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June 11, 2010

HAND DELIVERED

Ms. Renne Vance
Chief Clerk
North Carolina Utilities Commission
430 N. Salisbury Street
Raleigh, NC 27603

FILED

JUN 11 2010

Clerk's Office
N.C. Utilities Commission

OFFICIAL COPY

**Re: In the Matter of Investigation of Integrated Resource
Planning in North Carolina – 2008
DOCKET NO. E-100, SUB 124
In the Matter of Investigation of Integrated Resource
Planning in North Carolina – 2009
Docket Nos. E-100, Sub 118 and E-100, Sub 124**

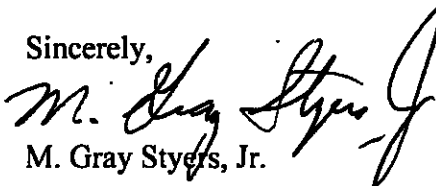
Dear Ms. Vance:

Please find enclosed an original and thirty-one (31) copies of the BRIEF OF
CPI USA NORTH CAROLINA LLC f/k/a EPCOR USA NORTH
CAROLINA LLC, in the above referenced dockets. Also enclosed is a CD
containing an electronic file of the Brief as "Brief dated 06/11/10".

We would appreciate your filing the same and returning one "filed" stamped
copy via our courier.

If you have any questions or comments regarding this filing, please do not
hesitate to call me. Thank you in advance for your assistance and
cooperation.

Sincerely,


M. Gray Styers, Jr.

Full Dist. msp

Enclosures

cc: All Parties of Record

M. Gray Styers, Jr.

Karen M. Kemerait

Charlotte A. Mitchell

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STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH

FILED
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DOCKET NO. E-100, SUB 118
DOCKET NO. E-100, SUB 124

BEFORE THE NORTH CAROLINA
UTILITIES COMMISSION
DOCKET NO. E-100, SUB 118

In the Matter of Investigation of
Integrated Resource Planning in North
Carolina – 2008

DOCKET NO. E-100, SUB 124

In the Matter of Investigation of
Integrated Resource Planning in North
Carolina – 2009

BRIEF OF CPI USA NORTH CAROLINA
LLC f/k/a EPCOR USA NORTH
CAROLINA LLC

Intervenor CPI USA North Carolina LLC¹, formerly known as EPCOR USA North Carolina LLC, through counsel, hereby submits its brief to the North Carolina Utilities Commission (“Commission”) on Investigation of Integrated Resource Planning in North Carolina 2008 and 2009 in the above-captioned docket as follows:

I. Introduction

This consolidated docket for integrated resource planning is perhaps the most comprehensive assessment of electric utilities’ resource planning to date in North Carolina. Compliance plans in this docket must encompass more than traditional methods of assessing and projecting current and future demand, they must also include an assessment of supply-side resources and Renewable Energy Efficiency Portfolio Standards (“REPS”) compliance as required by Senate Bill 3. Order Scheduling Hearings on 2009 Integrated Resource Plans and

¹ EPCOR USA North Carolina LLC was renamed CPI USA North Carolina LLC effective November 16, 2009. The company’s name was changed as part of a rebranding initiative following the transfer of EPCOR Utilities, Inc.’s power generation assets to Capital Power Corporation in July 2009. To maintain consistency with previous filings in North Carolina, despite the name change, the acronym EUNC is being used in this filing.

REPS Compliance Plans and Consolidating Dockets for Decision, October 19, 2009, pp. 1-3 (“Scheduling Order”).

Electric utilities’ resource planning is governed by N.C. Gen. Stat. § 62-110.1 (c), which provides:

The Commission shall develop, publicize, and keep current an analysis of the long-range needs for expansion of facilities for the generation of electricity in North Carolina, including its estimate of probable future growth of the use of electricity, the probable needed generating reserves, the extent, size, mix and general locations of generating plants and arrangements for pooling power to the extent not regulated by the Federal Power Commission and other arrangements with other utilities and energy suppliers to achieve maximum efficiencies for the benefit of the people of North Carolina . . .

Id. In addition, it is the policy of the State of North Carolina “[t]o assure that resources necessary to meet future growth through the provision of adequate, reliable utility service include use of the entire spectrum of demand-side options, including but not limited to conservation, load management and efficiency programs, as additional sources of energy supply and/or energy demand reductions.” N.C. Gen. Stat. § 62-2 (a) (3a). These two provisions of North Carolina law, along with corresponding rules, governed the IRP process up until 2008.

After Senate Bill 3 was enacted, the policy of the State and thus the scope of the IRP process was expanded to include an assessment of public utilities’ efforts to:

promote the development of renewable energy and energy efficiency through the implementation of Renewable Energy Efficiency Portfolio Standards (REPS) that will do all of the following:

- a. Diversify the resources used to reliably meet the energy needs of consumers in the State.
- b. Provide greater energy security through the use of indigenous energy resources available within the State.
- c. Encourage private investment in renewable energy and energy efficiency.
- d. Provide improved air quality and other benefits to energy consumers and citizens of the State.

N.C Gen. Stat. § 62-2 (a) (10). The Commission revised its rules to recognize the additional obligations under Senate Bill 3 in the IRP process. Scheduling Order, p. 3; Rules R8-60 (c), (h)(4).

Because this is the first time the Commission will fully consider the requirements and policy of Senate Bill 3 in the IRP process, it is crucial that the Commission's final order recognizes these additional obligations and provides appropriate direction and guidance for future integrated resource planning.

II. EUNC's Interest

EUNC has an interest in this docket based on its history as a power producer in North Carolina and its efforts to convert its facilities into in-state providers of renewable energy and capacity under Senate Bill 3. The EUNC facilities have supplied energy and capacity to Progress Energy Carolinas, Inc. ("Progress") for more than 20 years. Testimony of Don Reading, Vol. IV, p. 53, line 1 – p. 54, line 14 and p. 68, line 16 – p. 69, line 1. In its 2008 IRP, Progress indicated that it anticipated renewing its contracts with EUNC, which were set to expire on December 31, 2009. Progress Energy Carolinas Integrated Resource Plan, September 1, 2008 ("2008 IRP"), p. C-1, footnote 1. EUNC spent more than \$86 million modifying its North Carolina plants to utilize biomass and alternative fuels in order to qualify for renewable energy credits ("RECs") on 50 to 60 percent of their output under Senate Bill 3. Testimony of Don Reading, Vol. IV, p. 69, lines 2-7; see Docket No. SP-165, Sub 3. Both plants are qualifying facilities ("QFs") under the Public Utility Regulatory Policies Act of 1978 ("PURPA"). Order Issuing Amended Certificates, Accepting Registration Statement and Issuing Declaratory Ruling, Docket No. SP-165, Sub 3, December 17, 2009. Despite EUNC's efforts and Progress' 2008 IRP filing, without explanation, EUNC's two plants were not included in Progress' 2009 IRP

beyond December 31, 2009. Progress Energy Carolinas Integrated Resource Plan, September 1, 2009 ("2009 IRP"), p. C-1.²

EUNC is concerned about Progress' ability to comply with Senate Bill 3's REPS requirement in the mid- and long-term, Progress' resource mix, Progress' procedure for contracting with QFs under the requirements of PURPA and the Commission's avoided cost orders.

III. Progress' 2009 IRP and REPS Compliance Plan Falls Short of Meeting the Requirements of Senate Bill 3 in the Mid- and Long-Term

This consolidated IRP docket provides the Commission with the first full look at how renewable energy will become part of the resource mix in utilities' integrated resource planning. Senate Bill 3 phases in its REPS requirements over time until the year 2021, when 12.5% of 2020 North Carolina retail sales must be subject to REPS. N.C. Gen. Stat. § 62-133.7 (b) (1). While the law gives electric public utilities a variety of ways to meet these requirements, *id.* at (b) (2), it will take significant advanced planning to achieve Senate Bill 3's requirements. Progress' 2009 IRP filing simply falls short, both in terms of its plans to acquire in-state RECs to comply with Senate Bill 3 and in terms of its projected resource mix over the planning horizon.

Progress' 2009 IRP filing shows its ability to meet Senate Bill 3's initial short-term requirements by relying heavily on banked out-of-state wind RECs. Testimony of David Fonvielle, Vol. I, p. 171, line 20 – p. 172, line 17; Testimony of David Fonvielle, Vol. V, p. 145, line 22 – p. 146, line 8. However, 75% of the RECs required must be generated in-state and Progress will have a greater need for in-state RECs beginning in 2014, at which point Senate Bill 3 requires that 6% of retail sales be derived from renewable energy resources and energy

² Because EUNC's facilities are QFs, they are entitled to full avoided costs under FERC's regulations implementing PURPA and the Commission's avoided cost orders. EUNC and Progress are currently in arbitration over the appropriate amount of avoided energy and capacity costs Progress must pay EUNC. Docket No. E-2, Sub 966. Payment for RECs produced by EUNC's facilities is separate from payment of avoided costs. Order Establishing Standard Rates and Contract Terms for Qualifying Facilities. Docket No. E-100, Sub 106, December 19, 2007, p. 10.

efficiency measures. Testimony of Don Reading, Vol. IV, p. 57, line 11 – p. 59, line 3; p. 79, line 3 – p. 81, line 17; CPI Progress Energy Cross Examination, Exhibit 2, Vol. V, p. 125, attached hereto as Exhibit 1 (hereinafter “Exhibit 1”).

Of concern is that Progress’ REPs Compliance Plan, 2009 IRP, Appendix D – Alternative Supply Resources NC REPs Compliance Plan, disguises the need for significant RECs by giving the impression that REC needs are covered through 2016. The future of REC compliance, as presented in Exhibit 7, assumes that out-of-state wind RECs are spread over the 5-year time horizon ending in 2016 by showing positive REC carryforward balances for each year (with the carryforward balance ultimately reaching zero after fulfilling the need for RECs in 2016)³. 2009 IRP, Exhibit 7 of Appendix D – Alternative Supply Resources NC REPS Compliance Plan, p. D-13. Progress’ witness Fonvielle testified that, “PEC is already compliant through 2013 and would need to add only 200GWhs to be compliant in 2014.” Rebuttal Testimony of David Fonvielle, Vol. V, p. 17, lines 17-18. What is not revealed by Fonvielle’s statement but is revealed in Exhibit 1, attached hereto and explained below, is that achieving this outcome requires applying all of the out-of-state wind RECs to the period ending in 2014, *2 years earlier* than what is shown in Exhibit 7 of the REPs Compliance Plan. The effect of this is the creation of an enormous need for RECs starting in 2015, and a corresponding enormous need for REC-producing capacity in the same year (the majority of it in-state).

As shown in Exhibit 1 hereto, Progress will be short 166GWh of RECs in 2014. Mr. Fonvielle testified this need could be met with “only 25 MWs of wood biomass brought on-line in 2014.” Vol. V, lines 18-19. However, this assumes the high capacity factors associated with biomass generation, the energy cost of which could be uneconomic in the off-peak hours. See

³ More concerning is that Exhibit 7 does not show the requisite capacity required to *generate* the RECs required (that are shown in the section entitled “Projected Resources”). RECs do not materialize out of thin air, they must be generated by REC-producing capacity, and in-state RECs require in-state REC-producing capacity.

Testimony of Glen Snider, Vol. V, p. 33, lines 7-9. As shown in Exhibit 1 hereto, assuming a 50% capacity factor, the required REC-producing capacity is 38MW, 50% higher than what Mr. Fonvielle indicates. What Mr. Fonvielle did not say, but is abundantly clear, is that this need for REC-producing capacity is greatly magnified in 2015, when Progress' need for RECs increases to 1,355GWh, requiring 309MW of REC-producing capacity at a 50% capacity factor. This need increases in a step-change again in 2016, with a need for 2,560 RECs requiring nearly 585MW of REC-producing capacity. See Exhibit 1.

This creates a serious concern that Progress will not meet its mid- and long-term REPS requirements. See Testimony of Kennie Ellis, Vol. III, p. 54, line 21 –p. 55, line 3; p. 57, lines 10-15; Testimony of Jay Lucas, Vol. III, p. 78, lines 3 – 13; 2009 IRP, REPs Compliance Plan, p. D-13.

One way to prepare to meet the mid- and long-term REPS requirements is to secure in-state dispatchable REC-producing capacity before the increased requirements of Senate Bill 3 go into effect. This approach will not only make it more likely that the later requirements are met, but it will further the overall goals of Senate Bill 3. Acquiring in-state REC-producing capacity early has several advantages. First, the in-state RECs can be banked and used for future compliance (up to 7 years). Testimony of David Fonvielle, Vol. I, p. 63, lines 12-13; Vol. V, p. 87, lines 22-24; p. 129, lines 7-9; and, p. 145, line 22 – p. 146, line 8. Second, acquiring in-state RECs in advance helps spread the cost over several years, avoiding a large impact on Senate Bill 3's cost caps in a single year. See Testimony of David Fonvielle, Vol. V, p. 145, line 22 – p. 146, line 8. Third, having banked in-state RECs that can be used over several years smoothes the need for large acquisitions of RECs in a single year. See Testimony of Kennie Ellis, Vol. III, p. 56, line 17 – p. 57, line 3. Fourth, a plan to secure in-state RECs in advance facilitates contracts for

larger REC-producing facilities that take a longer time to build or retrofit, but which provide dispatchable REC-producing energy and capacity. Testimony of Don Reading, Vol. IV, p. 63, line 1 – p. 64, line 10; Testimony of David Fonvielle, Vol. V, p. 84, lines 18-22.

As an extension of the third point above, the need to add large amounts of REC-producing capacity at one time (and the adverse consequences of both greater costs and potential “lumpiness” when compared to load) is avoided by using smaller capacity producers over time and banking the RECs this smaller capacity produces in advance of the need. As an example of a way to meet this need, at a capacity factor of 50%, EUNC’s 134MW of renewable capacity can generate nearly 1,470GWh of RECs between 2010 and the end of 2014, which would satisfy all of Progress’ enormous need for 1,355GWh in 2015 plus leave a surplus of more than 100GWh for use in future years. By contrast, if this need is not met until 2015, as stated above, nearly 310MW of capacity is required (assuming a 50% capacity factor and 100% renewable output; this capacity need doubles to more than 600MW if the facility’s output is 50% renewable)⁴. Accordingly, by starting early and banking RECs in advance of immediate need, less capacity is required, and the costs of producing these RECs are spread over time versus a large cost impact in a single year, thus reducing the risk of exceeding Senate Bill 3’s cost cap. Indeed, Mr. Fonvielle acknowledges the benefits of this generate-and-bank-over-time approach when talking about fulfilling Progress’ 2014 need, by remarking that the need could be satisfied by “only 25MW of wood biomass brought on-line in 2014 or *as little as 10MWs of landfill gas brought on-line in 2012.*” Testimony of David Fonvielle, Vol. V, p. 17, lines 18-20 (emphasis added).

In addition to contributing to mid- and long-term REPS compliance, purchasing in-state dispatchable RECs-producing energy and capacity will further the policy behind Senate Bill 3.

⁴ As additionally shown in Exhibit 1, the need for RECs in 2016 requires 584MW of REC-producing capacity to meet the need in 2016, assuming a 50% capacity factor and 100% renewable output.

Fortunately, there are sources of dispatchable in-state RECs from biomass facilities. Testimony of David Fonvielle, Vol. V, p. 103, line 22, p. 104; line 4; p. 105, lines 2-10; p. 108, lines 12-20. Two of the policy priorities of Senate Bill 3 are to “[d]iversify the resources used to reliably meet the energy needs of consumers in the State,” N.C. Gen. Stat. § 62-2(a)(10)a., and to “[e]ncourage private investment in renewable energy and energy efficiency.” *Id.* at (a)(10)c.; see also Testimony of David Fonvielle, Vol. V, p. 88, lines 17-18. The purchase of in-state RECs-producing energy and capacity also furthers the State’s efforts to grow a green economy and “[p]rovide[s] greater energy security though the use of indigenous energy resources available within the State.” N.C. Gen. Stat. § 62-2(a) (10)b.

Promoting a market for reliable renewable energy not only furthers the policy of Senate Bill 3, *it is also consistent with the federal policy behind PURPA and relates to the Commission’s avoided cost proceedings.* The Commission recognizes and follows the federal law and policy of promoting small power producers, in particular those that use renewable resources, in its biennial avoided cost proceedings. See, e.g., Docket No. E-100, Sub 117. These proceedings set the amount of utilities’ avoided costs, guarantee QFs the right to receive full avoided costs, and set up a process for the Commission to approve RFPs for QFs that generate more than 5 megawatts of electricity consistent with the requirements of PURPA. *Id.* At present, Progress does not have a Commission-approved RFP for QFs. Testimony of David Fonvielle, Vol. V, p. 118, lines 2-3. Instead, Progress has an open RFP process that does not follow the requirements of the Commission’s avoided cost orders with respect to RFPs for QFs that generate more than 5 megawatts. See Order Establishing Standard Rates and Contract Terms for Qualifying Facilities, E-100, Sub 117, filed May 13, 2009, p. 6, 15-16. Moreover, despite its open RFP, Progress’ 2009 IRP shows a reduction in power purchases from renewable QFs over

time, 2009 IRP, pp. 22-23, Tables 1 and 2, attached hereto as Exhibit 2. This appears to be inconsistent with the requirements of Senate Bill 3 and PURPA. It also diminishes rather than increases the diversity of Progress' resource mix.

If Progress is committed to meeting its REPS requirements in the mid- and long-term and integrating Senate Bill 3 into the IRP process, it should have a plan that includes a significant amount of in-state dispatchable REC-producing energy and capacity. Instead, Progress' 2009 IRP shows a decline in this amount of this type of power over time and instead shows an increase in natural gas and nuclear power from its own facilities. *Id.*; 2009 IRP, pp. 24-25, Figures 4 and 5. And, Progress' 2009 IRP shows a decline in purchase power over the planning horizon. *Id.*⁵ Without such a plan, it is unlikely that Progress will meet the REPS requirements of Senate Bill 3 in the mid- and long-term. It is also unlikely that renewable energy will increase as a part of Progress' resource mix.

IV. Progress' Reserve Margin Allows for Additional REC-Producing Capacity

Progress' stated capacity and reserve margin in its 2009 IRP allows for the addition of REC-producing capacity, especially since the capacity numbers in the 2009 IRP have not been revised to reflect the retirement of the Cape Fear and Weatherspoon facilities in its Plan to Retire 550 MWs of Coal Generation without CO2 controls. *See* Docket No. E-2, Sub 960. Even with this additional capacity, Progress' 2009 IRP indicated that the capacity margins of 11% to 21% are "appropriate for providing an adequate and reliable power supply." 2009 IRP, p. 19.

⁵ This also raises concerns about the rationale for and change in assumptions in Progress' contract renewal process. *See* Testimony of Glen Snider, Vol. V, p. 31, line 1 – p. 32, line 4. An assumption that capacity from power purchase agreements will not be available or will not be of sufficient reliability is antithetical to proper resource planning, which requires that resources be evaluated on a case-by-case basis. EUNC agrees with Public Staff's suggestion that this change in assumption as to the termination of PPAs needs further review in the 2010 IRP proceeding or other dockets. Public Staff's Proposed Order Approving Integrated Resource Plans and REPS Compliance Plans, E-100 Subs 118 and 124, June 11, 2010, p. 19.

Progress' capacity margins only increase dramatically in the years in which it plans to add installed generation, which will presumably be included in its rate base.

FERC's regulations relating to the implementation of PURPA make it clear that in situations in which a utility has adequate capacity, but is planning capacity additions in the future, it is appropriate to add capacity from QFs.⁶ Progress' IRP includes resource additions over the planning horizon (most of which are undesignated). 2009 IRP, pp. 22-23, Exhibit 2 hereto. In addition, Progress currently has open RFPs for biomass and facilities that produce RECs, neither of which was approved by the Commission. Furthermore, with respect to adding capacity, the biomass RFP specifically seeks 40 to 75 MW of "new renewable generation beginning January 1, 2013 timeframe." Clearly, Progress' capacity and reserve margins have room to accommodate REC-producing additions to capacity.

Both the Commission's rules and its previous orders allow for some deviation in reserve margins. Rule R8-60 (i) (3) allows for a 3% deviation from target reserve margins. In addition, in its last Order Approving Integrated Resource Plans, the Commission highlighted certain risks that apply to Progress' reserve margin adequacy. Docket No. E-100, Sub 114, September 19, 2008, p. 15. These risks included:

(1) increasing age of existing units on the system, (2) the inclusion of a significant amount of renewables (which are generally less reliable than supply-side resources) in the plans due to the enactment of a REPS in North Carolina, (3) uncertainty regarding the impacts associated with significant increases in the energy efficiency and DSM programs and the actual results that will be achieved, (4) longer lead times for building baseload capacity such as coal and nuclear, (5) increasing environmental pressures that may cause additional unit derates and/or retirements, and (6) increases in derates of units due to extreme hot weather and drought conditions.

⁶ "[A]n electric utility system with excess capacity may nevertheless plan to add new more efficient capacity to its system. If purchases from qualifying facilities enable a utility to defer or avoid these new planned capacity additions, the rate for such purchases should reflect the avoided costs of these additions." 45 Fed. Reg., No. 38, February 25, 1980, p. 12227.

Id. While the reserves were found to be adequate at that time, the Order stated that “[t]he risks... should be monitored for adverse effects on the required reserve margin and should be adjusted as required in the pending planning periods.” Id. Given (i) the on-going nature of these risks; (ii) the rule allowing for a 3% deviation, (iii) FERC’s guidance in implementing PURPA; (iv) Progress’ plans to add capacity; and (v) Progress’ imminent need for REC-producing capacity, it is clear that Progress’ reserve margin allows for additional REC-producing capacity.

Finally, adding REC-producing energy and capacity meets the goals of Senate Bill 3, see Testimony of David Fonvielle, Vol. V, p. 84, line 9-22, and the goals of the IRP process to have a balanced, diversified resource mix, see Testimony of Don Reading, Vol. IV, p. 64, line 14 – p. 65, line 16. Since Progress’ reserve margin allows for additional in-state REC-producing capacity, its IRP should be amended to reflect this need within its reserve margin.

V. Conclusion and Recommendations for the Commission’s Final Order

Based on the foregoing arguments, testimony and exhibits demonstrating that Progress’ 2009 IRP raises concerns about meeting the REPS in Senate Bill 3 in the mid- and long-term, EUNC respectfully requests that the Commission include a finding in its final order in this docket that Progress’ 2009 IRP raises concerns about meeting the REPS in Senate Bill 3, in light of its projections for purchases of renewable energy and its declining purchases of capacity by fuel type and representation of renewable energy in its fuel mix through 2024. EUNC further respectfully requests that the Commission find that Progress’ reserve margin allows for additional in-state REC-producing capacity.

Based on the reasons set forth in Section III above, EUNC respectfully requests that the Commission require Progress to show the capacity required to generate the RECs needed to meet the requirements of Senate Bill 3 in the mid- and long-term and any plans to carry forward RECs

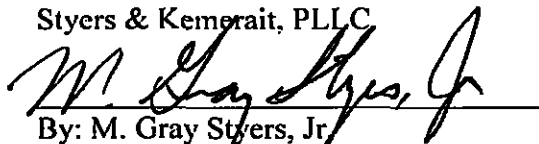
from this capacity. One way to provide this information would be to require it as a part of Exhibit 3 of Appendix D – Alternative Supply Resources NC REPS Compliance Plan.

Based on the foregoing arguments, testimony, exhibits and statements of state and federal policy on the importance of developing in-state REC producing capacity, EUNC respectfully requests that the Commission also include a finding in its final order that there is a significant need to develop and support in-state REC producers, particularly those that can generate dispatchable energy and capacity assisting electric utilities to meet the mid-and long term requirements of Senate Bill 3.

Finally, based on the foregoing arguments, testimony and statements of state law and federal policy on the importance of developing in-state REC-producing capacity, EUNC respectfully requests that the Commission's Order expressly recite and note the importance of PURPA's requirements that QFs receive full avoided costs, the requirements in Commission's avoided cost orders for RFPs that apply to QFs, and Senate Bill 3's policy of encouraging private investment in renewable energy.

Respectfully submitted this the 11th day of June, 2010.

Styers & Kemerait, PLLC



By: M. Gray Styers, Jr.

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CERTIFICATE OF SERVICE

The undersigned certifies that he has served a copy of the foregoing BRIEF OF CPI USA NORTH CAROLINA, LLC f/k/a EPCOR USA NORTH CAROLINA LLC upon the parties of record in this proceeding, or their attorneys, by hand delivery, electronically, facsimile, or by depositing a copy of the same in the United States Mail, postage prepaid and properly addressed as follows:

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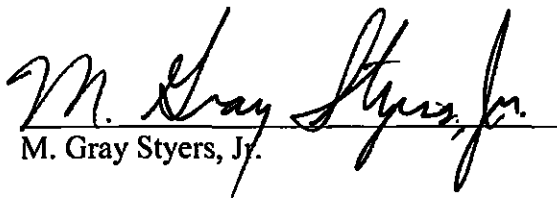
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This 11th day of June, 2010.


M. Gray Styers, Jr.

CPI PROGRESS CROSS-EXAMINATION
EXHIBIT NO. 2
USE 25% OUT-OF-STATE RECS USED PER YEAR
COMBINED WITH PURCHASED (NO PROJECTED) RECS PER 2009 IRP

PURCHASED RECS 2009 - 2011				
	2009	2010	2011	Total
EE		2	2	
SOLAR	4	12	12	
BIOMASS	266	245	245	
HYDRO	11	11		
TOTAL PURCHASED and BANKED through 2011	281	270	259	810

	2012	2013	2014	2015	2016
REPS NEED (GWh)	1144	1160	1184	2397	2429
Use out-of-state RECs (25% of REPS need)					
1 Need for in-state RECs (line 1 minus line 2)	286	290	296	599	607
Produced in-year (CONTRACTED REC PURCHASES)	858	870	888	1798	1822
EE	285	289	295	597	605
Solar	12	12	12	12	12
BIOMASS	245	245	245	0	0
542	546	552	609	617	
316	324	336	1189	1205	
810	494	170	(186)	(1,355)	
494	170	(186)	(1,355)	(2,560)	
TOTAL IN-YEAR-OF-NEED REC PURCHASES					
In-year net need (line 1 minus line 2)					
Banked in-state purchases					
Ending REC balance in bank (deficit) (GWh)					
Capacity needed (MW) at 50% Capacity Factor to offset deficit					
				38	309
				168	1353
				24	193
Capacity needed (MW) at 80% Capacity Factor to offset deficit					
				168	1353
					2858

727

run out of 1400GWh of wind RECs in 2015
 (71GWh short in 2015, 607GWh short in 2016)

Progress Energy - Carolinas Table 1 2009 Annual IRP (Summer)



GENERATION CHANGES	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Sited Additions		635		950											
Undesignated Additions (1)				126	10	14		169	338	1,105	1,105				169
Planned Project Upgrades		18	57												
Retirements - Lee 1, 2, 3			(5)												
				(387)											

INSTALLED GENERATION

Nuclear	3,460	3,466	3,543	3,543	3,553	3,567	3,567	3,567	3,567	3,567	3,567	3,567	3,567	3,567	3,567
Fossil	5,179	5,179	5,175	4,770	4,770	4,778	4,778	4,778	4,778	4,778	4,778	4,778	4,778	4,778	4,778
Combined Cycle	643	1,178	1,178	2,128	2,128	2,128	2,128	2,128	2,128	2,128	2,128	2,128	2,128	2,128	2,128
Combustion Turbine	3,132	3,132	3,132	3,132	3,132	3,132	3,132	3,132	3,132	3,132	3,132	3,132	3,132	3,132	3,132
Hydro	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228
Undesignated (1)				126	126	126	126	126	126	126	126	126	126	126	126
TOTAL INSTALLED *	12,650	13,203	13,256	13,936	13,945	13,959	13,959	14,128	14,466	16,671	16,676	16,676	16,676	16,676	16,676

PURCHASES & OTHER RESOURCES

SEPA	95	95	95	109	109	109	109	109	109	109	109	109	109	109	95
NUG OF - Cogen															
NUG OF - Renewable **	25	25	28	35	40	19	19	19	23	23	23	23	23	23	24
NUG OF - Other															
AEP/Rockport 2															
Butler Warner			220	220	220	220	220	220	220	220	220	220	220	220	220
Aspen CT Tolling Purchase				338	338	338	338	338	338	338	338	338	338	338	338
Broad River CT	829	828	829	829	829	829	829	829	829	829	829	829	829	829	829
Southern CC Purchase - ST	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150
Southern CC Purchase - LT	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150
TOTAL SUPPLY RESOURCES	13,739	14,462	14,678	15,613	15,628	15,621	15,622	15,791	15,912	17,017	17,972	17,482	17,144	17,144	17,299

SYSTEM PEAK LOAD

Firm Sales	12,731	12,913	13,099	14,122	14,361	14,624	14,854	15,091	15,318	15,557	15,808	16,061	16,317	16,576	16,840
Energy Efficiency & Demand Response	502	636	787	862	893	1,043	1,188	1,210	1,290	1,365	1,427	1,474	1,519	1,561	1,600
System Firm Load after DSM	12,230	12,278	12,303	13,239	13,367	13,581	13,729	13,881	14,028	14,192	14,381	14,586	14,798	15,015	15,240

RESERVES (2)

Capacity Margin (3)	1,569	2,175	2,275	2,374	2,231	2,040	1,893	1,909	1,886	2,828	3,581	2,886	2,346	2,129	2,059
Reserve Margin (4)	11%	15%	18%	15%	14%	13%	12%	12%	12%	17%	20%	17%	14%	12%	12%
	13%	18%	18%	18%	17%	15%	14%	14%	13%	20%	25%	20%	16%	14%	14%

ANNUAL SYSTEM ENERGY (GWh)

	66,137	66,762	67,937	69,224	70,387	71,581	72,703	73,850	74,916	76,951	77,108	78,293	79,588	80,858	82,140
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Notes:

- * TOTAL INSTALLED includes Mod-24 unit rating changes.
- ** Renewables are assumed to be provided by sources that are dispatchable and/or high capacity factor sources and therefore are counted towards capacity margin. The MW shown include potential sources that have not yet been identified but are expected to be obtained to meet PEC's Renewable Portfolio Standard requirements.
- Footnotes:
- (1) Undesignated capacity may be replaced by purchases, upgrades, DSM, or a combination thereof. Joint ownership opportunities will be evaluated with base-load additions.
- (2) Reserves = Total Supply Resources - Firm Obligations
- (3) Capacity Margin = Reserves / Total Supply Resources * 100.
- (4) Reserve Margin = Reserves / System Firm Load after DSM * 100.

Progress Energy - Carolinas Table 2 2009 Annual IRP (Winter)

GENERATION CHANGES	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24
Sited Additions			594	950											
Undesignated Additions (1)		4	35	147											
Planned Project Upgrades				32	10		18		201	402	1,125	1,125			
Retirement - Lee 1, 2, 3	(22)			(5)											
				(417)											

INSTALLED GENERATION	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24
Nuclear	3,622	3,628	3,961	3,693	3,703	3,703	3,721	3,721	3,721	3,721	3,721	3,721	3,721	3,721	3,721
Fossil	5,274	5,274	5,274	4,853	4,853	4,853	4,853	4,853	4,853	4,853	4,853	4,853	4,853	4,853	4,853
Combined Cycle	826	826	1,320	2,270	2,270	2,270	2,270	2,270	2,270	2,270	2,270	2,270	2,270	2,270	2,270
Combustion Turbine	3,847	3,847	3,847	3,847	3,847	3,847	3,847	3,847	3,847	3,847	3,847	3,847	3,847	3,847	3,847
Hydro	229	229	229	229	229	229	229	229	229	229	229	229	229	229	229
Undesignated (1)				147	147	147	147	147	147	147	1,875	3,000	3,000	3,000	3,000
TOTAL INSTALLED *	13,998	13,402	14,191	14,838	14,849	14,849	14,867	14,867	15,068	15,470	16,596	17,720	17,720	17,720	17,720

PURCHASES & OTHER RESOURCES	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24
SEPA	85	95	95	109	109	109	109	109	109	109	109	109	109	109	109
NUG QF - Cogen															
NUG QF - Renewable **	25	25	28	35	40	19	19	19	23	23	23	23	23	24	24
NUG QF - Other															
AEP/Rockport 2															
Butler Warner															
Anson C.T. Trilling Purchases				280	280	280	280	280	365	365	365	365	365	365	365
Broad River CT	822	822	822	822	822	822	822	822	822	822	822	822	822	822	822
Southern CC Purchase - ST	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150
Southern CC Purchase - LT	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150
Undesignated Purchases															
TOTAL SUPPLY RESOURCES	14,646	14,644	15,236	15,879	16,594	16,573	16,591	16,592	16,536	16,930	17,913	19,039	19,546	19,217	19,217
SYSTEM PEAK LOAD	11,420	11,573	11,734	12,776	12,965	13,213	13,407	13,608	13,798	14,003	14,216	14,435	14,655	14,879	15,108
Firm Sales	200	200	100	100	100	100	100	100	100	100	100	100	100	100	100
Energy Efficiency & Demand Response	410	482	572	686	721	755	787	821	855	891	925	955	984	1,013	1,039
System Firm Load after DSM	11,009	11,091	11,162	12,080	12,284	12,458	12,620	12,788	12,943	13,112	13,293	13,481	13,571	13,866	14,059
RESERVES (2)	3,030	3,553	4,064	4,489	4,331	4,116	3,871	3,805	3,593	3,525	4,521	5,558	4,874	4,351	4,148
Capacity Margin (3)	25%	26%	27%	27%	26%	25%	24%	23%	22%	23%	26%	29%	26%	24%	23%
Reserve Margin (4)	33%	32%	38%	37%	35%	33%	31%	30%	28%	29%	35%	41%	38%	31%	28%

Notes:

* TOTAL INSTALLED includes Mod-24 unit rating changes.

** Renewables are assumed to be provided by sources that are dispatchable and/or high capacity factor sources and therefore are counted towards capacity margin. The MW shown include potential sources that have not yet been identified but are expected to be obtained to meet PEC's Renewable Portfolio Standard requirements.

Footnotes:

- (1) Undesignated capacity may be replaced by purchases, upgrades, DSM, or a combination thereof. Joint ownership opportunities will be evaluated with baseload additions.
- (2) Reserves = Total Supply Resources - Firm Obligations
- (3) Capacity Margin = Reserves / Total Supply Resources * 100.
- (4) Reserve Margin = Reserves / System Firm Load after DSM * 100.

