



**Haywood Electric
Membership Corporation**

A Touchstone Energy® Cooperative

376 Grindstone Road
Waynesville, NC 28785

FILED
AUG 30 2011
Clerk's Office
N.C. Utilities Commission

August 29, 2011

E-100 Sub 128

Ms Reese Vance, Chief Clerk
North Carolina Utilities Commission
430 N. Salisbury Street
Dobbs Building
Raleigh, North Carolina 27603-5918

Re: Haywood EMC – 2011 Integrated Resource Plan

Dear Ms. Vance:

Pursuant to Rule R8-60 of the North Carolina Utilities Commission's Rules and Regulation, Haywood EMC hereby provide for filing an original and thirty (30) copies of our 2011 Integrated Resource Plan. Also included is the required certification document.

If you have any questions, please do not hesitate to contact me at 828-926-4470.

Sincerely,

Norman Sloan, PE
Executive Vice President and General Manager

Cc: Giselle Ranking, NCUC

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MM
AG
7comm
Watson
Green
Hoover
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Jones
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Gruber
2Psero
3PS Legal
3PS ACOT
4PS Elect.

CERTIFICATION

I hereby certify that the data included in this report was taken from the books and records of the reporting company and is true and correct to the best of my knowledge.

SIGNATURE OF CERTIFYING PERSON Norman Sloan

NAME OF CERTIFYING PERSON (Type of Print) NORMAN SLOAN

Title of Certifying Person Executive Vice President and General Manager, Haywood EMC

NOTARIZATION

Sworn to and subscribed to me
This 29th day of August 2011

Shawn M. Smith
Notary Public

My Commission expires: 3/29/2014

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N.C. Utilities Commission

E-100 Sub 128

2011

NCUC Integrated Resource Plan

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® Haywood Electric
Membership Corporation

North Carolina Utilities Commission
September 1, 2011

Executive Summary

This document represents Haywood EMC's Annual Report filed with the North Carolina Utilities Commission ("NCUC") in response to R8-60 of the NCUC Rules and Regulations. This plan includes a forecast of loads and resources to meet Haywood's power supply needs over the next fifteen years.

In previous years, Haywood EMC's forecast of loads and resources were filed as a part of the North Carolina Electric Membership Corporation ("NCEMC") Annual Report. In 2008, Haywood elected to become an Independent Member of NCEMC and signed a Wholesale Power Supply Agreement ("WPSA") with NCEMC, effective January 1, 2009.

Under Haywood EMC's WPSA with North Carolina Electric Membership Corporation, NCEMC is obligated to supply Haywood with electric power and energy from its existing contract and generation resources. To the extent that the electric power and energy supplied under the WPSA is not sufficient to meet the electric energy requirements of its member/consumers, Haywood must independently arrange for purchases of electric power and energy from third parties.

Haywood EMC has load in two control areas: Duke ("Duke Load") (39%) and Progress Energy Carolinas East ("Progress Load") (61%). For its Duke Load, in October 2008, Haywood EMC entered into a Requirements Power Purchase Agreement (the "Agreement") with Duke Power Company, LLC ("Duke"). Under this requirements agreement, Haywood has agreed to make its entitlements to the electric energy and capacity from the WPSA with NCEMC (allocated to the Duke control area) available to Duke and Duke will plan, procure and provide electric capacity, energy and scheduling services for Haywood's load in the Duke control area. The initial term of this agreement is through the year 2021 with an automatic extension mechanism that allows the agreement to extend for additional 10 year periods.

For its Progress Load, Haywood EMC entered into a long-term agreement with Progress Energy Carolina, Inc. ("Progress") in October 2008. The initial term of this agreement is through the year 2021. Although this agreement does not have an automatic extension mechanism, it does contemplate an extension or replacement of the existing agreement. Therefore, it is planned that the supply of electric power and energy under the NCEMC WPSA, along with purchases from SEPA, Duke and Progress, will continue to meet the power supply needs of Haywood EMC through the planning period.

Haywood EMC is a transmission dependent utility and relies on the transmission systems of Duke Energy and Progress Energy Carolinas to transfer power purchases to their loads. Haywood EMC receives Network Integration Transmission Service under Part III of the Open Access Transmission Tariff with Duke Transmission and under Part III of the Open Access Transmission Tariff with Progress Energy Carolinas.

The following is Haywood EMC's response to the requested data as outlined in NCUC's Rule R8-60:

Section 1: Haywood EMC Integrated Resource Plan

1. Forecasts of Load, Supply-Side Resources, and Demand-Side Resources

Haywood EMC employs TSE Services to develop their annual load forecast. TSE is responsible for the coordination of the forecasting effort including consumer research, energy and demand forecasting, and weather data analysis. The load forecast is reviewed by Haywood and the input from their staff is used to revise the forecast if necessary.

Customers, energy and demand are forecasts on a monthly basis. The customer forecast and the energy sales forecast are completed for each retail class listed on the RUS Form 7. The system monthly energy is the sum of the retail class energy sales adjusted for losses.

Residential and commercial customers are forecast using regression analysis. This forecast of customers by retail class is then utilized in developing the energy forecast. For both the residential and commercial energy forecasts, the forecast of customer growth of each class is multiplied by the forecast of average energy consumption per customer for that class, under the assumption of normal weather. Industrial customers are modeled on an individual basis. The demand forecast is developed similarly to the energy forecast by multiplying the number of customers and an average hourly demand per customer.

(i) Customers by class:

Table 1.1 provides a ten year history and a fifteen year forecast of Haywood EMC's customers by each customer class, along with a ten year history and a fifteen year forecast of the energy sales (MWh) by each customer class.

(ii) Forecast of Peak Loads and Energy Requirements:

Table 1.2 and Table 1.3 provide a fifteen year forecast of Haywood EMC's peak load requirements for both the summer and winter periods and energy requirements from 2012 through 2026. Following these tables are the load duration curves for Haywood EMC for 2012 and 2026.

Table 1.1: Haywood EMC Historical and Forecast Customers by Class and Energy Sales by Class

Customers By Class															
Historical															
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011					
Residential	20,216	20,748	21,098	20,978	21,235	21,541	21,738	21,808	21,750	22,026					
Seasonal	2,089	2,065	2,294	2,933	3,218	3,398	3,458	3,506	3,575	3,650					
Commercial	300	310	332	428	505	544	572	602	594	604					
Industrial	9	10	11	12	12	14	15	12	14	12					
Other															
Total	22,614	23,133	23,735	24,351	24,970	25,497	25,783	25,928	25,933	26,292					
Forecast															
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Residential	22,293	22,657	23,018	23,383	23,778	24,203	24,645	25,126	25,619	26,096	26,582	27,073	27,559	28,048	28,543
Seasonal	3,723	3,821	3,920	4,019	4,126	4,242	4,362	4,482	4,626	4,756	4,888	5,022	5,154	5,286	5,421
Commercial	613	626	639	652	666	681	696	713	731	748	765	782	799	817	834
Industrial	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
Other															
Total	26,641	27,116	27,589	28,066	28,582	29,138	29,715	30,343	30,988	31,612	32,247	32,889	33,524	34,163	34,810
Energy Sales (MWH) by Class															
Historical															
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011					
Residential	190,078	198,383	205,391	212,813	215,703	217,433	223,940	224,536	241,022	237,156					
Seasonal	13,777	14,133	14,440	20,400	21,327	23,031	24,360	24,659	27,564	26,558					
Commercial	16,430	16,315	16,807	16,290	18,299	19,512	19,237	18,823	19,581	19,362					
Industrial	5,258	5,048	5,949	7,544	7,893	10,552	11,147	9,751	8,402	7,758					
Other															
Total	225,543	233,879	242,587	257,047	263,222	270,528	278,586	277,789	295,569	290,834					
Forecast															
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Residential	242,614	246,329	250,302	254,261	258,389	262,934	267,664	272,702	278,152	283,409	288,671	294,052	299,413	304,714	310,145
Seasonal	27,016	27,693	28,417	29,136	29,887	30,716	31,576	32,492	33,484	34,440	35,399	36,377	37,355	38,317	39,307
Commercial	19,620	20,011	20,426	20,837	21,265	21,740	22,232	22,756	23,326	23,875	24,418	24,980	25,540	26,094	26,656
Industrial	7,758	7,758	7,758	7,758	7,758	7,758	7,758	7,758	7,758	7,758	7,758	7,758	7,758	7,758	7,758
Other															
Total	297,008	301,791	306,903	311,992	317,299	323,148	329,230	335,708	342,720	349,482	356,246	363,167	370,066	376,883	383,866

Table 1.2: Haywood EMC Projected Summer Peak Loads, Resources and Annual Energy (2010 Load Forecast)

Haywood EMC - Duke Control Area

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
PEAK (MW) (1)	24	24	25	25	25	26	26	27	28	28	29	29	30	30	31
ANNUAL ENERGY (GWh) (1)	130	132	134	136	139	141	144	147	150	153	155	158	161	164	168

Notes:

1. Peak and energy values are measured at generation.
2. Haywood EMC's load requirements in the Duke Control Area are being met by a requirements agreement with Duke Power Company, LLC, thus Haywood's loads and resources are integrated into Duke Power's 2010 Integrated Resource Plan. The initial term of the agreement with Duke Power is January 1, 2009 thru December 31, 2021. The contract has an automatic extension mechanism that allows the agreement to extend for additional 10 year periods. All current and future resources provided by Duke Power are firm; the Duke Power purchase is a network resource recognized by Duke Transmission. Resources provided by Duke Power will come from resources in the Duke control area or through imports made with firm transmission. Duke Power has operational control of Haywood's demand-side programs, therefore the MWs associated with these programs are considered a Duke resource.

Haywood EMC - Progress Energy (CP&L East) Control Area

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Load Requirements:															
PEAK (MW) (1)	32	33	34	34	35	35	36	37	38	38	39	40	41	42	42
Purchased Resources: (2)															
NCEM WPSA	15	14	14	14	15	15	15	15	15	15	11	9	7	5	5
SEPA	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Progress Energy Purchases (3)	15	17	18	18	18	18	19	20	21	21	26	29	32	35	35
TOTAL RESOURCES (MW)	32	33	34	34	35	35	36	37	38	38	39	40	41	42	42
RESERVE CAPACITY (MW) (2)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANNUAL ENERGY (GWh) (1)	201	204	208	211	215	219	223	227	232	236	241	246	250	255	260

Notes:

1. Peak and energy values are measured at generation.
2. All purchases are 100% firm with reserves provided by the supplying entity.
3. The initial term of the purchase with Progress Energy is January 1, 2009 thru December 31, 2021. Although this agreement does not have an automatic extension mechanism, it does contemplate an extension or replacement of the existing agreement. All current and future resources provided by Progress Energy are firm; the Progress Energy purchase is a network resource recognized by CP&L Transmission. Resources provided by Progress Energy will come from resources in the CP&L East control area or through imports made with firm transmission.

Haywood EMC - TOTAL SUMMER LOAD

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
PEAK (MW) (1)	56	57	58	59	60	61	63	64	65	67	68	69	71	72	73
ANNUAL ENERGY (GWh) (1)	331	336	342	347	353	360	366	374	381	389	396	404	412	419	427
ANNUAL ENERGY (GWh) (1) (Including Impact of Energy Efficiency Programs)	324	327	331	336	342	349	356	363	373	383	393	402	411	418	426

Notes:

1. Peak and energy values are measured at generation.

Table 1.3: Haywood EMC Projected Winter Peak Loads, Resources and Annual Energy (2010 Load Forecast)

Haywood EMC - Duke Control Area															
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
PEAK (MW) (1)	33	33	34	35	35	36	36	37	38	39	40	40	41	42	43
ANNUAL ENERGY (GWh) (1)	130	132	134	136	139	141	144	147	150	153	155	158	161	164	168

Notes:

1. Peak and energy values are measured at generation.
2. Haywood EMC's load requirements in the Duke Control Area are being met by a requirements agreement with Duke Power Company, LLC, thus Haywood's loads and resources are integrated into Duke Power's 2010 Integrated Resource Plan. The initial term of the agreement with Duke Power is January 1, 2009 thru December 31, 2021. The contract has an automatic extension mechanism that allows the agreement to extend for additional 10 year periods. All current and future resources provided by Duke Power are firm; the Duke Power purchase is a network resource recognized by Duke Transmission. Resources provided by Duke Power will come from resources in the Duke control area or through imports made with firm transmission. Duke Power has operational control of Haywood's demand-side programs, therefore the MWs associated with these programs are considered a Duke resource.

Haywood EMC - Progress Energy (CP&L East) Control Area															
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Load Requirements:															
PEAK (MW) (1)	56	56	57	58	59	60	62	63	64	65	67	68	69	71	72
Purchased Resources: (2)															
NCEMC WPSA	15	14	14	14	15	15	15	15	15	15	11	9	7	5	5
SEPA	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Progress Energy Purchases (3)	38	40	41	42	42	43	45	46	47	48	54	57	60	64	65
TOTAL RESOURCES (MW)	55	56	57	58	59	60	62	63	64	65	67	68	69	71	72
RESERVE CAPACITY (MW) (2)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANNUAL ENERGY (GWh) (1)	201	204	208	211	215	219	223	227	232	236	241	246	250	255	260

Notes:

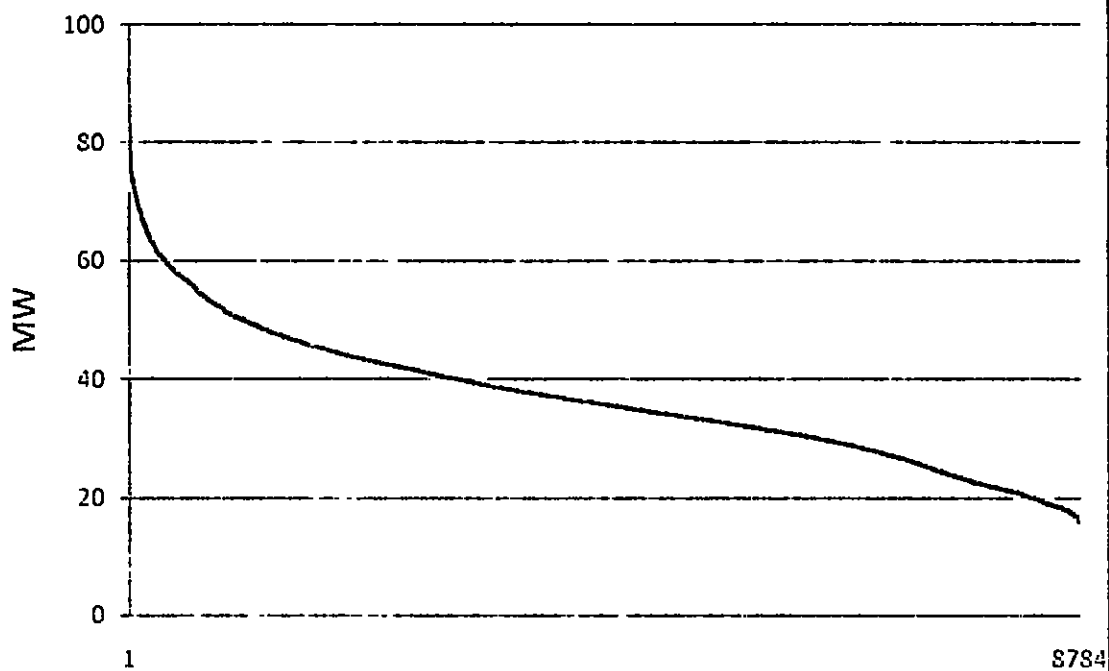
1. Peak and energy values are measured at generation.
2. All purchases are 100% firm with reserves provided by the supplying entity.
3. The initial term of the purchase with Progress Energy is January 1, 2009 thru December 31, 2021. Although this agreement does not have an automatic extension mechanism, it does contemplate an extension or replacement of the existing agreement. All current and future resources provided by Progress Energy are firm; the Progress Energy purchase is a network resource recognized by CP&L Transmission. Resources provided by Progress Energy will come from resources in the CP&L East control area or through imports made with firm transmission.

Haywood EMC - TOTAL WINTER LOAD															
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
PEAK (MW) (1)	88	90	91	93	94	96	98	100	102	104	106	108	111	113	115
ANNUAL ENERGY (GWh) (1)	331	336	342	347	353	360	366	374	381	389	396	404	412	419	427
ANNUAL ENERGY (GWh) (1) (Including Impact of Energy Efficiency Programs)	324	327	331	336	342	349	356	363	373	383	393	402	411	418	426

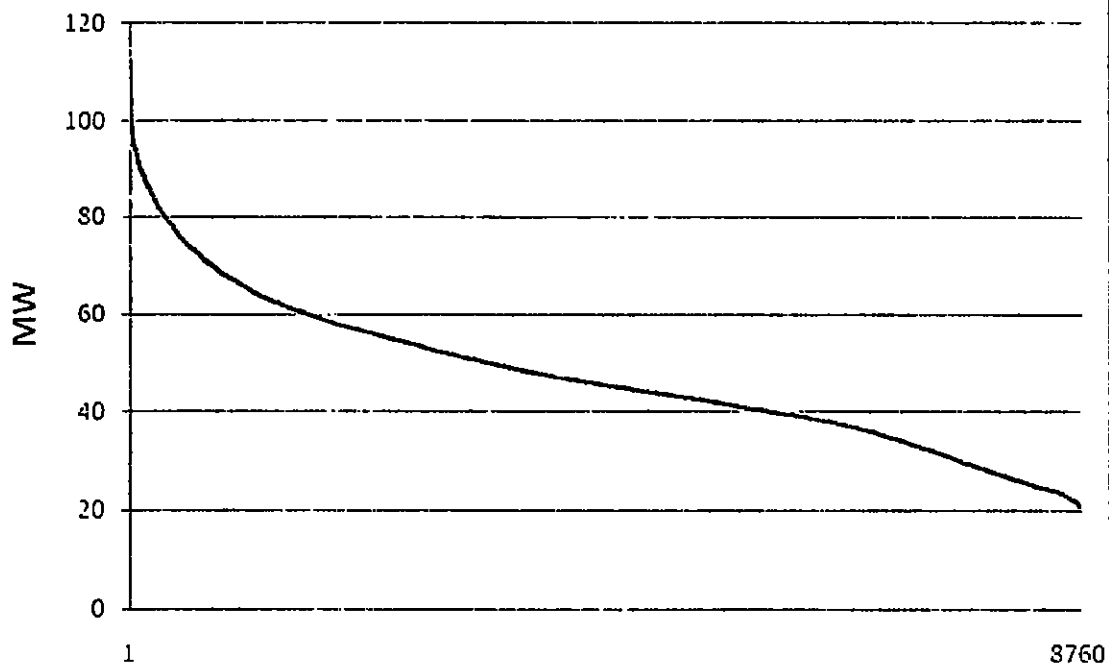
Notes:

1. Peak and energy values are measured at generation.

Haywood EMC
2012 Load Duration Curve



Haywood EMC
2026 Load Duration Curve



(iii) Future supply-side resources:

For the Duke Load, Duke will plan, procure and provide electric capacity and energy to meet the future power supply needs of Haywood EMC.

For the Progress Load, Progress will plan, procure and provide electric capacity and energy to meet the future incremental power supply needs of Haywood EMC, above their existing NCEMC resources (other than gas fired) and SEPA resources that are allocated to the Progress Load.

2. Generating Facilities

(i) Existing Generation:

Haywood does not own any generating plants.

(ii) Planned Generation Additions:

Haywood does not have plans to purchase or construct electric generating facilities.

(iii) Non-Utility Generation:

Facility	Location	Primary Fuel Type	Capacity	Designation
12 Solar Panels	Various	Solar	90 kW	Peaking
Wind Turbine	Crabtree Mtn	Wind	10 kW	Peaking
Backup Generator	Waynesville Office	Diesel	450 kW	Peaking
Backup Generator	Waynesville Garage	Diesel	150 kW	Peaking
Backup Generator	Toxaway Office	Diesel	150 kW	Peaking

3. Reserve Margins

For the Duke Load, Duke will plan, procure and provide electric capacity and energy to meet the future power supply needs of Haywood EMC. These purchases from Duke Power are 100% firm and all reserves are provided by Duke.

For the Progress Load, Progress will plan, procure and provide electric capacity and energy to meet the future incremental power supply needs of Haywood EMC, above their existing NCEMC resources (other than gas fired) and SEPA resources that are allocated to the Progress Load. These purchases from Progress, NCEMC and SEPA are 100% firm and all reserves are provided by each of the supplying entities.

4. Wholesale Contracts for the Purchase and Sale of Power

(i) Wholesale Purchased Power Contracts:

	Primary Fuel Type	Capacity (MW)	Designation	Location	Expiration Date
NCEMC WPSA	System Purchase	See Table 1.2 and 1.3	Base/Inter/Peaking	Progress & Duke Control Areas	2046
SEPA	Hydro	3	Base/Peaking	Progress & Duke Control Areas	
Progress Energy	System Purchase	See Table 1.2 and 1.3	Base/Inter/Peaking	Progress Control Area	2021*
Duke Power, LLC	System Purchase	Requirements	Base/Inter/Peaking	Duke Control Area	2021**

*Contract does not have an automatic extension mechanism; it does contemplate an extension or replacement of the existing agreement.

**Contract has an automatic extension mechanism that allows the agreement to extend for additional 10 year periods.

(ii) Results of Request For Proposals:

For the Duke Load, Duke will plan, procure and provide electric capacity and energy to meet the future power supply needs of Haywood EMC.

For the Progress Load, Progress will plan, procure and provide electric capacity and energy to meet the future incremental power supply needs of Haywood EMC, above their existing NCEMC resources (other than gas fired) and SEPA resources that are allocated to the Progress Load.

(iii) Wholesale Power Sales Contracts:

Haywood EMC has no current or future wholesale power sales commitments.

5. Transmission Facilities

Haywood EMC does not own or operate any transmission greater than 115 kV.

6. Demand-Side Management

(i) Existing Programs:

Demand Response Programs:

Load Control: Haywood EMC has load control switches on 226 air conditioners and 2,611 water heaters. Through the Smart Rate program, Haywood EMC controls 287 electric resistance heating units and 511 appliances on time of use control. These demand response programs allow Haywood EMC to control 2.23 MW in the summer and 4.7 MW in the winter. These values are reviewed regularly based on meter data provided by the automated meter reading system.

Time of Use Rates: Haywood EMC offers time of use rates to all customer classes. Haywood EMC currently has 12 residential members and 6 commercial members on time of use rates.

Interconnected Member Owned Generation: Haywood EMC allows up to 50 kW on a residential renewable generation rider. Haywood offers a Qualified Facilities Purchased

Power Rate. Haywood has 12 members with solar panels and 1 member with a wind turbine that sell energy back to Haywood. The wind turbine is a 10 kW unit and the 12 solar panels are 3 kW to 5.5 kW each.

Green Power: Haywood EMC promotes the Green Power Program and currently 52 of their members purchase 74 units per month.

Energy Efficiency Programs:

Energy Efficiency Heat Pump Loan: Haywood EMC offers 100% financing for turnkey heat pump installation. The heat pumps must be at least a 15 SEER and Energy Star rated.

Energy Efficiency Hot Water Kit: Haywood EMC gives away to its members an insulating jacket for the water heater, a low flow shower head, two bathroom sink aerators, one kitchen sink aerator, and 10 CFL's with an estimated savings of 1436 kWh's per year.

(ii) Proposed Programs:

Energy Efficiency Audit Program: Haywood EMC offers home energy audits with the intent of saving the member energy through weatherization and insulation. It is estimated that each of these audits will save the member 1,500 kWh per year.

Haywood EMC is actively planning programs and initiatives that will help it successfully attain the requirements of the Renewable Energy and Energy Efficiency Portfolio Standards (REPS) requirement that was issued by the North Carolina Utilities Commission in 2007. The programs will be a continuation and enhancement of existing programs. Since Haywood EMC is a member owned cooperative, the goal has always been to help the membership manage their electricity needs in the most cost effective manner. The programs that will continue to be offered to the members are the high efficiency heat pump loan, time-of-day rates and rates for our members that have renewable generation. Haywood EMC's purchase of a residential duct blasting test kit and an infrared thermal imaging camera for use in the above mentioned Energy Efficiency Audit Program can help our members to identify areas in their homes where measures can be applied to improve energy efficiency. Haywood EMC is also an Energy Star Partner with the US Environmental Protection Agency and the Department of Energy allowing it to promote and sponsor energy star products and energy efficiency programs. Haywood EMC will also participate in programs through GreenCo Solutions Inc. to improve energy efficiency and develop renewable energy resources.

(iii) Evaluated but Rejected Programs:

None

(iv) Consumer Education Programs:

Speakers Program: Haywood makes presentations and offers educational programs at the request of its members and community agencies.

Advertising and Promotion: Haywood includes articles and discussions in sections of the Carolina Country Magazine which is delivered to each member of the cooperative.

7. Assessment of Alternative Supply-Side Energy Resources

For the Duke Load, Duke will plan, procure and provide electric capacity and energy to meet the future power supply needs of Haywood EMC.

For the Progress Load, Progress will plan, procure and provide electric capacity and energy to meet the future incremental power supply needs of Haywood EMC, above their existing NCEMC resources (other than gas fired) and SEPA resources that are allocated to the Progress Load.

8. Evaluation of Resource Options

For the Duke Load, Duke will plan, procure and provide electric capacity and energy to meet the future power supply needs of Haywood EMC.

For the Progress Load, Progress will plan, procure and provide electric capacity and energy to meet the future incremental power supply needs of Haywood EMC, above their existing NCEMC resources (other than gas fired) and SEPA resources that are allocated to the Progress Load.

Section II: Haywood EMC's Short Term Action Plan

No action required. For the Duke Load, Haywood's Agreement with Duke Power will continue to meet the power supply needs of Haywood EMC during the short term and throughout the planning period. For the Progress Load, Haywood's purchases from NCEMC, SEPA, and Progress will continue to meet the power supply needs of Haywood EMC during the short term and throughout the planning period.

Section III: Haywood EMC's REPS Compliance Plan

Haywood EMC is a member of GreenCo Solutions, Inc. ("GreenCo"). GreenCo, a non-profit organization formed on April 16, 2008, by 23 of the 26 electric membership corporations headquartered in North Carolina, exists to assist member cooperatives in complying with the Renewable Energy and Energy Efficiency Portfolio Standard ("REPS") contained in Senate Bill 3. GreenCo provides three primary services: compliance plan and reporting, energy efficiency program development and management, and assistance in renewable demonstration projects. Additionally, GreenCo will work with its member cooperatives on REPS portfolio assessments. As part of its compliance plan and reporting function, GreenCo will prepare and furnish consolidated (or aggregated) REPS reporting, including the REPS Compliance Plan, consistent with applicable law and regulation. GreenCo has requested of the Commission and received a waiver of the individual filing obligations of its members, in order that it might provide a

consolidated (or aggregated) Compliance Plan on their behalf. Therefore, Haywood EMC's current and future REPS Compliance Plan(s) will be submitted by GreenCo.