Progress Energy

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September 1, 2009

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Clerk's Office
N.C. Utilities Commission

Ms. Renne Vance
Chief Clerk
North Carolina Utilities Commission
4325 Mail Service Center
Raleigh, North Carolina 27699-4325

Re: Progress Energy Carolinas, Inc.'s 2009 Integrated Resource Plan
Docket No. E-100, Sub 124

Dear Ms. Vance:

Pursuant to Rules R8-60, R8-62 and R8-67 of the North Carolina Utilities Commission's Rules and Regulations, Carolina Power & Light Company d/b/a Progress Energy Carolinas, Inc. ("PEC") hereby provides an original and thirty (30) copies of its update to its Integrated Resource Plan.

Appendix C, Exhibit 1 to the Resource Plan contains confidential data regarding responses to PEC's requests for proposals for purchased power resources. Public disclosure of this information will harm PEC's ability to negotiate and procure cost effective purchases and discourage potential bidders from participating in requests for proposals. If this information is publicly disclosed, new bidders will know the rates they will have to bid to be the low cost bidder and their competitors' bids and strategy. Thus, pursuant to N.C. Gen. Stat. §132-1.2 PEC asks the Commission to find this information to be confidential, proprietary information and protect it from public disclosure. Accordingly, PEC is providing fifteen copies of the confidential data in a sealed envelope stamped "Confidential."

Sincerely,

Len S. Anthony
General Counsel
Progress Energy Carolinas, Inc.

LSA/dhs
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STAREG630

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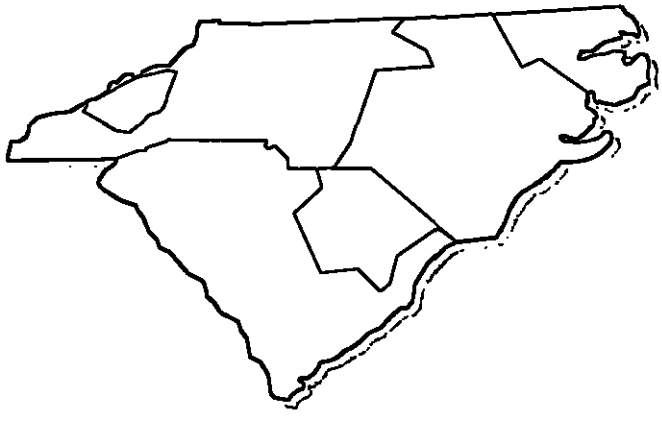
Progress Energy

Progress Energy Carolinas Integrated Resource Plan



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Appendices

Overview

Pursuant to Commission Rule R8-60, this document is an update to Progress Energy Carolinas, Inc.'s ("the Company" or "PEC") 2008 Integrated Resource Plan (IRP). As a result, it reflects forecast updates and management approved changes to the resource additions. This update is built upon the comprehensive process described in last year's filing, focusing on the rapidly evolving regulatory environment.

Today's environment presents many significant challenges to deal with from a resource plan perspective, e.g. historic levels of fuel price volatility, tremendous economic uncertainty, potential federal environmental legislation dealing with regulation of carbon emissions, proposals for Federal renewable portfolio standards, possible revision of the Clean Air Interstate Rule (CAIR) standards and consideration of coal ash as hazardous waste. Perhaps the most notable example of such uncertainty can be seen in proposed environmental and climate change legislation. While the details about what the possible legislation may prescribe are still uncertain, it is widely assumed there will be legislation of some sort. This pending legislation paired with state requirements under the North Carolina Clean Smokestacks Act has led to the Company's recent decision to retire three coal units at its Lee facility and construct a new state of the art efficient natural gas combined cycle unit at the site.

The Company is currently evaluating numerous possible changes to its resource plan. These changes include, but are not limited to: additional coal unit retirements; construction of additional natural gas combined cycle facilities; further investments in energy efficiency; construction or purchase of additional renewable resources, investment in regional nuclear generation that could potentially change the timing and ownership stake of Company constructed nuclear units. If one or more of these changes are made the current proposed resource additions will change as well. Obviously, the further out in time a resource addition is scheduled to occur, the greater its uncertainty. PEC anticipates making decisions on these options prior to filing its next comprehensive IRP in 2010.

As economic, legislative and market conditions continue to unfold the Company will adjust its IRP accordingly.

The Integrated Resource Plan (IRP) currently includes a mix of additional demand-side management (DSM) and energy efficiency (EE), renewable energy, purchased power, combustion-turbine generation, combined cycle generation, and nuclear generation. PEC advocates a balanced approach, which includes a strong commitment to DSM and EE, investments in renewables and emerging technologies, and state-of-the-art power plants and delivery systems. This approach helps ensure electricity remains available, reliable and affordable and is produced in an environmentally sound manner. This diversified approach also helps to insulate customers from price volatility with any one particular fuel source.

Throughout the IRP document and in the appendices is a detailed discussion of the IRP process including the load and energy forecast, screening of supply-side technologies, renewables, DSM and EE plans as well as the methodology and development of the IRP.

Load and Energy Forecast

Methodology

Progress Energy Carolinas', Inc. forecasting processes have utilized econometric and statistical methods since the mid-70s. During this time, enhancements have been made to the methodology as data and software have become more available and accessible. Enhancements have also been undertaken over time to meet the changing data needs of internal and external customers.

The System Peak Load Forecast is developed from the System Energy Forecast using a load factor approach. This load forecast method couples the two forecasts directly, assuring consistency of assumptions and data. Class peak loads are developed from the class energy using individual class load factors. Peak loads for the residential, commercial, and industrial classes are then adjusted for projected load management impacts. The individual loads for the retail classes, wholesale customers, North Carolina Eastern Municipal Power Agency (NCEMPA), and Company use are then totaled and adjusted for losses between generation and the customer meter to determine System Peak Load.

Wholesale sales and demands include a portion that will be provided by the Southeastern Power Administration (SEPA). NCEMPA sales and demands include power which will be provided under the joint ownership agreement with them.

Summaries of the summer and winter Peak Load and Energy Forecast are provided in Tables 1 and 2 found later in this section. PEC's peak load forecasts assume the use of all load management capability at the time of system peak.

Assumptions

The filed forecast represents a retail demand growth rate of approximately 1.7% across the forecast period before subtracting for Demand-Side Management (DSM), which is almost equal to the customer growth rate of 1.8%. The retail demand growth rate drops to 0.9% after adjusting for DSM. Wholesale sales have become more uncertain due to the 1992 Energy Policy Act, subsequent FERC initiatives related to the wholesale market, the continuing evolution of the wholesale market, and market conditions. As expectations for the various wholesale contracts change, those expectations are appropriately reflected in the wholesale forecast.

The forecast of system energy usage and peak load does not explicitly incorporate periodic expansions and contractions of business cycles, which are likely to occur from time to time during any long-range forecast period. While long-run economic trends exhibit considerable stability, short-run economic activity is subject to substantial variation such as we have seen with the current severe economic downturn. The exact nature, timing and magnitude of such short-term variations are unknown. The forecast, while it is a trended projection, nonetheless reflects the general long-run outcome of business cycles because actual historical data, which contain expansions and contractions, are used to develop the general relationships between economic activity and energy use. Weather normalized temperatures are assumed for the energy and system peak forecasts.

Wholesale Load Addition

In late 2008, PEC responded to a Request for Proposals from North Carolina Electric Membership Corporation. A new wholesale power supply and coordination agreement was secured for the period January 1, 2013 through December 31, 2032. In addition, a Tolling Agreement was secured for the same term to purchase up to 336 MW from NCEMC. The new system load ranges from approximately 950 MW in 2013 to 2,350 MW by 2024. Any purchase from the Tolling Agreement would reduce this additional system load from PEC generation resources.

Customer Data

The tables below contain ten years of historical and 15 years of forecasted customer data.

	Annual Average Customers			
	Residential	Commercial	Industrial	Total
1999	1,014,247	178,909	4,790	1,197,946
2000	1,040,549	183,486	4,739	1,228,774
2001	1,066,612	188,658	4,655	1,259,925
2002	1,091,229	193,301	4,511	1,289,041
2003	1,112,149	197,271	4,403	1,313,823
2004	1,133,669	202,981	4,310	1,340,960
2005	1,158,896	208,578	4,218	1,371,692
2006	1,184,071	213,354	4,138	1,401,563
2007	1,208,293	216,989	4,080	1,429,362
2008	1,229,119	218,279	4,241	1,451,639
2009	1,239,119	220,069	4,614*	1,463,802
2010	1,255,119	223,737	4,614	1,483,470
2011	1,273,619	227,219	4,614	1,505,453
2012	1,294,619	230,658	4,614	1,529,891
2013	1,317,619	233,959	4,614	1,556,192
2014	1,343,619	236,493	4,614	1,584,726
2015	1,369,619	239,352	4,614	1,613,585
2016	1,396,119	244,062	4,614	1,644,795
2017	1,422,619	249,400	4,614	1,676,633
2018	1,449,619	254,953	4,614	1,709,186
2019	1,476,619	260,564	4,614	1,741,797
2020	1,503,619	265,245	4,614	1,773,478
2021	1,530,619	269,924	4,614	1,805,157
2022	1,557,943	274,659	4,614	1,837,216
2023	1,585,595	279,451	4,614	1,869,660

* PEC undertook a review of its Standard Industrial Classification and revenue classifications for all accounts in December 2008 to insure the assignments were appropriate. A significant number of small usage commercial accounts were re-classified as industrial accounts during this effort; therefore, the number of industrial accounts increased significantly, while the overall industrial demand and energy sales were only slightly impacted.

Retail Sales MWH – Reduced by EE and DR

	Residential	Commercial	Industrial
1999	13,348,217	11,068,294	14,574,305
2000	14,090,936	11,432,314	14,445,641
2001	14,372,145	11,972,153	13,332,380
2002	15,238,554	12,467,562	13,088,615
2003	15,282,872	12,556,905	12,748,754
2004	16,003,184	13,018,688	13,036,419
2005	16,663,782	13,314,324	12,741,342
2006	16,258,675	13,358,042	12,415,862
2007	17,199,511	14,033,008	11,882,660
2008	16,999,685	13,939,902	11,215,507
2009	17,651,340	13,928,475	10,447,958
2010	17,991,739	14,127,906	10,113,623
2011	18,200,120	14,352,512	10,223,245
2012	18,336,044	14,534,803	10,443,950
2013	18,482,991	14,768,425	10,945,873
2014	18,701,002	14,992,772	10,976,481
2015	19,006,713	15,203,837	11,016,813
2016	19,328,760	15,401,404	11,037,390
2017	19,660,520	15,615,956	11,058,102
2018	20,002,183	15,852,269	11,078,675
2019	20,353,992	16,054,404	11,099,123
2020	20,722,730	16,269,759	11,119,996
2021	21,109,200	16,490,613	11,140,844
2022	21,474,809	16,721,022	11,161,821
2023	21,838,968	16,972,715	11,182,797

Screening of Generation Alternatives

Methodology

PEC periodically assesses various generating technologies to ensure that projections for new resource additions capture new and emerging technologies over the planning horizon. This analysis involves a preliminary screening of the generation resource alternatives based on commercial availability, technical feasibility, and cost.

First, the commercial availability of each technology is examined for use in utility-scale applications. For a particular technology to be considered commercially available, the technology must be able to be built and operated on an appropriate commercial scale in continuous service by or for an electric utility.

Second, technical feasibility for commercially available technologies was considered to determine if the technology meets PEC's particular generation requirements and whether it would integrate well into the PEC system. The evaluation of technical feasibility included the size, fuel type, and construction requirements of the particular technology and the ability to match the technology to the service it would be required to perform on the PEC's system (e.g., baseload, intermediate, or peaking).

Finally, for each alternative, an estimate of the levelized cost of energy production, or "busbar" cost, was developed. Busbar analysis allows for the long-term economic comparison of capital, fuel, and O&M costs over the typical life expectancy of a future unit at varying capacity factor levels. For the screening of alternatives, the data are generic in nature and thus not site specific. Cost and performance projections were based on EIA's 2009 Annual Energy Outlook report and on internal PEC resources.

The generic capital and operating costs reflect the impact of known and emerging environmental requirements to the extent that such requirements can be quantified at this time. As these requirements and their impacts are more clearly defined in the future, capital and operating costs are subject to change. Such changes could alter the relative cost of one technology versus another and therefore result in the selection of different generating technologies for the future.

Cost and Performance

Categories of capacity alternatives that were reviewed as potential resource options included Conventional, Demonstrated, and Emerging technologies. *Conventional* technologies are mature, commercially available options with significant acceptance and operating experience in the utility industry. *Demonstrated* technologies are those with limited commercial operating experience and/or are not in widespread use. *Emerging* technologies are still in the concept, pilot, or demonstration stage or have not been used in the electric utility industry. In the most recent assessment, the following generation technologies were screened:

<u>Conventional Technologies</u>
Combined Cycle (CC)
Combustion Turbine (CT)
Hydro
Onshore Wind

Pulverized Coal (PC)

Demonstrated Technologies
Biomass
Integrated (Coal) Gasification/Combined Cycle (IGCC)
Nuclear Advanced Light Water Reactor (ALWR)
Municipal Solid Waste-Landfill Gas (MSW-LFG)
Solar Photovoltaic (PV)

Emerging Technologies
Fuel Cell (FC)
Offshore Wind

Of the technologies evaluated, not all are proven, mature, or commercially available. This is important to keep in mind when reviewing the data, as some options shown as low cost may *not* be commercially available or technically feasible as an option to meet resource plan needs and requirements at this time. In addition, the less mature a technology is the more uncertain and less accurate its cost estimate may be.

For example, fuel cells, which are currently still in the pilot or demonstration stage, can be assembled building-block style to produce varying quantities of electric generation. However, as currently designed, a sufficient number of fuel cells cannot be practically assembled to create a source of generation comparable to other existing bulk generation technologies, such as combined cycle (CC). Further development of this technology is needed before it becomes viable as a resource option.

Integrated Gasification-Combined Cycle (IGCC) appears to offer the potential to be competitive with other baseload generation technologies and has fewer environmental concerns. This technology, though, has only been demonstrated at a handful of installations and is just now becoming commercially available. With the possible need for new baseload generation in the future, PEC will continue to monitor the progress of this technology.

Hydro generation has been a valuable and significant part of the generating fleet for the Carolinas. The potential for additional hydro generation on a commercially viable scale is limited and the cost and feasibility is highly site specific. Given these constraints, hydro was not included in the more detailed evaluations but may be considered when site opportunities are evidenced and the potential is identified. PEC will continue to evaluate hydro opportunities on a case-by-case basis and will include it as a resource option if appropriate.

Wind projects have high fixed costs but low operating costs. Therefore, at high enough capacity factors they could become economically competitive with the conventional technologies identified. However, geographic and atmospheric characteristics affect the ability of wind projects to achieve those capacity factors. Wind projects must be constructed in areas with high average wind speed. In general, wind resources in the Carolinas are concentrated in two regions. The first is along the Atlantic coast and barrier islands. The second area is the higher ridge crests in the western portions of the states. Because wind is not dispatchable and provides little or no capacity value, it may not be suited to provide consistent capacity at the time of the system peak. Offshore wind power, an emerging technology, may provide greater potential for the Carolinas

in the future. The Carolinas benefit from offshore wind and shallow water that is less than 30 meters deep within 50 nautical miles of shore. Once the technology is developed and the regulatory process is established, this untapped energy source may contribute capacity and energy production for the PEC system. PEC will continue to monitor the progress and the cost effectiveness of this technology.

Solar photovoltaic (PV) projects are technically constrained from achieving high capacity factors. In the southeast, they would be expected to operate at a capacity factor of approximately 20%, making them unsuitable for intermediate or baseload duty cycles. At the lower capacity factors, they, like wind, are not dispatchable and therefore less suited to provide consistent peaking capacity. Aside from their technical limitations, PV projects are not currently economically competitive generation technologies. With the passage of North Carolina Senate Bill 3 and the premiums provided by the NC GreenPower program, solar photovoltaic installations are increasing in number and scale. PEC has aggressively pursued solar contracts to meet early requirements of North Carolina Senate Bill 3 and to take advantage of recent price declines due to current oversupply in the market. Through these solar contracts, PEC is well positioned to meet the North Carolina Senate Bill 3 solar requirements.

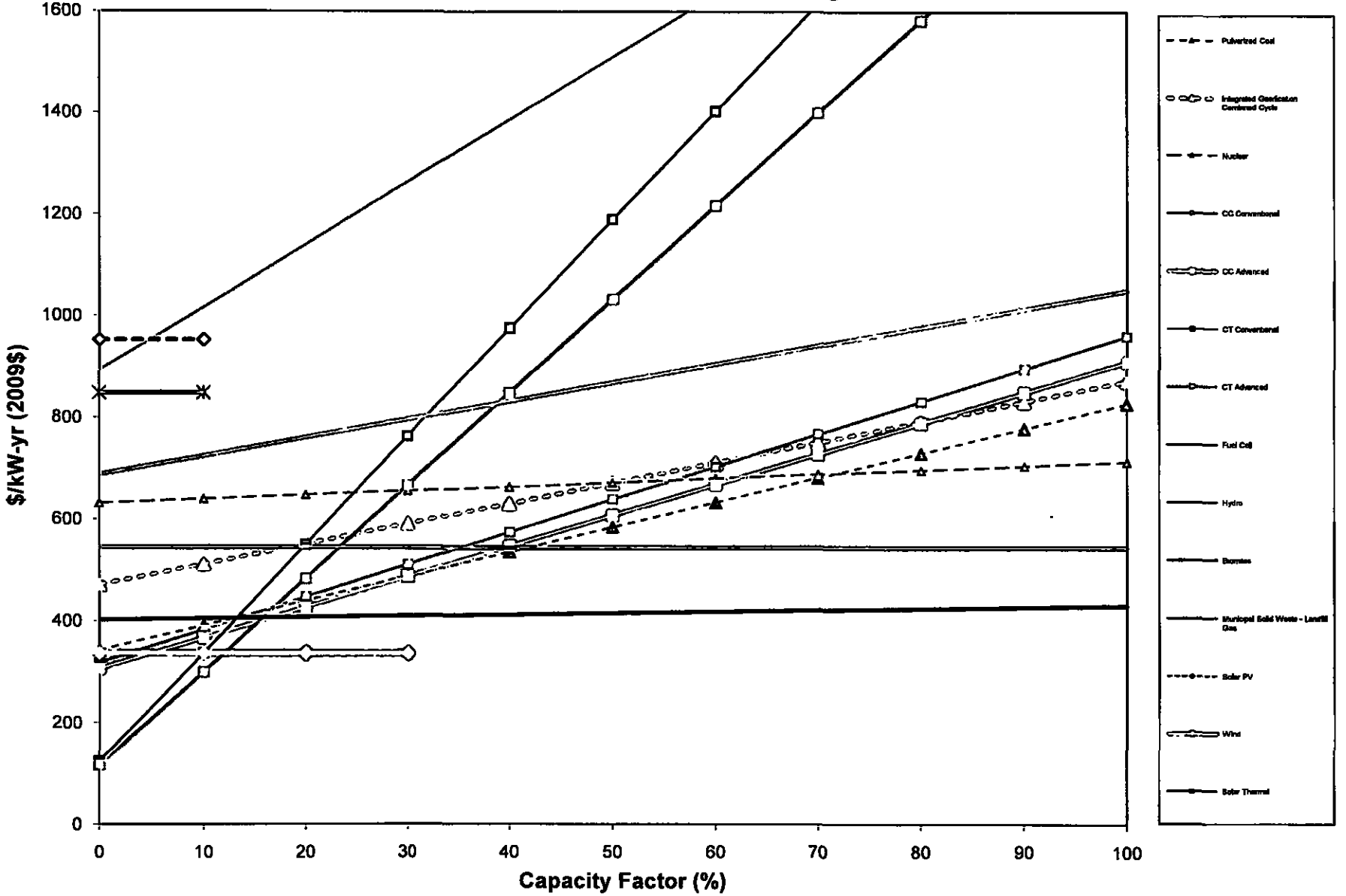
The capacity value of wind and solar resources depends heavily on the correlation between the system load profile, wind speed, and solar insolation. A recent Utility Wind Integration Group report noted that the capacity value of wind is typically less than 40% of nameplate capacity. Although wind and solar projects are currently not viable options for meeting *reserve* requirements due to their relatively high cost and uncertain operating characteristics, they will play an increasing role in PEC's *energy* portfolio through PEC's renewable compliance program, which is detailed below and in Appendix D. Geothermal has not been evaluated as it is not reasonably available in the Carolinas. External economic and non-economic forces, such as tax incentives, environmental regulations, federal or state policy directives, technological breakthroughs, and consumer preferences through "green rates", also drive these types of technologies. As part of PEC's regular planning cycle, changes to these external conditions are considered, as well as any technological changes, and will be continually evaluated for suitability as part of the overall resource plan.

PEC's IRP includes purchased power from renewables such as solar, biomass, and municipal solid waste-landfill gas (MSW-LFG) facilities. While these purchase contracts are targeted at adding renewable energy to PEC's portfolio, a limited number of these renewable resources also provide capacity to the resource plan. The IRP Tables 1 and 2 detail the current and undesignated renewable capacity. PEC is actively engaged in a variety of projects to develop new alternative sources of energy, including solar, storage, biomass, and landfill gas technologies. Renewables will consistently be evaluated for their ability to meet renewable energy requirements and resource planning needs on a case-by-case basis and included as a resource as appropriate. Further detail regarding renewables is given in the Renewable Energy Requirements section below and in Appendix D.

While this IRP and the REPS Compliance Plan incorporate resources for meeting the requirements of North Carolina Senate Bill 3, PEC has not incorporated additional resources that may be needed in the future for meeting the requirements of potential federal legislation. The type and timing of additional renewable resources will depend heavily on federal legislation being passed and implementing rules being established.

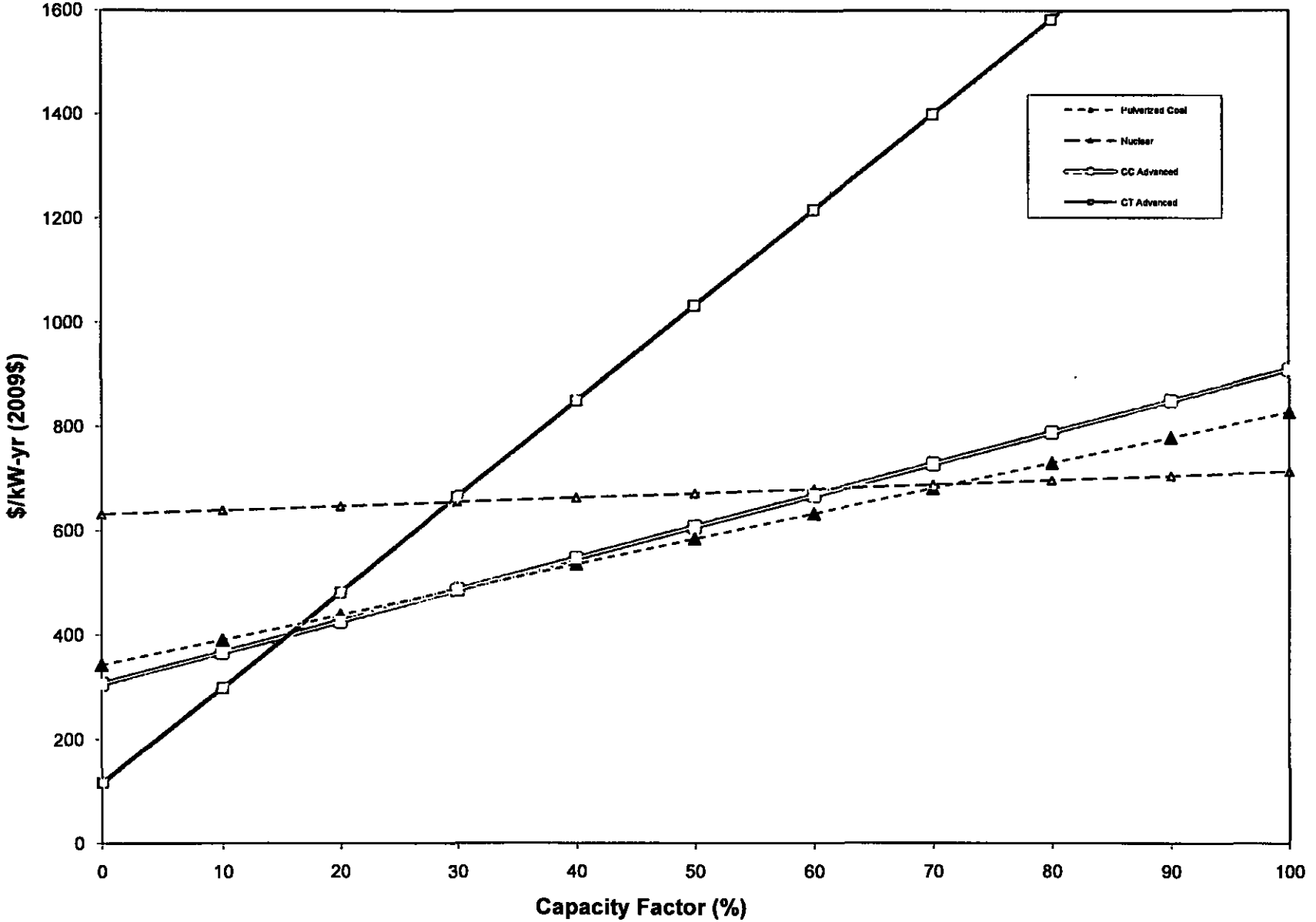
Figures 1-1 and 1-2 provide an economic comparison of all technologies examined based on generic capital, operating, and fuel cost projections with and without out carbon costs respectively. Figures 1-3 and 1-4 show the most economical and viable utility scale technologies with and without carbon costs respectively. For the most economic utility scale supply-side technologies in Figure 1-4, more detailed economic and site specific information was developed for inclusion in the resource plan evaluation process. These technologies include simple-cycle combustion turbine, combined cycle, pulverized coal, and nuclear.

Figure 1-1
Levelized Busbar Cost for All Technologies without Carbon



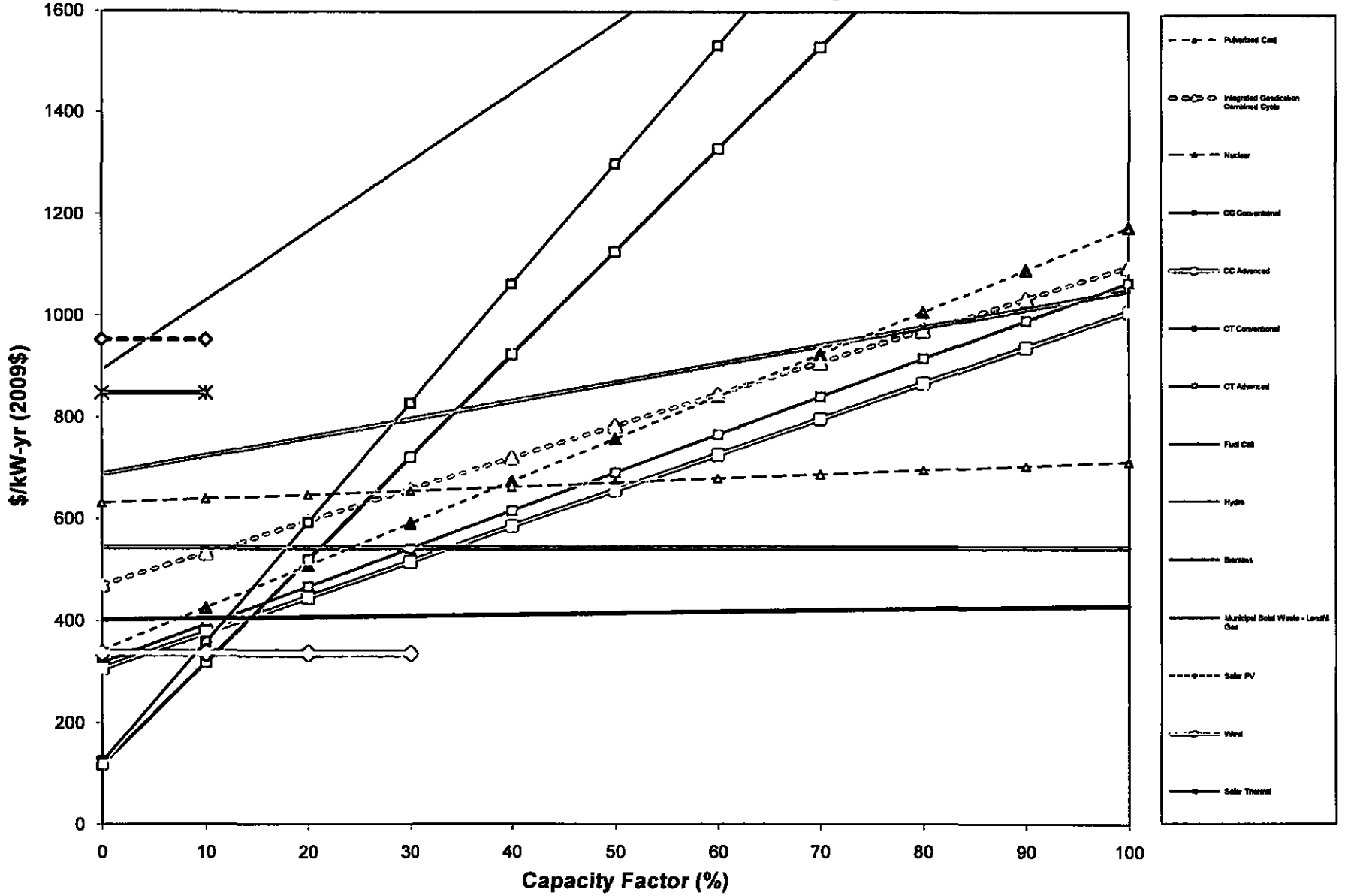
NOTE: The graph above is based on generic capital, O&M, and delivered fuel costs data but without transmission or other site specific criteria.

Figure 1-2
Levelized Busbar Cost for Utility Scale Technologies without Carbon



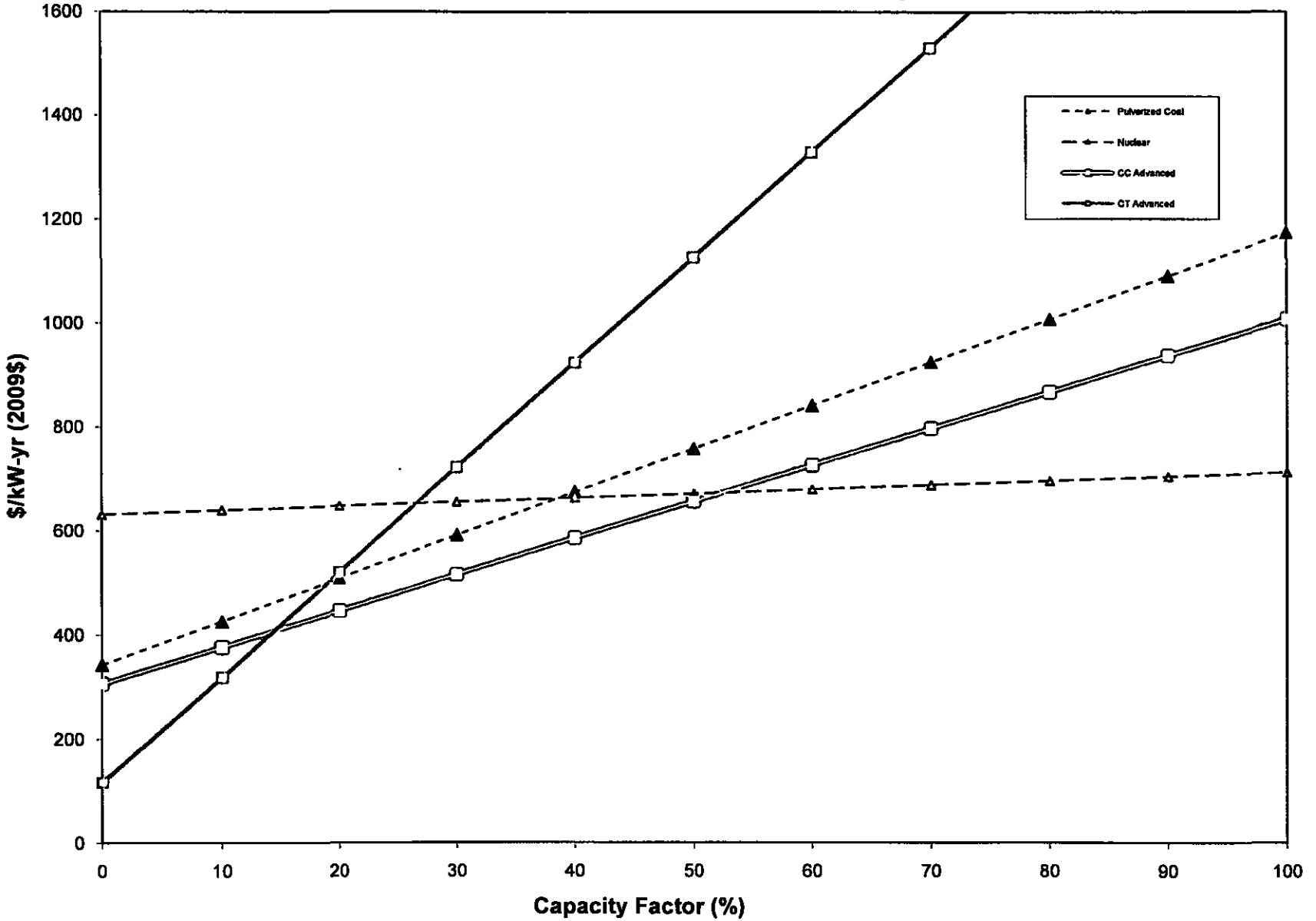
NOTE: The graph above is based on generic capital, O&M, and delivered fuel costs data but without transmission or other site specific criteria.

Figure 1-3
Levelized Busbar Cost for All Technologies with Carbon



NOTE: The graph above is based on generic capital, O&M, and delivered fuel costs data but without transmission or other site specific criteria.

Figure 1-4
Levelized Busbar Cost for Utility Scale Technologies with Carbon



NOTE: The graph above is based on generic capital, O&M, and delivered fuel costs data but without transmission or other site specific criteria.

Renewable Energy Requirements

In 2007, NC Senate Bill 3 was signed into law, establishing a renewable energy and energy efficiency portfolio standard (REPS). In accordance with the bill, the state's electric companies must gradually increase their use of renewable energy. The utilities, in general, must purchase or generate 3 percent of their energy (based on the prior year's total retail sales) from renewable resources by 2012. The public utilities – PEC, Duke Energy Carolinas, and Dominion North Carolina Power – must increase their use of renewable energy to 12.5 percent in 2021 according to the schedule below.

REPS Requirement

Calendar Year	% Requirement
2012	3% of 2011 NC retail sales
2015	6% of 2014 NC retail sales
2018	10% of 2017 NC retail sales
2021 and thereafter	12.5% of 2020 NC retail sales

The utilities are allowed to meet a portion of the renewable requirement through energy efficiency. Through 2020, up to 25% of the REPS requirement may be met with energy efficiency; after 2020, up to 40% of the REPS requirement may be met with energy efficiency. The standard may also be met through the purchase of renewable energy certificates (RECs).

A portion of the renewable standard must be met with solar power and with power generated by swine and poultry waste. The swine and poultry waste requirements are requirements for the state of NC, in aggregate.

Requirement for Solar Energy Resources

Calendar Year	% of NC Retail Sales
2010	0.02%
2012	0.07%
2015	0.14%
2018	0.20%

Requirement for Swine Waste Resources

Calendar Year	% of NC Retail Sales
2012	0.07%
2015	0.14%
2018	0.20%

Requirement for Poultry Waste Resources

Calendar Year	Energy Required
2012	170,000 MWh
2013	700,000 MWh
2014 and thereafter	900,000 MWh

Exactly how the requirements of the REPS will be achieved, and through which technologies, is not fully known at this time. In order to prepare for compliance with the new REPS

requirements, PEC issued a Request for Proposals for Renewable Power Supply Resources on November 2, 2007. PEC has kept this renewable RFP open for new bids since that time, while setting several bid deadlines in order to group bids for evaluation. As a result of this RFP, PEC has executed numerous contracts to ensure compliance with the requirements of NC Senate Bill 3. None of the bids received through the renewable RFP were determined to be cost effective as part of the normal resource planning analysis. The renewable bids received were then primarily evaluated on how each project fit within the near-term and long-term REPS compliance plan, which is contained herein as Appendix D. The IRP Tables 1 and 2 reflect both committed renewables and undesignated renewables given the exact makeup of the compliance is unknown at this time.

Demand Side Management and Energy Efficiency Program Plan

PEC is committed to making sure electricity remains available, reliable and affordable and that it is produced in an environmentally sound manner and, therefore, advocates a balanced solution to meeting future energy needs in the Carolinas. That balance includes a strong commitment to DSM and EE as well as investments in renewable and emerging energy technologies and state-of-the art power plants and delivery systems. In May 2007, PEC announced an aggressive goal of doubling the amount of peak load reduction capability available through DSM and EE programs, about 1,000 megawatts (MW).

To meet this goal PEC has been actively developing and implementing new DSM and EE programs throughout its North Carolina and South Carolina service areas to help customers reduce their electricity demands. PEC's DSM and EE plan will be flexible, and programs will be evaluated on an ongoing basis so that program refinements and budget adjustments can be made in a timely fashion to maximize benefits and cost effectiveness. Initiatives will be aimed at helping all customer classes and market segments use energy more wisely.

PEC will also be evaluating new technologies and new delivery options on an ongoing basis to ensure delivery of comprehensive programs in the most cost effective way. PEC will continue to seek Commission approval to implement DSM and EE programs that are cost effective and consistent with PEC's forecasted resource needs over the planning horizon. To accomplish this, PEC has recently completed a DSM and EE potential assessment study to identify the universe of programs and measures available to meet PEC's resource needs. In order to determine cost effectiveness, PEC primarily relies upon the Total Resource Cost Test to evaluate energy efficiency programs, and uses the Rate Impact Measure test to evaluate DSM programs. PEC has received approval from the North Carolina Utilities Commission and South Carolina Public Service Commission to implement seven DSM and EE programs and one Pilot program (for Solar Water Heating).

PEC has also implemented several new educational initiatives aimed at increasing consumer awareness around energy efficiency. These include a strategic consumer education campaign, "Save The Watts," which includes dynamic website media as well as broadcast media aimed at providing a wide array of efficiency tips to match varying lifestyles. Additionally, the web site provides direct links to PEC's energy efficiency programs at www.savethewatts.com. PEC also launched a new self audit tool in 2009, Custom Home Energy Report, which allows residential customers to conduct a self-audit by simply answering a series of questions about their home. Once the assessment is completed, the customer receives a custom four-page summary that

provides a billing history, tips towards saving energy that are specific to the customer, and a list of DSM & EE programs that the customer might take advantage to save energy.

All of these investments are essential to building customer awareness about energy efficiency and, ultimately, changing consumer energy behaviors and reducing energy resource needs by driving large-scale, long-term participation in efficiency programs. To support this effort, PEC's DSM and EE organization has focused on planning and implementing programs that work well with customer lifestyles, expectations and business needs. Significant and sustained customer participation is critical to achieving and surpassing the aggressive DSM goals shared by PEC and its customers.

Finally, PEC is setting a conservation example by converting its own buildings and plants, as well as distribution and transmission systems, to new technologies that increase operational efficiency. For further detail on PEC's DSM and EE programs see Appendix E.

Reserve Criteria

The reliability of energy service is a primary input in the development of the resource plan. Utilities require a margin of generating capacity reserve to be available to the system in order to provide reliable service. Periodic scheduled outages are required to perform maintenance, inspections of generating plant equipment, and to refuel nuclear plants. Unanticipated mechanical failures may occur at any given time, which may require shutdown of equipment to repair failed components. Adequate reserve capacity must be available to accommodate these unplanned outages and to compensate for higher than projected peak demand due to forecast uncertainty and weather extremes. In addition, some capacity must also be available as operating reserve to maintain the balance between supply and demand on a real-time basis.

The amount of generating reserve needed to maintain a reliable power supply is a function of the unique characteristics of a utility system including load shape, unit sizes, capacity mix, fuel supply, maintenance scheduling, unit availabilities, and the strength of the transmission interconnections with other utilities. There is no one standard measure of reliability that is appropriate for all systems since these characteristics are particular to each individual utility.

Methodology

PEC employs both deterministic and probabilistic reliability criteria in its resource planning process. The Company establishes a reserve criterion for planning purposes based on probabilistic assessments of generation reliability, industry practice, historical operating experience, and judgment.

PEC conducts multi-area probabilistic analyses to assess generation system reliability in order to capture the random nature of system behavior and to incorporate the capacity assistance available through interconnections with other utilities. Decision analysis techniques are also incorporated in the analysis to capture the uncertainty in system demand. Generation reliability depends on the strength of the interconnections, the generation reserves available from neighboring systems, and the diversity in loads throughout the interconnected area. Thus, the interconnected system analysis shows the overall level of generation reliability and reflects the expected risk of capacity deficient conditions for supplying load.

A Loss-of-Load Expectation (LOLE) of one day in 10 years continues to be a widely accepted criterion for establishing system reliability. PEC uses a target reliability of one day in ten years LOLE for generation reliability assessments. LOLE can be viewed as the expected number of days that load will exceed available capacity. Thus, LOLE indicates the number of days that a capacity deficient condition would occur, resulting in the inability to supply some portion of customer demand. Results of the probabilistic assessments are correlated to appropriate deterministic measures of reliability, such as capacity margin or reserve margin, for use as targets in developing the resource plan.

Adequacy of Projected Reserves

Reliability assessments have shown that reserves projected in PEC's resource plan are appropriate for providing an adequate and reliable power supply. The Company's resource plan reflects capacity margins in the range of approximately 11% to 21%, corresponding to reserve margins of approximately 13% to 26%. It should be noted that actual reserves as measured by megawatts of installed capacity continue to increase as the load and the size of the system increase.

The reliability of PEC's generating system has improved since the mid-nineties. The addition of smaller and highly reliable CT capacity increments to the Company's resource mix improve the reliability and flexibility of the PEC fleet in responding to increased load requirements. Since 1996, PEC has added approximately 3,500 MW of new combustion turbine and combined cycle capacity to system resources, either through new construction or purchased power contracts. Shorter construction lead times for building new combustion turbine and combined cycle power plants, as contrasted to baseload plants, allow greater flexibility to respond to changes in capacity needs and thus reduce exposure to load uncertainty. The Company's resource plan includes approximately 600 MW of additional CC capacity in 2011 at the Richmond County site. The Company announced on August 18, 2009 its plans to retire the coal-fired Units 1, 2, and 3 at its Lee Plant at the end of 2012. Those units will be replaced at that site with a 3 x 1 natural gas-fired combined cycle unit at its Wayne County facility. The units to be retired represent 397 MW of capacity and the CC will be approximately 950 MW of capacity for a net increase of approximately 550 MW. All of these factors help to ensure the Company's ability to provide an adequate and reliable power supply.

Resource Plan Evaluation and Development

The objective of the resource planning process is to create a robust plan. While the type of analysis illustrated in Figures 1-1 through 1-4 above provides a valuable tool for a comparative screening of technologies, i.e. a comparison of technologies of like operating characteristics, peaking vs. peaking, baseload vs. baseload, etc., it does not address the specific needs of any particular resource plan. Additionally, site-specific requirements, such as transmission, pipeline, and fuel availability, must be considered when conducting resource optimization analyses. A robust plan is one that provides the greatest potential benefits given the uncertainties, constraints, and volatility of key drivers that are currently affecting the plan or have a significant probability of influencing the plan in the future. In order to complete this objective, the resource planning process takes into consideration numerous factors, both current and future, related to issues such as fuel costs, renewables, environmental requirements and unknowns, demand-side management, energy efficiency, potential technology shifts, load and energy changes, and capital costs of new

central station facilities. The resource planning process incorporates the impact of all demand-side management programs on system peak load and total energy consumption, and optimizes supply-side options into an integrated plan that will provide reliable and cost-effective electric service to PEC's customers.

The viable resource alternatives resulting from the screening of technologies, previously discussed, are compared by creating alternative resource plans consisting of combinations of the alternatives that meet system reliability targets. The competing resource plans are compared on a total system revenue requirements basis, which includes the capital cost of unit additions, incremental O&M expense of any additions, and total system fuel costs, which includes the fuel cost of the new additions.

Once a least cost plan is identified, sensitivity analyses are conducted to determine how the plan performs under variations in the key assumptions such as changes in fuel price forecasts, or potential changes in environmental regulation, such as the implementation of a carbon tax or more restrictive air emission caps. These sensitivity analyses provide additional insight as to how robust a resource plan is as conditions change, knowing that they most certainly will change from the base assumptions used in the planning process. Sensitivity analyses may also suggest alternative resource plans that provide better economics under specific alternate assumptions. Knowing how alternative resource decisions fare under varying assumptions provides the basis for additional analysis looking at how a plan or plans may perform under various scenarios.

The results of the resource planning process demonstrate that a plan which includes additional DSM and EE, renewables, purchased power, combustion turbine generation, combined cycle generation, and nuclear generation, accomplishes the objective of a robust resource plan. Thus, it is the basis of the preferred resource plan shown in Tables 1 and 2 below.

Assessment of Purchased Power Alternatives

Because the goal of the IRP process is to meet customer needs for a reliable supply of electricity at the lowest reasonable cost, the plan that has been identified as the preferred plan then serves as a benchmark against which purchased power opportunities are measured. Before proceeding with a self-build option, it must be determined whether there are any purchased power alternatives available that would maintain the system reliability level in a more cost-effective manner.

PEC constantly studies, tracks and evaluates the costs of new generation and the market price for purchased power. For self build options PEC utilizes a competitive bidding process for equipment, engineering and construction services when seeking to build new generation. PEC requests proposals from a range of qualified and credit worthy contractors with proven experience in utility scale generation projects. For power purchases, depending on the circumstances PEC will then utilize a formal or informal RFP to evaluate the feasibility of purchasing equivalent generation resources from the wholesale market. PEC evaluates the cost, reliability, flexibility, environmental impacts, risk factors, and various operational considerations in determining the optimal resource addition for a given situation. As a general policy, PEC solicits the wholesale market before making resource decisions. PEC incorporates by reference its more detailed discussion of its purchased power methodology filed in Docket No. E-100, Sub 118 on August 31, 2009.

PEC utilized the purchase power assessment procedure described above in the development of its 2009 resource plan.

The 2009 resource plan includes the following capacity additions:

Name	Capacity (MW)	Type	In-Service date
Richmond County CC	635	CC	06/11
Undesignated	126	CT	12/12
Wayne County CC	950	CC	01/13
Undesignated	169	CT	06/2017
Undesignated	338	CT	06/2018
Undesignated	1105	Baseload	06/2019
Undesignated	1105	Baseload	06/2020
Undesignated	169	CT	06/2024

The consideration of purchase power options for the Richmond County CC was described in PEC's application for a CPCN. The Commission has already reviewed PEC's justification and granted a CPCN for the addition. With regards to the 126 MW of undesignated peaking capacity planned for 2012, this capacity is needed in PEC's Western Region. As explained in PEC's comments in Docket No. E-100, Sub 122, PEC has conducted both a formal RFP and a follow-up informal RFP seeking purchase power options in its Western Region. On August 18, 2009, PEC filed an application for a CPCN for the Wayne County CC pursuant to N.C. Gen. Stat. § 62-110.1(h). The statute allows a utility to construct and operate a natural gas fueled generating facility upon permanent closure of existing uncontrolled coal fired generation in order to meet the requirements of the Clean Smokestacks Act.

With regards to the undesignated capacity in 2017 and beyond, PEC will adhere to its purchase power assessment procedure outlined above. Because these potential additions are so far into the future, and therefore somewhat uncertain, PEC's assessment of purchase power options has not yet been conducted. However, this assessment will be conducted, and the results included in PEC's application for a CPCN, should the decision be made to proceed with these additions. Confidential Exhibit 1 to Appendix C summarizes the RFPs that PEC has conducted in the last two years.

Progress Energy - Carolinas

Table 1 2009 Annual IRP (Summer)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
GENERATION CHANGES															
Sited Additions		635		950											
Undesignated Additions (1)				126				169	338	1,105	1,105				169
Planned Project Uprates		18	57		10	14									
Pollution Control Derates			(5)												
Retirements - Lee 1, 2, 3				(397)											
INSTALLED GENERATION															
Nuclear	3,468	3,486	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	4,778	4,778	4,778	4,778	4,778	4,778	4,778	4,778	4,778	4,778	4,778	4,778
Combined Cycle	543	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	295	633	1,738	2,843	2,843	2,843	2,843	3,012
TOTAL INSTALLED *	**12,550**	**13,203**	**13,256**	**13,935**	**13,945**	**13,969**	**13,969**	**14,128**	**14,466**	**15,571**	**16,676**	**16,676**	**16,676**	**16,676**	**16,845**
PURCHASES & OTHER RESOURCES															
SEPA	95	95	95	109	109	109	109	109	109	109	109	109	109	109	95
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			220	220	220	220	220	220							
Anson CT Tolling Purchase				336	336	336	336	336	336	336	336	336	336	336	336
Broad River CT	829	829	829	829	829	829	829	829	829	829	829	339			
Southern CC Purchase - ST	150	150													
Southern CC Purchase - LT	150	150	150	150	150	150	150	150	150	150					
TOTAL SUPPLY RESOURCES	**13,799**	**14,452**	**14,678**	**15,613**	**15,629**	**15,621**	**15,622**	**15,791**	**15,912**	**17,017**	**17,972**	**17,482**	**17,144**	**17,144**	**17,299**
SYSTEM PEAK LOAD	12,731	12,913	13,099	14,122	14,361	14,624	14,854	15,091	15,316	15,557	15,808	16,061	16,317	16,576	16,840
Firm Sales	200	200	200	100	100	100	100	100	100	100	100	100	100	100	100
Energy Efficiency & Demand Response	502	636	797	882	963	1,043	1,126	1,210	1,290	1,365	1,427	1,474	1,519	1,561	1,600
System Firm Load after DSM	12,230	12,276	12,303	13,239	13,397	13,581	13,729	13,881	14,026	14,192	14,381	14,586	14,798	15,015	15,240
RESERVES (2)	1,569	2,175	2,275	2,374	2,231	2,040	1,893	1,909	1,886	2,826	3,591	2,896	2,346	2,129	2,059
Capacity Margin (3)	11%	15%	16%	15%	14%	13%	12%	12%	12%	17%	20%	17%	14%	12%	12%
Reserve Margin (4)	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**	**70,397**	**71,581**	**72,703**	**73,850**	**74,916**	**75,961**	**77,108**	**78,293**	**79,586**	**80,866**	**82,140**

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, uprates, 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.

Progress Energy - Carolinas

Table 2 2009 Annual IRP (Winter)

	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
GENERATION CHANGES															
Sited Additions			694	950											
Undesignated Additions (1)				147					201	402	1,125	1,125			
Planned Project Uprates		4	35	32	10		18								
Pollution Control Derates	(22)			(5)											
Retirements - Lee 1, 2, 3				(417)											
INSTALLED GENERATION															
Nuclear	3,622	3,626	3,661	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	626	626	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	3,647	3,647	3,647	3,647	3,647	3,647	3,647	3,647	3,647	3,647	3,647	3,647	3,647	3,647	3,647
Hydro	229	229	229	229	229	229	229	229	229	229	229	229	229	229	229
Undesignated (1)				147	147	147	147	147	348	750	1,875	3,000	3,000	3,000	3,000
TOTAL INSTALLED *	**13,398**	**13,402**	**14,131**	**14,839**	**14,849**	**14,849**	**14,867**	**14,867**	**16,068**	**15,470**	**16,595**	**17,720**	**17,720**	**17,720**	**17,720**
PURCHASES & OTHER RESOURCES															
SEPA	95	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				260	260	260	260	260							
Anson CT Tolling Purchase				365	365	365	365	365	365	365	365	365	365	365	365
Broad River CT	822	822	822	822	822	822	822	822	822	822	822	822	329		
Southern CC Purchase - ST	150	150													
Southern CC Purchase - LT	150	150	150	150	150	150	150	150	150	150					
Undesignated Purchase															
TOTAL SUPPLY RESOURCES	**14,640**	**14,644**	**15,226**	**16,579**	**16,594**	**16,573**	**16,591**	**16,592**	**16,536**	**16,938**	**17,913**	**19,039**	**18,646**	**18,217**	**18,217**
SYSTEM PEAK LOAD	11,420	11,573	11,734	12,776	12,985	13,213	13,407	13,608	13,798	14,003	14,218	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	12,090	12,264	12,458	12,620	12,786	12,943	13,112	13,293	13,481	13,671	13,866	14,069
RESERVES (2)	3,630	3,553	4,064	4,489	4,331	4,116	3,971	3,805	3,593	3,826	4,621	5,558	4,974	4,351	4,149
Capacity Margin (3)	25%	24%	27%	27%	26%	25%	24%	23%	22%	23%	26%	29%	26%	24%	23%
Reserve Margin (4)	33%	32%	36%	37%	35%	33%	31%	30%	28%	29%	35%	41%	36%	31%	29%

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, uprates, 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.

IRP Tables and Plan Discussion

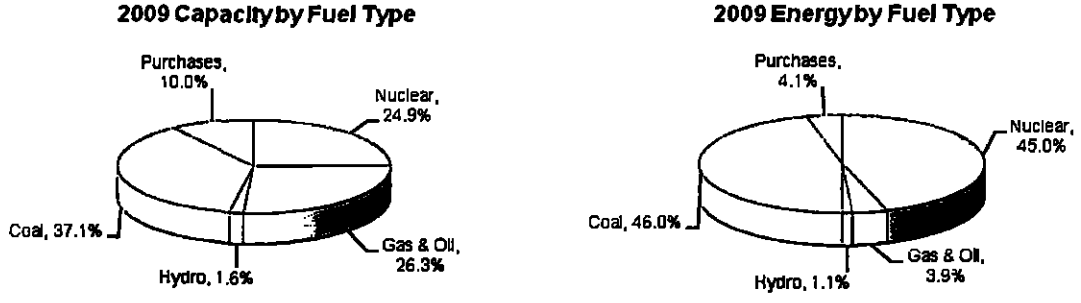
PEC's 2009 Annual IRP as presented in Tables 1 and 2 includes additional DSM and EE as well as significant additional renewables (see renewables and DSM appendices for further detail). PEC is actively pursuing expansion of its demand-side management and renewables programs as one of the most effective ways to offset the need for new power plants and protect the environment. In the coming years, PEC will continue to invest in renewables, DSM, EE and state-of-the art power plants and will evaluate the best available options for building new baseload, including advanced design nuclear and clean coal technologies. If PEC proceeds with a new nuclear plant, it would not be online until 2019 or later. At this time, though, no definitive decision has been made to construct new baseload plants.

In the near term, the current resource plan utilizes gas-fired generators for intermediate needs and peaking needs when possible, and oil-fired units for peaking needs when necessary. Gas-fired units are the most environmentally benign, economical, large-scale capacity additions available for meeting peaking and intermediate loads. New designs of these technologies are more efficient (as measured by heat rate) than previous designs, resulting in a smaller impact on the environment. PEC is also seeking license renewal options for our existing hydro and nuclear plants. A combustion turbine at PEC's Wayne County Facility was placed in service as of June 1, 2009. Construction is underway on a new combined cycle unit at PEC's Richmond County Facility with an in-service date of June 1, 2011 (see Short Term Action Plan in Appendix H). In addition, an application for a Certificate of Public Convenience and Necessity was filed on August 18, 2009 for a combined cycle unit at the Wayne County facility with an in-service date of January 1, 2013.

Capacity and Energy

Figure 4 below shows PEC's capacity (MW) and energy (MWh) by fuel type projected for 2009. Nuclear and coal generation currently make-up approximately 62% of total capacity resources, yet account for about 91% of total energy requirements. Gas and oil generation accounts for about 26% of total supply capacity, yet about 4% of total energy; the balance is from hydro and purchased power.

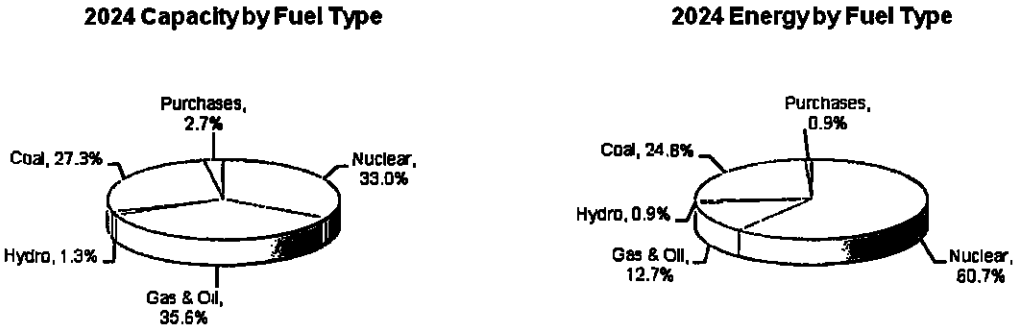
Figure 4



The Company's resource plan includes additions fueled by natural gas and oil, as well as possible new baseload generation. The Company's capacity and energy by fuel type projected for 2024 are shown in Figure 5. Gas and oil resources are projected to increase to about 36% of total

supply capacity, while serving about 13% of the total energy requirements. In 2024, nuclear and coal are projected to account for approximately 60% of total capacity resources and serve about 86% of total system energy requirements. These figures demonstrate that nuclear and coal resources will continue to account for the largest share of system capacity (MW) and satisfy most of the system energy (MWh) requirements through the planning horizon.

Figure 5



Based on PEC's forecasted load and resources in the current resource plan, LOLE is expected to be within the reliability target of one day in ten years. The resources in the current plan, including reserves, are expected to continue to provide a reliable power supply.

Load Duration Curves

Figures 6 through 9 below are load duration curves for 2009 and 2024. The load duration curves detail the need relative to hours of the year, which is shown as a percentage. Figure 6 shows a curve without the existing DSM but it does not show existing EE as it is embedded in the forecast at this point. Both figures have insets (Figures 8 & 9) that show the reduction of peak load due to DSM which reduces the need for additional peaking generation. By comparing the 2009 and 2024 curves it is also possible to see the growth that is expected.

Figure 6

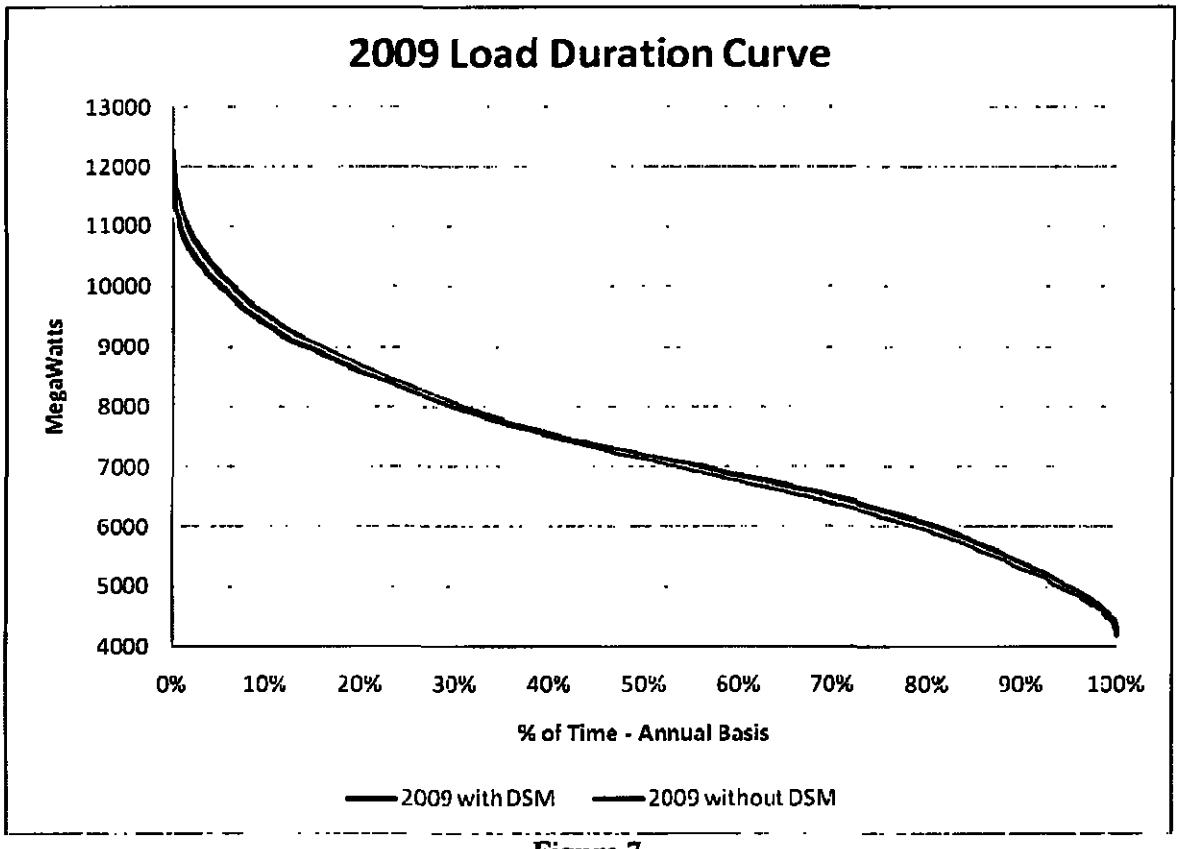


Figure 7

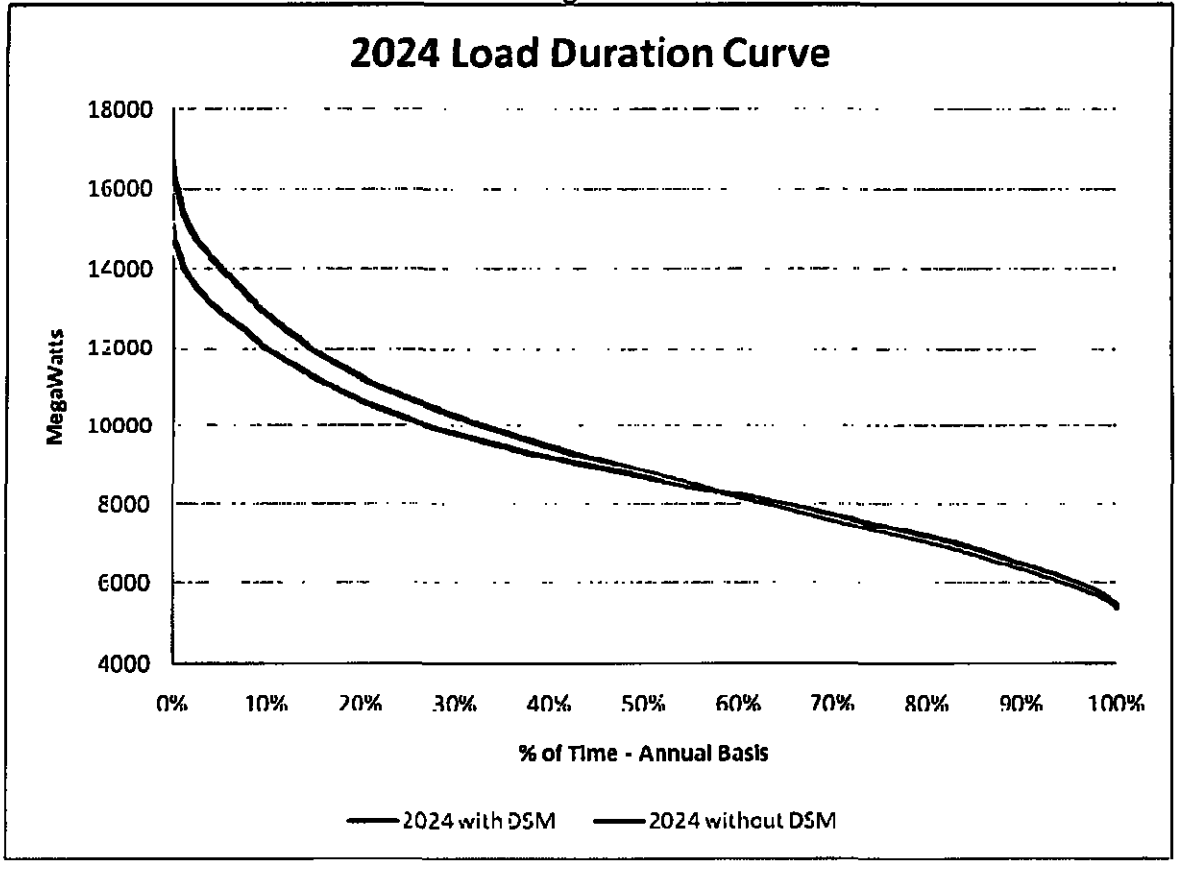


Figure 8

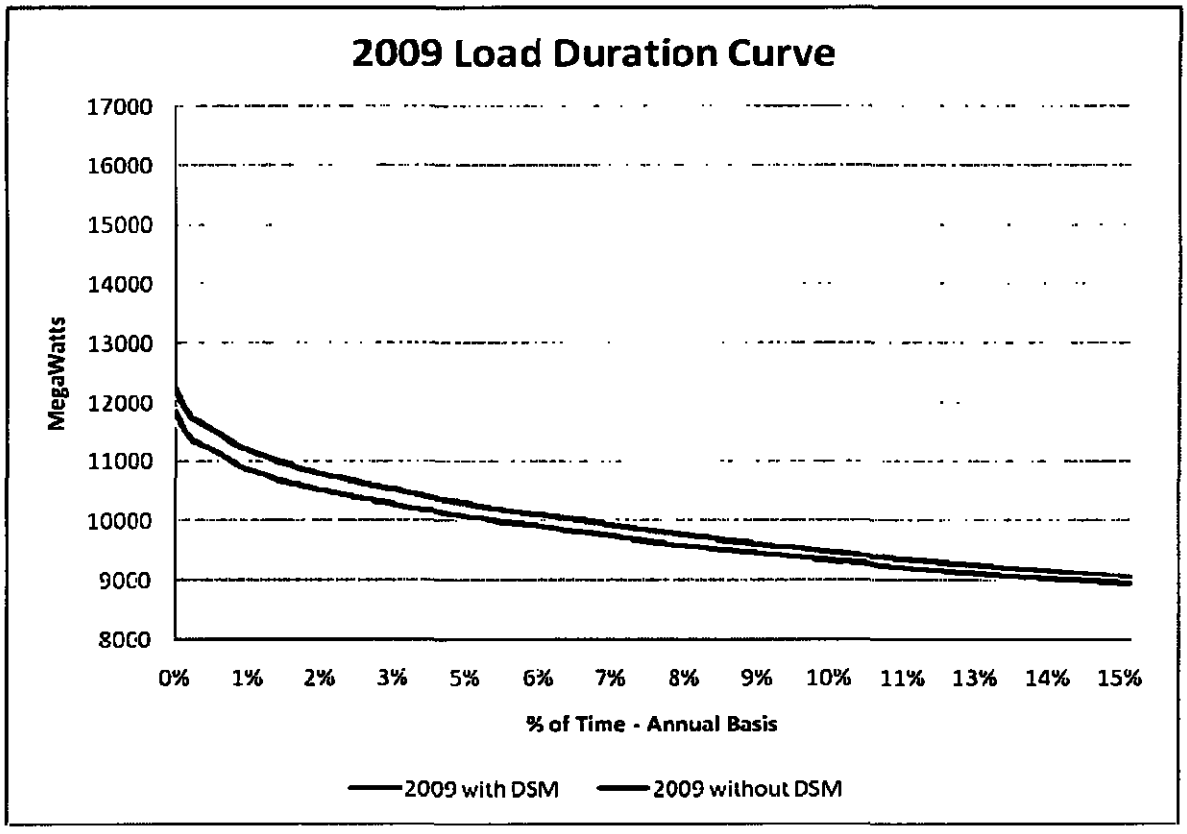
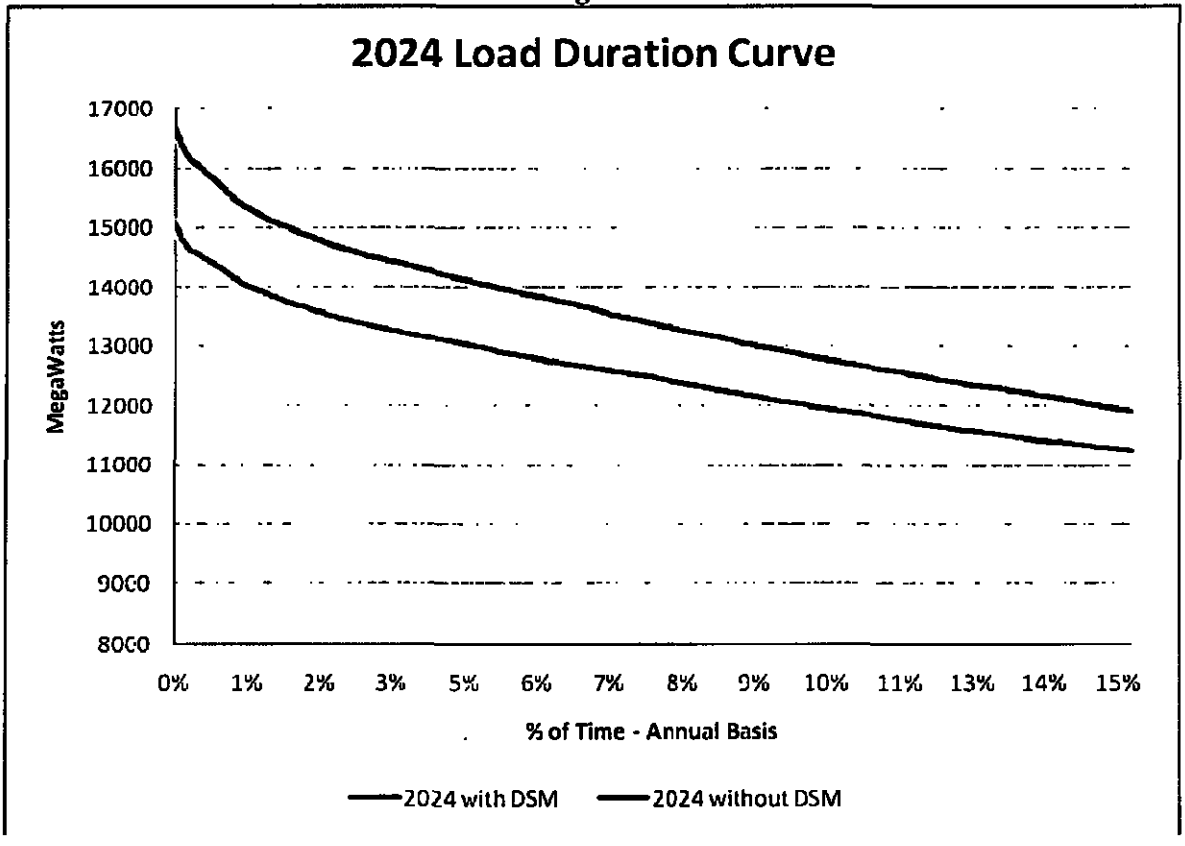


Figure 9



Summary

PEC is an advocate of the balanced approach for satisfying future power supply needs, which includes a strong commitment to DSM and EE, investments in renewables and emerging technologies, and state-of-the art power plants and delivery systems. This approach ensures electricity remains available, reliable, and affordable and is produced in an environmentally sound manner. PEC's balanced approach is also essential in order to mitigate rate impacts resulting from volatility in individual fuel and CO_2 prices. The plan presented and developed through the resource planning process and presented in this IRP document is not only balanced but robust. It provides the greatest potential benefits given the uncertainties, constraints, and volatility of key drivers that are currently affecting the plan or have a significant ability to influence the plan in the future.

PEC's balanced plan is shown to be one that includes DSM and EE, renewables, purchased power, combustion turbine generation, combined cycle generation, and nuclear generation. Though uncertainties will continue to change and evolve, this process and its results provide the necessary guidance to proceed. This is why PEC evaluates and explores the potential impacts of global climate policies, environmental regulation, technology shifts, and more in its process and PEC continues to invest in and explore emerging technologies, renewables, DSM and EE, and state-of-the art generating plants. Only through this integrated effort will PEC be able to provide electricity in a reliable, affordable, and environmentally sound manner.

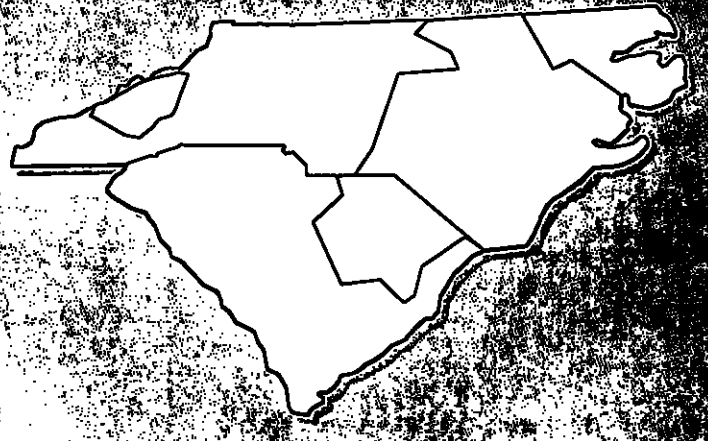
This Appendix A is intentionally left blank and reserved for future use.

Please refer to main body of the IRP for discussion of Resource Plan Evaluation and Development.

Progress Energy

Progress Energy Carolinas Integrated Resource Plan

Appendix B
PEC Owned Generation



September 1, 2009

PEC has a diverse fleet of generating facilities to meet customer demands and maintain reliability. Below are tables detailing PEC's existing, planned, and planned undesignated generation capacity as well as units to be retired and planned uprates.

Existing Generating Units and Ratings *(1)*

All Generating Unit Ratings are as of December 31, 2008

Coal

	Unit	Winter (MW)	Summer (MW)	Location	Fuel Type	Resource Type
Asheville	1	196	191	Arden, NC	Coal	Base
Asheville	2	187	185	Arden, NC	Coal	Base
Cape Fear	5	148	144	Moncure, NC	Coal	Intermediate
Cape Fear	6	175	172	Moncure, NC	Coal	Intermediate
Lee	1	80	74	Goldsboro, NC	Coal	Intermediate
Lee	2	80	77	Goldsboro, NC	Coal	Intermediate
Lee	3	257	246	Goldsboro, NC	Coal	Intermediate
Mayo *(2)*	1	748	742	Roxboro, NC	Coal	Base
Robinson	1	179	174	Hartsville, SC	Coal	Base
Roxboro	1	367	369	Semora, NC	Coal	Base
Roxboro	2	671	662	Semora, NC	Coal	Base
Roxboro	3	704	695	Semora, NC	Coal	Base
Roxboro *(2)*	4	711	698	Semora, NC	Coal	Base
Sutton	1	98	93	Wilmington, NC	Coal	Intermediate
Sutton	2	107	104	Wilmington, NC	Coal	Intermediate
Sutton	3	411	403	Wilmington, NC	Coal	Intermediate
Weatherspoon	1	49	48	Lumberton, NC	Coal	Intermediate
Weatherspoon	2	49	49	Lumberton, NC	Coal	Intermediate
Weatherspoon	3	79	75	Lumberton, NC	Coal	Intermediate
Total Coal		5,296	5,201			

Combustion Turbines

	Unit	Winter (MW)	Summer (MW)	Location	Fuel Type	Resource Type
Asheville	3	182	160	Arden, NC	Natural Gas/Oil	Peaking
Asheville	4	185	167	Arden, NC	Natural Gas/Oil	Peaking
Blewett	1	17	13	Lilesville, NC	Oil	Peaking
Blewett	2	17	13	Lilesville, NC	Oil	Peaking
Blewett	3	17	13	Lilesville, NC	Oil	Peaking
Blewett	4	17	13	Lilesville, NC	Oil	Peaking
Darlington	1	65	52	Hartsville, SC	Natural Gas/Oil	Peaking

Darlington	2	61	52	Hartsville, SC	Oil	Peaking
Darlington	3	67	52	Hartsville, SC	Natural Gas/Oil	Peaking
Darlington	4	66	51	Hartsville, SC	Oil	Peaking
Darlington	5	66	52	Hartsville, SC	Natural Gas/Oil	Peaking
Darlington	6	65	51	Hartsville, SC	Oil	Peaking
Darlington	7	67	52	Hartsville, SC	Natural Gas/Oil	Peaking
Darlington	8	66	49	Hartsville, SC	Oil	Peaking
Darlington	9	66	52	Hartsville, SC	Oil	Peaking
Darlington	10	67	52	Hartsville, SC	Oil	Peaking
Darlington	11	67	52	Hartsville, SC	Oil	Peaking
Darlington	12	128	118	Hartsville, SC	Natural Gas/Oil	Peaking
Darlington	13	128	116	Hartsville, SC	Natural Gas/Oil	Peaking
Lee	1	15	12	Goldsboro, NC	Oil	Peaking
Lee	2	27	21	Goldsboro, NC	Oil	Peaking
Lee	3	27	21	Goldsboro, NC	Oil	Peaking
Lee	4	27	21	Goldsboro, NC	Oil	Peaking
Morehead	1	15	12	Morehead City, NC	Oil	Peaking
Richmond	1	178	162	Hamlet, NC	Natural Gas/Oil	Peaking
Richmond	2	180	161	Hamlet, NC	Natural Gas/Oil	Peaking
Richmond	3	185	163	Hamlet, NC	Natural Gas/Oil	Peaking
Richmond	4	182	163	Hamlet, NC	Natural Gas/Oil	Peaking
Richmond	6	187	159	Hamlet, NC	Natural Gas/Oil	Peaking
Robinson	1	15	15	Hartsville, SC	Natural Gas/Oil	Peaking
Sutton	1	14	11	Wilmington, NC	Oil/Natural Gas	Peaking
Sutton	2A	27	24	Wilmington, NC	Oil/Natural Gas	Peaking
Sutton	2B	27	24	Wilmington, NC	Oil/Natural Gas	Peaking
Wayne	1	192	177	Goldsboro, NC	Oil/Natural Gas	Peaking
Wayne	2	192	174	Goldsboro, NC	Oil/Natural Gas	Peaking
Wayne	3	193	173	Goldsboro, NC	Oil/Natural Gas	Peaking
Wayne	4	191	170	Goldsboro, NC	Oil/Natural Gas	Peaking
Wayne (3)	5	195	157	Goldsboro, NC	Oil/Natural Gas	Peaking
Weatherspoon	1	41	33	Lumberton, NC	Natural Gas/Oil	Peaking
Weatherspoon	2	41	32	Lumberton, NC	Natural Gas/Oil	Peaking
Weatherspoon	3	41	34	Lumberton, NC	Natural Gas/Oil	Peaking
Weatherspoon	4	41	33	Lumberton, NC	Natural Gas/Oil	Peaking
Total CT		3,647	3,132			

Combined Cycle

	Unit	Winter (MW)	Summer (MW)	Location	Fuel Type	Resource Type
Cape Fear	1	14	11	Moncure, NC	Oil	Peaking
Cape Fear	1A	14	11	Moncure, NC	Oil	Peaking
Cape Fear	1B	14	10	Moncure, NC	Oil	Peaking
Cape Fear	2	14	11	Moncure, NC	Oil	Peaking
Cape Fear	2A	15	11	Moncure, NC	Oil	Peaking
Cape Fear	2B	14	10	Moncure, NC	Oil	Peaking
Richmond	CT7	181	154	Hamlet, NC	Natural Gas/Oil	Intermediate
Richmond	CT8	181	154	Hamlet, NC	Natural Gas/Oil	Intermediate
Richmond	ST4	179	171	Hamlet, NC	Natural Gas/Oil	Intermediate
Total CC		626	543			

Hydro

	Unit	Winter (MW)	Summer (MW)	Location	Fuel Type	Resource Type
Blewett	1	4	3	Lilesville, NC	Water	Peaking
Blewett	2	4	3	Lilesville, NC	Water	Peaking
Blewett	3	4	4	Lilesville, NC	Water	Peaking
Blewett	4	5	4	Lilesville, NC	Water	Peaking
Blewett	5	5	4	Lilesville, NC	Water	Peaking
Blewett	6	5	4	Lilesville, NC	Water	Peaking
Marshall	1	2	2	Marshall, NC	Water	Intermediate
Marshall	2	3	3	Marshall, NC	Water	Intermediate
Tillery	1	21	21	Mt. Gilead, NC	Water	Peaking
Tillery	2	18	19	Mt. Gilead, NC	Water	Peaking
Tillery	3	21	22	Mt. Gilead, NC	Water	Peaking
Tillery	4	25	27	Mt. Gilead, NC	Water	Peaking
Walters	1	36	36	Waterville, NC	Water	Intermediate
Walters	2	40	40	Waterville, NC	Water	Intermediate
Walters	3	36	36	Waterville, NC	Water	Intermediate
Total Hydro		229	228			

Nuclear

	Unit	Winter (MW)	Summer (MW)	Location	Fuel Type	Resource Type
Brunswick *(2)*	1	975	938	Southport, NC	Uranium	Base
Brunswick *(2)*	2	953	920	Southport, NC	Uranium	Base
Harris *(2)*	1	936	900	New Hill, NC	Uranium	Base
Robinson	2	758	710	Hartsville, SC	Uranium	Base
Total Nuclear		3,622	3,468			
TOTAL PEC SYSTEM		13,420	12,572			

FOOTNOTES:

(1) Ratings reflect compliance with new NERC reliability standards and are gross of co-ownership interest as of 12/31/08.

(2) Jointly-owned by NCEMPA: Roxboro 4 - 12.94%; Mayo 1 - 16.17%; Brunswick 1 - 18.33%; Brunswick 2 - 18.33%; and Harris 1 - 16.17%.

(3) Combustion Turbine placed in-service as of June 1, 2009 – ratings are estimated.

Planned Designated Generation

Plant Name	Location	Summer Capacity (MW)	Plant Type	Fuel Type	Expected In-Service Date
Richmond County (1)	Hamlet, NC	635	CC	Nat gas/oil	06/11
Wayne County (2)	Goldsboro, NC	950	CC	Nat gas/oil	01/13

Notes:

(1) Richmond County CC is under construction pursuant to a CPCN granted by the NCUC in Docket No. E-2, Sub 916.

(2) PEC has applied for a CPCN in Docket No. E-2, Sub 960 for the Wayne County CC.

Planned Undesignated Generation

Plant Name	Summer Capacity (MW)	Plant Type	Fuel Type	Expected In-Service Date
Undesignated	126	Peaking	Oil/Nat gas	12/12
Undesignated	169	Peaking	Oil/Nat gas	06/17
Undesignated	169	Peaking	Oil/Nat gas	06/18
Undesignated	169	Peaking	Oil/Nat gas	06/18
Undesignated	169	Peaking	Oil/Nat gas	06/24
Undesignated	1,105	Base	Uranium	06/19
Undesignated	1,105	Base	Uranium	06/20

Notes:

PEC previously announced that it is pursuing development of combined license (COL) applications to potentially construct new nuclear units in North Carolina. Filing of a COL application is not a commitment to build a nuclear plant but is a necessary step to keep open the option of building a plant or plants. The NRC estimates that it will take approximately three to four years to review and process the COL applications.

On January 23, 2006, PEC announced that it had selected a site at Harris to evaluate for possible future nuclear expansion. PEC selected the Westinghouse Electric AP1000 reactor design as the technology upon which to base its application submission. On February 19, 2008, PEC filed its COL application with the NRC for two additional reactors at Harris. On April 17, 2008, the NRC docketed, or accepted for review, the Harris application. Docketing the application does not preclude additional requests for information as the review proceeds; nor does it indicate whether the NRC will issue the license. On June 4, 2008, the NRC published the Petition for Leave to Intervene. Petitions to intervene may be filed within 60 days of the notice by anyone whose interest may be affected by the proposed license and who wishes to participate as a party in the proceeding. One petition to intervene was filed with the NRC within the 60-day notice period.

Units to Be Retired

Unit & Plant Name	Location	Capacity (MW)	Plant Type	Expected Retirement Date
Lee Coal 1	Goldsboro, NC	80 MW winter / 74 MW summer	Coal	01/01/13
Lee Coal 2	Goldsboro, NC	80 MW winter / 77 MW summer	Coal	01/01/13
Lee Coal 3	Goldsboro, NC	257 MW winter / 246 MW summer	Coal	01/01/13

Planned Uprates

Unit	Date	Winter MW	Summer MW
Brunswick 2	2011	10	10
Robinson 2	2011	20	20
Robinson 2	2011	5	5
Harris 1	2010	4	8
Harris 1	2012	6	16
Harris 1	2012	16	16
Harris 1	2013	10	10
Harris 1	2015	18	14

Operating License Renewal

The plan also includes renewal of operating licenses for two of the Company's hydroelectric plants as well as its four existing nuclear units, as shown below.

Unit & Plant Name	Location	Original Operating License Expiration	Date of Approval	Extended Operating License Expiration
Blewett #1-6 (1)	Lilesville, NC	04/30/08	*Pending*	2058
Tillery #1-4 (1)	Mr. Gilead, NC	04/30/08	*Pending*	2058
Robinson #2	Hartsville, SC	07/31/10	04/19/04	07/31/30
Brunswick #2	Southport , NC	12/27/14	06/26/06	12/27/34
Brunswick #1	Southport, NC	09/08/16	06/26/06	09/08/36
Harris #1	New Hill, NC	10/24/26	12/12/08	10/24/46

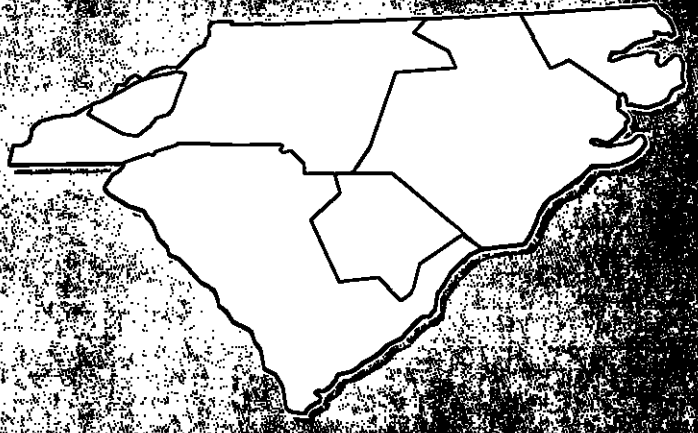
Notes:

(1) The license renewal applications for the Blewett and Tillery Plants were filed with the FERC on 04/26/06; approval is expected in 2009. Pending receipt of a new license, these plants are currently operating under a one-year license extension. Although Progress Energy has requested a 50-year license, FERC may not grant this term.

Progress Energy

Progress Energy Carolinas Integrated Resource Plan

Appendix C
Wholesale, Customer Owned Generation, and RFP's



September 1, 2009

This appendix contains firm wholesale purchased power contracts, wholesale sales, customer owned generation capacity, and requests for proposals.

Firm Wholesale Purchased Power Contracts

Purchased Power Contract	Primary Fuel Type	Summer Capacity (MW)	Capacity Designation	Location	Term	Volume of Purchases (MWh) Jul 08-Jun 09
AEP Rockport	Fossil	250	Base	Spencer County, IN	12/31/2009	2,108,489
Broad River CTs # 1-3	Gas	490	Peaking	Gaffney, SC	5/31/2021	293,416
Broad River CTs # 4-5	Gas	339	Peaking	Gaffney, SC	2/28/2022	185,997
Charleston Resources	Waste	8.7	Base	Charleston, SC	10/31/2009	50,349
Primary Energy-Roxboro	*Fossil/TDF*	*56*	*Intermediate*	Roxboro, NC	12/31/2009	93,653
Primary Energy-Southport	Fossil/TDF	103	Intermediate	Southport, NC	12/31/2009	197,804
New Hanover WASTEC	Waste	7.5	Base	Wilmington, NC	11/16/2009	22,972
Southern Company	Gas	150	Intermediate	Rowan County, NC	1/1/2010-12/31/2010	0
Southern Company	Gas	150	Intermediate	Wansley, GA	1/1/2011-12/31/2011	0
Southern Company	Gas	150	Intermediate	Rowan County, NC	1/1/2010-12/31/2019	0
Stone Container	Fossil/waste wood	20	Base	Florence, SC	12/31/2009	75,402

Note: The capacities shown are delivered to the PEC system and may differ from the contracted amount. Renewables purchases are listed in Appendix D.

In addition to the purchases shown above, PEC receives approximately 95 MW from SEPA for their customers located in PEC's control area. The SEPA energy for 2008 was 103,371MWH.

Wholesale Sales

Customer Name	Current Active Contracts:	Firm or Interruptible	Estimated Peak Demand MW	Contract Commencement date	Contract Termination Date
Town of Black Creek, NC	Full Requirements Power Supply	Native Load Firm	3.2	2/1/2008	12/31/2017
	Full Requirements Power Supply	Native Load Firm	50	1/1/2009	12/31/2013
Fayetteville Public Works Commission	Partial Requirements Power Supply	Native Load Firm	301	7/1/2003	6/31/2012
Fayetteville Public Works Commission	Full Requirements Power Supply	Native Load Firm	531	7/1/2012	6/30/2032
French Broad EMC	Full Requirements Power Supply	Native Load Firm	90	1/1/2004	12/31/2012
Haywood EMC	Partial Requirements Power Supply	Native Load Firm	26	1/1/2009	12/31/2021
Town of Lucama, NC	Full Requirements Power Supply	Native Load Firm	5.3	2/1/2008	12/31/2017
North Carolina Electric Membership Corporation	NCEMC SOR D	Native Load Firm	420	1/1/2005	12/31/2019
	NCEMC SOR A	Native Load Firm	225	1/1/2005	12/31/2015
	NCEMC SOR A Ext.	Native Load Firm	225	1/1/2016	12/31/2022
	NCEMC SOR E	Native Load Firm	225	1/1/2005	12/31/2012
	NCEMC SOR E Ext.	Native Load Firm	275 (2013), 325 (2014-2020), 150 (2021)	1/1/2013	12/31/2021
	NCEMC Intermediate	Native Load Firm	100	4/1/2007	12/31/2011
	NCEMC 7x24 75 MW	Native Load Firm	75	6/1/2009	5/31/2010
	NCEMC PPA	Subordinate to Native Load Firm	200 (2008-2011); 300 (2012); 150 (2013-2024)	1/1/2005	12/31/2024
	NCEMC PSCA	Native Load Firm	900	1/1/2013	12/31/2032
	NCEMC Load Following	Subordinate to Native Load Firm	50	1/1/2010	12/31/2011
North Carolina Eastern Municipal Power Agency	Partial Requirements Power Supply	Native Load Firm	763	1/1/2004	12/31/2009
	Partial Requirements Power Supply	Native Load Firm	763	1/1/2010	12/31/2017
Piedmont EMC	Partial Requirements Power Supply	Native Load Firm	9	9/1/2006	12/31/2021
City of Seneca, SC (1)	Full Requirements Power Supply	Native Load Firm	30	5/16/2002	12/31/2009
Town of Sharpsburg, NC	Full Requirements Power Supply	Native Load Firm	5.6	2/1/2008	12/31/2017
Town of Stantonsburg, NC	Full Requirements Power Supply	Native Load Firm	5.9	2/1/2008	12/31/2017
Town of Waynesville, NC	Full Requirements Power Supply	Native Load Firm	17	1/1/2003	12/31/2009
	Full Requirements Power Supply Extension	Native Load Firm	17	1/1/2010	12/31/2015
Town of Winterville, NC	Full Requirements Power Supply	Native Load Firm	12	3/1/2008	12/31/2017

Note: Contracts, unless information indicates otherwise, are assumed to extend in the forecast.
(1) Contract expiration is assumed in the forecast as of 12/31/09.

Customer-Owned Generation Capacity – Accounts Served Under Standby, Curtailable or Net Metering

Facility Name	Location	Primary Fuel Type	Capacity	Designation	Inclusion in PEC Resources
Customer 1	Western NC	Hydro	2,500 kW	Baseload	(1)
Customer 2	Eastern NC	Diesel Fuel	2,250 kW	Baseload	(1)
Customer 3	Eastern NC	Diesel Fuel	1,800 kW	Baseload	(2)
Customer 4	Western NC	Process By-product & Coal	51,000 kW	Baseload	(1)
Customer 5	Eastern NC	Process By -products	27,000 kW	Baseload	(1)
Customer 6	Eastern NC	Process By-product	60,000 kW	Baseload	(1)
Customer 7	Eastern NC	Natural Gas	46,000 kW	Baseload	(1)
Customer 8	Eastern NC	Process By-product	42,000 kW	Baseload	(1)
Customer 9	Eastern NC	Diesel Fuel	6,000 kW	Peaking	(2)
Customer 10	Eastern NC	Diesel Fuel	2,472 kW	Peaking	(2)
Customer 11	Eastern NC	Diesel Fuel	3,000 kW	Peaking	(2)
Customer 12	Eastern NC	Diesel Fuel	2,800 kW	Peaking	(2)
Customer 13	Eastern NC	Diesel Fuel	300 kW	Peaking	(2)
Customer 14	Eastern NC	Diesel Fuel	350 kW	Peaking	(2)
Customer 15	Eastern NC	Solar PV	2 kW	Intermediate	(3)
Customer 16	Eastern NC	Solar PV	7 kW	Intermediate	(3)
Customer 17	Western NC	Solar PV	3 kW	Intermediate	(3)
Customer 18	Eastern NC	Solar PV	2 kW	Intermediate	(3)
Customer 19	Western NC	Solar PV	2 kW	Intermediate	(3)
Customer 20	South Carolina	Process By-product & Coal	73,000 kW	Peaking	(2)
Customer 21	South Carolina	Fossil Coal	28,000 kW	Baseload	(1)
Customer 22	South Carolina	Process By-product	27,000 kW	Baseload	(1)
Customer 23	South Carolina	Diesel Fuel	1,500 kW	Peaking	(2)
Customer 24	South Carolina	Diesel Fuel	1,500 kW	Peaking	(2)
Customer 25	South Carolina	PV Solar	8 kW	Intermediate	(3)
Customer 26	South Carolina	PV Solar	3 kW	Intermediate	(3)
System Total			378,499 kW		

(1) Standby Service customer; therefore, load forecast is reduced for generation output.
(2) Included as a curtailable resource.
(3) Net Metering customer; therefore, load forecast is reduced for generation output.

Requests for Proposals

This information is confidential and is provided separately and identified as Exhibit 1 to this Appendix C.

Progress Energy Carolinas Integrated Resource Plan

Appendix D

Alternative Supply Resources NC REPS Compliance Plan

Progress Energy

September 1, 2009

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Rule R8-67

Progress Energy Carolinas, Inc.'s (PEC's) overall compliance plan is to meet the requirements of G.S. § 62-133.8 with the most cost effective reliable renewable resources available. While Senate Bill 3 is not entirely clear, it is PEC's belief that each electric supplier's obligation to purchase MWhs produced by swine or poultry resources should not be greater than its pro rata share of the applicable statewide set aside.

A specific description of planned actions to comply with G.S. 62-133.8 (b), (c), (d), (e) and (f) for each year is as follows:

G.S. § 62-133.8(b): MEETING THE RENEWABLE ENERGY AND ENERGY EFFICIENCY PORTFOLIO STANDARDS FOR ELECTRIC PUBLIC UTILITIES

In an effort to promote the development of renewable energy and energy efficiency through the implementation of a Renewable Energy and Energy Efficiency Portfolio Standard (REPS), PEC is constantly evaluating options to meet the overall requirements. Under G.S. § 62-133.8 (b), opportunities to meet the REPS requirements can be categorized by PEC ownership of or purchases from renewable generation, use of renewable energy resources at generating facilities, purchases of renewable energy certificates (RECs), and implementation of energy efficiency measures.

In the case of utility ownership, PEC does not currently own or operate new renewable generating facilities. Future direct or partial ownership will be based on cost-effectiveness and portfolio requirements.

PEC engages in ongoing research regarding the use of alternative fuels meeting the definition of renewable energy resources at its existing generation facilities. However, introducing alternative fuels in traditional power plants must be proven technically feasible, reliable, and cost effective prior to implementation. PEC has undertaken several engineering studies regarding the use of biomass in its coal fleet and has announced its intent to test the use of torrefied wood at the Cape Fear plant. To the extent PEC determines the use of alternative fuels is appropriate and fits within the framework of Senate Bill 3, these measures would be included in future compliance plan filings.

Regarding the purchase of energy or RECs from renewable facilities, PEC has adopted a competitive bidding process whereby market participants have an opportunity to propose projects on a continuous basis. PEC has created phases of bid requests and evaluations, described as planning periods. The first planning period and associated RFP was released in November 2007 and closed June 2008. The second planning period and bid deadline was November 2008. Through this renewable RFP, PEC has executed a significant number of contracts for solar, hydro, biomass, landfill gas, and wind RECs which are shown on Exhibit 1.

PEC has purchased out-of-state wind RECs, as allowed by Senate Bill 3. These RECs will allow PEC to balance its compliance each year, help mitigate vendor performance risk, and are the most cost effective RECs available.

Lastly, PEC intends to comply with a portion of the Senate Bill 3 requirements by implementing energy efficiency measures. In the year since the previous IRP filing, PEC has received approval

for a number of programs and has begun implementation. A discussion of existing and proposed programs is included in the demand-side management (DSM) and energy efficiency (EE) section and Appendix E of the IRP. The projected MWhs reduced by the incremental energy efficiency programs have been included in the compliance plan tables included as Exhibit 2. PEC's overall compliance plan table (Exhibit 7) depicts energy efficiency MWhs only up to the 25% and 40% caps in any given year. However, energy efficiency MWhs that exceed the specified cap in any given year would be banked and credited in the following year.

G.S. § 62-133.8(c): RENEWABLE ENERGY AND ENERGY EFFICIENCY STANDARDS FOR ELECTRIC MEMBERSHIP CORPORATIONS AND MUNICIPALITIES

While this requirement does not apply specifically to PEC, a number of wholesale customers have expressed interest in having PEC plan for compliance on their behalf. The compliance plan table included as Exhibit 3 lists the load of several of PEC's wholesale customers that have specifically requested to be included in PEC's compliance plan.

PEC is working to gather data necessary to develop a compliance strategy for each of these wholesale customers. This information includes the number of customers within each customer class and existing resources that can be credited towards their specific requirements. The costs associated with renewable resources procured to comply with the combined retail loads of PEC and the wholesale customers included in PEC's compliance plan will be allocated across the total MWhs and recovered appropriately. The details of all purchases and the cost allocation to each party will be included in PEC's annual compliance report filing.

G.S. § 62-133.8(d): COMPLIANCE WITH REPS REQUIREMENT THROUGH USE *OF SOLAR ENERGY RESOURCES*

With the objective of meeting the initial 0.02% requirement in 2010, PEC prioritized solar bids within the November 2007 renewable RFP and subsequent planning periods. A significant number of proposals have been executed through the RFP process and are listed on Exhibit 1. In addition to the renewable RFP, PEC has announced a number of new solar programs under our SunSense branding. PEC has launched a commercial PV program with a target of adding 5 MWs of grid-tied solar PV per year and a standard offer to purchase commercial solar hot water RECs to promote development of this technology. PEC has also announced the intent to implement a residential PV rebate program aimed at adding 1 MW per year of distributed solar generation. This program is still being developed with a goal of offering it by the end of the year. Exhibit 8 shows the anticipated production from both PV and solar thermal projects that vary in technology, size, and geographic location. The "Projected Solar" includes the effect of adding the full 6 MWs per year through the commercial PV and residential PV programs. PEC is also evaluating direct ownership of solar generation assets and will include those results in future compliance filings.

G.S. § 62-133.8(e): COMPLIANCE WITH REPS REQUIREMENT THROUGH USE OF SWINE RESOURCES

In an effort to meet the swine resource set-aside, PEC's November 2007 renewable RFP prioritized swine-fueled projects. The initial responses were minimal and the majority of inquiries were associated with small-scale test or pilot projects. PEC more recently sent a specific RFP request to all parties that had expressed interest in developing swine waste to energy projects and received four proposals. The "Projected Swine" generation data shown on Exhibit 8, is an estimate of the amount of energy that would be generated if all proposals received were developed. Swine farms in eastern North Carolina are served by a number of different electric power suppliers, with many of them located in the territories of the electric membership corporations. As directed by Commission order dated May 7, 2009 in docket no. E-100, Sub 113, PEC has begun working with the other electric suppliers on a joint effort to support development of swine projects with several of the respondents to PEC's recent RFP.

PEC is using best efforts to engage the market for swine fueled energy, but technology appears to be less developed than other biomass fuels. PEC continues to monitor the progress of swine to energy technologies and fully intends to secure cost-effective resources to meet compliance requirements as the technologies become viable. PEC believes these efforts will lead to contracts for several projects in the next few months. However at this point, the amount of swine waste generation identified for development in the near term will not be sufficient to meet the statewide requirement by 2012.

G.S. § 62-133.8(f): COMPLIANCE WITH REPS REQUIREMENT THROUGH USE OF POULTRY WASTE RESOURCES

NC Senate Bill 3 provides for a statewide aggregate requirement for poultry waste generation. PEC believes each electric supplier's individual responsibility to support this requirement should be no more than its pro rata share based on retail kwh sales. While several parties regarding the conversion of poultry waste to electricity or a renewable fuel for electric generation, have contacted PEC only one party has provided a specific proposal. PEC has been unable to reach an acceptable agreement with this party that would allow PEC to purchase its pro rata share of the state requirement per the schedule specified in NC Senate Bill 3. Based upon this, and the development timeline required for such a plant, PEC does not believe the 2012 statewide poultry requirement can be met. In a joint motion filed August 14, 2009 in docket E-100, Sub 113 PEC, along with other electric suppliers, requested a one-year delay and a reduction in the overall poultry requirement. The reduction in the requirement is in the best interest of the state based upon the overall pricing and risk associated with the current proposal. Meeting the existing 900,000 MWh target would allocate far too much of the REPS revenues to one technology and potentially one vendor. The "Projected Poultry" generation amounts shown on Exhibit 8 reflect PEC's estimated pro rata share of the reduced requirement contained in the joint motion.

DESCRIPTION OF EXHIBITS

- **A list of executed contracts to purchase renewable energy certificates (whether or not bundled with electric power), including type of renewable energy resource, expected MWh, and contract duration.**

PEC has executed a number of contracts with renewable energy facilities. These contracts are displayed in Exhibit 1. To provide adequate time for filing preparation, contracts executed as of August 15, 2008 are included in this exhibit.

- **A list of planned or implemented energy efficiency measures, including a brief description of the measure and projected impacts.**

A discussion of existing and planned energy efficiency programs is included in the DSM and EE section of the IRP and Appendix E. Exhibit 2 in this document summarizes the projected energy efficiency MWhs included for REPS compliance.

- **The projected North Carolina retail sales and year-end number of customer accounts by customer class for each year**

Exhibit 3 in this document summarizes the retail sales forecast and corresponding REPS energy requirement. Exhibit 4 summarizes the customer account forecasts and the corresponding REPS cost cap.

- **The current and projected avoided cost rates for each year**

Exhibit 5 summarizes the total avoided costs based upon PEC's recently approved avoided cost tariff. The specific avoided cost assigned to each transaction depends on the deal term and the date the contract is executed.

- **The projected total and incremental costs anticipated to implement the compliance plan for each year**

Exhibit 6 displays the projected total and incremental costs for executed contracts and contracts in negotiation. The costs for undesignated contracts are not forecasted due to the uncertainty regarding the cost of these resources.

- **A comparison of projected costs to the annual cost caps for each year**
- **An estimate of the amount of the REPS rider and the impact on the cost of fuel and fuel-related costs rider necessary to fully recover the projected costs**

Exhibit 6 displays the cost caps and the projected costs for executed contracts and contracts in negotiation. After removing these forecasted costs from the REPS premium, the Exhibit shows the remaining funds projected to be available for undesignated contracts. These future premiums are subject to change due to several factors, including retail growth rate assumptions, underlying

cost escalation in executed contracts, change in the energy generation forecast from these resources, amongst others.

Progress Energy - Carolinas

2009 REPS Compliance Filing

Exhibit 1: Executed Contract Summary (Columns without data are filed confidentially)

Counterparty:	Resource Type:	Load:	Contract Duration (years):	Capacity MW	Energy MWh	Expected Annual RECs:
Customer A	Landfill Gas	Baseload				
Customer B	Biomass	Baseload				
Customer C	Biomass (thermal RECs)	REC Only				
Customer D	Solar PV	Energy Only				
Customer E	Solar PV	Energy Only				
Customer F	Solar PV	Energy Only				
Customer G	Solar PV	Energy Only				
Customer H	Solar PV RECs	RECs Only				
Customer I	Solar PV	Energy Only				
Customer J	Solar PV	Energy Only				
Customer K	Solar PV	Energy Only				
Customer L	Solar PV	Energy Only				
Customer M	Solar Thermal	RECs Only				
Customer N	Solar Thermal	RECs Only				
Customer O	Solar Thermal	RECs Only				
Customer P	Solar Thermal	RECs Only				
Customer Q	Solar Thermal	RECs Only				
Customer R	Hydro	RECs Only				
Customer S	Hydro	RECs Only				
Customer T	Hydro	RECs Only				
Customer U	Hydro	RECs Only				
Customer V	Hydro	RECs Only				
Customer W	Hydro	RECs Only				
Customer X	Wind RECs	RECs Only				
Customer Y	Wind RECs	RECs Only				

Progress Energy - Carolinas

2009 REPS Compliance Filing

Exhibit 2: Energy Efficiency Forecast

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Energy Efficiency Forecast (GWh)	27	99	228	386	581	744	893	1,052	1,213	1,372	1,530	1,675	1,805	1,959	2,106	2,245	2,376
Maximum Energy Efficiency for REPS Compliance (%)	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	40%	40%	40%	40%	40%
PEC REPS Requirement (GWh)	-	7	7	1,139	1,155	1,179	2,386	2,419	2,451	4,140	4,198	4,254	5,390	5,465	5,541	5,618	5,698
Maximum Energy Efficiency for REPS Compliance (GWh)	-	2	2	285	289	295	597	605	613	1,035	1,049	1,063	2,156	2,186	2,216	2,247	2,279
Net Energy Efficiency for REPS	-	2	2	285	289	295	597	605	613	1,035	1,049	1,063	1,805	1,959	2,106	2,245	2,279

Progress Energy - Carolinas

2009 REPS Compliance Filing

Exhibit 3: Proposed Retail Sales and REPS Compliance

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
PEC REQUIREMENT:																	
NC Retail GWh	37,097	37,418	37,972	38,503	39,312	39,771	40,311	40,842	41,396	41,978	42,536	43,119	43,723	44,329	44,945	45,584	46,244
REPS Req (%)		0.02%	0.02%	3.00%	3.00%	3.00%	6.00%	6.00%	6.00%	10.00%	10.00%	10.00%	12.50%	12.50%	12.50%	12.50%	12.50%
REPS Req (GWh)		7	7	1,139	1,155	1,179	2,386	2,419	2,451	4,140	4,198	4,254	5,390	5,465	5,541	5,618	5,698
Wholesale Requirements:																	
Wholesale GWh [1]	168	168	168	170	171	173	175	176	178	179	181	182	184	186	187	189	191
REPS Req (%)		0.02%	0.02%	3.00%	3.00%	3.00%	6.00%	6.00%	6.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
REPS Req (GWh)		0	0	5	5	5	10	10	11	18	18	18	18	18	19	19	19
TOTAL REPS REQUIREMENT:	-	7	8	1,144	1,160	1,184	2,397	2,429	2,461	4,157	4,216	4,272	5,408	5,484	5,560	5,637	5,717

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Set Aside Requirements:																	
PEC Solar Req %		0.02%	0.02%	0.07%	0.07%	0.07%	0.14%	0.14%	0.14%	0.20%	0.20%	0.20%	0.20%	0.20%	0.20%	0.20%	0.20%
PEC Solar Req GWh [2]		7	8	27	27	28	56	57	57	83	84	85	87	88	89	90	92
State-Wide Swine Waste Req %				0.07%	0.07%	0.07%	0.14%	0.14%	0.14%	0.20%	0.20%	0.20%	0.20%	0.20%	0.20%	0.20%	0.20%
PEC Swine Waste Req GWh [2]				27	27	28	56	57	57	83	84	85	87	88	89	90	92
State-Wide Poultry Waste Req GWh				170	700	900	900	900	900	900	900	900	900	900	900	900	900

Footnote:

(1) Wholesale load includes forecast for Waynesville, Sharpsburg, Stantonsburg, Black Creek and Lucama.

(2) Requirements are based on combined load for PEC NC Retail and Wholesale.

Progress Energy - Carolinas

2009 REPS Compliance Filing

Exhibit 4: Proposed RPS Cost Cap - North Carolina

Projected Customers [1]

		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Est. Number of Res Cust	(000)	1,097	1,107	1,117	1,128	1,138	1,149	1,159	1,170	1,181	1,192	1,202	1,214	1,225	1,236	1,247	1,259	1,271
Est. Number of Comm Cust	(000)	178	180	181	183	184	186	187	189	191	192	194	195	197	199	200	202	204
Est. Number of Ind Cust	(000)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Est. Total Number of Cust	(000)	1,277	1,289	1,301	1,312	1,324	1,336	1,349	1,361	1,373	1,386	1,398	1,411	1,424	1,437	1,450	1,463	1,476

Annual Cap by Customer Account

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Residential Annual Cap Per Account	$10	$10	$10	$12	$12	$12	$34	$34	$34	$34	$34	$34	$34	$34	$34	$34	$34
Commercial Annual Cap Per Account	$50	$50	$50	$150	$150	$150	$150	$150	$150	$150	$150	$150	$150	$150	$150	$150	$150
Industrial Annual Cap Per Account	$500	$500	$500	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000

Projected Annual Total RPS Cap Amount - PEC

		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Residential Class Amount	($ Millions)	$10.9	$11.0	$11.1	$13.4	$13.5	$13.7	$39.1	$39.4	$39.8	$40.1	$40.5	$40.9	$41.3	$41.6	$42.0	$42.4	$42.8
Commercial Class Amount	($ Millions)	$8.8	$8.9	$9.0	$27.2	$27.4	$27.6	$27.9	$28.1	$28.3	$28.6	$28.8	$29.1	$29.3	$29.5	$29.8	$30.0	$30.3
Industrial Class Amount	($ Millions)	$1.0	$1.0	$1.0	$2.1	$2.1	$2.1	$2.1	$2.1	$2.1	$2.1	$2.1	$2.1	$2.1	$2.1	$2.1	$2.1	$2.1
Total Amount from All Customers	($ Millions)	$20.7	$20.9	$21.1	$42.7	$43.0	$43.4	$69.0	$69.6	$70.2	$70.8	$71.4	$72.0	$72.6	$73.3	$73.9	$74.5	$75.2

Footnote:

(1) The number of customer accounts reflect premise billing and represent PEC customer numbers only.

Progress Energy - Carolinas

2009 REPS Compliance Filing

Exhibit 5: Avoided Costs

Current Avoided Cost
Schedule CSP-25

	2-yr	5-yr	10-yr	15-yr
Total Nominal Avoided Energy and Capacity Cost ($ / MWh) [1]	$ 56.96	$ 58.29	$ 60.54	$ 61.11

Footnotes:

(1) Levelized energy and capacity costs

Progress Energy - Carolinas

2009 REPS Compliance Filing

Exhibit 6: Projected Total and Incremental Costs

($ millions)	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
North Carolina Retail REPS Premium Cap	$ 20.7	$ 20.9	$ 21.1	$ 42.7	$ 43.0	$ 43.4	$ 69.0	$ 69.6	$ 70.2	$ 70.8	$ 71.4	$ 72.0	$ 72.6	$ 73.3	$ 73.9	$ 74.5	$ 75.2
Wholesale REPS Premium Cap [1]	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.2	$ 0.2	$ 0.3	$ 0.3	$ 0.4	$ 0.4	$ 0.4	$ 0.4	$ 0.4	$ 0.4	$ 0.4	$ 0.4	$ 0.4
Total CAP	$ 20.8	$ 21.0	$ 21.2	$ 42.9	$ 43.2	$ 43.6	$ 69.3	$ 69.9	$ 70.5	$ 71.1	$ 71.8	$ 72.4	$ 73.0	$ 73.6	$ 74.3	$ 74.9	$ 75.5
Total Cost of Purchases Excluding Undesignated	$ 21.4	$ 24.7	$ 24.0	$ 22.0	$ 23.1	$ 23.4	$ 3.3	$ 3.3	$ 3.3	$ 3.1	$ 2.9	$ 2.9	$ 3.0	$ 3.0	$ 3.0	$ 3.0	$ 3.0
Avoided Cost of Purchases Excluding Undesignated	$ 14.3	$ 13.6	$ 13.6	$ 13.6	$ 13.6	$ 13.6	$ 1.3	$ 1.3	$ 1.3	$ 1.3	$ 1.3	$ 1.3	$ 1.3	$ 1.3	$ 1.3	$ 1.3	$ 1.3
REPS PREMIUM EXCLUDING UNDESIGNATED	$ 7.1	$ 11.1	$ 10.4	$ 8.4	$ 9.5	$ 9.9	$ 1.9	$ 1.9	$ 1.9	$ 1.8	$ 1.7	$ 1.7	$ 1.7	$ 1.7	$ 1.7	$ 1.7	$ 1.7
R&D and Incremental Expense	$ 1.5	$ 1.6	$ 2.0	$ 2.0	$ 2.0	$ 2.0	$ 2.0	$ 2.0	$ 2.0	$ 2.0	$ 2.0	$ 2.0	$ 2.0	$ 2.0	$ 2.0	$ 2.0	$ 3.0
TOTAL ($MM)	$ 8.6	$ 12.7	$ 12.4	$ 10.4	$ 11.5	$ 11.9	$ 3.9	$ 3.9	$ 3.9	$ 3.8	$ 3.7	$ 3.7	$ 3.7	$ 3.7	$ 3.7	$ 3.7	$ 4.7
REPS Premium Cap	$ 20.8	$ 21.0	$ 21.2	$ 42.9	$ 43.2	$ 43.6	$ 69.3	$ 69.9	$ 70.5	$ 71.1	$ 71.8	$ 72.4	$ 73.0	$ 73.6	$ 74.3	$ 74.9	$ 75.5
Available Premium for Undesignated	$ 12.2	$ 8.3	$ 8.8	$ 32.4	$ 31.7	$ 31.7	$ 65.4	$ 66.0	$ 66.6	$ 67.4	$ 68.1	$ 68.7	$ 69.3	$ 69.9	$ 70.5	$ 71.2	$ 70.8

Footnotes:

(1) Premium based on assumption of 0.5% of Progress Energy North Carolina retail load

Progress Energy - Carolinas
2009 REPS Compliance Filing
Exhibit 7: REPS Compliance

REPS REQUIREMENT	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
North Carolina Retail (GWh)	37,097	37,418	37,972	38,503	39,312	39,771	40,311	40,842	41,396	41,978	42,536	43,119	43,723	44,329	44,945	45,584	46,244
Wholesale (GWh) [1]	168	168	168	170	171	173	175	176	178	179	181	182	184	186	187	189	191
REPS Requirement (GWh Equivalent)	-	7	8	1,144	1,160	1,184	2,397	2,429	2,461	4,157	4,216	4,272	5,408	5,484	5,560	5,637	5,717
ENERGY EFFICIENCY (GWh Equiv.) [2]	-	2	2	285	289	295	597	605	613	1,035	1,049	1,063	1,805	1,959	2,108	2,245	2,279
CONTRACTED PURCHASES (GWh Equiv.)																	
Solar Generation	4	12	12	12	12	12	12	12	12	11	11	11	11	11	11	9	9
Biomass Generation	266	245	245	245	245	245	-	-	-	-	-	-	-	-	-	-	-
Hydro Generation	11	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wind Generation	-	809	591	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PROJECTED RESOURCES (GWh Equiv.) [3]																	
Undesignated Poultry Generation	-	-	-	-	51	90	90	90	90	90	90	90	90	90	90	90	90
Undesignated Solar Generation	-	10	23	33	42	52	61	71	80	89	99	99	99	99	99	99	99
Undesignated Swine Generation	-	-	-	19	19	19	19	19	19	19	19	19	19	19	19	19	19
Undesignated Other Renewables [4]	-	-	-	477	477	477	477	587	1,647	2,913	2,948	2,990	3,385	3,306	3,235	3,175	3,221
TOTAL SUPPLY RESOURCES (GWh Equiv.)	280	1,088	873	1,070	1,135	1,189	1,255	1,383	2,461	4,157	4,216	4,272	5,408	5,484	5,560	5,637	5,717
REPS Requirement (GWh Equiv.)	-	7	8	1,144	1,160	1,184	2,397	2,429	2,461	4,157	4,216	4,272	5,408	5,484	5,560	5,637	5,717
SUPPLY RESOURCES RELATIVE TO REQ. (GWh Equiv.)	280	1,081	866	(74)	(26)	5	(1,141)	(1,046)	0	0	0	(0)	0	(0)	0	0	(0)
REC BANKING																	
Beginning REC Carryforward Balance (000)	55	336	1,416	2,282	2,208	2,183	2,187	1,046	-	0	0	0	-	0	-	0	0
RECs Added (Used) (000)	280	1,081	866	(74)	(26)	5	(1,141)	(1,046)	0	0	0	(0)	0	(0)	0	0	(0)
Ending REC Carryforward Balance (000)	336	1,416	2,282	2,208	2,183	2,187	1,046	-	0	0	0	-	0	-	0	0	-
Net Supply Relative to Req. After REC Carryover (GWh Equiv.)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Footnotes:
(1) Represents the requirement of wholesale customers that have agreed to have Progress Energy comply on their behalf and have contributed REPS premium dollars for this requirement
(2) Energy Efficiency forecast reflects the limit of 25% of REPS compliance through 2020 and 40% afterwards.
(3) The undesignated generation is the amount required to meet the MWh requirement. The MWh shown may decrease due to $/customer cap limitations depending on the price of these resources
(4) The undesignated other renewables may include REC only purchases for compliance (no associated generation)

Progress Energy - Carolinas

2009 RPS Compliance Filing

Exhibit 8: Set Asides

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
PEC Solar Energy Requirement (GWh)	-	7	8	27	27	28	56	57	57	83	84	85	87	88	89	90	92
PEC Swine Waste Energy Requirement (GWh)	-	-	-	27	27	28	56	57	57	83	84	85	87	88	89	90	92
State-Wide Poultry Waste Energy Requirement (GWh)	-	-	-	170	700	900	900	900	900	900	900	900	900	900	900	900	900
Solar Purchase Summary (GWh)																	
Solar Energy Requirement [1]	-	7	8	27	27	28	56	57	57	83	84	85	87	88	89	90	92
Contracted Solar RECs	4	12	12	12	12	12	12	12	12	11	11	11	11	11	11	9	9
Projected Solar RECs	-	10	23	33	42	52	61	71	80	89	99	99	99	99	99	99	99
Total Solar Resources	4	22	35	45	54	64	73	83	92	101	110	110	110	110	110	108	108
Solar Resources Relative to Requirement (000)	4	15	28	18	27	36	17	26	35	17	25	24	23	22	21	18	17
Beginning Solar REC Bank (000)	0	4	19	46	64	91	128	145	171	205	223	248	272	295	317	337	355
Ending Solar REC Bank (000)	4	19	46	64	91	128	145	171	205	223	248	272	295	317	337	355	372
Swine Purchase Summary (GWh):																	
Swine Waste Energy Requirement [1]	-	-	-	27	27	28	56	57	57	83	84	85	87	88	89	90	92
Contracted Swine	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Projected Swine [2]	-	-	-	19	19	19	19	19	19	19	19	19	19	19	19	19	19
Total:	-	-	-	19	19	19	19	19	19	19	19	19	19	19	19	19	19
Poultry Waste Purchase Summary (GWh):																	
Poultry Waste Energy State-Wide Requirement	-	-	-	170	700	900	900	900	900	900	900	900	900	900	900	900	900
Contracted Poultry	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Projected Poultry [3]	-	-	-	-	51	90	90	90	90	90	90	90	90	90	90	90	90

Footnotes:

(1) Requirements are based on combined load for PEC NC Retail and Wholesale.

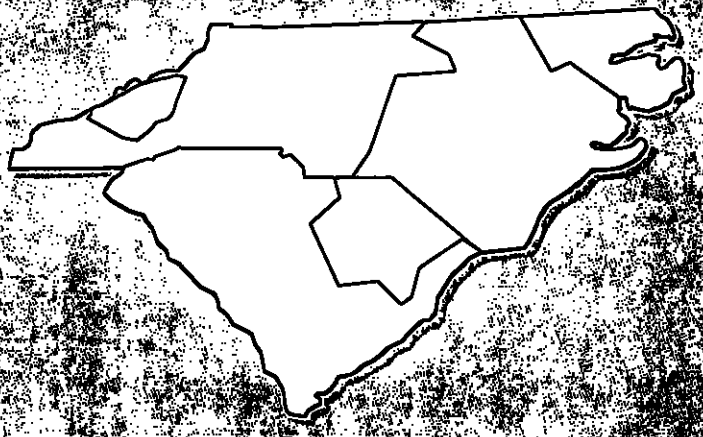
(2) The projected swine assumes execution of all swine proposals received to date regardless of viability or any collaborative efforts with other utilities in the state.

(3) This reflects PEC's pro-rata share of a reduced poultry state-wide requirement consistent with the joint motion filed Aug. 14, 2009 Docket #E-100, Sub 113.

Progress Energy

Progress Energy Carolinas Integrated Resource Plan

Appendix E
DSM & Energy Efficiency



September 1, 2009

New Demand Side Management (DSM) and Energy Efficiency (EE) Programs

In 2007, Progress Energy Carolinas, Inc. (PEC) announced a commitment to defer 1,000 MW of power generation requirements through demand side management (DSM) and energy efficiency (EE) programs. This commitment is part of PEC's long-term, balanced energy strategy to meet the future energy needs of its customers. This balanced energy strategy includes a strong commitment to DSM and EE programs, investments in renewable and emerging energy technologies, and state-of-the art power plants and delivery systems. PEC currently has the following four EE programs, three DSM programs and one pilot that have been approved by both the North Carolina Utilities Commission and the South Carolina Public Service Commission:

- Residential Home Energy Improvement
- Residential Home Advantage
- (Low-Income) Neighborhood Energy Saver
- Commercial, Industrial, and Governmental (CIG) Energy Efficiency
- Residential EnergyWise™
- CIG Demand Response Program
- Distribution System Demand Response (DSDR) Program
- Solar Water Heating Pilot

Residential Home Energy Improvement Program

The Residential Home Energy Improvement Program offers PEC customers a variety of energy conservation measures designed to increase energy efficiency for existing residential dwellings that can no longer be considered new construction. The prescriptive menu of energy efficiency measures provided by the program allows customers the opportunity to participate based on the needs and characteristics of their individual homes. Financial incentives will be provided to participants for each of the conservation measures promoted within this program. The program utilizes a network of pre-qualified contractors to install each of the following energy efficiency measures included in the program:

- High-Efficiency Heat Pumps and Central A/C
- Duct Testing & Repair
- HVAC Tune-up
- Insulation Upgrades/Attic Sealing
- Window Replacement

This program was launched in July 2009.

Residential Home Advantage (New Construction) Program

Under the Home Advantage New Construction Program, PEC offers developers and builders the potential to maximize energy savings in various types of new residential construction. The

program utilizes a prescriptive approach for developers and builders of projects for single-family, multi-family (three stories or less), and manufactured housing units. The program is also available to high rise multi-family units that are currently not eligible for Energy Star® as long as each unit meets the intent of the Energy Star® builder option package for their climate zone and the Home Advantage Program criteria.

The primary objective of this program is to reduce the system seasonal peak and reduce the consumption of electricity within new homes. New construction represents a unique opportunity for capturing cost effective DSM and EE savings by encouraging the investment in energy efficiency features that would otherwise be impractical or more costly to install at a later time. These are often referred to as lost opportunities. Since the launch of the Residential Home Advantage program in December 2008 there have been 130 participants through June 30, 2009, contributing 276 MWh of energy savings and 94 kW of peak demand savings.

Neighborhood Energy Saver (Low-Income) Program

PEC's Neighborhood Energy Saver Program will assist low-income residential customers with energy conservation efforts which will in turn lessen their household energy costs. The program provides assistance to low-income families by installing a comprehensive package of energy conservation measures that lower energy consumption at no cost to the customer. Prior to installing measures, an energy assessment will be conducted on each residence to identify the appropriate measures to install. In addition to the installation of energy efficiency measures, an important component of the Neighborhood Energy Saver program is the provision for one-on-one energy education. Each resident will receive education on energy efficiency techniques and will be encouraged to make behavioral changes to help reduce and control their energy usage. The Neighborhood Energy Saver program will be implemented utilizing a whole neighborhood, door-to-door delivery strategy. PEC anticipates an October 2009 launch date for the program.

Commercial, Industrial, and Governmental (CIG) Energy Efficiency Program

The CIG Energy Efficiency Program is available to all CIG customers interested in improving the energy efficiency of their new construction projects or within their existing facilities. New construction incentives provide an opportunity to capture cost effective energy efficiency savings that would otherwise be impractical or more costly to install at a later time. The retrofit market offers a potentially significant opportunity for savings as CIG type customers with older, energy inefficient electrical equipment are often under-funded and need assistance in identifying and retrofitting existing facilities with new high efficiency electrical equipment. The program includes prescriptive incentives for measures that address the following major end-use categories:

- HVAC
- Lighting

- Motors & Drives
- Refrigeration

In addition, the program offers incentives for custom measures to specifically address the individual needs of customers in the new construction or retrofit markets, such as those with more complex applications or in need of energy efficiency opportunities not covered by the prescriptive measures. The program also seeks to meet the following overall goals:

- Educate and train trade allies, design firms and customers to influence selection of energy efficient products and design practices.
- Educate CIG customers regarding the benefits of energy efficient products and design elements and provide them with tools and resources to cost-effectively implement energy-saving projects.
- Obtain energy and demand impacts that are significant, reliable, sustainable and measureable.
- Influence market transformation by offering incentives for cost effective measures.

Since the launch of the CIG Energy Efficiency program in late-April 2009, there has been one completed transaction contributing 15 MWh of energy savings and 2 kW of peak demand savings through June 30, 2009.

Residential EnergyWise™ Program

The Residential EnergyWise™ Program is a direct load control program that allows PEC, through the installation of load control switches at the customer's premise, to remotely control the following residential appliances.

- Central air conditioning or electric heat pumps
- Auxiliary strip heat on central electric heat pumps (Western Region only)
- Electric water heaters (Western Region only)

For each of the control options above, an initial one-time bill credit of $25 following the successful installation and testing of load control device(s) and annual bill credits of $25 will be provided to program participants in exchange for allowing PEC to control the listed appliances.

The program provides PEC with the ability to reduce and shift peak loads, thereby enabling a corresponding deferral of new supply-side peaking generation and enhancing system reliability. Participating customers will be impacted by (1) the installation of load control equipment at their residence, (2) load control events which curtail the operation of their air conditioning, heat pump strip heating or water heating unit for a period of time each hour, and (3) the receipt of an annual bill credit from PEC in exchange for allowing PEC to control their electric equipment. As of June 30, 2009, there were 1,156 active participants in the EnergyWise™ program contributing

2.2 MW of available load reduction capability. There have been no load control events through June 30, 2009.

Commercial, Industrial, and Governmental (CIG) Demand Response Program

The CIG Demand Response Automation Program allows PEC to install load control and data acquisition devices to remotely control and monitor a wide variety of electrical equipment capable of serving as a demand response resources. The goal is to utilize customer education, enabling two-way communication technologies, and an event-based incentive structure to maximize load reduction capabilities and resource reliability.

The primary objective of this program is to reduce PEC's need for additional peaking generation. This will be accomplished by reducing PEC's seasonal peak load demands, primarily during the summer months, through PEC's deployment of load control and data acquisition technologies. PEC anticipates an October 2009 launch date for CIG Demand Response program.

Distribution System Demand Response Program (DSDR)

PEC, and other utilities, has in the past utilized conservation voltage reduction (CVR) to reduce peak demand for short periods of time by lowering system voltage. This practice has been used in a limited fashion due to concerns that some customers could experience voltages below the lowest allowable level. The DSDR Program provides the capability to reduce peak demand for 4 to 6 hours at a time, which is the duration consistent with typical peak load periods. Customer delivery voltage will be maintained above the minimum requirement when the program is in use. The increased peak load reduction capability and flexibility associated with DSDR will result in the displacement of the need for additional peaking generation capacity. This capability is accomplished by investing in a robust system of advanced technology, telecommunications, equipment, and operating controls. The DSDR Program will help PEC implement a least cost mix of demand reduction and generation measures that meet the electricity needs of its customers.

Residential Solar Water Heating Pilot

This pilot program was designed to provide PEC with the ability to measure and validate the achievable energy savings and coincident peak impacts associated with implementing residential solar water heating in the PEC service territory. Results from the pilot program will enable PEC to determine whether it is cost effective to incorporate solar water heating as part of its least cost mix of demand reduction and generation measures to meet the electricity needs of its customers. The data from this pilot program will also enable PEC to form a validated foundation for determining the future value of energy efficiency rebates or potential REC values, and create a

better database of operational characteristics that could be used by other stakeholders (i.e., vendors/installers, developers, homeowners, solar advocates, policy makers, regulators, etc.).

Summary of Prospective Program Opportunities

In addition to the programs already approved by the NC and SC Commissions, PEC is considering other programs for potential implementation within the next two years, including: (1) residential lighting; (2) appliance recycling; (3) behavioral change initiatives; and (4) other EE research & development pilots.

DSM and EE Forecasts

The tables below show the projected composite impacts of all new DSM, EE, and DSDR programs, including the expected potential from program growth, program enhancements and future new programs. The tables do not include savings from previously existing programs, such as Large Load Curtailment or Voltage Control, which will be discussed later in this document.

Peak MW Demand Savings (at generator) from New Programs

	Summer Peak MW Savings				Winter Peak MW Savings			
Year	DSM	EE	DSDR	Total	DSM	EE	DSDR	Total
2009	2	2	51	55	0	1	27	28
2010	35	14	102	150	4	5	51	60
2011	82	37	164	283	12	17	102	130
2012	129	66	247	443	20	35	164	219
2013	170	106	250	526	26	58	247	331
2014	210	142	253	605	32	83	250	365
2015	248	179	257	683	38	105	253	397
2016	284	221	260	765	41	129	257	427
2017	319	264	263	847	44	155	260	459
2018	352	308	267	927	48	181	263	492
2019	377	353	270	1,000	51	208	267	526
2020	391	396	274	1,061	54	234	270	558
2021	394	435	277	1,106	54	259	274	587
2022	393	475	281	1,149	54	282	277	614
2023	392	513	285	1,190	55	305	281	641
2024	391	548	288	1,227	55	327	285	666

Annual MWh Energy Savings (at generator) from New Programs

Year	DSM	EE	DSDR	Total Savings
2009	50	8,895	17,848	26,793
2010	418	66,577	31,831	98,826
2011	956	179,328	47,294	227,578
2012	1,478	319,936	64,422	385,836
2013	1,936	508,253	70,960	581,149
2014	2,379	670,131	71,883	744,393
2015	2,797	817,446	72,817	893,060
2016	3,179	975,032	73,764	1,051,975
2017	3,546	1,134,736	74,723	1,213,004
2018	3,894	1,292,654	75,694	1,372,242
2019	4,164	1,448,722	76,678	1,529,564
2020	4,322	1,593,409	77,675	1,675,405
2021	4,345	1,721,553	78,685	1,804,582
2022	4,342	1,875,288	79,707	1,959,338
2023	4,337	2,021,164	80,744	2,106,245
2024	4,322	2,159,179	81,793	2,245,294

Previously Existing Demand Side Management and Energy Efficiency Programs

Prior to the passage of North Carolina Senate Bill 3 in 2007, PEC had a number of energy efficiency and demand side management programs in place. These programs are available in both North and South Carolina and include the following:

Existing Energy Efficiency Programs

Energy Efficient Home Program

PEC introduced in the early 1980's an Energy Efficient Home program. This program provides residential customers with a 5% discount of the energy and demand portions of their electricity bills when their homes met certain thermal efficiency standards that were significantly above the existing building codes and standards. Homes that pass an Energy Star® test receive a certificate as well as a 5% discount on the energy and demand portions of their electricity bills. Through December 2008, 278,838 dwellings system-wide qualified for the discount.

Energy Efficiency Financing

PEC began offering energy efficiency financing with its "Home Energy Loan Program" in 1981. In 2002 PEC contracted with an outside vendor to provide financing with rates set by Fannie Mae. More than 500 loans system wide have been made since that time. This program connects customers with screened contractors who provide complete installation and financing on a range of energy-saving home improvements.

Existing Demand Response (DR) Programs

Time-of-Use Rates

PEC has offered voluntary Time-of-Use (TOU) rates to all customers since 1981. These rates provide incentives to customers to shift consumption of electricity to lower-cost off-peak periods and lower their electric bill.

Thermal Energy Storage Rates

PEC began offering thermal energy storage rates in 1979. The present General Service (Thermal Energy Storage) rate schedule uses 2-period pricing with seasonal demand and energy rates applicable to thermal storage space conditioning equipment. Summer on-peak hours are noon to 8 p.m. and non-summer hours of 6 a.m. to 1 p.m. weekdays.

Real-Time Pricing

PEC's Large General Service (Experimental) Real Time Pricing tariff was implemented in 1998. This tariff uses a two-part real time pricing rate design with baseline load representative of historic usage. Hourly rates are provided on the prior business day. A minimum of 1 MW load is required. This rate schedule is presently fully subscribed.

Curtailable Rates

PEC began offering its curtailable rate options in the late 1970s, and presently has two tariffs whereby industrial and commercial customers receive credits for PEC's ability to curtail system load during times of high energy costs and/or capacity constrained periods.

Voltage Control

This procedure involves reducing distribution voltage during periods of capacity constraints, representing a potential system reduction of 76 MW. This level of reduction does not adversely impact customer equipment or operations.

Summary of Available Existing Demand-Side and Energy Efficiency Programs

The following table provides information on PEC's existing demand-side management and energy efficiency programs available at the time of this report. This information, where applicable, includes program type, capacity, energy, and number of customers enrolled in program as of the end of 2008, as well as load control activations since September, 2008. While the energy savings impacts of PEC's programs are embedded within its load and energy forecasts, the specific energy impacts from PEC's Compact Fluorescent Lamp (CFL) Buy-Down Pilot Program are available as a result of its 2008 third party evaluation.

Program Description	Type	Capacity (MW)	Annual Energy (MWH)	Participants	Activations Since 09/08
Energy Efficiency Programs[1]	EE	498	NA	NA	NA
Large Load Curtailment	DSM	275	NA	83	0
Real Time Pricing (RTP)[1]	DSM	16	NA	100	NA
Commercial & Industrial TOU[1]	DSM	5	NA	22,846	NA
Residential TOU[1]	DSM	12	NA	28,898	NA
2007 CFL Buy-Down Pilot[1]	EE	0.7	6,934	NA	NA
Voltage Control	DSM	76	NA	NA	0

Since PEC's last resource plan report, in September 2008, 2.5% voltage reduction has been implemented only for testing. There have been no Large Load Curtailment implementations.

PEC has not discontinued any of its demand-side resource programs since its previous resource plan submission.

Rejected Demand Side Management and Energy Efficiency Programs

PEC has not rejected any evaluated energy efficiency or demand side management resources since the last Resource Plan filing.

Current and Anticipated Consumer Education Programs

In addition to the energy-efficiency and demand response programs previously listed, PEC also has the following informational and educational programs.

[1] These impacts from existing programs are embedded within the load and energy forecast.

- Customized Home Energy Report
- On Line Account Access
- "Lower My Bill" Toolkit
- Energy Saving Tips
- Contractor Training
- Energy Resource Center
- CIG Account Management
- "Save the Watts"
- Wind For Schools
- Energy Efficiency World
- SunSense Schools Program

Customized Home Energy Report

During 2009, PEC launched a new educational tool available to all residential customers called the Customized Home Energy Report. This free tool educates customers about their household energy usage and how to save money by saving energy. The customer answers a questionnaire either online via www.progresscher.com or through the mail, and then receives a report that details their energy usage and educates them on specific ways to change their behavior and reduce their energy consumption. Additionally, the report provides specific information about energy efficiency programs and rebates offered by Progress Energy that are uniquely applicable to the customer based on data obtained within the questionnaire.

On Line Account Access

On Line Account Access provides the energy analysis tools to assist customers in better understanding their energy usage patterns and identifying opportunities to reduce energy consumption. The service allows customers to view their past 24 months of electric usage including the date the bill was mailed; number of days in the billing cycle; kWh (kilowatt hour) usage per month; daily kWh usage; average, low, and high temperature for the month; and click on a month and get daily temperature information for the month. This program was initiated in 1999.

"Lower My Bill" Toolkit

This tool, implemented in 2004, provides on-line tips and specific steps to help customers determine actions to reduce energy consumption and lower utility bills. The suggestions range from relatively simple no-cost steps to more extensive actions involving insulation and heating and cooling equipment, as well as payment options.

Energy Saving Tips

PEC has been providing tips on how to reduce home energy costs since approximately 1981. PEC's web site includes information on the typical biggest household energy wasters and how a few simple actions can increase efficiency. Topics include: Energy Efficient Heat Pumps, Mold, Insulation R-Values, Air Conditioning, Appliances and Pools, Attics and Roofing, Building/Additions, Ceiling Fans, Ducts, Fireplaces, Heating, Hot Water, Humidistats, Landscaping, Seasonal Tips, Solar Film, and Thermostats.

Contractor Training

PEC began sponsoring training in 2000 for home builders on Energy Star® standards in order to promote more energy efficient building practices, and has provided this training to more than two thousand participants system wide since inception. Energy Star® certified homes qualify for PEC's 5% energy conservation discount. PEC also sponsors training for heating, ventilation, and air conditioning (HVAC) contractors on sizing and proper installation of energy efficient HVAC systems. Properly sized and installed HVAC systems utilize less energy and provide increased home comfort.

Energy Resource Center

In 2000, PEC began offering its large commercial, industrial, and governmental customers a wide array of tools and resources to use in managing their energy usage and reducing their electrical demand and overall energy costs. Through its Energy Resource Center, located on the PEC web site, PEC provides newsletters, online tools and information which cover a variety of energy efficiency topics such as electric chiller operation, lighting system efficiency, compressed air systems, motor management, variable speed drives and conduct an energy audit.

CIG Account Management

All PEC commercial, industrial, and governmental customers with an electrical demand greater than 200 kW (approximately 4,800 customers) are assigned to a PEC Account Executive (AE). The AEs work hand-in-hand with their assigned customers to help them manage their energy usage and costs and to assist them in developing energy efficiency solutions. The AEs go onsite with the customer to better understand their customer's business operation and energy needs. The AEs personally assist customers in conducting energy analyses of their facility and can bring in the resources of the Advanced Energy Corporation when a very detailed and in depth analysis of a specific energy system is required. The AEs provide educational opportunities along with information about PEC's new DSM and EE program offerings to help ensure the customers are aware of the latest energy improvement and system operational techniques.

"Save the Watts"

In 2007, Progress Energy Carolinas launched "Save the Watts", a customer education and engagement campaign primarily targeted to PEC's residential customers. The "Save the Watts" campaign was designed to build awareness and participation in the energy-efficiency and demand-side management programs offered by PEC. Its goal is to help customers understand not only how to use energy wisely, but to also provide them with specific tools and tips to help them save energy and money. "Save the Watts" campaign messages have been aggressively promoted via TV, radio, and print advertising, bill inserts, and earned media opportunities. Another strong component of the campaign is its customized, interactive Web site, www.savethewatts.com. Here, customers can find energy-efficiency tips, calculators to help identify potential savings and information about PEC's savings programs.

Wind for Schools

PEC is a partner in a North Carolina's first-ever Wind for Schools program in Madison County. This program involves a regional partnership that will install small wind turbines at three schools in Madison County and develop a K-12 alternative-energy curriculum as part of an effort to introduce wind power to rural communities and initiate community discussions around the benefits and challenges of alternative-energy resources. A fourth installation will be established at the Madison County Cooperative Extension Office. The program is modeled after the U.S. Department of Energy's (DOE) Wind for Schools initiative. The intent of the program, as defined by DOE, is to provide students and teachers with a physical example of how communities can take part in providing for the economic and environmental security of the nation while allowing exciting, hands-on educational opportunities.

Energy Efficiency World

PEC is offering a new educational online resource for teachers and students in our service area called Energy Efficiency World. The web site educates students on energy efficiency, conservation, and renewable energy and offers interactive activities in the classroom. It is available on the web at http://progress-energy.com/shared/eew.

SunSense Schools Program

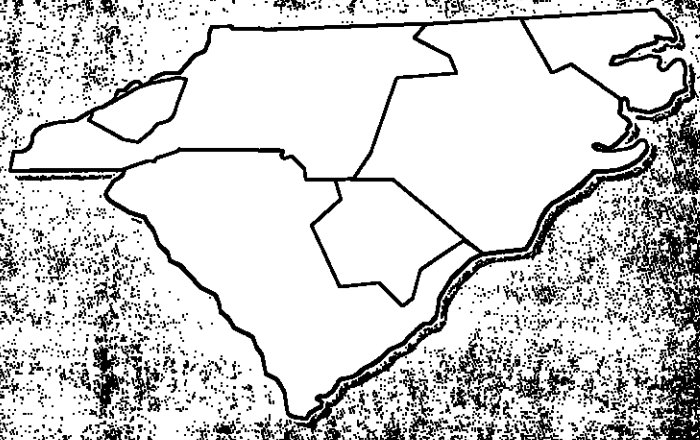
The SunSense Schools program was launched by PEC in March 2009. This solar education program is the first of its kind in the Carolinas, and is designed to give middle and high school students and faculty a unique, hands-on opportunity to learn more about solar energy. Five winning schools will receive a two-kilowatt solar photovoltaic system installed on their campus along with Internet tracking equipment that shows the real-time energy output. Progress Energy is proud to bring this exciting opportunity to local schools. Program details are available at www.progress-energy.com/sunsense.

During 2009, PEC discontinued its previous Home Energy Check educational tool including the online and mail-in options. It was determined that the new Customized Home Energy Report program provided the same basic features as the previous comparable tool, with significantly enhanced and new features including: user-friendly interface and questionnaire, concise reporting with graphical illustrations, comparative analysis with similar households, and specific information about applicable, new DSM and EE program opportunities.

Progress Energy

Progress Energy Carolinas Integrated Resource Plan

Appendix F
Air Quality and Climate Change



September 1, 2009

Air Quality Legislative and Regulatory Issues

Progress Energy Carolinas (PEC) is subject to various federal and state environmental compliance laws and regulations that require reductions in air emissions of nitrogen oxides (NOx), sulfur dioxide (SO_2), and mercury. PEC is installing control equipment pursuant to the provisions of the NOx SIP Call, the North Carolina Clean Smokestacks Act, the Clean Air Interstate Rule (CAIR), the Clean Air Visibility Rule (CAVR) and mercury regulation, which are discussed below.

NOx SIP Call

The EPA finalized the NOx State Implementation Plan (SIP) Call in October 1998. The NOx SIP Call requires reductions in NOx emissions from power plants and other large combustion sources in 21 eastern states. The regulation is designed to reduce interstate transport of NOx emissions that contribute to non-attainment for ground-level ozone. As a result, PEC has installed NOx controls on many of its units.

North Carolina Clean Smokestacks Act

In June 2002, the North Carolina Clean Smokestacks Act was enacted, requiring the state's electric utilities to reduce NOx and SO_2 emissions from their North Carolina coal-fired power plants in phases by 2013. PEC owns and operates approximately 5,000 MW of coal-fired generation capacity in North Carolina that is affected by the Clean Smokestacks Act.

As a result of compliance with the Clean Smokestacks Act and the NOx SIP Call, PEC will significantly reduce SO_2 and NOx emissions from its NC coal-fired units. By 2013, PEC projects SO_2 emissions will be reduced by approximately 80% and NOx emissions will be reduced by approximately 70% from their year 2000 levels.

Clean Air Interstate Rule (CAIR)

On March 10, 2005, the EPA issued the final CAIR, which required the District of Columbia and 28 states, including North and South Carolina, to reduce NOx and SO_2 emissions in two phases beginning in 2009 and 2015, respectively, for NOx and beginning in 2010 and 2015, respectively, for SO_2. States were required to adopt rules implementing the CAIR. The EPA approved both the North and South Carolina CAIR in 2007.

On July 11, 2008, the U.S. Court of Appeals for the District of Columbia (D.C. Court of Appeals) vacated the CAIR in its entirety. The Court subsequently ruled that the CAIR will remain in effect until EPA revises or replaces it with a regulation that complies with the Court's original decision. This development will not significantly affect PEC's compliance plans at this point for its North Carolina facilities given the Clean Smokestacks Act requirements. However, a revised CAIR rule could result in additional impact to PEC's compliance plans, but the EPA is not expected to complete the revisions until 2010 or later.

Clean Air Visibility Rule (CAVR)

On June 15, 2005, the EPA issued the final CAVR. The EPA's rule requires states to identify facilities, including power plants, built between August 1962 and August 1977 with the potential to produce emissions that affect visibility in 156 specially protected areas, including national parks and wilderness areas. To help restore visibility in those areas, states must require the identified facilities to install Best Available Retrofit Technology (BART) to control their emissions. PEC's BART eligible units are Asheville Units No. 1 and No. 2, Roxboro Units No. 1, No. 2 and No. 3, and Sutton Unit No. 3. PEC's compliance plan to meet the NC Clean Smokestacks Act requirements is expected to fulfill the BART requirements.

Clean Air Mercury Rule (CAMR)

On March 15, 2005, the EPA finalized two separate but related rules: the CAMR that set mercury emissions limits to be met in two phases beginning in 2010 and 2018, respectively, and encouraged a cap-and-trade approach to achieving those caps, and a delisting rule that eliminated any requirement to pursue a maximum achievable control technology (MACT) approach for limiting mercury emissions from coal-fired power plants. On February 8, 2008, the D. C. Court of Appeals vacated both the delisting determination and the CAMR. It is uncertain how the decision that vacated the federal CAMR will affect state rules; however, state-specific provisions are likely to remain in effect. The North Carolina mercury rule contains a requirement that all coal-fired units in the state install mercury controls by December 31, 2017, and it requires compliance plan applications to be submitted in 2013.

National Ambient Air Quality Standards (NAAQS)

On March 12, 2008, the EPA announced changes to the NAAQS for ground-level ozone. The EPA revised the 8-hour primary and secondary standards from 0.08 parts per million to 0.075 parts per million. The air quality improvements expected over the next several years, as steps are taken to meet current requirements (e.g., the NC Clean Smokestacks Act), will determine whether additional non-attainment areas are designated in PEC's service territories. Should additional non-attainment areas be designated in PEC's service territories, PEC may be required to install additional emission controls at some facilities.

On October 15, 2008, the EPA revised the NAAQS for lead to 0.15 micrograms per cubic meter on a rolling 3-month average basis. The revision is not expected to have a material impact on PEC's operations.

On July 15, 2009, EPA proposed a revision to the NAAQS for nitrogen dioxide (NO_2). The proposal leaves the current annual standard in effect and adds a 1-hour standard of between 80 and 100 parts per billion (ppb). The potential impact of the proposed change is not known.

Global Climate Change

PEC has articulated principles that we believe should be incorporated into any global climate change policy. In addition to a report issued in 2006, Progress Energy issued an updated report on global climate change in 2008, which further evaluates this dynamic issue. While we

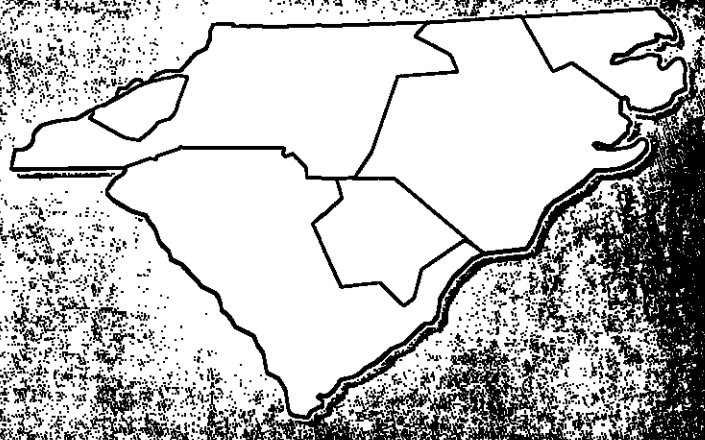
participate in the development of a national climate change policy framework, we will continue to actively engage others in our region to develop consensus-based solutions, as we did with the NC Clean Smokestacks Act. In North Carolina, PEC is a member of the Legislative Commission on Global Climate Change, which is developing recommendations on how the state should address the issue. In South Carolina, PEC is a member of the Governor's Climate, Energy, and Commerce Committee, which released recommendations on how the state should address the issue in August 2008.

On April 2, 2007, the U.S. Supreme Court ruled that the EPA has the authority under the Clean Air Act (CAA) to regulate CO_2 emissions from new automobiles. On July 11, 2008, the EPA issued an Advance Notice of Proposed Rulemaking inviting public comment on the issues and options that should be considered in development of comprehensive greenhouse gas regulation under the CAA. On April 24, 2009, the EPA published a proposed endangerment finding for CO_2 under the CAA. A finding of endangerment would subject CO_2 to a variety of regulatory programs under the CAA.

Progress Energy

Progress Energy Carolinas Integrated Resource Plan

Appendix G
Transmission & NC Rule R8-62



September 1, 2009

This appendix lists transmission line and substation additions, and a discussion of the adequacy of PEC's transmission system. This appendix also provides information pursuant to the North Carolina Utility Commission Rule R8-62.

PEC Transmission Line Additions

	LOCATION				
YEAR	FROM	TO	CAPACITY MVA	VOLTAGE KV	COMMENTS
2011	Richmond	Fort Bragg Woodruff Street	1195	230	New
	Asheboro	Pleasant Garden (Duke)	1195	230	New
	Rockingham	West End East	1195	230	New
2013	Clinton	Lee Sub	628	230	New
2014	Harris	RTP Switching Sta.	1195	230	New
2017	Greenville	Kinston Dupont	628	230	New
2019	Lilesville South	Rockingham	1195	230	New
	Cape Fear Plant	Siler City	628	230	New

PEC Substation Additions

YEAR	SUBSTATION NAME	COUNTY	STATE	VOLTAGE (KV)	MVA	COMMENTS
2010	Enka	Buncombe	NC	230/115	300	New
2012	Franklinton	Franklin	NC	115	N/A	Modification
	Jacksonville	Onslow	NC	230	300	New
	West End	Moore	NC	230/115	600	Uprate
	Asheville	Buncombe	NC	230/115	N/A	Modification
2014	Fayetteville	Cumberland	NC	230/115	600	Uprate
2013	Mt Olive	Duplin	NC	230/115	200	New
	Folkstone	Onslow	NC	230/115	200	New
	Selma	Johnston	NC	230/115	400	Uprate
2016	Falls	Wake	NC	230/115	600	Uprate

Rule R8-62: Certificates of environmental compatibility and public convenience and necessity for the construction of electric transmission lines in North Carolina.

(p) Plans for the construction of transmission lines in North Carolina (161 kV and above) shall be incorporated in filings made pursuant to Commission Rule R8-60. In addition, each public utility or person covered by this rule shall provide the following information on an annual basis no later than September 1:

(1) For existing lines, the information required on FERC Form 1, pages 422, 423, 424, and 425, except that the information reported on pages 422 and 423 may be reported every five years.

Please refer to the Company's FERC Form No. 1 filed with NCUC in April, 2009.

(p) Plans for the construction of transmission lines in North Carolina (161 kV and above) shall be incorporated in filings made pursuant to Commission Rule R8-60. In addition, each public utility or person covered by this rule shall provide the following information on an annual basis no later than September 1:

(2) For lines under construction, the following:

a. Commission docket number;

b. Location of end point(s);

c. length;

d. range of right-of-way width;

e. range of tower heights;

f. number of circuits;

g. operating voltage;

h. design capacity;

i. date construction started;

j. projected in-service date;

See following pages

Richmond-Fort Bragg Woodruff Street 230 kV Line

Project Description: Construct 60 miles of new 230 kV line from the Richmond 500 kV Substation in Richmond County to the Fort Bragg Woodruff Street 230 kV Substation in Cumberland County. NCUC Docket No. E2, Sub 925.

a. Commission docket number; E2, Sub 925
b. Location of end point(s); Richmond and Cumberland Counties
c. Length; 60 Miles
d. Range of right-of-way width; 45-100 feet
e. Range of tower heights; 75 – 130 feet
f. Number of circuits; 1
g. Operating voltage; 230 kV
h. Design capacity; 1195 MVA
i. Estimated date for starting construction; May 2009 Right-of-way clearing underway, July 2009 – Construction underway
j. Projected in-service date; June 2011

Clinton – Lee Substation 230 kV Line

Project Description: Construct approximately 28 miles of new 230 kV transmission line from the Lee Substation in Wayne County to the Clinton 230 kV Substation in Sampson County.

a. Commission docket number; E-2, Sub 796
b. Location of end point(s); Wayne and Sampson Counties
c. Length; 28 Miles
d. Range of right-of-way width; 100 feet
e. Range of tower heights; 90 – 120 feet
f. Number of circuits; 1
g. Operating voltage; 230 kV
h. Design capacity; 628 MVA
i. Estimated date for starting construction; October 2011 (Right-of-way has been cleared) (Delayed due to updated load projections)
j. Projected in-service date; January 2013 (Delayed due to updated load projections)

(p) Plans for the construction of transmission lines in North Carolina (161 kV and above) shall be incorporated in filings made pursuant to Commission Rule R8-60. In addition, each public utility or person covered by this rule shall provide the following information on an annual basis no later than September 1:

(3) For all other proposed lines, as the information becomes available, the following:

a. county location of end point(s);

b. approximate length;

c. typical right-of-way width for proposed type of line;

d. typical tower height for proposed type of line;

e. number of circuits;

f. operating voltage;

g. design capacity;

h. estimated date for starting construction (if more than 6 month delay from last report, explain); and

i. estimated in-service date (if more than 6-month delay from last report, explain). (NCUC Docket No. E-100, Sub 62, 12/4/92; NCUC Docket No. E-100, Sub 78A, 4/29/98.)

See following pages.

Asheboro – Pleasant Garden 230 kV Line

Project Description: Construct 22 miles of new 230 kV line from the Asheboro 230 kV Substation in Randolph County to the Duke Power's Pleasant Garden 230 kV Substation in Guilford Counties. NCUC Docket No. E2, Sub 920.

a. County location of end point(s); Randolph (Asheboro) and Guilford (Pleasant Garden)
b. Approximate length; 22 miles
c. Typical right-of-way width for proposed type of line; 100 feet
d. Typical tower height for proposed type of line; 80 feet
e. Number of circuits; 1
f. Operating voltage; 230 kV
g. Design capacity; 1195 MVA
h. Estimated date for starting construction; January 2010 – Clearing, May 2010-Construction
i. Estimated in-service date; June 2011

Rockingham-West End East 230 kV Line

Project Description: Construct 32 miles of new 230 kV line from the Rockingham 230 kV Substation in Richmond County to the West End 230 kV Substation in Moore County. NCUC Docket No. E2, Sub 933.

a. County location of end point(s); Richmond and Moore Counties
b. Approximate length; 32 miles
c. Typical right-of-way width for proposed line type; 100 feet
d. Typical tower height for proposed type of line; 75 - 110 feet
e. Number of circuits; 1
f. Operating voltage; 230 kV
g. Design Capacity; 1195 MVA
h. Estimated date for starting construction; October 2009-Clearing, March 2010-Construction
i. Estimated in-service date; June 2011

Harris – Research Triangle Park (RTP) 230kV Line

Project Description: Construct 22 miles of new 230 kV line from the Harris 230 kV Substation in Wake County to the RTP 230 kV Substation in Wake County. The four-mile segment from Amberly Substation to RTP Substation is in service and built on self-supporting single poles. The remaining construction is planned to be placed in service 6/2014 and consists of: a four-mile segment from Harris Substation to Apex US1 Substation built on H-frame construction; the seven-mile segment from Apex US1 to Green Level Substation is an existing 115 kV line, which will be removed and rebuilt as 230 kV on self-supporting single poles; the remaining seven-mile segment from Green Level Substation to Amberly Substation will be built on self-supporting single poles. NCUC Docket No. E2, Sub 914.

a. County location of end point(s); Wake
b. Approximate length; 22 miles
c. Typical right-of-way width for proposed type of line; 70 feet
d. Typical tower height for proposed type of line; 100 feet
e. Number of circuits; 1
f. Operating voltage; 230 kV
g. Design capacity; 1195 MVA
h. Estimated date for starting construction; February 2010- Clearing, October 2011- Construction (Delayed due to updated load projections)
i. Estimated in-service date; June 2014 (Delayed due to updated load projections)

Greenville – Kinston DuPont 230 kV Line

Project Description: Construct approximately 25.3 miles of new 230 kV transmission line from the Greenville 230 kV Substation in Pitt County to the Kinston DuPont 230 kV Substation in Lenoir County. Pursuant to N.C.G.S. 62-101, no Certificate of Environmental Compatibility and Public Convenience and Necessity is required because the rights-of-way for this line were acquired prior to March 6, 1989.

a. County location of end point(s); Lenoir and Pitt Counties
b. Approximate length; 25.3 Miles
c. Typical right-of-way width for proposed type of line; 100 Feet
d. Typical tower height for proposed type of line; 80 - 120 Feet
e. Number of circuits; 1
f. Operating voltage; 230 kV
g. Design capacity; 628 MVA
h. Estimated date for starting construction; March 2015 (Delayed due to updated load projections)

i. Estimated in-service date; June 2017 (Delayed due to updated load projections)

Rockingham-Lilesville 230 kV Line

Project Description: Construct 14 miles of new 230 kV line from the Rockingham 230 kV Substation in Richmond County to the Lilesville 230 kV Switching Station in Anson County. NCUC Docket No. E2, Sub 922.

a. County location of end point(s); Richmond and Anson Counties
b. Approximate length; 14 miles
c. Typical right-of-way width for proposed line type; 100 feet
d. Typical tower height for proposed type of line; 75 - 110 feet
e. Number of circuits; 1
f. Operating voltage; 230 kV
g. Design Capacity; 1195 MVA
h. Estimated date for starting construction; January 2018- Clearing, June 2018- Construction (Delayed due to updated load projections)
i. Estimated in-service date; June 2019 (Delayed due to updated load projections)

Cape Fear Plant – Siler City 230 kV Line

Project Description: Construct approximately 30 miles of new 230 kV transmission line from the Cape Fear Plant in Lee County to the Siler City 230/115 kV Substation in Chatham County. NCUC Docket No. E2, Sub 803

a. County location of end point(s); Lee and Chatham Counties
b. Approximate length; 30 Miles
c. Typical right-of-way width for proposed type of line; 100 Feet
d. Typical tower height for proposed type of line; 90 – 120 Feet
e. Number of circuits; 1
f. Operating voltage; 230 kV
g. Design capacity; 628 MVA
h. Estimated date for starting construction; March 2017 (Delayed due to updated load projections)
i. Estimated in-service date; June 2019 (Delayed due to updated load projections)

Discussion of the adequacy of the PEC transmission system.

The PEC transmission system consists of approximately 6,000 miles of 69, 115, 138, 161, 230 and 500 kV transmission lines and just over 100 transmission-class switching stations in its North and South Carolina service areas. PEC has transmission interconnections with Duke Power Company, PJM (via American Electric Power and Dominion Virginia Power), South Carolina Electric & Gas Company, South Carolina Public Service Authority, Tennessee Valley Authority, and Yadkin. The primary purpose of this transmission system is to provide the electrical path necessary to accommodate the transfer of bulk power as required to ensure safe, reliable, and economic service to control area customers.

Transmission planning typically takes into consideration a 10-year planning period. Required engineering, scheduling, and construction lead times can be satisfactorily accommodated within this planning period. Planning is based on PEC's long-range system peak load forecast, which includes all territorial load and contractual obligations; PEC's resource plan; and local area forecasts for retail, wholesale, and industrial loads.

The PEC transmission system is planned to comply with the North American Electric Reliability Council (NERC) Reliability Standards. The Energy Policy Act of 2005 included new federal requirements to create an electric reliability organization (ERO) with enforceable mandatory reliability rules with Federal Energy Regulatory Commission (FERC) oversight. FERC chose NERC to fulfill the role of ERO for the industry. Compliance with the NERC Reliability Standards became mandatory on June 18, 2007 and is enforced by the NERC Regions. PEC's NERC Region is SERC, Inc. (SERC) who annually checks for compliance and conducts detailed audits of standards compliance every three years. The most recent PEC audit, in the spring of 2008, found "no possible violations" of the NERC Reliability Standards.

Planning studies are performed to assess and test the strength and limits of the PEC transmission system to meet its load responsibility and to move bulk power between and among other electrical systems. PEC will study the system impact and facilities requirements of all transmission service requests pursuant to its established procedures.

Transmission planning requires power flow simulations based on detailed system models. PEC participates with neighboring companies in developing and maintaining accurate models of the eastern interconnection. These models include the specific electrical characteristics of transmission equipment such as lines, transformers, relaying equipment, and generators. All significant planned equipment outages, planned inter-company transactions, and operating constraints are included.

The transmission planning process and the generation resource planning process are interrelated. The location and availability of generation additions has significant impacts on the adequacy of the transmission system. Generation additions within the PEC system may help or hinder transmission loading. By planning for both generation needs and transmission needs, PEC is able to minimize costs while maintaining good performance. PEC will interconnect new

generating facilities to the transmission system and will accommodate increases in the generating capacity of existing generation pursuant to its established interconnection procedures.

PEC coordinates its transmission planning and operations with neighboring systems to assure the safety, reliability, and economy of its power system. Coordinated near-term operating studies and longer-range planning studies are made on a regular basis to ensure that transmission capacity will continue to be adequate. These studies involve representatives from the Virginia-Carolinas Subregion (VACAR) and adjacent subregions and regions to provide interregional coordination. For intra-regional studies, PEC actively participates on the Intra-regional Long-term Power Flow Study Group (LT-PFSG), the Intra-regional Near-term Power Flow Study Group (NT-PFSG), and the VACAR reliability committees. For inter-regional studies PEC actively participates on the Eastern Interconnection Reliability Assessment Group (ERAG).

The system is planned to ensure that no equipment overloads and that adequate voltage is maintained. The most stressful scenario is typically at peak load with certain equipment out of service. A thorough screening process is used to analyze the impact of potential equipment failures or other disturbances. As problems are identified, solutions are developed and evaluated.

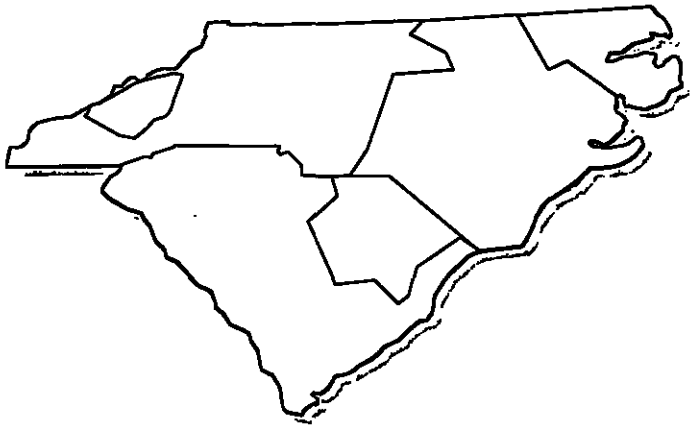
In addition, PEC, Duke, NCEMPA and NCEMC are engaged in a collaborative transmission planning process (the NC Transmission Planning Collaborative). This effort allows NCEMPA and NCEMC to participate in all stages of the transmission planning process, resulting in Duke and PEC moving towards a single collaborative transmission plan for their control areas, and a plan designed to address both reliability and market access.

PEC's transmission system is expected to remain adequate to continue to provide reliable service to its native load and firm transmission customers.

Progress Energy

Progress Energy Carolinas Integrated Resource Plan

Appendix H
Short Term Action Plan



September 1, 2009

PEC Short Term Action Plan Summary

The following activities are underway as part of the near-term implementation of the Company's Integrated Resource Plan.

Near Term, Known Resource Additions

1. Richmond County CC – 06/2011, Certificate of Public Convenience and Necessity approved and construction has begun.
2. Miscellaneous unit uprates (see 2009 IRP)
3. Wayne County CC – 01/2013, an application for a Certificate of Public Convenience and Necessity was filed on August 18, 2009.

New DSM and EE – PEC will be implementing the following new DSM and EE programs as approved by the North Carolina Utilities Commission and the South Carolina Public Service Commission:

1. Residential Home Energy Improvement Program
2. Residential Home Advantage (New Construction) Program
3. Neighborhood Energy Saver (Low-Income) Program
4. Commercial, Industrial, and Governmental (CIG) Energy Efficiency Program
5. Residential EnergyWise™
6. Commercial, Industrial, and Governmental (CIG) Demand Response Program
7. Distribution System Demand Response (DSDR)
8. Solar Water Heating Pilot

Additional programs to be considered for potential implementation in the future include: (1) residential lighting; (2) appliance recycling; (3) behavioral change initiatives; and (4) Other EE research & development pilots.

Alternative Supply Resources (Incremental Renewables)

The 2009 Integrated Resource Plan includes the following near term assumptions for additional renewable resources:

1. Approximately 12 MWs of poultry waste generation online by 2014
2. Approximately 4 MWs of swine waste generation online by 2012
3. 6 MWs of new solar generation each year

Negotiations for these and other projects are ongoing.

For more detail on all of these ongoing activities, please see PEC's 2009 IRP.

ANNUAL TRANSMISSION PLANNING AND EVALUATION REPORT

April 1, 2009

Part 1: Identification and Certification

1. Transmitting Utility Name and Mailing Address:

   Carolina Power & Light Company d/b/a Progress Energy Carolinas, Inc.
   P. O. Box 1551
   Raleigh NC 27602-1551

2. Contact Person:

   Name: **A. Mark Byrd**
   Title: **Manager, Transmission Planning**

   Telephone Number: **(919) 546-7937**
   Facsimile Number: **(919) 546-7558**

3. Certifying Official: I certify that the information provided herein is true and accurate to the best of my knowledge.

   Name: A. Mark Byrd
   Title: Manager, Transmission Planning
   E-mail: mark.byrd@pgnmail.com

   Signature: A. Mark Byrd Date: 3/27/09

Part 2: Power Flow Base Cases

Per 18 CF R 388.112, PEC has requested that this Section be exempt from public disclosure.

Part 3: Transmitting Utility Maps and Diagrams

Per 18 CF R 388.112, PEC has requested that this Section be exempt from public disclosure.

Part 4: PEC Transmission Planning Reliability Criteria

The transmission planning reliability criteria used at PEC are as follows:

Regional Transmission Reliability Criteria

- The PEC transmission system shall be planned so as to comply with the requirements of the NERC Reliability Standards and the SERC Supplements to the NERC Reliability Standards. NERC Reliability Standards are available from the NERC office (http://www.nerc.com). The SERC Supplements to the NERC Reliability Standards are available from the SERC office (http://www.serc1.org).

Additional Criteria Used By PEC

- Voltage on the transmission side of transmission-to-distribution substations and at transmission level delivery points at 230 kV and below shall be maintained between 90% and 105% of nominal voltage during normal and contingency conditions. Transmission buses at 500 kV shall be maintained between 100% and 108% of nominal voltage during normal and contingency conditions. Voltage during contingencies shall not vary more than 0.08 per unit from the pre-contingency voltage.

- No PEC bulk power facility, such as transmission lines, transmission-to-transmission transformers, transmission breakers, etc., is to exceed the facility's thermal rating under normal and contingency conditions.

- The nuclear units will be operated within the applicable switchyard voltage limits in accordance with the appropriate regulatory requirements.

- At non-nuclear plants, minimum and maximum voltage levels are followed to either provide support to a nearby nuclear plant or to the transmission system during the different operating conditions.

- Electromagnetic transients experienced during the energization or switching of capacitor

banks or similar devices must be below the equipment BIL.

- Harmonic voltages shall not exceed the following limits:

  1. Below 69 kV, the maximum individual harmonic component and maximum total harmonic distortion should be less than 3.0% and 5.0%, respectively.

  2. Between 69 kV and 138 kV, the maximum individual harmonic component and maximum total harmonic distortion should be less than 1.5% and 2.5%, respectively.

  3. Above 138 kV, the maximum individual harmonic component and maximum total harmonic distortion should be less than 1.0% and 1.5%, respectively.

- Customer equipment connected to the PEC system shall not be operated in a manner that adversely impacts the PEC system or service to other PEC customers. IEEE Standard 519-1992 should be used as a guideline for adding harmonics producing loads. Load additions causing flicker will be examined on an individual basis due to the lack of widely accepted utility standards.

- The transmission system shall be planned such that it does not excessively rely on or cause an undue burden on neighboring systems.

- Stability shall be maintained in accordance with NERC Reliability Standards.

Part 5: PEC Transmission Planning Assessment Practices

The following transmission planning assessment practices are used by PEC:

Regional Transmission Assessment Practices

- The PEC transmission system is tested in accordance with the SERC Supplements to the NERC Reliability Standards. *This document is available from the SERC Office.*

- PEC currently participates in several regional bulk transmission study groups. Regional study groups have recently reorganized, affecting both inter-regional and intra-regional study groups as traditional NERC reliability regions have changed. The studies evaluate the bulk transmission system to ensure that the interconnected system is capable of handling both normal and emergency transactions. These include studies performed by VACAR (Virginia-Carolinas subregion of SERC), SERC Intra-regional, and RFC-SERC East intra-regional groups. Examples of study groups include the VACAR Power Flow Working Group and Stability Working Group as well as the SERC Near-Term Study Group, Long-Term Study Group, and Dynamics Study Group.

Additional Assessment Practices Used By PEC

- The ability of the transmission system to meet the planning criteria is assessed for specified contingencies. Contingencies are assumed to occur at the time of the summer, or winter, coincident peak load without interruptible load management. The following contingencies are assessed:

  (1) the loss of any single generating unit, in combination with the loss of any bulk power transmission system component or two transmission lines which are built on common structures, including examining the effect of remaining generation being scaled back for a total reduction equal to the PEC TRM requirement, or

  (2) the loss of any single transmission component or two transmission lines which are built on common structures.

  A transmission system component can be a transmission line, circuit breaker, transformer, or any other facility or piece of equipment which might open a circuit. This component may be located within PEC, on a foreign system, or on a PEC interface.

- The ability of the transmission system to meet the planning criteria while delivering a plant's maximum generating output is assessed for normal and single contingency conditions. For selected baseload plants, the system is assessed during double contingency conditions.

  - Generator unit stability is assessed in accordance with NERC Reliability Standards. Certain generating plants on the PEC system are tested for 3-phase faults with delayed clearing.

Part 6: Evaluation of Transmission System Performance

Per 18 CF R 388.112, PEC has requested that this Section be exempt from public disclosure.