



North Carolina Electric
Membership Corporation

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Clerk's Office
N.C. Utilities Commission

September 19, 2011

VIA HAND DELIVERY

Renne Vance, Chief Clerk
North Carolina Utilities Commission
430 North Salisbury Street
Dobbs Building
Raleigh, NC 27603-5918

**Re: Investigation of Integrated Resource Planning in North Carolina
Docket No. E-100, Sub 128**

Dear Ms. Vance:

Pursuant to N.C. Gen. Stat. § 62-133.8, Commission Rule R8-60(h), and by Commission Order issued August 31, 2011, granting North Carolina Electric Membership Corporation ("NCEMC") an extension of time to file an annual resource plan, please find enclosed an original and thirty (30) copies of NCEMC's 2011 resource plan. Upon filing, please return one file-stamped copy to me in the self-addressed envelope.

Should you have any questions, please do not hesitate to contact me at 919.875.3121.

Sincerely,

Richard M. Feathers
Vice President and Associate General Counsel

RMF/bl

cc: Parties of Record

Enclosures

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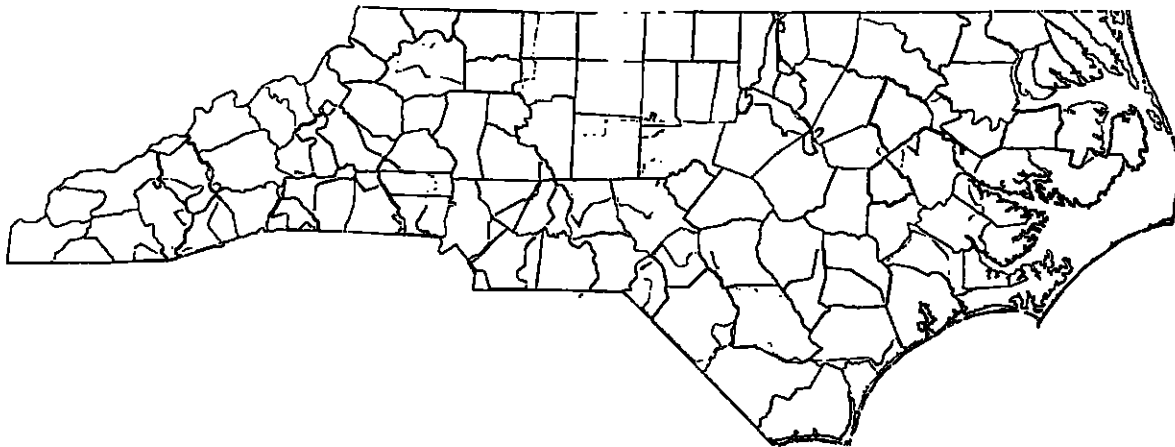




North Carolina Electric Membership Corporation

2011

Integrated Resource Plan



North Carolina Utilities Commission

Docket No. E-100, Sub 128

September 19, 2011

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Introduction

This document is the North Carolina Electric Membership Corporation's ("NCEMC") 2011 Annual Update to the Biennial Integrated Resource Plan ("IRP") to the North Carolina Utilities Commission ("NCUC"), and includes a 15-year forecast of load requirements, generating capability and other information as required by NCUC Rule R8-60(h) and (i).

Information in this 2011 update that has changed from the 2010 IRP:

Resource Additions – Conventional and Renewable

- NCEMC executed a five-year power purchase agreement for 100 MW with American Electric Power ("AEP").
- NCEMC renewed a power purchase agreement for one year for 100 MW with Progress Energy Carolinas ("PEC").
- NCEMC executed a twenty-year power purchase agreement for the electrical power production from a 1 MW landfill in Robeson County, NC.
- Commercial operation of the Solar Star NCII solar electric facility is expected to be achieved by December 2011.
- NCEMC is proceeding with the addition of a sixth generating unit at the Hamlet CT Plant. NCEMC executed a contract with Pratt & Whitney ("P&W") to construct the sixth generation unit. NCEMC submitted a Title V Air Permit with the NC Department of Air Quality ("NCDAQ"). Construction activity at the Hamlet CT Plant is expected to begin in June 2012, with commercial operation of the sixth generating unit expected in Spring 2013.

Load Forecast / Energy Efficiency Savings

- NCEMC's 2011 Load Forecast, approved September 2011 by NCEMC's Board of Directors, reflects a continued commitment to improve the load forecasting methodology. The culmination of efforts to improve NCEMC's load forecasting methodology addresses demand forecast concerns raised by the Public Staff in previous IRPs. Information from the 2011 Load Forecast is presented in this Annual Update, and will be incorporated into NCEMC's 2012 IRP production model.
- NCEMC Participating Member ("PM" or "PMs") energy efficiency savings shown in Section 6 of this Annual Update are consistent with information reported by GreenCo and Halifax EMC in their 2011 REPS Compliance Plans.

During the next year, NCEMC has the following key action items that may impact its power supply portfolio:

- Monitor the 2011 REPS Compliance Plans submitted by GreenCo and Halifax EMC and revise the impact of these programs on the power supply portfolio.
- Continue to review Power Supply opportunities to meet the needs of NCEMC's Participating Members across the three supply areas in which their loads are served.

North Carolina's Electric Cooperatives

NCEMC is a generation and transmission cooperative that provides wholesale power and other related services to 25 of the 26 electric cooperatives incorporated in the state of North Carolina. For 20 of the cooperatives, called PMs, NCEMC is the full requirements power supplier. For 5 of the cooperatives, called Independent Members ("IMs" or "IM"), NCEMC provides partial requirements capacity and energy entitlements from designated resources, pursuant to a Wholesale Power Supply Agreement. The twenty-sixth cooperative, French Broad EMC, is not a member of NCEMC. This IRP represents the plan for the 20 PMs.

All of North Carolina's cooperatives, known as electric membership corporations ("EMCs" or "EMC"), were created in the 1930's and 1940's to bring electric power to areas that were deemed by other utilities as too remote and uneconomical to serve. Collectively, the EMCs of North Carolina provide energy in 93 of North Carolina's 100 counties. North Carolina's 26 distribution EMCs are independent, not-for-profit corporations. Each cooperative is owned by its retail consumers who elect its board of directors from among its membership.

NCEMC Power Supply Portfolio

The service territories of NCEMC's member distribution EMCs are located within the balancing areas of Progress Energy Carolinas ("PEC"), Duke Energy Carolinas ("Duke Energy"), and PJM Interconnection LLC ("PJM"). Therefore, NCEMC's system consists of three distinct areas, identified as supply areas.

Existing power supply contracts and the introduction of new resources to NCEMC's power supply portfolio have provided the flexibility to serve load in multiple supply areas. To the extent that firm transmission access is obtained and maintained, NCEMC continues to serve all its members as a single integrated system.

Section 1: Forecasts of Load, Supply-Side Resources, and Demand-Side Resources

- i. Table 1.1 provides NCEMC's historical and projected customer and load requirements for 2000 through 2025. Projections for 2011 through 2025 from the NCEMC 2009 Load Forecast for the PMs incorporate impacts from the 2008 / 2009 economic recession.

Table 1.1 Historical and Projected Customers and Load Requirements

Year	Number of Customers				Retail Sales (MWh)				(MW)
	Residential	Commercial	Industrial	Total Consumers	Residential	Commercial	Industrial	Total Retail Sales	Peak Demand
2000	473,311	35,012	55	508,378	6,079,313	1,714,361	519,570	8,313,244	2,130
2001	484,636	36,237	59	520,932	6,298,722	1,763,405	555,655	8,617,782	2,178
2002	496,180	37,763	66	534,009	6,740,586	1,864,732	607,486	9,212,804	2,296
2003	507,324	38,480	66	545,870	7,051,303	1,860,574	627,543	9,539,420	2,417
2004	520,589	39,803	69	560,461	7,354,215	1,961,722	646,318	9,962,255	2,435
2005	535,010	40,612	68	575,690	7,683,530	2,029,632	623,687	10,336,849	2,491
2006	551,217	42,476	69	593,762	7,967,146	2,058,504	653,886	10,679,535	2,551
2007	564,478	44,236	73	608,787	8,248,249	2,215,881	678,942	11,143,072	2,640
2008	570,806	46,120	73	616,999	8,356,699	2,303,151	673,195	11,333,045	2,704
2009	575,400	46,618	78	622,096	8,394,674	2,322,897	674,284	11,391,855	2,738
2010	581,527	47,397	78	629,002	8,614,839	2,438,168	712,331	11,765,338	2,884
2011	600,101	48,628	77	648,806	8,549,126	2,176,007	839,383	11,564,516	2,850
2012	595,297	48,669	73	644,039	8,953,363	2,269,757	719,750	11,942,870	2,935
2013	603,903	49,439	73	653,415	9,078,000	2,306,855	723,406	12,108,261	2,977
2014	612,019	50,177	73	662,269	9,204,919	2,344,003	727,038	12,275,960	3,019
2015	619,855	50,913	73	670,841	9,325,792	2,379,636	730,729	12,436,157	3,060
2016	628,080	51,681	73	679,834	9,446,074	2,415,226	734,207	12,595,507	3,100
2017	636,901	52,504	73	689,478	9,577,473	2,453,701	737,741	12,768,915	3,144
2018	645,966	53,335	73	699,374	9,713,402	2,493,478	741,335	12,948,215	3,189
2019	655,856	54,227	73	710,156	9,856,105	2,534,975	744,990	13,136,070	3,236
2020	665,989	55,146	73	721,208	10,014,118	2,580,311	748,708	13,343,137	3,289
2021	675,535	56,014	73	731,622	10,160,932	2,622,833	752,207	13,535,972	3,337
2022	685,406	56,904	73	742,383	10,308,925	2,665,559	755,769	13,730,253	3,386
2023	695,453	57,826	73	753,352	10,461,962	2,710,029	759,397	13,931,388	3,437
2024	705,468	58,750	73	764,291	10,614,744	2,754,551	763,094	14,132,389	3,488
2025	715,711	59,696	73	775,480	10,768,233	2,799,562	766,862	14,334,657	3,539

Notes:

- (1) 2000-2010 are actuals. Retail Sales and Peak Demand for 2000-2010 are weather-normalized
- (2) 2011 from NCEMC 2009 Load Forecast. 2012-2025 from NCEMC 2011 Load Forecast
- (3) Retail sales are represented at delivery to end-use customers, net of distribution losses of approximately 6%
- (4) Peak demands are the summer coincident peak loads represented at NCEMC's delivery points of the PMs

- ii. Table 1.2 shows the projection of summer and winter peak demands and annual energy requirements of the PMs for the period of 2011-2025.

Table 1.2 NCEMC PM Peak Demands and Annual Energy Requirements

Year	Summer Peak Demand MW	Winter Peak Demand MW	Annual Energy GWh
2011	2,918	2,878	12,627
2012	3,005	3,201	13,087
2013	3,048	3,245	13,222
2014	3,091	3,290	13,404
2015	3,133	3,332	13,579
2016	3,174	3,375	13,799
2017	3,219	3,422	13,940
2018	3,265	3,470	14,135
2019	3,314	3,521	14,340
2020	3,367	3,577	14,615
2021	3,417	3,629	14,774
2022	3,467	3,681	14,986
2023	3,519	3,736	15,204
2024	3,571	3,790	15,476
2025	3,623	3,845	15,643

Notes

- (1) All values are measured at generation (grossed up from distribution and transmission losses)

In its August 10, 2010 Order approving NCEMC's 2009 IRP, in Docket No. E-100, Sub 124, the Commission noted concerns surfaced by the Public Staff regarding NCEMC's load forecasting process and directed NCEMC to "examine its peak load forecasting models and assumptions for possible sources of bias leading to under-forecasting of peak loads, as well as other factors that may have contributed to the relatively large forecast errors in the past."

By the beginning of 2010, NCEMC was already in the process of upgrading its forecasting system software and using a new class of demand models that fully leverage state-of-the-art statistical methods. This process has led NCEMC to more than triple the number of weather stations available for modeling and enhanced NCEMC's weather normalization capability to better identify underlying

growth trends. NCEMC's 2010 IRP production model used new hourly demand models created from demand and energy values from NCEMC's 2009 Load Forecast as inputs into the new load forecasting system software. Since the 2010 IRP, NCEMC has expanded the load forecasting process with the implementation of new hourly demand shapes and new long-term forecast projections for demand and energy for the 20 PMs. This process resulted in the NCEMC 2011 Load Forecast that was approved by the NCEMC Board of Directors in September 2011.

The energy and demand models implemented by NCEMC are driven by a class-by-class consumer forecast that is based on a county level market share analysis. This method results in a forecast that is specific to each member cooperative and ensures that forecasts of consumers reflect the overall economic growth in the member cooperative's service territory. This methodology has also allowed NCEMC to adjust the consumer forecast to reflect local knowledge of development patterns that are unique to the service territory of each member cooperative. The effects of existing energy conservation and previous efficiency programs employed by NCEMC members are included in the load forecast. New energy efficiency programs are modeled separate and apart from the load forecast.

The forecast provided to the NCUC through this Annual Update is a "typical" expected forecast based upon normal weather and moderate growth assumptions for the PMs, and serves as the basis for NCEMC's Resource Planning. NCEMC also reviews a "severe" forecast based upon historical severe weather to plan for risk-capacity and short-term seasonal purchases.

Tables 1.3 and 1.4 on pages 8 and 9 include NCEMC's generating capability and purchased resources for summer and winter loads, along with NCEMC's expected annual energy forecast. These tables contain NCEMC PMs' loads and NCEMC's obligation to the IMs. Tables 1.3 and 1.4 reflect the changes summarized on page 3 of this Annual Update.

Table 1.3 NCEMC Projected Summer Load and Capacity (values in MW unless noted otherwise)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Load Requirements															
20 EMC Demand (1)	2,918	3,005	3,048	3,091	3,133	3,174	3,219	3,265	3,314	3,367	3,417	3,467	3,519	3,571	3,623
Existing DSM (2)	67	59	41	41	41	41	41	41	41	41	41	41	41	41	41
Net Peak Demand	2,851	2,945	3,007	3,051	3,092	3,133	3,178	3,224	3,273	3,326	3,376	3,426	3,478	3,530	3,582
Capacity Resources															
Catawba (3)	682	682	682	682	682	682	682	682	682	682	682	682	682	682	682
NCEMC CTs (4)	622	622	678	678	678	678	678	678	678	678	678	678	678	678	678
Diesels	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Total Capacity Resources	1,322	1,322	1,378	1,378	1,378	1,378	1,378	1,378	1,378	1,378	1,378	1,378	1,378	1,378	1,378
Purchased Resources (5)															
AEP Purchases	250	250	100	100	100	0	0	0	0	0	0	0	0	0	0
PEC SORs	870	870	920	970	970	970	970	970	970	550	375	225	0	0	0
PEC PPAs	350	300	1,127	1,108	1,135	1,165	1,198	1,232	1,267	1,723	1,932	2,117	2,378	2,417	2,303
Duke PPAs	72	72	72	72	72	97	97	97	97	122	122	122	122	122	122
Southern PPAs	0	225	225	225	225	225	270	270	360	360	360	360	360	360	360
SCE&G PPA	250	250	0	0	0	0	0	0	0	0	0	0	0	0	0
Dominion PPA	150	150	150	150	0	0	0	0	0	0	0	0	0	0	0
SEPA Allocations (6)	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71
PJM UCAP (7)	119	126	97	49	143	145	147	151	154	156	159	161	164	167	169
Total Purchased Resources	2,132	2,314	2,762	2,745	2,716	2,673	2,753	2,791	2,919	2,982	3,019	3,056	3,095	3,137	3,025
Obligations															
Capacity Sale to Independent Members	376	376	259	260	216	216	216	216	216	209	206	203	199	199	196
Southern PSA	0	100	100	100	100	100	100	100	100	100	100	0	0	0	0
PEC Tolling	0	0	339	339	339	339	339	339	339	339	339	339	339	339	339
PJM Reserves (8)	48	49	49	50	50	50	50	51	51	51	52	52	52	53	53
Other Reserves (9)	81	99	62	62	62	62	67	67	79	79	79	91	91	91	91
Other Obligation (10)	10	6	13	13	15	15	15	15	15	15	15	16	16	16	16
Net Resources for Participating Members	2,939	3,006	3,318	3,299	3,312	3,269	3,344	3,381	3,497	3,567	3,606	3,733	3,776	3,817	3,708
Undesignated DS Programs / EE Resources (11)	21	26	30	33	35	36	34	32	32	34	34	35	37	39	40
Undesignated Renewable Resources (11)	1	19	19	19	21	48	50	108	114	130	151	152	154	157	159
Undesignated Future Conventional Resources	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual Energy (GWh) (12)	12,627	13,087	13,222	13,404	13,579	13,799	13,940	14,135	14,340	14,615	14,774	14,986	15,204	15,476	15,643
Annual Energy after EE (GWh) (12)	12,530	12,959	13,071	13,242	13,406	13,622	13,772	13,975	14,180	14,447	14,608	14,814	15,026	15,290	15,453

Notes:

- (1) Total Demand is NCEMC's Participating Member coincident peak (NCEMC CP) measured at generation from the NCEMC 2009 Load Forecast (2011) and 2011 Load Forecast (2012 - 2025)
- (2) "Existing DSM": Existing demand side management includes customer owned generation, interruptible load and residential load management resources
- (3) "Catawba Resource": Catawba Nuclear Station ownership capacity reflects both Participating and Independent Members, along with the guaranteed capacity of the reliability exchange agreement
- (4) Addition of sixth CT at Hamlet CT Plant with projected commercial operation date of May 2013
- (5) Purchased Resources are 100% firm with reserves provided by the supplying entity unless otherwise noted
- (6) SEPA allocations are for Participating Members
- (7) PJM UCAP purchases reflect estimated PJM reserve requirements in total obligation for the PJM balancing area
- (8) Estimated reserve requirements for NCEMC as a load serving entity in the PJM balancing area
- (9) Other Reserves included for NCEMC CTs and Southern purchases as applicable
- (10) Other Obligation includes generation losses for resources in NCEMC's portfolio used to serve load in multiple balancing areas
- (11) Undesignated DS Programs / Energy Efficiency & Renewable Resources included in NCEMC's 2011 IRP
- (12) Energy values are measured at generation for Participating Members from the NCEMC 2009 Load Forecast (2011) and 2011 Load Forecast (2012 - 2025)

Table 1.4 NCEMC Projected Winter Load and Capacity (values in MW unless noted otherwise)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Load Requirements															
20 EMC Demand (1)	2,878	3,201	3,245	3,290	3,332	3,375	3,422	3,470	3,521	3,577	3,629	3,681	3,736	3,790	3,845
Existing DSM (2)	56	52	41	41	41	41	41	41	41	41	41	41	41	41	41
Net Peak Demand	2,822	3,149	3,204	3,249	3,292	3,334	3,381	3,430	3,480	3,536	3,588	3,641	3,695	3,749	3,804
Capacity Resources															
Catawba (3)	682	682	682	682	682	682	682	682	682	682	682	682	682	682	682
NCEMC CTs (4)	622	622	622	678	678	678	678	678	678	678	678	678	678	678	678
Diesels	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Total Capacity Resources	1,322	1,322	1,322	1,378	1,378	1,378	1,378	1,378	1,378	1,378	1,378	1,378	1,378	1,378	1,378
Purchased Resources (5)															
AEP Purchases	250	250	100	100	100	0	0	0	0	0	0	0	0	0	0
PEC SORs	870	870	920	970	970	970	970	970	970	550	375	225	0	0	0
PEC PPAs	350	450	1,441	1,426	1,457	1,490	1,528	1,566	1,606	2,067	2,281	2,471	2,737	2,781	2,672
Duke PPAs	72	72	72	72	72	97	97	97	97	122	122	122	122	122	122
Southern PPAs	0	225	225	225	225	225	270	270	360	360	360	360	360	360	360
SCE&G PPA	250	250	0	0	0	0	0	0	0	0	0	0	0	0	0
Dominion PPA	150	150	150	150	0	0	0	0	0	0	0	0	0	0	0
SEPA Allocations (6)	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71
PJM UCAP (7)	119	126	97	49	143	145	147	151	154	156	159	161	164	167	169
Total Purchased Resources	2,132	2,464	3,076	3,063	3,038	2,998	3,083	3,125	3,258	3,326	3,368	3,410	3,454	3,501	3,394
Obligations															
Capacity Sale to Independent Members	376	376	259	260	216	216	216	216	216	209	206	203	199	199	196
Southern PSA	0	100	100	100	100	100	100	100	100	100	100	0	0	0	0
PEC Tolling	0	0	339	339	339	339	339	339	339	339	339	339	339	339	339
PJM Reserves (8)	48	51	51	52	52	52	53	53	53	54	54	55	55	55	56
Other Reserves (9)	81	99	55	62	62	62	67	67	79	79	79	91	91	91	91
Other Obligation (10)	8	6	12	13	15	15	15	15	15	15	15	16	16	16	16
Net Resources for Participating Members	2,941	3,154	3,582	3,615	3,632	3,592	3,671	3,713	3,834	3,908	3,953	4,084	4,132	4,179	4,074
Undesignated DS Programs / EE Resources (11)	21	26	30	33	35	36	34	32	32	34	34	35	37	39	40
Undesignated Renewable Resources (11)	1	19	19	19	21	48	50	108	114	130	151	152	154	157	159
Undesignated Future Conventional Resources	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual Energy (GWh) (12)	12,627	13,087	13,222	13,404	13,579	13,799	13,940	14,135	14,340	14,615	14,774	14,986	15,204	15,476	15,643
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Notes:

- (1) Total Demand is NCEMC's Participating Member coincident peak (NCEMC CP) measured at generation from the NCEMC 2009 Load Forecast (2011) and 2011 Load Forecast (2012 - 2025)
- (2) "Existing DSM": Existing demand side management includes customer owned generation, interruptible load and residential load management resources
- (3) "Catawba Resource": Catawba Nuclear Station ownership capacity reflects both Participating and Independent Members, along with the guaranteed capacity of the reliability exchange agreement
- (4) Addition of sixth CT at Hamlet CT Plant with projected commercial operation date of May 2013
- (5) Purchased Resources are 100% firm with reserves provided by the supplying entity unless otherwise noted
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- (7) PJM UCAP purchases reflect estimated PJM reserve requirements in total obligation for the PJM balancing area
- (8) Estimated reserve requirements for NCEMC as a load serving entity in the PJM balancing area
- (9) Other Reserves included for NCEMC CTs and Southern purchases as applicable
- (10) Other Obligation includes generation losses for resources in NCEMC's portfolio used to serve load in multiple balancing areas
- (11) Undesignated DS Programs / Energy Efficiency & Renewable Resources included in NCEMC's 2011 IRP
- (12) Energy values are measured at generation for Participating Members from the NCEMC 2009 Load Forecast (2011) and 2011 Load Forecast (2012 - 2025)

Figures 1.5 and 1.6 on pages 10 and 11 provide load duration curves for 2011 and 2025 that illustrate the projected contributions from the energy efficiency / demand response programs recommended in this IRP.

Figure 1.5 - 2011 Participating Members' Load Measured at Generation Level and with Recommended Energy Efficiency Programs

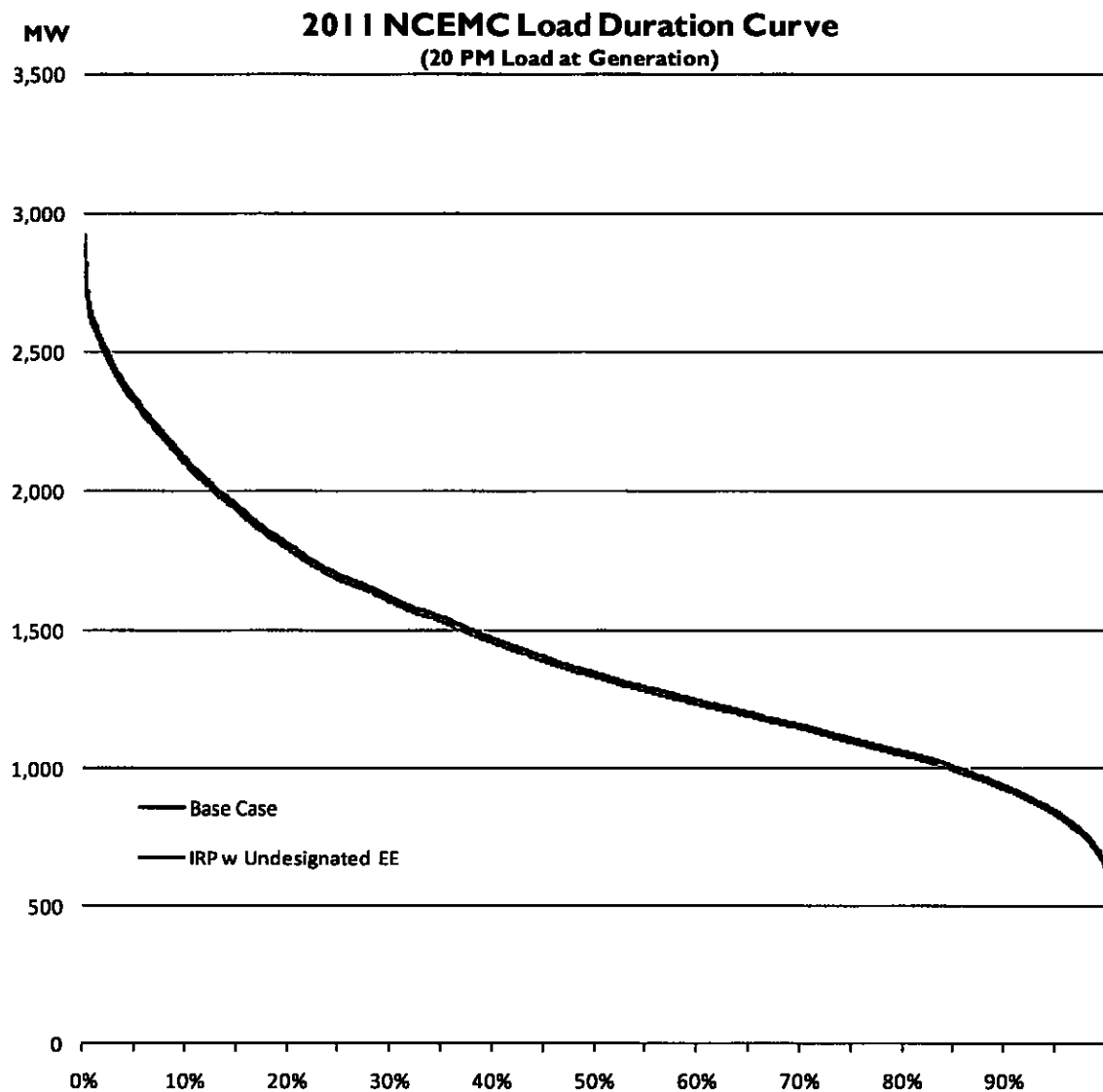
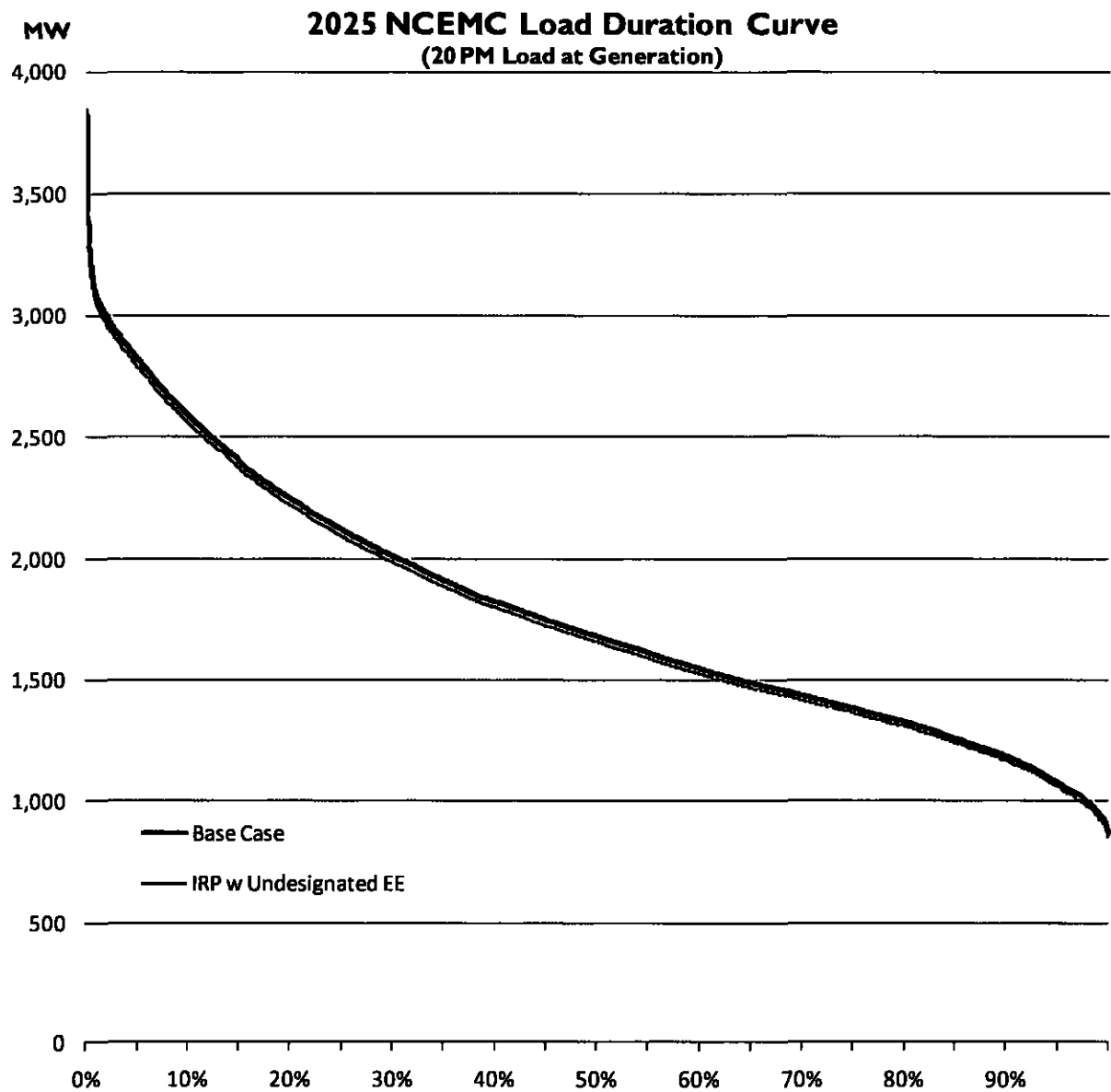


Figure 1.6 - 2025 Participating Members' Load Measured at Generation Level and with
Recommended Energy Efficiency Programs



*iii. Future Supply-Side Needs*Solar Star NCII

NCEMC has executed a long-term contract with Solar Star North Carolina II, LLC ("Solar Star NCII"), approved by the Rural Utilities Service of the US Department of Agriculture ("RUS"), for the total plant output of approximately 5 MW from Solar Star's proposed solar facility to be located near Murfreesboro, North Carolina in the PJM balancing area.

SunPower Corporation designed and is building the Solar Star NCII project with commercial operation expected in December 2011. NCEMC is purchasing the power produced by the renewable facility, and GreenCo Solutions is purchasing the renewable energy certificates ("RECs") generated by the project. More information about this project is provided in Section 7.

Robeson County Landfill

NCEMC has executed a long-term contract with Robeson County, ("Robeson County Landfill"), to be approved by RUS, to purchase the power produced from the approximately 1 MW renewable landfill gas facility located in St. Pauls, North Carolina in the PEC balancing area. NC GreenPower is purchasing the RECs generated by the project. Power delivery will commence by the fourth quarter 2011. More information about this project is provided in Section 7.

Section 2: Generation Facilities

- i. *Existing Generation – list units in service and projected for 15 years by (a) fuel type, (b) unit type and (c) location*

Since 1980, NCEMC has been a part owner in the baseload Catawba Nuclear Station located in York County, South Carolina. Duke Energy operates and maintains the station, which has been operational since 1985. NCEMC's ownership share consists of 61.51% of Unit 1, approximately 704 MW (1,145-MW unit capacity) and 30.754% in the common support facilities of the station.

NCEMC's ownership entitlement is guaranteed through a reliability exchange between the Catawba Nuclear Station and the McGuire Nuclear Station located in Mecklenburg County, North Carolina. The reliability exchange results in an effective guaranteed capacity of 681.9 MW. Additionally, Duke Energy may purchase surplus energy generated from NCEMC's portion of the Catawba Nuclear Station. As an alternative, this surplus may be sold on a wholesale basis to a third party.

NCEMC owns and operates 622 MW of aero-derivative combustion turbines on a site in Anson County and a site in Richmond County, both in North Carolina. These peaking resources operate on natural gas as primary fuel, with diesel storage on-site as a secondary fuel. These units have been in commercial operation since 2007.

NCEMC also owns and operates two internal-combustion, diesel-powered generating stations on the Outer Banks of North Carolina (located on Ocracoke Island and in Buxton). These super peak units, which began commercial operation in 1991, have a combined capacity of 18 MW and are used primarily for peak shaving and voltage support.

- d. *List of units to be retired, by location, capacity and expected retirement date*

NCEMC has no plans to retire any generating units at this time.

- e. *List of units to be extended, refurbished or upgraded*

NCEMC is in the process of reviewing the impact of the EPA "RICE NESHAP" Rule¹ promulgated in March 2010 on the continued operation of NCEMC's diesel-powered generating stations on the Outer Banks. NCEMC is currently reviewing compliance options to determine the most economical

¹ EPA Rule 40 CFR Part 63 – National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines.

manner of meeting the requirements of RICE NESHAP that take effect in 2013. NCEMC's 2012 IRP will provide a thorough discussion of the alternatives evaluated by NCEMC, and the final plan ultimately approved by the NCEMC Board of Directors.

- f. Other changes expected to decrease / increase capability by plus / minus 10% or 10 MW, whichever greater*

This Annual Update includes the planned addition of a sixth CT at NCEMC's Hamlet CT Plant (see Section 2(ii), below).

- ii. Planned Generation Additions – 15 year projection and basis for selection. For each unit indicate (a) fuel type, (b) unit type, (c) location of unit, if determined, and (d) summary of analyses supporting addition*

In November 2009, NCEMC's Board of Directors approved the recommendation for the addition of a sixth aero-derivative combustion turbine generating unit at NCEMC's Hamlet CT Plant located in Richmond County, North Carolina. The Hamlet CT Plant operates on natural gas as the primary fuel, with diesel storage on-site as a secondary fuel.

The recommendation for the addition of a sixth generating unit at the Hamlet CT Plant resulted from NCEMC's RFP 1011 evaluation process. It will provide resource flexibility to fulfill a portion of the PMs peaking load in multiple supply areas, and provides NCEMC with increased resources in its portfolio for reserves.

NCEMC received approval on August 23, 2010 from the NCUC for a Certificate of Public Convenience and Necessity ("CPCN")² for the sixth generating unit at the Hamlet CT Plant. NCEMC executed a contract with P&W to build the sixth generating unit, and submitted a Title V Air Operating Permit with the NCDAQ. Construction work is scheduled to begin in June 2012, and NCEMC expects to achieve commercial operation of the sixth generating unit in Spring 2013. The addition of a sixth CT will result in a total Hamlet CT Plant output of 339 MW.

- iii. Non-Utility Generation*

To the extent the PMs have interconnected small customer-owned self-generation, the aggregate capacity of such generation is included in "Existing DSM" on Tables 1.3 and 1.4.

² Refer to NCUC Docket No. EC-67, Sub 27.

Section 3: Reserve Margins

Calculation and analysis of winter and summer peak reserve margins over 15 year period

In securing long-term power supply, NCEMC purchases resources that are considered system firm, purchases back-up and reserves contracts, or withholds 13% reserves for NCEMC owned resources³ or resources that are not firm. Additionally, as a load serving entity in the PJM balancing area, NCEMC must purchase Unforced Capacity ("UCAP") in the PJM market to maintain the requirement for reserves. For these reasons, the calculation of Reserve Margin is not appropriate for NCEMC's portfolio of resources, and is not included in Tables' 1.3 and 1.4 shown previously in this report.

³ The Anson facility is part of a tolling arrangement starting in 2013. During the term of the tolling arrangement the capacity from the Anson facility is excluded from the reserve calculation.

Section 4: Wholesale Contracts for the Purchase and Sale of Power

- i. Table 4.1 provides a list of firm wholesale purchased power contracts represented in this IRP

Table 4.1 Wholesale Purchased Power Contracts

Purchased Power Contract	Capacity MW	Fuel Type	Designation	Source Location	Expiration	2010 Energy Purchase GWh
American Electric Power	150	System energy	Base	AEP Dayton hub (PJM Interconnect)	12/31/2012	1,314
American Electric Power	100	System energy	Base	AEP Gen hub (PJM Interconnect)	12/31/2015	-
Dominion (Virginia Electric and Power)	150	Natural Gas	Intermediate	Dominion Zone (PJM Interconnect)	12/31/2014	317
Duke Energy Carolinas Long Term PPA	72	System energy	Base	Duke supply area	12/31/2038	367
Progress Energy Carolinas PSA (1)	870	System energy	Base / Intermediate	PEC supply area	12/31/2022	6,431
Progress Energy Carolinas PSCA (2)	varies	System energy	Base / Int / Peaking	PEC supply area	12/31/2032	-
Progress Energy Carolinas Intermediate PPA	100	System energy	Intermediate	PEC supply area	12/31/2012	288
Progress Energy Carolinas Peaking PPA (3)	200	Natural Gas	Peaking	PEC supply area	12/31/2024	50
Progress Energy Carolinas Load Following	50	System energy	Peaking	PEC supply area	12/31/2011	26
QVC, Inc.	1 (DC)	Solar	Intermediate	Dominion Zone (PJM Interconnect)	12/31/2018	1
Robeson County	1	Landfill Gas	Base	PEC supply area	8/31/2031	-
Solar Star NCII	5 (DC)	Solar	Intermediate	Murphy Substation (PJM Interconnect)	11/30/2030	-
South Carolina Electric and Gas Company	250	Natural Gas	Intermediate	SCE&G	12/31/2012	612
Southeastern Power Administration (4)	71	Hydro	Peaking	Duke, PEC and PJM supply areas	---	226
Southern Power ("Block" PPA) (5)	45	Natural Gas	Peaking	Cleveland County (Duke supply area)	12/31/2036	-
Southern Power ("Dynamic" PPA) (6)	180	Natural Gas	Peaking	Cleveland County (Duke supply area)	12/31/2036	-

Notes:

- (1) PEC PSA purchase increases to 920 MW for 2013, and to 970 MW for 2014 through 2019. Purchase blocks have staggered expirations that occur at the end of 2019, 2021 and 2022
- (2) PEC PSCA is a partial requirements purchase starting 1/1/2013 that meets all of NCEMC's load in the PEC supply area above committed resources. Initial capacity in 2013 is anticipated to be approximately 1,000 MW
- (3) PEC Peaking decreases to 150 MW for 2013 through 2024
- (4) NCEMC's PMs receive allocations of Southeastern Power Authority ("SEPA") resource in the PEC, Duke and VEPCO supply areas
- (5) Southern "Block" purchase from Cleveland County in the Duke supply area will start 1/1/2012. Purchase increases to 90 MW for 2017 and to 180 MW for 2019 through 2036
- (6) Southern "Dynamic" purchase for load following service through a dynamic arrangement backed by Southern Power will start 1/1/2012

ii. *Results of RFPs since last biennial report*

NCEMC has not issued any Request for Proposals for conventional or alternative supply-side resources since the last biennial report.

iii. *Table 4.2 provides a list of firm wholesale power sales contracts represented in this IRP*

Table 4.2 Wholesale Power Sales Contracts

Customer Name	Capacity MW	Designation	Contract Start Date	Contract Expiration Date
Progress Energy Carolinas (1)	339	Tolling Agreement	1/1/2013	12/31/2032
Southern Power	100	Baseload Sale	1/1/2012	12/31/2021

Notes:

- (1) Tolling agreement of NCEMC's Anson CT Plant to PEC. NCEMC owns and maintains the Anson facility for exclusive use to meet the joint needs of NCEMC and PEC. PEC will purchase, schedule and deliver natural gas and fuel oil to meet Anson CT Plant dispatch requests

Section 5: Transmission Facilities

List of transmission lines or associated facilities (161 kV or over) under construction or specifically planned, including the capacity and voltage levels, location and schedules for completion and operation

NCEMC has no new transmission facilities under construction or planned

Discussion of the adequacy of the transmission system

NCEMC is a transmission dependent utility relying on regional transmission providers for transmission service. NCEMC's PMs serve load in the Duke Energy, PEC and the PJM Balancing Areas. NCEMC has ownership of less than a mile of transmission, solely necessary to integrate its generators to the PEC transmission system. NCEMC considers it important to have a thorough understanding of the existing transmission systems serving the PMs and to be aware of the impact of planned changes. NCEMC works with each transmission provider to ensure satisfaction of the PMs' current and future transmission needs.

NCEMC relies on the transmission systems of Duke Energy, PEC and PJM to transfer the power it generates and purchases to the 190 delivery points of the PMs. In addition, NCEMC arranges transmission service for its contractual obligations to its IMs up to the balancing area interface. NCEMC works with each transmission provider to ensure that the bulk transmission and delivery point needs of its member systems are met.

NCEMC, along with other industry participants in North Carolina (Duke Energy, PEC, and ElectricCities), continues to participate in the North Carolina Transmission Planning Collaborative ("NCTPC"). NCEMC uses information that is filed with the SERC Reliability Corporation by its transmission providers, together with the North American Electric Reliability Corporation reliability assessments, and information from the NCTPC, to assess the impact of changes in load, power supply, and transfer capability on the transmission system.

NCEMC is also actively involved with regional associations and monitors developments in the transmission industry. Further, as a member of PJM, NCEMC has been actively engaged in participating in transmission and planning committees.

Table 5.1 NCEMC Existing Transmission Line Information

Location:	Anson County	Richmond County
Operating Voltage (kV)	230	230
Design Capacity (MVA)	534	534
Length (feet)	450	2,800
Conductors (size and material)	1272 ACSR	1272 ACSR

Section 6: Demand-Side Management

- i. *For DSM available at the time of this IRP, provide the resource type (DSM or EE), the capacity and energy available in the program, number of customers enrolled in each program, the number of times the utility has called upon the resource, and, where applicable, the capacity reduction realized each time since the last biennial report. Also list any demand-side resource(s) that has (have) been discontinued since the previous biennial report, and reason for that discontinuance.*

NCEMC invested in a statewide load management system on behalf of its member cooperatives in the mid 1980s. This system utilizes radio signals that communicate with switches installed to control residential air conditioners and water heaters across the state and can also be used to communicate control signals to customer owned generation resources. In combination, these resources had provided the capability for NCEMC to reduce system demand by nearly 10% during peak load periods.

The specific programs in NCEMC's existing DSM portfolio are Water Heating Direct Load Control ("DLC"), Air Conditioning DLC, Heat Pump and Electric Heating DLC, and Customer-Owned Generation. The original systems for the DLC programs, having been installed in the mid 1980s, are reaching the end of their useful lives, and components are no longer manufactured to replace parts that fail.

Unlike the state's investor-owned utilities, which can direct and implement demand response programs as a "top-down" initiative, NCEMC's approach to investigating demand response programs will be driven from its membership. NCEMC is evaluating new demand response and customer-owned generation programs that can be implemented with our member systems smart grid initiatives. To enable the transition to these newer technology-driven programs, NCEMC's Board of Directors has approved an action plan to decommission the existing DLC programs. NCEMC plans to dismantle communication towers, support equipment, and terminate FCC licenses for the existing DLC programs of its membership by the end of 2012. The plan to decommission the existing DLC programs reduces the "Existing DSM" values shown in Tables 1.3 and 1.4 to existing customer-owned generation resources starting in 2013.

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- ii. *For each DSM program proposed to be implemented within the biennium of this IRP, provide the type of resource (DSM or EE), description of program and target customer segment, the capacity and energy available from the program, projected customer acceptance, date the program will be launched, and rationale as to why the program was selected.*

GreenCo Solutions, Inc ("GreenCo") was formed in May 2008 to provide a cost effective method for its members to meet the North Carolina Renewable Energy Portfolio Standards ("REPS"), also referred to as NC Senate Bill 3 ("SB 3") requirements. GreenCo is owned and governed by 22 EMCs in North Carolina. The core services provided by GreenCo include: compliance reporting, energy efficiency program development and deployment, management of pilot projects, evaluate renewable energy projects, and regulatory interface with NCUC and staff.

In accordance with NCUC Rules, NCEMC does not file a REPS Compliance Plan or Compliance Report for each of its members as part of the IRP filing. Rather, GreenCo submits a consolidated REPS Compliance Plan and Compliance Report on behalf of its members, which include all but one of NCEMC's PMs. That member, Halifax EMC, separately files its REPS Compliance Plan and Report.

The NCUC has approved⁴ eleven energy efficiency programs, information on which will also be submitted to the NCUC as part of GreenCo's 2011 REPS Compliance Plan. The 2011 REPS Compliance Plan will provide the impact of these programs on the Renewable Portfolio for all but one of NCEMC's PMs. A brief description of these energy efficiency programs are provided on pages 22 and 23.

⁴ Refer to NCUC Docket No. EC-83, Sub 0.

Agricultural Energy Efficiency

This program is focused on improving lighting, ventilation and irrigation efficiency in confined livestock facilities. The program leverages on-site energy audits through existing Department of Agriculture programs and partnerships with grower consortiums.

Commercial Energy Efficient Equipment

This program targets energy efficient lighting, building shell improvements, appliance efficiency, energy efficient motors and improved heating and cooling efficiency in commercial and industrial buildings.

Commercial New Construction

This program is targeted at improving the energy efficient design of new commercial buildings in order to provide energy savings for the life of the buildings.

Community Efficiency Campaign

This program targets residential duct leakage and building shell improvements focused on air leakage into the attic and improving ceiling insulation. The program will also be used to distribute CFLs, water heater retrofit kits and home energy displays.

Community Efficiency Campaign (Low Income)

This program will promote the installation of energy efficiency measures to increase the thermal integrity of residential community buildings, similar to measures described above for the Community Efficiency Program. This program is designed to target residential households with annual income of up to 150% of the federal poverty guidelines, with efficiency measures to be provided at no cost to eligible customers.

Energy Star Appliances

This program is focused on energy efficient clothes washers, dish washers and refrigerators. The program involves partnering with Energy Star, allowing standards used in the program to evolve as base appliance efficiencies continue to improve.

Energy Star Lighting

This program targets efficient lighting in residences. Initially, the focus will be on replacing incandescent lights with compact fluorescent lamps ("CFL") that have the Energy Star rating. In the future, focus will shift to the next generation of efficient technology such as light-emitting diodes ("LEDs").

Energy Star New Home Construction

This program is targeted at improving the energy efficiency in new residential construction by 15% over the current building code using a performance based standard. Local Home Energy Raters ("HERS") will be used to qualify homes in the program.

Power Cost Monitor

This program will provide on-going feedback to residential consumers regarding their energy usage. The program will use in-home displays and web-based reports that show the current rate of energy consumption and track energy usage and cost over time.

Refrigerator Turn-In

This program is focused on reducing energy costs in residential homes through the removal of operational second refrigerators and / or freezers and ensures appliances are properly dismantled and retired.

Water Heater Retrofit

This program targets energy efficiency of existing residential water heaters using retrofit kits. These kits will include an insulating blanket for the water heater tank, insulation for the water lines adjacent to the tank and low-flow faucet aerators and shower heads.

Tables 6.1 and 6.2 on the next page provide forecasted capacity and energy savings for each proposed EE program over the period of this IRP. The values in these tables are forecasted at the generation level. The aggregate amount of capacity and energy for these programs is also shown in Tables 1.3 and 1.4.

Table 6.1 EE Program Demand Savings (MW forecasted at generation)

EE Program Demand Savings	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Agriculture Energy Efficiency	0.6	0.9	1.0	1.1	1.2	1.2	1.3	1.4	1.4	1.5	1.5	1.6	1.6	1.7	1.7
Commercial Energy Efficiency	2.4	2.6	2.7	2.5	2.4	2.3	2.2	0.7	0.3	0.4	0.4	0.4	0.4	0.5	0.5
Commercial New Construction	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Community Efficiency	0.2	0.3	0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.6	0.7	0.7
Community Efficiency (Low Income)	0.1	0.1	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.1	1.2
Energy Star Appliances	0.1	0.2	0.3	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.8	0.8	0.8
Energy Star Lighting	12.4	15.2	17.5	18.3	18.8	18.0	14.0	11.9	10.7	10.4	10.4	10.4	10.4	10.4	10.4
Energy Star New Homes	0.4	0.7	1.1	1.3	1.5	1.7	1.9	2.1	2.4	2.6	2.9	3.1	3.4	3.7	3.9
Power Cost Monitor	2.9	3.6	4.6	5.7	6.7	7.7	8.8	10.0	11.3	12.6	12.4	13.2	14.3	15.3	16.1
Refrigerator Turn-in Program	0.1	0.2	0.4	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Water Heater Retrofit	1.3	1.9	2.4	2.7	3.0	3.2	3.5	3.9	4.0	4.1	3.9	3.8	3.8	3.9	3.9
Total Demand Savings	20.7	25.7	30.5	33.1	35.1	35.8	33.7	32.3	32.5	34.1	34.2	35.4	37.0	38.6	39.9

Table 6.2 EE Program Energy Savings (GWh forecasted at generation)

EE Program Energy Savings	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Agriculture Energy Efficiency	4.6	6.1	6.7	7.6	8.4	9.0	9.6	10.2	10.6	11.1	11.4	11.8	12.2	12.7	13.1
Commercial Energy Efficiency	17.1	17.3	17.6	17.2	16.9	16.9	16.4	5.4	2.5	2.7	2.9	3.0	3.3	3.5	3.7
Commercial New Construction	0.4	0.5	0.5	0.5	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Community Efficiency	0.8	0.9	1.0	1.1	1.2	1.4	1.5	1.6	1.7	1.8	2.0	2.1	2.2	2.3	2.5
Community Efficiency (Low Income)	0.2	0.3	0.4	0.7	1.1	1.4	1.7	2.0	2.4	2.7	3.0	3.3	3.7	4.0	4.3
Energy Star Appliances	1.3	2.0	2.8	3.6	4.3	5.1	5.5	6.2	6.9	7.6	8.1	8.6	9.1	9.5	9.7
Energy Star Lighting	55.7	71.4	84.9	86.5	85.7	79.5	59.3	50.4	45.1	44.1	43.9	43.9	43.9	44.0	43.8
Energy Star New Homes	1.4	2.3	2.8	3.3	3.8	4.3	6.6	7.4	8.3	9.2	10.0	10.9	11.8	12.7	13.6
Power Cost Monitor	10.5	12.5	15.6	20.1	24.7	29.5	34.3	39.4	44.5	49.6	48.6	51.9	56.2	60.4	63.2
Refrigerator Turn-in Program	1.2	2.4	3.5	4.5	5.3	5.8	6.6	6.6	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Water Heater Retrofit	10.7	15.1	18.5	21.6	24.8	28.0	31.0	34.2	35.0	35.8	34.1	33.4	33.5	33.8	34.0
Total Energy Savings	103.9	130.7	154.2	166.7	176.7	181.0	172.6	163.5	163.5	171.2	170.5	175.6	182.3	189.5	194.4

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- iii. *For DSM programs evaluated but rejected, provide the type of resource (DSM or EE), description of program and target customer segment, the capacity and energy available from the program, projected customer acceptance, and reasons for the program's rejection.*

No DSM programs have been rejected in 2010. The eleven programs described in Section 6(ii), above, are the same programs approved by the NCUC⁵ on August 23, 2010.

- iv. *List current or proposed consumer education programs provided to customers, including program description, the target customer segment, and promotion of the education programs. Include any education program that has been discontinued since the last biennial report and the reason for its discontinuance.*

Consumer education on a wide variety of energy efficiency topics has been a focus of North Carolina's member electric cooperatives for many years. These efforts include monthly features in their statewide magazine, Carolina Country, energy savings tips in bill inserts and co-op monthly newsletters, on-line energy audit programs and energy efficiency information on local cooperative web-sites, and community meetings focused on energy efficiency. No education programs have been discontinued since the last biennial report.

⁵ Refer to NCUC Docket No. EC-83, Sub 0.

Section 7: Assessment of Alternative Supply-Side Energy Resources

NCEMC evaluates new purchase power proposals for alternative supply-side resources when received from potential third party suppliers against an avoided cost methodology to determine the potential cost of the proposal to its PMs, and consequently, the net cost of renewable energy credits ("RECs") for each project. Since the last biennial report, NCEMC has evaluated proposals for potential new solar facilities, on-shore coastal wind facilities, landfill gas projects, and biomass projects. All of these projects have been proposed for construction in the state of North Carolina.

In March 2010, the NCEMC Board of Directors approved an Avoided Cost Rate Schedule with seasonal and time-of-day components, considering the impacts of NCEMC's portfolio of resources and obligations, and the value attributed to the energy and capacity from an avoided cost resource. This rate schedule is available for Qualifying Facilities ("QF" or "QFs") as determined by the Federal Regulatory Commission ("FERC") pursuant to Section 210 of the Public Utility Regulatory Policies Act ("PURPA") of 1978, as amended, and which have generation facilities included in the NCEMC PM power supply portfolio. The GreenCo 2010 REPS Compliance Report and 2011 REPS Compliance Plan will include aggregate energy and cost information for actual Avoided Cost expenditures and projected expenditures from the resources in the NCEMC portfolio.

NCEMC members may also receive energy from swine waste and poultry waste to energy projects, as they are constructed following completion of a state-wide RFP process conducted by the state's electric power suppliers to comply with set-aside requirements in SB 3. GreenCo provides support in evaluating the technical and renewable attributes associated with purchase proposals in formulating its recommendation to its member cooperatives, and will be the purchaser of associated renewable energy certificates derived from the projects. At this time, NCEMC has contracted for the purchase of energy from two of the swine-waste to energy developers. Details for energy purchases from planned poultry-waste to energy projects have not been finalized.

NCEMC's resource plan assumes that the full REPS requirement can be met by a combination of energy efficiency / demand-side management and renewable energy resources. The renewable energy resources in this Annual Update consist of the SEPA hydro allocation of NCEMC's PMs, two solar electric facilities, one landfill gas facility, RECs received by the PMs from a wind facility located in Iowa, and a composite of undesignated renewable resources (inclusive of the set-aside requirements).

- i. *For currently operational or potential future alternative supply-side energy resources included in the IRP, provide information on capacity and energy actually available or projected to be available from the resource*

One of the solar electric facilities included in the resource plan is located at the QVC Rocky Mount campus. The 1-MW DC facility started operation in November 2008. The estimated production of energy and RECs from this renewable solar facility is approximately 1,600 MWh per year.

A second solar electric facility included in the resource plan is to be constructed by SunPower, called Solar Star NCII, to be located near Murfreesboro, North Carolina. NCEMC has executed a long-term power purchase agreement, approved by RUS, to receive the total power output of approximately 5 MW from the facility to be sited in the PJM balancing area. Commercial operation is expected to be achieved in December 2011. The estimated production of energy and RECs from this renewable solar facility is approximately 10,000 MWh per year.

NCEMC has executed a long-term power purchase agreement, to be approved by RUS, to receive the total power output of approximately 1 MW from a renewable landfill gas facility located in St. Pauls, North Carolina in the PEC balancing area. NC GreenPower is purchasing the RECs from this project. Power delivery to the PMs will begin by the fourth quarter 2011. The estimated production of energy and RECs from this renewable landfill gas facility is approximately 7,500 MWh per year.

The PMs also receive RECs produced from a wind facility located in Story County, Iowa. It is anticipated that the PMs will receive approximately 30,000 RECs per year over the ten-year agreement.

- ii. *For alternative supply supply-side energy resources evaluated but rejected, provide a description of the resource, the potential capacity and energy from the proposed resource, and reason for the rejection of the resource*

No projects were rejected in 2010.

Section 8: Evaluation of Resource Options

NCEMC continues to develop its portfolio of power supply resources to meet the load requirements of the PMs. In addition, NCEMC continues to provide the capacity associated with its obligations to the IMs. All of NCEMC's existing purchases include reserves, and future purchases will include reserves or NCEMC will acquire them independently.

NCEMC utilizes PROMOD IV®, a production model licensed by Ventyx (an ABB company), for the modeling of its power supply needs. The load forecast, resource characteristics, fuel and power market forecasts, and other portfolio constraints are inputs to this hourly commitment and dispatch model. Multiple scenarios of changes in load and price forecasts are considered in modeling the portfolio. The resulting variable production costs are combined with fixed costs from asset ownership and purchased power contracts to determine the long-range financial forecast to the PMs.

Since the 2010 IRP, NCEMC executed a power purchase agreement with AEP for 100 MW for the period of 2011 through 2015, renewed a 100 MW power purchase agreement with PEC for 2012, and executed a power purchase agreement with Robeson County, NC, for power production from a 1 MW renewable landfill gas facility. NCEMC conducts annual forecasts for budgeting and planning purposes. These forecasts include projections of future resource requirements based upon typical load, sensitivity analysis for severe loads, potential market conditions, and sensitivity analysis for proposed federal climate legislation.

NCEMC continues to monitor progress towards the passage of federal clean air legislation. NCEMC's portfolio, primarily through its ownership interest in the Catawba Nuclear Station, has a carbon intensity below the national average. Additionally, the PMs' power supply portfolio in this IRP plan will be significantly influenced by the long-term energy mix of PEC and Duke Energy.

Both PEC and Duke Energy have made announcements of their intent to significantly reduce their exposure to energy produced from coal. PEC has recently announced their plan to retire approximately 1,500 MW of older coal plants, to be replaced with natural gas-fired combined cycle plants. Duke Energy is planning to retire approximately 1,200 MW of older coal plants upon completion of a new pulverized coal plant with the strictest, most effective air emission controls available. Duke Energy and PEC are proposing the consideration of new nuclear power plants. These actions proposed by PEC and Duke Energy, if implemented, will contribute to reducing the carbon intensity of NCEMC's PMs.

NCEMC is reviewing the Cross-State Air Pollution Rule ("CSAPR") promulgated by the EPA on July 7, 2011. At this time, NCEMC is still evaluating the potential impact on the PMs power supply portfolio, but will address these impacts in the 2012 IRP. NCEMC is also evaluating alternatives for the diesel-powered generators on the Outer Banks for compliance with RICE NESHAP rules promulgated by the EPA in March 2010. NCEMC will address the compliance action to be taken in its 2012 IRP.

Long-term resources added to the portfolio are reviewed by the RUS and approved for inclusion in the portfolio after observance of certain regulatory guidelines. These guidelines include RFP processes, economic analysis of impact to the portfolio and our electric cooperative members, and review of the need versus the market.

Section 9: Levelized Busbar Costs

Not Applicable to NCEMC

Appendix A: NCEMC Participating Members

Albemarle Electric Membership Corporation
Brunswick Electric Membership Corporation
Cape Hatteras Electric Cooperative
Carteret-Craven Electric Cooperative
Central Electric Membership Corporation
Edgecombe-Martin County Electric Membership Corporation
Four County Electric Membership Corporation
Halifax Electric Membership Corporation
Jones-Onslow Electric Membership Corporation
Lumbee River Electric Membership Corporation
Pee Dee Electric Membership Corporation
Pitt & Greene Electric Membership Corporation
Randolph Electric Membership Corporation
Roanoke Electric Cooperative
South River Electric Membership Corporation
Surry-Yadkin Electric Membership Corporation
Tideland Electric Membership Corporation
Tri-County Electric Membership Corporation
Union Power Cooperative
Wake Electric Membership Corporation