once operational CVE will displace the use of older and less efficient fossil-fuel burring power plarts, restalling in emissions reductions across the region.

Regional Air Quality Matters in Dover Dover's air quality is dominated by regional emissions, including energy plants in southern New York, New Jersey and Pennsylvania, which is why it's important to reduce emissions coming from those areas. Operation of the CVE plant would displace older fossil-fuel burning plants in the region, displacing:

- 7 times as much NOx (nitrogen oxide) as it emits
- 12 times as much CO2

(carbon dioxide) as it emits The New York Independent System Operator (NYISO) determines the



NYISO determines the order in which power plants are dispatched to meet New York's energy demands.

order electric-generating facilities are turned on to supply New York State's energy needs based on factors that include the cost of producing energy, As the most efficient ratural gas-powered facility, CVE will be among the first combined-cycle plants to be dispatched by NYSO, reducing reference on order less-efficient, fossil-fuel burning plants that produce emissions that affect the air quality in Dover.



CONTRACTOR OF THE PROPERTY OF

#### **ISSUES & TOPICS**

Each issue, CVE examines a question raised by a local resident. This issue, we consider the effect of adding up to 750 new construction jobs.



How will workers get to and from the site during construction?

The three-year construction project will require workers in a variety of skill areas, from welders, engineers and electricians to carpenters, roofers and heavy equipment operators. CVE wants to ensure a smooth traffic flow for Dover.

tlow for Dover. Following an extensive traffic study. CVE has developed an innovative solution to preserve innovative solution to preserve with site access that includes constructing a temporary parking lot about 2.5 miles north of the construction site, where workers will park and take a CVE shuttle to and from work.

to and from work.

In addition, CVE has proposed hiring a traffic control agent or installing a temporary signat at the intersection of the parking site driveway and Route 22 during peak travel times. CVE will also create temporary turnin lanes, to ensure mobility is preserved for those traveling along Route 22.

#### **Local Water Quality Expert Discusses Water Supply**

CVE hied Poughkoepde-based Chazen Companies to evaluate its potential water consumption, and to provide data that are included in the DEIS. We skeded Russell Ubean-Head. Serior Hydrogeologist, to explain the Harten Valley Aquiller relative to Dover's water supply. Urban-Head authored the 1999 Harten Valley Aquiller Study, now used by planning boards in the region for sustanable utilization and reasonable protection of the aquiller.

#### What is the Harlem Valley Aquifer?

The Harlem Valley Aquifer is how we refer to the geologic formations under refer to the geologic formations under the Valley that provide natural storage for millions of galons of high-quality water, and that underlie the Ten Miller River, Webstuck Creek, Swamp River, much of the Great Swamp and their tributaries. The aquifer formation is recharged by precipitation, and water naturally milgrades toward the wetlands, supporting stream (flow, widliffe and plant habitat as well as a wide range of human uses.

Why study it?

What is the Swamp River Water Budget?

As The The Study docu-mented the water

storage capacity of this aquifer system and the current competing uses for this water. It enabled sponsoring towns to cooperatively develop an informed to cooperatively develop an informed plan to protect water quality and preserve and allocate the availability of sufficient groundwater quantity throughout the watershed.

It is an estimated account of how It is an estimated account of how much of each year's precipitation recharges the aquifers under the Swamp River watershed. Using this recharge data, the Study team considered how many new water uses could be accom-modated before we would begin to see unacceptable impacts. The Study recommended that



#### How will CVE impact the watershed?

Our evaluation indicates the project will have an extremely small impact on the flow of the Swamp River. The watershed can support CVE's water consumption, with water remaining for other projects, even during conditions that would exist during a 10-year drought. Two thin that particularly help CVE have such a small impact on the water budget are its plan to capture roof rainfall during wet seasons for use during drier periods and the selection of energy-production cooling processes that are quite efficient in their water use.

#### **Advisory Working Groups Update**

Advisory Working (
To engage the community of Dover and its neighbors in a meaningful dialogue about topics of interest involving VOE the Advanced work team has creaked and hosted discussion forums called Advisory Working Groups (AWG). The AWG cover specific areas of interest. Air Cusalty, Water, Wetbards & Wildlife and Traffic & Safety.

& Safety.

Since the kid-off of the working groups in February 2010, each has met three times, providing a valuable exchange of ideas between the community and the CVE team on everything from low-emission technology to stormwater management and safety. During the management and salety, curing the

roups Update
but round of AWC meetings, the
Air Quality group discussed new
federal air quality standards for suffur
discide (SO2), new requirements for
demonstrating compliance with
nitrogen discide (NO2) standards,
and the project's regional air quality
benefits. The Water, Wetlands and
Villetting group bocued on the results
of CVES study of the water supply,
to the valve supply of the properties of the properties. The Fraffic & Safety group
discussed the results of the Chemical
Safety Board's recommendations
related to the accident at Kleen
Energy in Middletown, CT.

#### ADVISORY WORKING GROUP MEETINGS

Traffic & Safety Thursday, March 10, 2011, 7-8 pm Water, Wetlands & Wildlife Thursday, March 24, 2011, 7-8 pm

Air Quality Thursday, April 7, 2011, 7-8 pm Where: 5 Market Street Dover Plains, NY

To register, call (845) 877-0566 or email: info@cricketvalley.com Space is limited.

Project: Cricket Valley Energy

# EXHIBIT 9 NYSDEC Notice of Completeness Draft Environmental Impact Statement

Petition For Order Granting Certificate of Public Convenience & Necessity

#### NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (DEC)

# ANNOUNCEMENT OF PUBLIC COMMENT PERIOD, and COMBINED NOTICE OF COMPLETE APPLICATION, NOTICE OF ACCEPTANCE OF DRAFT ENVIRONMENTAL IMPACTS STATEMENT (DEIS) and PUBLIC HEARING

**Date:** May 25, 2011

**Applicant:** Cricket Valley Energy Center, LLC, 31 Milk Street, Boston, MA 02109.

**Application Number:** DEC # 3-1326 00275/00002 - Article 24 Freshwater Wetlands

DEC # 3-1326 00275/00003 - Section 401 Water Quality Certification

DEC # 3-1326 00275/00003 - Part 201 Air State Facility;

**Project Description:** The Cricket Valley Energy Center (CVE) will consist of a combined

cycle natural gas powered 1,000-megawatt (MW) electric generating

facility and interconnection substation.

The CVE facility will generate approximately 1,000 MW of electricity, fueled only by natural gas. The CVE facility will use "combined cycle" generation technology, one of the most efficient technologies for producing electricity. The facility will be comprised of three combined-cycle units, each consisting of a combustion turbine generator (CTG), a Heat Recovery Steam Generator (HRSG) with supplemental duct firing, and a steam turbine generator (STG). Auxiliary equipment will include a low nitrogen oxide (NOx) natural gas-fired auxiliary boiler, needed to keep the HRSGs warm during periods of turbine shutdown and to provide sealing steam during startups, and four diesel-fired black start generators, each with a maximum power rating of 3 MW. The four black start generators will be used to re-start the facility in the event of a total power loss on the local or regional transmission grid.

The project will be equipped with state-of-the-art emissions control technology, including dry low NOx (DLN) burners and selective catalytic reduction (SCR) technology to control emissions of NOx, and an oxidation catalyst to control carbon monoxide (CO) and volatile organic compounds (VOC) emissions. A continuous emissions monitoring system (CEMS) will be utilized to ensure and document facility compliance with applicable emissions standards. Water use will be minimized by the use of air cooled condensers (ACC). Process water supply will be provided from new on-site bedrock wells. A zero liquid discharge (ZLD) system will recycle and reuse water internally, reducing the need for process water and ensuring that no process wastewater will be discharged. The facility will employ best management practices (BMPs) for stormwater management, which will include a system that reflects existing drainage patterns and incorporates a wet extension detention pond, small bioretention facilities, and roof top rain capture to maintain peak rates of discharge and minimize the potential for erosion and sedimentation.

There will be several storage tanks on-site, including a 1,000,000-gallon raw water storage tank, used to supply the facility's water needs and for fire protection; a 250,000-gallon demineralized water storage tank; and two 30,000-gallon aqueous ammonia storage tanks. A secondary safety containment area, designed to hold 110 percent of the entire volume of the tanks, will be provided around the ammonia storage tanks, consistent with New York State requirements. There also will be on-site storage of small quantities of ultra-low sulfur diesel (ULSD) fuel and lubricating oils. ULSD storage will be limited to the fire pump's integrated 650-gallon fuel tank and the four emergency black start generators, each with an integrated 1,000-gallon fuel tank. As required, all tanks, equipment and vessels containing ULSD fuel and/or lubricating oils will be located inside a concrete safety containment, sump or curbed dike area for spill control and management.

There will be two utility interconnections at the facility. The electricity generated from the facility will be transmitted via a 700-foot on-site overhead interconnect to the existing Consolidated Edison Company of New York (ConEd) 345 kilovolt electric transmission line located north of the Project Development Area. A new switchyard and substation, incorporating gas-insulated switchgear to minimize footprint requirements, will be built at the facility. Natural gas will be the sole fuel for the facility, transported via a new 500-foot, 12-inch gas pipeline from the Iroquois pipeline, just north of the Project Development Area.

**Project Location:** The project is located at the former Mica Products industrial site at NYS Route 22 in the Town of Dover, Dutchess County. The project site totals 131 acres, which includes 74 acres (west of the Metro-North rail line) within the Great Swamp Critical Environmental Area; and a 57-acre Project Development Area east of the railroad line. The Project Development Area is bounded by NYS Route 22 to the east; to the south by industrially zoned property owned by Howlands Lake Partners, LLC; to the west by the Metro-North rail line; and to the north by an existing ConEd electric transmission right-of-way.

#### **Air Permit Applications**

**Air Permits:** The Applicant has filed individual applications seeking the issuance of a preconstruction permit pursuant to 6 N.Y. Compilation of Codes, Rules and Regulations (NYCRR) §201-6.1(b) and Subpart 201-5. DEC Staff concludes that the applications for this permit are complete within the meaning of 6 NYCRR §621.2(f) and has tentatively determined to issue the permits. Consequently, DEC Staff has prepared a draft permit pursuant to 6 NYCRR §621.7(b)(7).

DEC Staff has determined that the conditions in the draft preconstruction permit authorize the construction and operation of the proposed facility and assure conformance of the facility with all applicable State and federal air pollution control regulations including the requirements of 6 NYCRR Parts 201, 225, 227, 231, 242, 243, 244, 245 and 257, as well as all New Source Performance Standards (NSPS) at 40 Code of Federal Regulations (CFR) Part 60. Information regarding the demonstration of the Lowest Achievable Emission Rate (LAER) or Best Available Control Technology (BACT) or both is included within the DEIS and draft air permit.

#### Freshwater Wetlands / Water Quality Certification

Freshwater Wetlands Permits. Pursuant to Environmental Conservation Law (ECL) §24-0105 and the Clean Water Act Part 401 Water Quality Certification, the Applicant has filed an application with DEC for a permit for fill in state-jurisdictional freshwater wetlands, disturbance to state-regulated adjacent areas, and a water quality certification for activities related to the Freshwater Wetlands permit and additional activities on the site under the jurisdiction of the U.S. Army Corps of Engineers. DEC Staff concludes that the applications for these permits are complete within the meaning of 6 NYCRR §621.2(f) and has tentatively determined to issue a permit. Consequently, DEC Staff has prepared a draft permit.

DEC Staff has determined that the conditions in the draft permit authorize the proposed activities and assure conformance of the facility with the standards for permit issuance set forth in 6 NYCRR §663.5.

#### **State Pollutant Discharge Elimination System (SPDES)**

The Applicant intends to seek coverage under the SPDES General Permit for Storm Water Discharges from Construction Activities (GP-0-10-001). The facility is utilizing a zero waste discharge system; therefore, an industrial SPDES permit for the discharge of wastewater is not required.

#### **Additional Regulatory Provisions**

**NYS Public Service Law (PSL):** This project requires a Section 68 Certificate of Public Convenience and Necessity (CPCN) from the New York State Public Service Commission (PSC).

NYS ECL and Implementing Regulations: In addition to the specific statutes and regulations cited above, the subject preconstruction air permit applications as well as the freshwater wetlands permit and the water quality certification are being processed by the DEC pursuant to ECL Article 3, Title 3 (General Functions), ECL Article 17 (Water Pollution Control), ECL Article 19 (Air Pollution Control), ECL Article 24 (Freshwater Wetlands) and 6 NYCRR Subparts 201-6 (Permits and Registrations) and 231-2 (Requirements for Emission Sources Subject to §§172 and 173 of the Clean Air Act , 42 USC §7502 and §7503 on or after November 15, 1992), Part 621 (Uniform Procedures), Parts 750-758 (State Pollutant Discharge Elimination System) and the Clean Water Act Part 401 Water Quality Certification.

**State Environmental Quality Review (SEQR) Status**: The DEC Staff has determined that the proposed project is a Type I action as designated by 6 NYCRR §617.4(b)(6)(i). A Draft Environmental Impact Statement (DEIS) has been prepared and the Department, as lead agency, has determined the DEIS is adequate for public review. Pursuant to 6 NYCRR §617.9(a)(4) the Department has made the determination to hold a public hearing, the details of which are provided below in the legislative hearing section of this notice.

State Historic Preservation (SHPA) Status: A cultural resource survey has been completed. Based on the information provided in the survey report, the New York State Office of Parks, Recreation and Historic Preservation (OPRHP) has determined that the project will have "No Effect" on cultural resources at the Project Development Area; and the project is unlikely to have an adverse impact on cultural resources at the Laydown Site, provided that CVE completes the Phase 1B survey at the site prior to commencing construction. The Department must consult further with OPRHP before making a final determination on the permits.

**Coastal Zone Management:** This project is not located in a Coastal Management Area and therefore is not subject to the Waterfront Revitalization and Coastal Resources Act.

Tentative DEC Staff Position and Document Availability: DEC Staff has reviewed Cricket Valley Energy's application materials and supporting documentation and has determined that they are complete pursuant to 6 NYCRR Part 621. A tentative determination has been made to approve this application and prepare draft permits. It has been determined that all air program statutory and regulatory criteria can be met through the imposition of special permit conditions. For the 201-6 draft air preconstruction permit, the DEC has incorporated control technologies and emission limits proposed by the Applicant, and has independently developed additional conditions to ensure compliance with all regulatory requirements. The background documentation of this determination is available in the "fact sheets" and the administrative record for the project.

The application materials, fact sheets, the draft air preconstruction permit, and draft freshwater wetlands permit/water quality certification are available for review at the following locations during normal business hours between 9:00 a.m. and 4:00 p.m., Monday through Friday:

- 1. NYS DEC Division of Environmental Permits, 625 Broadway, Albany, NY 12233-1750. Contact: Stephen Tomasik, Project Manager, at (518) 486-9955; and
- 2. NYS Department of Environmental Conservation, Region 3 Headquarters, 21 South Putt Corners, New Paltz, New York 12561. Contact: Alexander Ciesluk at (845) 256-3041.

The DEIS, application materials, fact sheets, the draft air permit, and the draft Freshwater Wetlands permit/Water Quality Certification are also available for review at the following locations during normal business hours.

- Town of Dover Town Hall
   126 East Duncan Hill Road
   Dover Plains, New York 12522
   (845) 832-6111
   WebMaster@TownofDoverNY.us
- Dover Plains Library
   1797 Route 22
   Wingdale, New York 12522
   (845) 832-6605
   library@doverlib.org

- 3. Cricket Valley Energy Office 5 Market Street Dover Plains, New York 12522 (845) 877-0596 info@cricketvalley.com
- 4. DEC website at http://www.dec.ny.gov/permits/64754.html
- 5. Cricket Valley Energy project website at http://www.cricketvalley.com/home.aspx
- 6. Town of Dover website at http://townofdoverny.us/index.cfm

**Written Comments**: All written comments concerning the DEIS, draft air permit, or draft Freshwater Wetlands permit/Water Quality Certification must be submitted to the DEC Contact Person listed below by July 25, 2011. Comments sent by regular mail must be postmarked no later than July 25, 2011. Email and Fax comments must be received by 5 P.M. (EDT), July 25, 2011.

All public comments on these permits will be reviewed by DEC Staff to determine whether they raise substantive and significant issues that warrant further review through adjudication. Specific comments must be supported by full documentation and references should be limited to readily available information.

#### **Public Hearings Sessions**

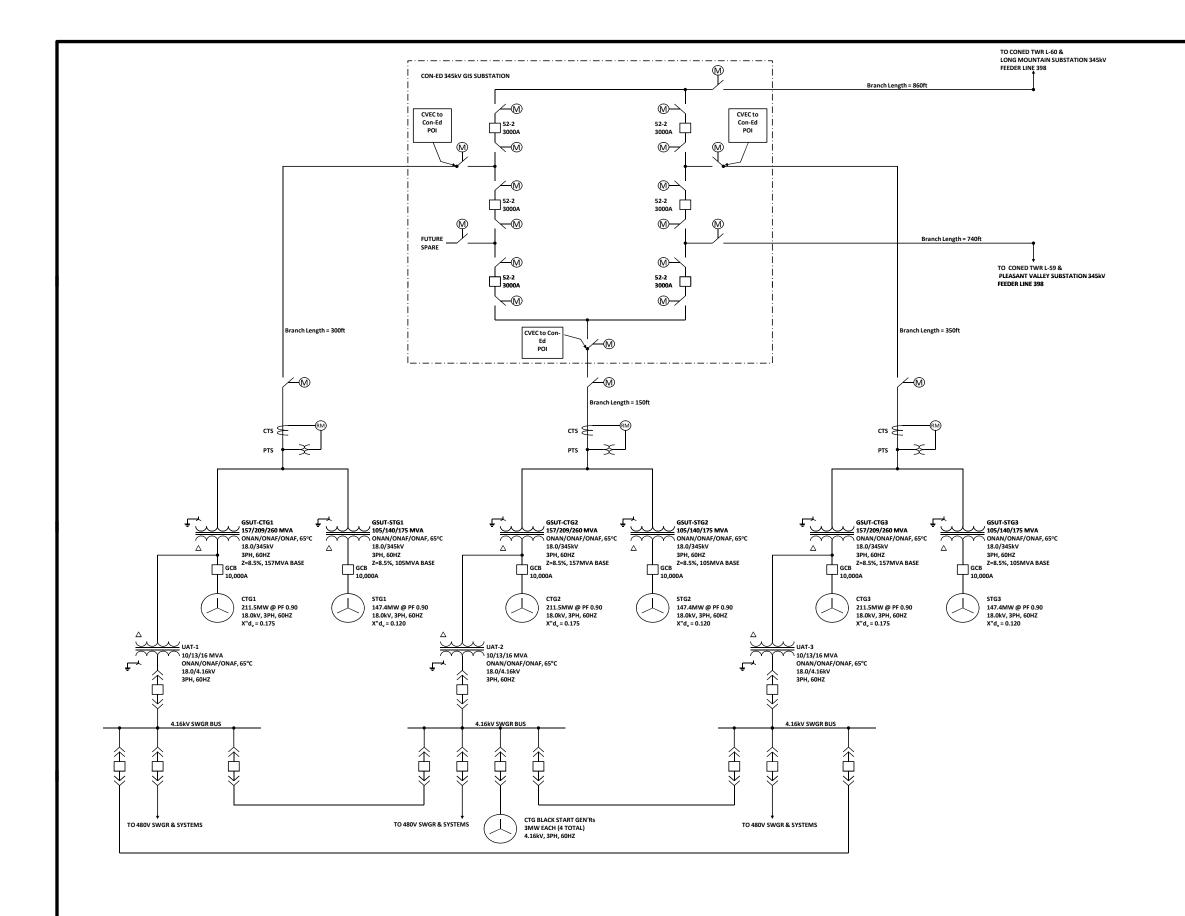
Legislative Public Hearing: Legislative hearing sessions to receive unsworn statements from the public on the DEIS, applications and the draft permits, described above, will be held before Administrative Law Judge (ALJ) Helene Goldberger at 3 P.M. and 6 P.M. on Tuesday, June 28, at the Dover High-Middle School Auditorium, 2368 Route 22, Dover Plains, New York. All persons, organizations, corporations, or government agencies which may be affected by the proposed project are invited to attend the public hearing and to submit oral or written comments. It is not necessary to file in advance to speak at the legislative hearing. Lengthy statements should be in writing and summarized for oral presentation. Reasonable time limits may be set for each speaker to afford everyone an opportunity to be heard. Equal weight will be given to both oral and written statements. The hearing location is fully accessible to persons with mobility impairment. Interpreter services shall be made available to deaf persons at no charge upon written request to the ALJ at least 10 days prior to the hearing, pursuant to the State Administrative Procedures Act.

#### **Contact:**

Stephen M. Tomasik NYS Department of Environmental Conservation Division of Environmental Permits 625 Broadway, 4<sup>th</sup> Floor Albany, New York 12233-1750 Voice: (518) 402-9167

Fax: (518) 402-9168 depprmt@gw.dec.state.ny.us

Project: Cricket Valley Energy **EXHIBIT 10 CVE One-Line Diagrams** Petition For Order Granting Certificate of Public Convenience & Necessity



- NOTES:

  1. CTG & STG RATINGS SHOWN ARE FOR GENERAL ELECTRIC (GE) MACHINES/GENERATORS @ NYISO SUMMER CONDITIONS OF 85°F AMBIENT.
- 2. CTG1, 2, & 3 ARE GENERAL ELECTRIC MODEL 7FA.05. STG1, 2, &3 ARE GENERAL ELECTRIC MODEL A14.
- 3. ALL GENERATORS WILL BE DESIGNED FOR POWER FACTOR CAPABILITY OF 0.85 LAGGING TO 0.95 LEADING.
- 4. NYISO SUMMER NET OUTPUT IS 1002MW (EACH CTG UNIT AT 193.6MW AND EACH STG AT 140.5MW).
- 5. CONNECTION TO EXISTING CONED FEEDER LINE 398 BETWEEN CONED TOWERS L-59 AND L-60. REFERENCE CONED DWG. EO-11397-A, REV.6.

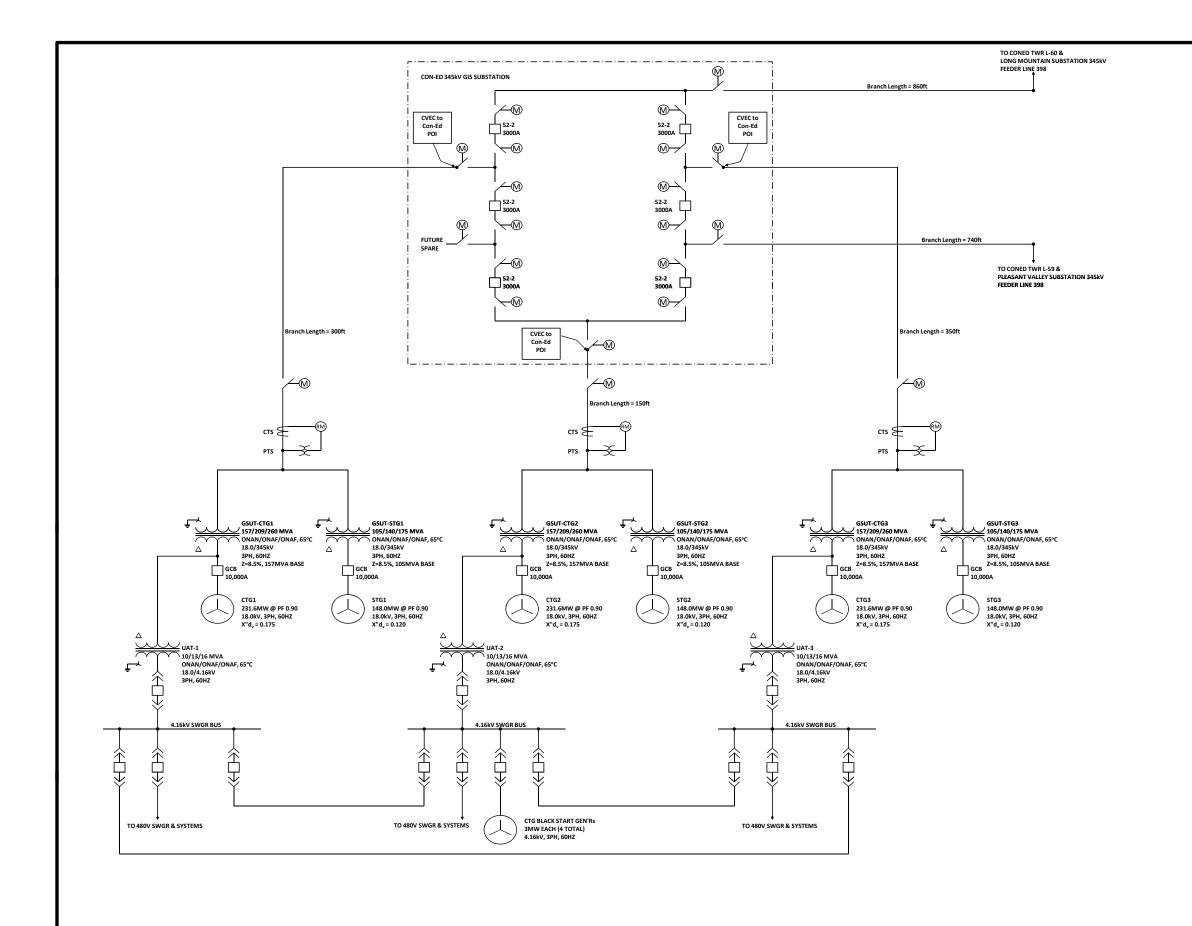
#### **LEGEND:**

- CT REVENUE GRADE CURRENT TRANSFORMERS
- PT REVENUE GRADE POTENTIAL TRANSFORMER
- RM BI-DIRECTIONAL REVENUW METERS
- POI POINT OF INTERCONNECTION (INCLUDING CHANGE OF OWNERSHIP).

SINGLE LINE DIAGRAM **SUMMER LOAD (MAX) CONDITIONS** SKE-3001

> AP DUTCHESS #310 CRICKET VALLEY ENERGY CENTER

> > **DATED: JUNE 15, 2011**



- NOTES:

  1. CTG & STG RATINGS SHOWN ARE FOR GENERAL ELECTRIC (GE) MACHINES/GENERATORS @ NYISO WINTER CONDITIONS OF 10°F AMBIENT.
- 2. CTG1, 2, & 3 ARE GENERAL ELECTRIC MODEL 7FA.05. STG1, 2, &3 ARE GENERAL ELECTRIC MODEL A14.
- 3. ALL GENERATORS WILL BE DESIGNED FOR POWER FACTOR CAPABILITY OF 0.85 LAGGING TO 0.95 LEADING.
- 4. NYISO WINTER NET OUTPUT IS 1115MW (EACH CTG UNIT AT 226.7MW AND EACH STG AT 144.9MW).
- 5. CONNECTION TO EXISTING CONED FEEDER LINE 398 BETWEEN CONED TOWERS L-59 AND L-60. REFERENCE CONED DWG. EO-11397-A, REV.6.

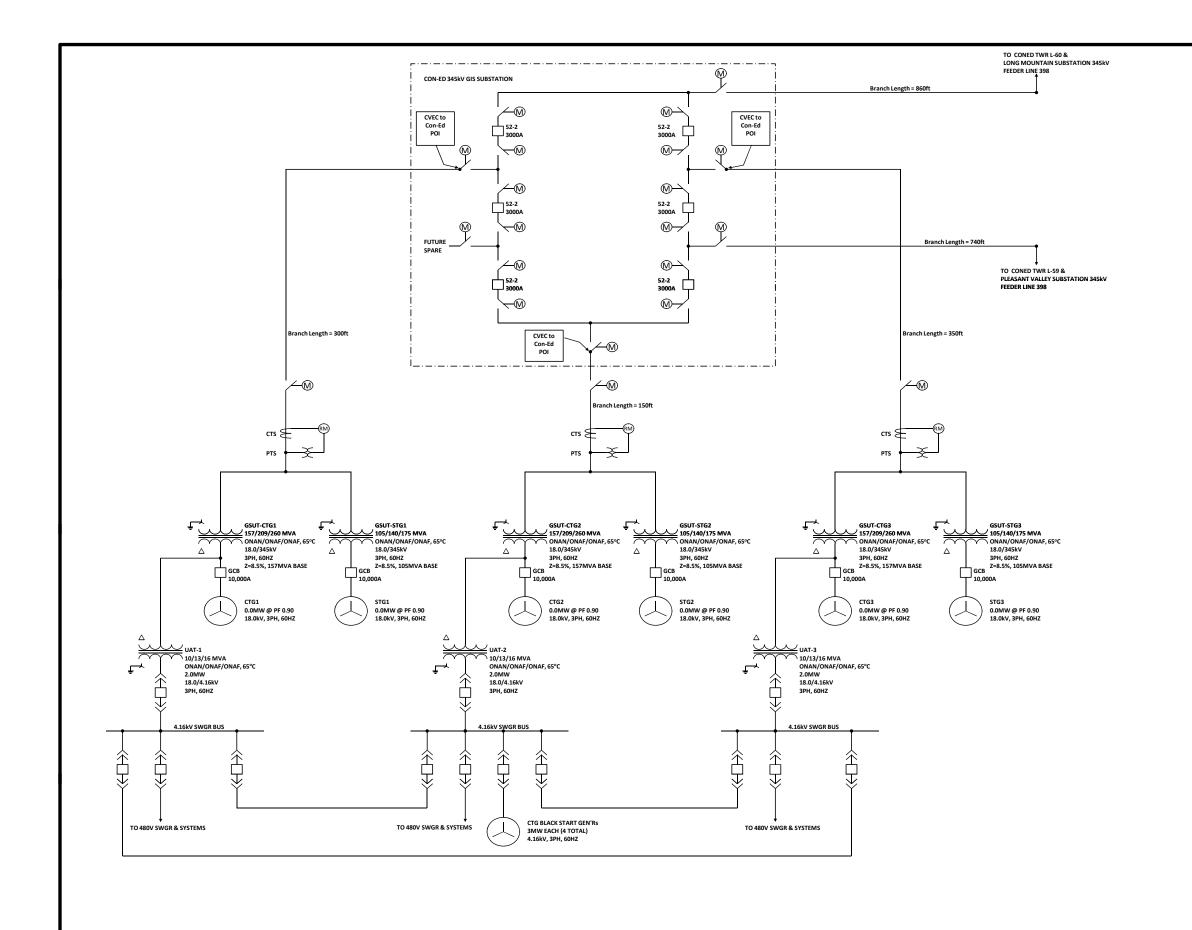
#### LEGEND:

- CT REVENUE GRADE CURRENT TRANSFORMERS
- PT REVENUE GRADE POTENTIAL TRANSFORMER
- RM BI-DIRECTIONAL REVENUW METERS
- POI POINT OF INTERCONNECTION (INCLUDING CHANGE OF OWNERSHIP).

SINGLE LINE DIAGRAM WINTER LOAD (MAX) CONDITIONS SKE-3002

> AP DUTCHESS #310 CRICKET VALLEY ENERGY CENTER

> > **DATED: JUNE 15, 2011**



- NOTES:

  1. MINIMUM AUXILARY POWER FROM THE NYISO GRID WILL BE SUPPLIED VIA CTG & STG MAIN GSU TRANSFORMERS TO UNIT'S AUXILIARY TRANSFOMERS.
- 2. MINIMUM AUXILIARY POWER REQUIRED IS 2.0MW PER UNIT WHEN THE RESPECTIVE UNIT IS IN STANDBY MODE (I.E. CTG AND STG ARE SHUTDOWN).
- 3. CONNECTION TO EXISTING CONED FEEDER LINE 398 BETWEEN CONED TOWERS L-59 AND L-60. REFERENCE CONED DWG. EO-11397-A, REV.6.

#### LEGEND:

- CT REVENUE GRADE CURRENT TRANSFORMERS
- PT REVENUE GRADE POTENTIAL TRANSFORMER
- RM BI-DIRECTIONAL REVENUW METERS
- POI POINT OF INTERCONNECTION (INCLUDING CHANGE OF OWNERSHIP).

SINGLE LINE DIAGRAM STANDBY MODE CONDITIONS SKE-3003

AP DUTCHESS #310 CRICKET VALLEY ENERGY CENTER

**DATED: JUNE 15, 2011** 

Project: Cricket Valley Energy

# EXHIBIT 11 List of Engineering Codes & Standards

Petition For Order Granting Certificate of Public Convenience & Necessity

#### LAWS, CODES AND STANDARDS

#### **Applicable Laws**

All systems and equipment will be designed in accordance with applicable Laws in effect from time to time until Substantial Completion, subject to relief under the Changes provisions in the Agreement. Applicable Laws include but are not limited to the following:

#### State and Local Building Codes, Standards and Ordinances

#### U.S. Government Codes, Ordinances, and Standards

- Occupational Safety and Health Act (OSHA) 29 CFR 1910
- Federal Aviation Agency (FAA) Obstruction Marking and Lighting AC No. 70/7460-IJ)
- Environmental Protection Agency (EPA) 40 CFR 423, 40 CFR 60, 40 CFR 75
- Federal environmental Statutes and implementing regulations, including but not limited to, Clean Air Act, Clean Water Act, Resource Conservation and Recovery Act, Oil Pollution Act, Safe Drinking Water Act, Comprehensive Environmental Response, Compensation and Liability Act, Pollution Prevention Act, and the Toxic Substances Control Act. As well as federal Statutes protecting valuable resources, including but not limited to, the National Historic Preservation Act, Threatened and Endangered Species Act, the Wild Rivers Act, the Coastal Zone Management Act and the Migratory Bird Treaty Act.
- Transportation of Natural and other Gas by Pipeline: Minimum Federal Safety Standards-49 CFR 192

#### **Applicable Codes and Standards**

All systems and equipment will be designed in accordance with applicable codes and standards in effect from time to time until Substantial Completion, subject to relief under the Changes provisions in the Agreement. Applicable codes and standards include but are not limited to the following:

#### **American Society of Mechanical Engineers (ASME)**

- ASME Boiler and Pressure Vessel Code
- ASME B31.1 Power Piping
- ASME Performance Test Codes (PTC)

## American National Standards Institute (ANSI) or applicable Deutsches Institut fur Normung (DIN) Standards

- B16.1 Cast Iron Pipe Flanges and Flanged Fittings
- B16.5 Steel Pipe, Flanges, and Fittings
- B16.34 Steel Valves

•	B133.8	Gas Turbine Installation Sound Emissions	
•	C2	National Electrical Safety Code	
•	C37.010	Application Guide for AC High Voltage Circuit Breakers	
•	C37.04	Standard Rating Structure for AC High Voltage Circuit Breakers	
		Rated on a Symmetrical Current Basis	
•	C37.06	Switchgear - AC High Voltage Circuit Breakers Rated on a	
		Symmetrical Current Basis -Preferred Ratings and Related	
		Required Capabilities	
•	C37.13	Standard for low Voltage AC Power Circuit Breakers Used in	
		Enclosures	
•	C37.20.1	Standard for Metal-Enclosed Low-Voltage Power Circuit Breaker	
		Switchgear	
•	C37.20.2	Standard Metal-Clad and Station-Type Cubicle Switchgear	
•	C37.23	Guide for Metal-Enclosed Bus and Calculating Losses in	
		Isolated-Phase Bus	
•	C37.30	Definitions and Requirements for High-Voltage Air Switches,	
		Insulators, and Bus Supports	
•	C50.41	Polyphase Induction Motors for Power Generating Stations	
•	C57.12.10	Transformers	
•	C57.12.55	Transformers - Dry-Type Transformers Used in Unit Installation,	
		Including Unit Substations	
•	C57.12.70	Terminal Markings and Connections for Distribution and Power	
		Transformers	
•	C57.13	Standard Requirements for Instrument Transformers	
•	C57.109	Guide for Transformer Through-Fault-Current Duration	
•	C62.11	Standard for Metal-Oxide Surge Arresters for AC Power Circuits	

#### **Other US Industry Standards**

Applicable standards issued by the following industry organizations:

- American Association of State Highway and Transportation Officials (AASHTO)
- American Boiler Manufacturers Association (ABMA)
- American Concrete Institute (ACI)
- American Gas Association (AGA)
- American Gear Manufacturers Association (AGMA)
- American Institute of Steel Construction (AISC)
- American Iron and Steel Institute (AISI)
- Air Moving and Conditioning Association (AMCA)
- American Petroleum Institute (API) (Note: API 500 is specifically excluded)
- American Society for Non-destructive Testing (ASNT)
- American Society for Testing and Materials (ASTM)
- American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE)
- American Water Works Association (AWWA)

- American Welding Society (AWS)
- Anti-Friction Bearing Manufacturers Association (AFBMA)
- Cooling Tower Institute (CTI)
- Crane Equipment Manufacturer's Association of America (CMMA)
- Expansion Joint Manufactures Association (EJMA)
- Fluid Control Institute (FCI)
- Heat Exchange Institute (HEI))
- Hydraulic Institute (HI) Standard for Pumps
- Illuminating Engineering Society (IES)
- Institute of Electrical and Electronics Engineers (IEEE)
- Insulated Cable Engineers Association (ICEA)
- Instrument Society of America (ISA)
- Manufacturers Standardization Society (MSS) of the Valve and Fittings Industry
- Metal Building Manufacturers Association (MBMA)
- National Electrical Manufacturers Association (NEMA)
- National Fire Protection Association (NFPA) National Fire Codes
- Pipe Fabrication Institute (PFI)
- Sheet Metal and Air Conditioning Contractors National Association (SMACNA)
- Steel Structures Painting Council (SSPC)
- Thermal Insulation Manufacturers Association (TIMA)
- Tubular Exchanger Manufacturers Association (TEMA)
- Underwriters Laboratories, Inc. (UL) fire protection equipment only
- Welding Research Council (WRC)

#### Other non-US Industry Standards

For non-US supplied equipment, the following codes and standards may be applied with prior Owner approval.

COMPONENT OR SYSTEM	STANDARDS FOR PRODUCT ENGINEERING	STANDARDS FOR MATERIAL
1. Gas turbine and auxiliaries		
Gas turbine	ISO 3977	
2. Steam turbine and auxiliaries		
Steam turbine	DIN, IEC	DIN
Gear box	DIN, IEC	DIN
	DIN, IEC	DIN
Lube and hydraulic oil system	DIN, IEC	DIN
Gland sealing system	DIN, IEC	DIN
Internal piping and valves related to skid mounted equipment	DIN, IEC	DIN

COMPONENT OR SYSTEM	STANDARDS FOR	STANDARDS
	PRODUCT	FOR
	<b>ENGINEERING</b>	MATERIAL
3. Power island mechanical system		
Air cooled condenser incl. Air Removal Units	DIN, AD-M, TRD	DIN or ASTM
Condensate pumps	DIN / ISO	DIN
Feed water pumps:		
Systems	ASME Boiler & Vessel	
	code PG61.1/2	
Pumps	DIN/ISO 5199	DIN
Acceptance test	DIN 1944/2	
Control valves	ANSI B16.34	ASTM
Leakage rate	ANSI FCI 70-2	
Closed cooling water recooler	Mfr. Std.	DIN or ASTM
4. Electrical Equipment and generator		
Generator	ANSI C50.10/C50.13	
	(Temp. rise: IEC 34)	
Excitation	IEC 34-16, ANSI/IEEE	
	421	
Generator breaker	ANSI C37.013, IEC	
	56, IEC 694. IEC 298	
Transformers	IEC 76 or ANSI/IEE	
	C57.12, C57.13 1)	
MV/LV Switchgear	IEC 38, 59, 364, 439,	
	298, 947, 632, 644,	
	56 or ANSI 1)	
Cables	IEEE 385	
Dry-type power transformer	ANSI	
Static starting device	IEEE 428	
5. Control equipment		
Control system for gas turbine	DIN / IEC	DIN/IEC/VDE
Control system for steam turbine	DIN / IEC	DIN/IEC/VDE
Distributed control system	DIN / IEC	DIN/IEC/VDE
Instruments		DIN or ANSI 1)
Instruments cables		VDE
6. Building Facilities		
HVAC	ASHRAE or ANSI or DIN 1)	ASHRAE or ANSI or AR or DIN 1)

COMPONENT OR SYSTEM	STANDARDS FOR PRODUCT ENGINEERING	STANDARDS FOR MATERIAL
Note 1: Depending on subsupplier selected by Contractor		