



March 1, 2013

Mr. Robert Stein, Chairman  
Connecticut Siting Council  
10 Franklin Square  
New Britain, CT 06051

Dear Chairman Stein:

The Connecticut Municipal Electric Energy Cooperative (CMEEC) herewith submits an original and twenty (20) copies to the Connecticut Siting Council of our Forecast of Electric Loads and Resources for 2013-2022 Report as required by Section 16-50R of the Connecticut General Statutes.

Should you require any additional information, please advise us.

Very truly yours,

CONNECTICUT MUNICIPAL ELECTRIC  
ENERGY COOPERATIVE

Drew Rankin  
Chief Executive Officer

CJC/

Enclosures

cc: Service List

**FORECAST OF ELECTRIC LOADS AND RESOURCES 2013-2022**

**March 1, 2013**

**Connecticut Municipal Electric Energy Cooperative  
30 Stott Avenue  
Norwich, Connecticut 06360**

## **Introduction and Background**

The Connecticut Municipal Electric Energy Cooperative ("CMEEEC") is a not-for-profit joint-action power supply agency empowered to finance, plan, acquire, construct, operate, repair, extend, or improve electric generation and transmission facilities and sell power at wholesale to serve the needs of the Connecticut municipal electric utilities (MEUs) and other electric utility systems.

The CMEEEC Member utilities (collectively, the "Members") are (1) Norwalk's Third Taxing District Electrical Department ("East Norwalk"), (2) Groton Utilities ("Groton"), (3) Jewett City Department of Public Utilities ("Jewett City"), (4) Norwich Public Utilities ("Norwich"), and (5) South Norwalk Electric & Water ("South Norwalk"). The Wallingford Department of Public Utilities ("Wallingford") is a CMEEEC Participant, who, along with the Bozrah Power & Light Company ("Bozrah") and the Mohegan Tribal Utility Authority ("MTUA"), are also full-requirements wholesale customers of CMEEEC. The loads of the CMEEEC Members, Wallingford, Bozrah and the MTUA are represented on an integrated, single-system basis for purposes of ISO-New England ("ISO-NE") operations.

The joint power supply established by the CMEEEC is intended to meet the diversified power supply needs of all of CMEEEC's Members and customers. CMEEEC's mission is to meet these requirements reliably and at the lowest possible cost over the long-term. Today, CMEEEC's portfolio consists of CMEEEC and member-owned generation, unit entitlement contracts, long-term contracts, intermediate and short-term system contracts, financial instruments, and ISO New England (ISO-NE) market purchases.

The enclosed forecast for 2013-2022 shows only slight load growth for CMEEEC's Members/Participants. CMEEEC's projections for the 2013-2022 period reflect an average compound growth rate of 0.94% for total system energy requirements and 1.83% for annual summer coincident peak demand. Last year (2012) showed some decreases in energy purchases from most of CMEEEC's Members and Participants. Some of this decrease is attributable to the conservation and load management efforts of CMEEEC's Member systems. Also, growth attributable to the area Casinos has slowed and the forecast reflects uncertainty about the pace of development at these facilities and related regional economic impacts. Power usage from the industrial and biological science clusters have also slowed. But, the forecast projects significant increase in energy and peak demand for East Norwalk due to the anticipated growth at its Waste Water Treatment Facility and the establishment of a large data center scheduled to commence operations later this year. Those developments have advanced the need for new substation development in East Norwalk.

Future growth is also modulated by reductions in usage rates resulting from the conservation programs planned and implemented by the municipal electric distribution utilities (MEU). These programs remain very active and are popular with all sectors of MEU end users. The long-term forecasts of electric demand and the energy of the CMEEEC member and participant utilities are the primary tools used to ascertain future CMEEEC power needs. When the primary individual forecasts are combined, the result is a CMEEEC system-wide energy, peak demand and capacity requirements forecast, which is filed with the Council herein and also used to make power supply

decisions.

In addition, per section 16-1 of Connecticut Public Act No. 11-80, CMEEC is not aware of any reliability concerns associated with the State's municipal electric systems during the forecast period 2013-2022.

### **Conservation and Load Management**

The MEU'S continued delivery of cost effective Conservation and Load Management ("C&LM") programs to customers in 2012. CMEEC, on behalf of the MEUs, worked with the members of the Energy Efficiency Board ("EEB") pursuant to Conn. Gen. Stat. Section 7-233y, in implementing additional programs to reduce customer electricity usage and peak demand. The C&LM Plan measures the overall impact of electricity conservation programs on customer energy usage and peak demand.

In 2012, the MEUs provided a fully implemented portfolio of energy-efficiency initiatives, including:

- Performing comprehensive energy audits and weatherization of 2,485 homes;
- Distributing over 125,000 compact fluorescent lamps, bringing the total to over 1,000,000 since program inception in 2006;
- Promotion/purchase of over 570 ENERGY STAR appliances through the mail-In Appliance Rebate Program;
- Participation in the Cool Choice HVAC Rebate program by more than 116 residential and commercial customers; and
- Providing energy-efficiency assessments and incentives for nearly 65 commercial and industrial customer projects (e.g. custom equipment replacement, lighting retrofits).

CL&M efforts during 2012 resulted in a 1.8 MW in coincident summer peak demand reduction and more than 14.5 gWh in annual energy savings, at a cost of about \$0.029 per lifetime kWh. MEU commercial and industrial customers received over \$1,000,000 in incentives for installing energy-efficiency measures in their facilities. Residential customers received over \$2,000,000 in incentives. These efforts will continue through 2013 and beyond.

### **Smart Grid**

The ConnSMART Program was chosen by the U.S. Department of Energy (DOE) in October, 2009 to receive a \$9.2M Smart Grid Investment Grant funded by the American Recovery and Reinvestment Act. The Program's proposal was one of 99 selected from a total of 416 applications received, and is the only Connecticut proposal that received funding through this investment grant program. Program participants include CMEEC and five of its Member's service territories. These participants will implement smart grid investments between March 2010 and March 2014.

ConnSMART will accelerate CMEEC and its Members' adoption of smart grid functions and empower customers to reduce their peak demand, and ultimately their power costs, through new information, tools and incentives that together will enable new options for customer

understanding and control of consumption choices. Customers may then choose to utilize these new options in ways that may lead to reduced peak loads and power costs.

ConnSMART's technical scope includes:

- Installation of approximately 36,000 two-way communicating digital meters within five participating municipal utility service territories;
- Implementation of three Advanced Metering Infrastructure (AMI) communication systems;
- Integration of four Meter Data Management (MDM) systems to process and store meter data;
- Development of a wholesale power procurement business intelligence (BI) system; and
- Implementation of a Supervisory Control and Data Acquisition (SCADA) system.

Through the end of 2012, approximately 63% of the Program's scope has been delivered, including: implementation of three AMI systems with nearly 23,000 meters installed, MDM implementation activities are well underway, about three quarters of the wholesale power procurement business intelligence system has now been developed, and 60% of in-scope SCADA substations have been connected.

In 2013, ConnSMART will use these smart grid information technology investments to pilot new customer engagement programs, tools, and services to residential and commercial customer classes, including: time-of-use rates, direct load control devices and programs, and in-home devices, such as programmable controllable thermostats. In addition, ConnSMART's infrastructure will support new and existing municipal electric billing systems, Customer Information Systems (CIS), Geographic Information Systems (GIS), Outage Management Systems (OMS), and distribution Supervisory Control and Data Acquisition systems (SCADA) to further enhance the value of these investments.

ConnSMART's smart grid implementation approach will eventually generate additional customer benefits beyond the distribution system operational efficiency and reliability improvement benefits expected from these initial investments. However, ConnSMART's ultimate customer energy and load reduction, and the resulting cost savings impact, is heavily dependent on customer modification of energy usage choices and behavior—the extent of this modification remains uncertain pending completion of the pilot studies. Therefore, prospective customer load reductions resulting from ConnSMART investments are not incorporated into the load forecast presented herein

The following material and tables are in the specific itemized requirements of Sec. 16-50r of the General Statutes and is provided on behalf of CMEEC and its Member and participant systems. Items (1) through (8) listed below correspond to the numbers included in that section.

- (1) Provide a tabulation of estimated peak loads, resources and margins for each year (of the forecast period):

Table I shows forecasted energy and demand for the period as well as data on summer and winter peak demands. Table II reflects the forecasted annual peak demands for the 2013-2022 periods for both the 50/50 forecast as well as the 90/10 forecast.

CMEEC is a participant in ISO New England and buys its power through the ISO New England market system. CMEEC also maintains power and related resources delivered to the Markets. Market resources over the forecast period include NYPA and Hydro Quebec ICAP credits (20 - 30 MW), Conservation & Load Response ICAP Credits (5 MW), A.L. Pierce (75 - 95 MW), Norwich Jet (15 - 18 MW). CMEEC maintains distributed generator resources (40-50 MW) to help attain local reliability goals.

- (2) Provide data on energy use and peak loads for the five preceding calendar years:

Historical energy use and peak loads for the five-member CMEEC system, plus Wallingford, Bozrah and the Mohegan Tribal Utility Authority (MTUA), are provided in Table III.

- (3) Provide a list of existing generating facilities in service:

Generating facilities owned by CMEEC and CMEEC Members and participants are listed in Table IV. The mix of existing generating facilities and system power agreements that serve the CMEEC system are listed in Table V. Anticipated retirement dates of CMEEC's Members' generating facilities are listed in Table VI.

- (4) Provide a list of scheduled generating facilities for which property has been acquired, for which certificates have been issued, and for which certificate applications have been filed:

The following sites/facilities have received certificates from the Council. These sites/facilities are in addition to the generating resources described in Tables IV and V provided in response to item 3 above:

1. Briar Hill, Norwich- 2 units at 2.49 MW each
2. Salem Turnpike, Norwich- 2 units at 2.49 MW each

- (5) Provide a list of planned generating units at plant locations for which property has been acquired or at plant locations not yet acquired that will be needed to provide estimated additional electric requirements:

CMEEC is evaluating a site opportunity at the Naval Submarine Base New London, in Groton, Connecticut for an approximately 10 MW peaking plant. Project development would include execution of a pending lease for use of the site.

CMEEC is evaluating a 10 MW Microgrid project in Norwich with Norwich Public Utilities and the Backus Hospital to improve reliability to the hospital and other adjacent critical and emergency facilities. The project has been offered for consideration to the DEEP in response to their 2012 Microgrid solicitation.

- (6) Provide a list of planned transmission lines on which proposed route reviews are being undertaken or for which certificate applications have already been filed.

There are no planned transmission lines.

- (7) Provide a description of the steps taken to upgrade existing facilities and to eliminate overhead transmission and distribution lines in accordance with the regulations and standards described in Section 16-SOt:

Several upgrading projects are underway in CMEEC Member service territories, Bozrah and Wallingford, which are summarized below.

**South Norwalk:** The design and permitting of a new South Norwalk 115 kV to 13.8 kV bulk power substation and the conversion of existing circuits from 4.16 kV to 13.8 kV is underway. Substation get-aways will be constructed underground from the substation to the existing South Norwalk switchyard. Additional land was purchased during 2009 to increase the foot print of the 115 kV substation site. A Connecticut Siting Council application was prepared and submitted to the Council. Local approval (City of Norwalk zoning) has been granted. The Council hearing has been completed and South Norwalk is waiting for Siting Council approval. South Norwalk has completed an interconnection study under the direction of ISO-NE and formally applied in January 2011 to ISO New England for permission to connect to the New England Power Grid. Permission has been granted by ISO-New England. South Norwalk and CL&P (the owner of the PTF portion of the station) have engaged engineering consultants and design is underway. The primary objective of this project is to improve power delivery. The project is also needed to serve anticipated load increases arising from economic development projects. Also in South Norwalk, ground was broken in December, 2007 for the proposed Reed/Putnam project, which has been delayed due to the economic downturn. The first phase of this project will result in an increase of between 3-5 MW in demand.

**East Norwalk** is proceeding to put in place by December 1 of this year a new PTF level substation which is the subject of CSC DN 426. All necessary local and ISO NE approvals are in place. This project addresses imminent load growth which taken together with current loads would cause current capability service reliability thresholds to be exceeded. Even with this new material load growth the new station is needed to address long standing reliability issues.

**Norwich Department of Public Utilities (NPU)** continues to upgrade its 4.8kV distribution system to 13.8kV to increase efficiency by reducing system losses and to improve reliability through better voltage conditions and newer equipment. Over the last 10 years, NPU has upgraded about 33% of its 4.8kV system load and more than 11.0 miles of overhead lines to improve system voltage, capacity, and reliability in affected areas. Over the last two years, NPU has installed approximately 2 miles of new 13.8kV overhead lines.

All NPU substations, generating stations and several distribution switches are monitored and controlled via Supervisory Control and Data Acquisition (SCADA) system in NPU's control room 24/7. As part of a multi-year project, several stations have been moved to NPU's fiber optic network for more reliable communication and monitoring.

In 2012, NPU replaced its Selective Catalytic Reduction (SCR) unit on its 2MW Caterpillar generator located at the Norwich Waste Water Treatment Plant (WWTP) facility. This work is being performed under a minor modification with DEEP and will comply with all the latest emissions requirements. The WWTP generator continues to participate in ISO New England's energy market, as well as serving as emergency backup for the WWTP and downtown Microgrid.

NPU has applied for DEEP Microgrid Grant to install 10MW of generation on Matlack Road in Norwich to serve Backus Hospital. In addition, the proposed Microgrid will provide service to several critical facilities in the City of Norwich, including schools, emergency shelters, a fire station, a large supermarket/pharmacy chain, a public water supply, a gas station and a shopping center. The proposed Microgrid also includes over 2,000 customers (or about 10% of NPU's system), consisting of numerous commercial healthcare and foodservice facilities and several entire residential neighborhoods.

The Greenville Dam fish lift and Occum Dam fish passages operated successfully during 2012 fish season. The highlight of the season was the improved results from the Denali passage at Occum Dam. NPU continues to voluntarily work with DEEP and USFWS on their fish management program, including utilizing of NPU's Shad Truck to trap and truck shad to compensate for poor results at Taftville Dam (not an NPU project). NPU provided support to DEEP on its very successful eel pass program, including design modifications to Occum eel ladder and the installation of new eel lift at Greenville Dam. DEEP has concluded that the Occum fish passage works reasonably well and has suspended effectiveness studies for the time being until ineffective, non-NPU passages at Scotland and Taftville improve.

**Jewett City Department of Public Utilities (JCDPU)** is continuing the upgrading of its distribution network in an intended development of long-range system expansion and as part of this effort JCDPU is continuously gathering load data for future consideration and/or expansion. Any business expansion would involve underground cable installation.

**Groton Utilities** is continuing its long-term electric infrastructure improvement projects.

A project to upgrade two of its incoming 115 kV ties to the bulk transmission grid is underway in collaboration with Northeast Utilities which owns the majority portion of these lines. This project involves replacement of poles and wires along existing right of way to avoid pole failure and cure clearance issues.

Voltage conversion is continuing throughout Groton Utilities' territory. As of January 1, 2012, 100% of the southern portion of the service territory primary distribution voltage has increased from 8.32 kV to 13.8 kV. The voltage conversion project consists of replacing aging poles, crossarms, insulators, lightning arrestors and fuse cutouts while increasing distribution line capacity. The voltage conversion project is scheduled to continue throughout the year 2013 in the areas of Navy Base Housing and Pleasant Valley Substation.

**Bozrah Light and Power's** Stockhouse Road Substation has recently undergone installation of a new 115 kV breaker and the installation of a new underground feeder. Nine residential homes were built with underground electrical distribution facilities and one overhead cable was replaced with an underground cable.

**Wallingford Electric Division's (WED)** Projects for 2013 include completion of the final portion of a 115-kV switch replacement, a significant life-extension maintenance project on a large 115/13.8-kV substation transformer and completion of an effort to replace all of the feeder protection relays in two substations. The Division will continue to work with United Illuminating and CL&P to upgrade the 1630 115-kV line currently expected to occur sometime in 2015. The Division also plans to install additional distribution line reclosures and SCADA-operable switches. Finally, the WED will be replacing all of its 115-kV inter-tie meters in 2013.

WED's 13.8-kV distribution system is in very good condition, having been almost 100% re-built during the 1990's. WED employs an aggressive vegetation management effort in which trees along its overhead distribution lines are trimmed on a four-year cycle, to preserve system performance and reliability. Presently, WED is concentrating its distribution system improvement efforts on the replacement of aged poles, overhead conductor, and underground residential distribution (URD) facilities. The latter is being replaced with new cable in buried conduit. Additionally, all new primary underground cable is installed in conduit.

WED's substation facilities are in equally good condition, with the oldest station dating from only the mid-1980's. WED also no longer has any oil-filled 115-kV circuit breakers in service.

- (8) For each private power producer having a facility generating more than one (1) megawatt, and from whom CMEEC has purchased electricity during the preceding calendar year, provide a statement including the name, location, size, and type of generating facility, the fuel consumed by the facility, and the by-product of the consumption:

Generally, the customers in CMEEC member and participant service areas who have generating capacity greater than 1 MW retain the power for ongoing internal utilization and/or for peak shaving against utility power purchases. Table VII summarizes major on-site generation capability at customer locations within the municipal service territories. CMEEC does not have formal arrangements in place to purchase power from those facilities at this time. Many of these customers, however, are asked to generate power and/or shed load during high load or emergency conditions as defined in NEPOOL's Operating Procedure #4.

TABLE I  
CONNECTICUT INDUSTRIAL ELECTRIC PEAK DEMAND FORECAST  
10-YEAR FORECAST OF PEAK SALES BY CUSTOMER CLASS, ENERGY REQUIREMENTS AND PEAK DEMAND  
2013-2022

YEAR	Residential Service		Small General Service		Medium General Service		Large General Service		Other Service		Total Retail Sales		Municipal Authority		Hydro Gen.		Subtrans. & Distri. Losses		Systems Energy Requirements Met by CMEEC		CMEEC Summer Coincident Peak Demand		CMEEC Winter Coincident Peak Demand		Load Factor %
	MWh	\$	MWh	\$	MWh	\$	MWh	\$	MWh	\$	MWh	\$	MWh	\$	MWh	\$	MWh	\$	MWh	\$	MWh	\$	MWh	\$	
1992	424,463	118,862	250,533	707,087	47,619	1,548,564	0.00	11,292	68,988	1,606,260	267.49	266.51	68.4												
1993	441,802	115,140	250,426	711,377	47,119	1,565,864	0.00	11,372	72,747	1,627,239	286.08	283.33	64.9												
1994	450,933	114,205	256,064	697,152	48,728	1,567,092	0.00	6,524	83,816	1,644,374	296.86	281.06	63.2												
1995	449,638	114,746	247,902	710,876	51,182	1,573,344	0.00	3,845	85,114	1,654,613	311.63	294.47	60.6												
1996	477,295	114,580	251,441	784,919	52,647	1,680,872	35,491	3,774	74,266	1,766,855	290.17	279.82	69.3												
1997	468,588	113,766	249,085	749,385	53,356	1,690,500	45,138	3,216	78,568	1,751,390	319.54	264.34	62.6												
1998	472,381	113,427	249,085	747,565	53,839	1,692,288	48,027	3,524	83,026	1,745,827	309.16	263.73	64.5												
1999	492,557	116,139	287,677	682,328	57,558	1,696,706	48,036	2,825	67,067	1,758,184	322.39	286.24	62.3												
2000	514,722	119,702	335,887	641,300	59,936	1,691,562	61,694	2,825	67,067	1,758,184	310.46	286.24	65.5												
2001	527,026	122,207	337,878	642,227	61,560	1,678,594	101,918	2,118	65,810	1,844,204	334.64	277.51	60.0												
2002	556,741	122,552	357,194	640,657	66,843	1,938,615	147,846	2,173	74,769	1,919,057	390.20	316.04	58.6												
2003	556,741	127,258	362,651	639,020	68,528	1,743,513	150,594	3,163	64,839	1,956,185	372.40	321.90	58.6												
2004	585,744	135,123	362,835	667,561	70,485	1,787,699	151,435	2,315	67,716	2,004,535	366.10	343.90	63.8												
2005	585,744	129,012	373,239	653,640	69,568	1,777,327	151,334	3,138	59,321	2,040,097	389.75	327.04	62.6												
2006	584,797	125,472	382,165	647,856	71,568	1,797,034	151,654	2,075	63,600	1,985,044	418.88	213.25	56.9												
2007	584,797	127,301	380,996	611,202	71,677	1,745,034	152,534	8,399	68,214	1,958,322	384.78	317.33	62.5												
2008	543,590	121,527	366,845	505,438	72,865	1,610,625	151,397	8,969	54,973	1,808,026	391.98	317.33	59.6												
2009	549,791	120,919	379,244	496,858	73,829	1,620,841	153,546	5,654	68,725	1,837,258	361.38	303.57	59.4												
2010	549,791	120,919	372,980	506,389	73,173	1,620,841	153,546	5,654	68,725	1,837,258	361.38	303.57	59.4												
2011	538,351	116,817	371,831	493,756	69,207	1,584,962	149,248	5,066	58,209	1,819,968	369.62	288.27	60.6												
2012	537,280	119,938	360,471	515,739	64,581	1,598,008	151,298	6,200	58,110	1,787,353	363.14	275.61	57.9												
2013	543,421	121,231	381,320	531,244	65,151	1,642,186	151,298	6,200	58,110	1,802,217	379.42	317.29	54.2												
2014	550,821	122,288	385,737	541,848	65,684	1,665,879	151,298	6,200	58,110	1,847,335	386.18	323.99	54.2												
2015	560,841	123,626	406,711	541,945	66,095	1,696,200	151,298	6,200	58,110	1,869,288	390.29	327.31	54.7												
2016	560,841	124,217	440,791	542,047	66,403	1,733,795	151,298	6,200	58,110	1,934,277	394.55	331.24	54.8												
2017	567,963	124,906	443,717	542,155	66,685	1,741,027	151,298	6,200	58,110	1,934,277	400.52	336.36	55.1												
2018	570,486	125,559	446,494	542,267	66,964	1,748,027	151,298	6,200	58,110	1,940,509	401.87	337.28	55.1												
2019	570,486	126,487	450,104	542,385	67,220	1,757,183	151,298	6,200	58,110	1,946,781	403.34	338.19	55.1												
2020	570,486	126,850	451,877	542,507	67,415	1,761,145	151,298	6,200	58,110	1,954,753	404.59	339.01	55.1												
2021	576,024	127,575	454,755	542,635	67,615	1,768,603	151,298	6,200	58,110	1,957,364	405.20	339.63	55.0												
2022	576,024	127,575	454,755	542,635	67,615	1,768,603	151,298	6,200	58,110	1,957,364	405.20	339.63	55.0												
% Increase 2012-2022	0.77	0.88	2.03	0.85	-0.23	1.10	0.14	0.14	-1.54	0.94	1.83	2.80													

[1] Totals are the sum of kilowatt-hours rounded to the nearest megawatt-hour (MWh) less CT Steals Intermittible.

[2] The forecasted CMEEC coincident peak demands were computed by summing the Groton, Norwich (inclusive of the contribution of Norwich's Second Street and Tenth Street hydro units), Jewett City, East Norwich, South Norwalk, Wallingford and Bozrah noncoincident peak demands and multiplying by an average historical coincidence factor.

[3] The historical 1994 CMEEC winter and summer peak demand numbers reflect both Wallingford and Bozrah as if they were part of CMEEC at that time. The historical 1995 CMEEC winter and summer peak demand numbers reflect Bozrah as if they were part of CMEEC at that time.

[4] The historical CMEEC coincident peak demands are net of the two large intermptible customers ATRCAS (Bozrah) and NUOR Steel (Wallingford). The forecasted CMEEC coincident peak demands were computed by summing all of the noncoincident peaks for each of CMEEC's Members/Participants including the two intermptible customers and multiplying by an average historical coincidence factor.

TABLE II

March 2013

**CONNECTICUT MUNICIPAL ELECTRIC ENERGY COOPERATIVE (CMEEC)**

**SUMMARY OF CMEEC PEAK FORECASTS (1)**

<u>Year</u>	<u>50/50 Peak Forecast</u>	<u>90/10 Peak Forecast</u>
2013	379.42	396.41
2014	386.18	403.22
2015	390.29	407.37
2016	394.55	411.68
2017	400.52	417.69
2018	401.87	419.06
2019	403.34	420.56
2020	404.59	421.85
2021	406.21	423.50
2022	407.86	425.19

(1) CMEEC developed its extreme weather forecast peak values by using the CMEEC summer peak forecast and applying an extreme weather scenario to arrive at the 90/10 forecast.

TABLE III

March 2013

**CONNECTICUT MUNICIPAL ELECTRIC ENERGY COOPERATIVE (CMEEC)**

**HISTORICAL ENERGY USE AND PEAK LOAD  
2008-2012**

<u>Year</u>	<u>CMEEC Coincident Peak Load (MW) [1]</u>	<u>CMEEC Energy (MWh) [1]</u>
2008	374.36	1,958,322
2009	347.59	1,808,026
2010	346.16	1,837,258
2011	359.05	1,819,968
2012	340.35	1,787,353

[1] Reflects CMEEC Member loads inclusive of Wallingford, Bozrah and the Mohegan Tribal Utility Authority (MTUA) for 2008-2012.

TABLE IV

**CONNECTICUT MUNICIPAL ELECTRIC ENERGY COOPERATIVE (CMEEC)**

**EXISTING GENERATION FACILITIES OWNED BY  
CMEEC AND ITS MEMBERS**

As of March 1, 2013

<u>Generating Facility</u>	<u>Winter Rating (MW)</u>	<u>Summer Rating (MW)</u>
Norwich Combustion Turbine (Oil-Fired) [1]	18.800	15.255
Pierce Generating Unit (Oil/Gas-Fired) [2]	97.000	77.500
Norwich Waste Water Treatment (Oil-Fired)	2.00	2.00
Norden 1 (Oil-Fired)	2.00	2.00
Norden 2 (Oil-Fired)	2.00	2.00
Norden 3 (Oil-Fired)	2.00	2.00
Norwich Second Street (Hydro)	[3]	[3]
Norwich Tenth Street (Hydro)	[3]	[3]
Norwich Occum (Hydro)	[3]	[3]

[1] Represents CMEEC current joint-ownership share. The full capability of the Norwich combustion turbine unit is under contract to CMEEC.

[2] Represents CMEEC current sole ownership share. The full capability of the Pierce generating unit is under contract to CMEEC.

[3] Winter and summer ratings are based on average river flow conditions. The nameplate rating for the Second Street hydro station is 0.95 MW. The nameplate rating for the Tenth Street hydro station is 1.00 MW. The nameplate rating for the Occum hydro station is 0.80 MW. These hydro units remain a resource of the Norwich Department of Public Utilities. The generations of these hydro units are used by Norwich to directly offset Norwich load.

TABLE V

As of March 1, 2013

**MIX OF EXISTING GENERATION - CMEEC RESOURCES**

<u>Unit Designation</u>	<u>In-Service Date</u>	<u>Net Winter Capacity (In MW) [1]</u>	<u>CMEEC Share (MW)</u>	<u>Net Summer Capacity (In MW) [2]</u>	<u>CMEEC Share (MW)</u>	<u>CMEEC Percent of Unit (%)</u>
<b><u>Long-Term System &amp; Asset Contracts [3]</u></b>						
Base System Purchase		113.00	113.00	119.00	119.00	
Base Unit Entitlement Purchase		25.00	25.00	25.00	25.00	
On-Peak System Purchase		20.00	20.00	20.00	20.00	
<b>Total System Contracts</b>		<b>158.00</b>	<b>158.00</b>	<b>164.00</b>	<b>164.00</b>	
<b><u>Municipal Generation</u></b>						
Norwich Combustion Turbine	1972	18.80	18.80	15.25	15.25	100.00
Norwich Waste Water Treatment	2008	2.00	2.00	2.00	2.00	100.00
Pierce Generation Unit	2007	97.00	97.00	77.50	77.50	100.00
Norden 1	2009	2.00	2.00	2.00	2.00	100.00
Norden 2	2009	2.00	2.00	2.00	2.00	100.00
Norden 3	2009	2.00	2.00	2.00	2.00	100.00
<b>Total Municipal Generation</b>		<b>123.80</b>	<b>123.80</b>	<b>100.75</b>	<b>100.75</b>	
<b>TOTAL CMEEC CAPACITY RESOURCES</b>			<b>281.80</b>		<b>264.75</b>	
<b><u>Other Resources</u></b>						
NYPA Hydro (Firm & Peaking) [4]			13.20		13.20	NA
Short-Term Purchases [5]			Varies		Varies	NA
CMEEC's 50 in 5 Units [6]			40.00		40.00	

[1] Represents NEPOOL Winter Maximum Claimed Capability.

[2] Represents NEPOOL Summer Maximum Claimed Capability.

[3] System Purchases, Contract Purchases & Unit Entitlement Purchases from several counterparties.

[4] Represents maximum hourly contract deliveries to CMEEC. New York Power Authority (NYPA) hydro purchases began July 1, 1985. Energy contributions from NYPA are considered to be firm contracts and used to reduce electric requirements thereby reducing CMEEC Capability Responsibility in NEPOOL.

[5] The MW amounts shown for Short-Term Purchases vary from month to month from 0 MW to 50 MW through December 2013.

[6] Represents the CMEEC (50 in 5) Units which are currently commercially operating. Seven (7) 2.50 MW units are located in Groton, two (2) 2.50 MW units are located in Norwich, one (1) 2.50 MW unit is located in Jewett City, two (2) 2.50 MW units are located in Lebanon, CT and four (4) 2.50 MW units are located at the Mohegan Tribal Utility Authority. Additional 2.5 MW units are in the planning stages will be forthcoming and will be added to CMEEC's

overall resource mix. These resources will be used for demand reduction purposes and are not anticipated to be enrolled in the ISO New England markets.

TABLE VI

CONNECTICUT MUNICIPAL ELECTRIC ENERGY COOPERATIVE

March 2013

**Anticipated Unit Retirement Dates**

	<u>Retirement Date</u>
<b><u>Conventional Hydro</u></b>	
Norwich Tenth Street Hydro	Not Scheduled
Norwich Second Street Hydro	Not Scheduled
Norwich Occum Hydro	Not Scheduled
<b><u>Peaking</u></b>	
Norwich Combustion Turbine	Not Scheduled
Pierce Generating Unit	Not Scheduled
John Street #3	June 1, 2013
John Street #4	June 1, 2013
John Street #5	June 1, 2013
Norwich Waste Water Treatment	Not Scheduled
Norden 1	Not Scheduled
Norden 2	Not Scheduled
Norden 3	Not Scheduled

Table VII

**Connecticut Municipal Electric Energy Cooperative (CMEEC)**

**COGENERATION & SMALL POWER PRODUCTION FACILITIES  
GREATER THAN 1 MW IN TOTAL SIZE [1]**

March 2013

<u>Facility Name</u>	<u>Facility Type</u>	<u>Facility Location</u>	<u>No. Of Units</u>	<u>Prime Mover</u>	<u>Type Fuel</u>	<u>Summer &amp; Winter Capacity</u>	<u>Years Installed</u>
Pfizer, Inc.	Cogeneration	Groton CT	5	Steam Turbine	Turbine Fuel	39,700 kW	1948, 1950 1993, 2001 & 2009
U.S. Naval Sub Base	Cogeneration	Groton CT	1	Steam Turbine	Duel Fuel	5,000 kW	1996
			1	Diesel Engine	#2 oil	1,500 [2]	1960 (est.)

[1] The customer retains power from each of these facilities.

[2] This diesel generator is used to provide black start capability.