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# Public Service Commission

February 18, 2011

110000-07

Mrs. Trudy S. Novak  
Sr. Director, Bulk Power and Generation Planning  
Seminole Electric Cooperative  
16313 North Dale Mabry Highway  
Tampa, Florida 33831

## Re: Review of 2011 Ten-Year Site Plans - Supplemental Data Requests

Dear Mrs. Trudy S. Novak,

Pursuant to the Commission's authority under Section 366.05(7), Florida Statutes, we are making a request for supplemental information on each company's generation expansion plans. The information will be used to supplement each company's 2011 *Ten-Year Site Plan* filing.

Enclosed is a CD containing staff's data request, related tables, and appendixes. Please provide the information requested on the enclosed documents in hard copy and electronic format and submit it no later than April 29, 2011. Please complete the enclosed files in the following formats:

- 2011 TYSP Data Request (Word (.doc) or Adobe (.pdf))
- 2011 TYSP Data Request – Tables (Excel (.xls))
- 2011 TYSP Data Request – Appendix A (Excel (.xls))
- 2011 TYSP Data Request – Appendix B (Excel (.xls))

If you have any questions regarding this request, you may contact me at (850) 413-6626 (pellis@psc.state.fl.us) or Traci Matthews at (850) 413-6682 (tmatthews@psc.state.fl.us). Thank you for your assistance.

Sincerely,

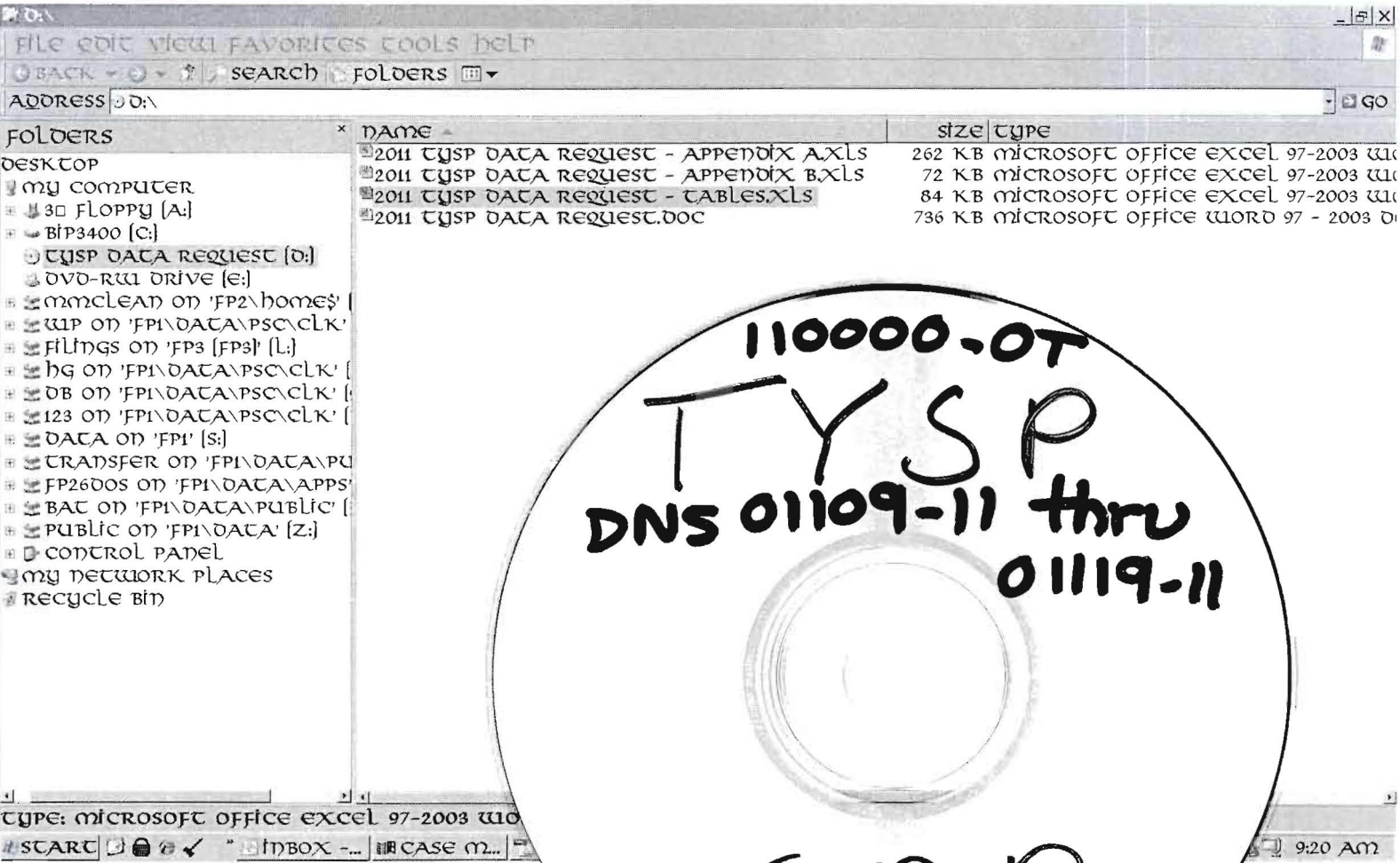
Handwritten signature of Phillip Ellis in cursive.

Phillip Ellis  
Division of Regulatory Analysis

Enclosure

cc: Office of the General Counsel (Murphy)  
Office of the Commission Clerk (Cole)

DOCUMENT NUMBER: DATA  
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2/22/11  
Filing note.  
Pursuant to my conversation with Phillip Ellis, outside  
and document will be extracted from this CD and  
made available on line. The CD will be returned  
to staff.  
-Ann Cole

## 2011 TEN YEAR SITE PLANS : SUPPLEMENTAL DATA REQUEST

Company Name: \_\_\_\_\_

### Renewable Generation Resources

As used in the proceeding questions, the term “renewable energy” has the same meaning as used in Section 377.803, Florida Statutes. Please refer to the tables below when identifying fuel and generator types.

Fuel Types	Shorthand	Examples
Biomass	AB	Agriculture By-Products, Bagasse, Straw, Energy Crops.
	MSW	Municipal Solid Waste
	SLW	Sludge Waste.
	WDS	Wood / Wood Waste Solids
	OBS	Biomass Solids
Landfill Gas	LFG	Landfill gas.
Water	WAT	Hydro
Geothermal	GEO	Geothermal
Biofuels	WDL	Wood / Wood Waste Liquids
	BL	Black Liquor
	OBL	Biomass Liquids
	OBG	Biomass Gases
Solar	SUN	Solar Photovoltaic and Thermal devices
Waste Heat	WH	Waste heat from sulfuric acid manufacture
Wind	WND	Wind Energy.
Other	OTH	Any renewable not covered above. Please describe.

Generation Types	Shorthand
Combined Cycle - Steam Part	CA
Combined Cycle - Combustion Turbine Part	CT
Combined Cycle - Total Unit	CC
Compressed Air Energy Storage	CE
Combined Cycle Single Shaft	CS
Fuel Cell	FC
Combustion Turbine	GT
Hydraulic Turbine	HY
Hydraulic Turbine - Pumped Storage	PS
Internal Combustion Engine	IC
Not Available	NA
Other	OT
Photovoltaic Cells	PV
Steam Turbine	ST
Wind Turbine	WT

## **GENERAL QUESTIONS**

1. Please provide all data requested in the attached forms labeled 'Appendix A,' in electronic (Excel) and hard copy. If any of the requested data is already included in the Company's Ten-Year Site Plan, state so on the appropriate form.
2. Please provide all data requested in the attached forms labeled 'Appendix B,' which consist of Schedules 1 through 10 from the Company's Ten-Year Site Plan, in an electronic copy in Excel (.xls file format).

## LOAD & DEMAND FORECASTING

3. Please provide, on a system-wide basis, an average month of observed peak capacity values for Summer and Winter. From this data, excluding weekends and holidays, generate an average seasonal Daily Loading Curve. Please complete the table below and provide an electronic copy in Excel (.xls file format) and hard copy.
  
4. Please provide, on a system-wide basis, historical annual heating degree day (HDD) and cooling degree day (CDD) data for the period 2001 through 2010 and forecasted annual HDD and CDD data for the period 2011 through 2020. Describe how the Company derives system-wide temperature if more than one weather station is used. Please complete the table below and provide an electronic copy in Excel (.xls file format) and hard copy.

	Year	HDD	CDD
<b>Actual</b>	2001		
	2002		
	2003		
	2004		
	2005		
	2006		
	2007		
	2008		
	2009		
	2010		
<b>Projected</b>	2011		
	2012		
	2013		
	2014		
	2015		
	2016		
	2017		
	2018		
	2019		
	2020		

5. Please provide the following data to support Schedule 4 of the Company's Ten-Year Site Plan: the 12 monthly peak demands for the years 2008, 2009, and 2010; the date when these monthly peaks occurred; and, the temperature at the time of these monthly peaks. Describe how the Company derives system-wide temperature if more than one weather station is used. Please complete the table below and provide an electronic copy in Excel (.xls file format) and hard copy.

Year	Month	Peak Demand (MW)	Date	Day of Week	Hour	Temperature (F)
2008	1					
	2					
	3					
	4					
	5					
	6					
	7					
	8					
	9					
	10					
	11					
	12					
2009	1					
	2					
	3					
	4					
	5					
	6					
	7					
	8					
	9					
	10					
	11					
	12					
2010	1					
	2					
	3					
	4					
	5					
	6					
	7					
	8					
	9					
	10					
	11					
	12					

6. Please discuss any recent trends in customer growth, by customer type (residential, industrial & commercial, etc), and as a whole. Please explain the nature or reason for these trends, and identify what types of customers are most affected by these trends. (For example, is a decline in customers a loss of temporary construction meters or a decline in population?)
  
7. Please discuss any impacts of “smart” or digital meter installations on forecasting sales and net energy for load. Please explain the nature or reason for these trends, and identify what types of customers are most affected by these trends. (For example, are increased sales due to more accurate measurement of low-load conditions?)

## RENEWABLE GENERATION

8. Please provide the estimated total capacity of all renewable resources the utility owns or purchases as of January 1, 2011. Include in this value the sum of all utility-owned, and purchased power contracts (firm and non-firm), and purchases from as-available energy producers (net-metering, self-generators, etc.). Please also include the estimated total capacity of all renewable resources (firm and non-firm) the utility is anticipated to own or purchase as of the end of the planning period in 2020.

Fuel Type	Renewable Resource Capacity (MW)	
	Existing	Planned
Solar		
Wind		
Biomass		
Municipal Solid Waste		
Waste Heat		
Landfill Gas		
Hydro		
<b>Total</b>		











16. Provide, on a system-wide basis, the historical annual average as-available energy rate in the Company's service territory for the period 2001 through 2010. Also, provide the forecasted annual average as-available energy rate in the Company's service territory for the period 2011 through 2020. Please use the Consumer Price Index to calculate real as-available energy rates. Please complete the table below and provide an electronic copy in Excel (.xls file format) and hard copy.

Year	As-Available Energy (\$/MWh)		CPI
	Real	Nominal	
2010			
2011			
2012			
2013			
2014			
2015			
2016			
2017			
2018			
2019			
2020			

17. Please discuss any studies conducted or planned regarding the use combinations of renewable and fossil fuels in existing or future fossil units. What potential does the Company identify in this area?
18. Please discuss any planned renewable generation or renewable purchased power agreements within the past 5 years that did not materialize. What was the primary reason these generation plans or purchased power contracts were not realized? What, if any, were the secondary reasons?
19. Please discuss whether the company purchases or sells Renewable Energy Credits. As part of this response, please discuss whether the company offers the sale of Renewable Energy Credits to its customers through a green pricing or similar program.

## TRADITIONAL GENERATION

20. Please provide the cumulative present worth revenue requirement of the Company's Base Case for the 2011 Ten-Year Site Plan. If available, please provide the cumulative present worth revenue requirement for any sensitivities conducted of the Company's generation expansion plan.
  
21. Please illustrate what the Company's generation expansion plan would be as a result of sensitivities to the base case demand. Include impacts on unit in-service dates for any possible delays, cancellations, accelerated completion, or new additions as a result.
  
22. Please complete the following table detailing planned unit additions, including information on capacity and in-service dates. Please include only planned conventional units with an in-service date past January 1, 2011, and including nuclear units, nuclear unit uprates, combustion turbines, and combined-cycle units. For each planned unit, provide the date of the Commission's Determination of Need and Power Plant Siting Act certification (if applicable), and the anticipated in-service date.

Planned Unit Additions for 2011 through 2020

Generating Unit Name	Summer Capacity (MW)	Certification Dates (if Applicable)		In-Service Date
		Need Approved (Commission)	PPSA Certified	
<b>Nuclear Unit Additions / Uprates</b>				
<b>Combustion Turbine Unit Additions</b>				
<b>Combined Cycle Unit Additions</b>				
<b>Steam Turbine Unit Additions</b>				

23. For each of the generating units contained in the Company's Ten-Year Site Plan, please discuss the "drop dead" date for a decision on whether or not to construct each unit. Provide a time line for the construction of each unit, including regulatory approval, and final decision point.



26. Please complete the table below, providing a list of all of the Company's steam units or combustion turbines that are candidates for repowering. As part of this response, please provide the unit's fuel and unit type, summer capacity rating, in-service date, and what potential conversion/repowering would be most applicable. Also include a description of any major obstacles that could affect repowering efforts at any of these sites, such as unit age, land availability, or other requirements.

<b>Plant Name</b>	<b>Fuel &amp; Unit Type</b>	<b>Summer Capacity (MW)</b>	<b>In-Service Date</b>	<b>Potential Conversion Type</b>



27. Please complete the table below, in electronic (Excel) and hard copy, regarding the Company's generation fleet and the typical use of each unit. Please identify capacity type as either Baseload, Intermediate, or Peaking, and group units by their capacity type. Please use the abbreviations for fuel and generation facilities from the FRCC Load and Resource Plan for the table below. (For example, a combustion turbine that is not part of a combined cycle unit is identified with generator code "GT.") Please complete the tables below and provide an electronic copy in Excel (.xls file format) and hard copy.

**Existing Facilities as of January 1, 2011**

Plant	Unit #	Unit Type	Fuel Type	Typical Capacity Factor	Capacity Type	Summer Capacity
				(%)		(MW)
				<b>Sub-Total</b>	<b>Baseload</b>	
				<b>Sub-Total</b>	<b>Intermediate</b>	
				<b>Sub-Total</b>	<b>Peaking</b>	
					<b>Total</b>	

**Planned Facilities during 2011 to 2020**

Plant	Unit #	Unit Type	Fuel Type	Typical Capacity Factor	Capacity Type	Summer Capacity
				(%)		(MW)
				<b>Sub-Total</b>	<b>Baseload</b>	
				<b>Sub-Total</b>	<b>Intermediate</b>	
				<b>Sub-Total</b>	<b>Peaking</b>	
					<b>Total</b>	

28. Please complete the table below regarding the system's installed capacity, categorized by capacity type, for the period 2001 through 2020. Please complete the table below and provide an electronic copy in Excel (.xls file format) and hard copy.

Year		Baseload Capacity	Intermediate Capacity	Peaking Capacity	Total Installed Capacity
Actual	2001				
	2002				
	2003				
	2004				
	2005				
	2006				
	2007				
	2008				
	2009				
	2010				
Projected	2011				
	2012				
	2013				
	2014				
	2015				
	2016				
	2017				
	2018				
	2019				
	2020				

29. Please provide the system average heat rate for the generation fleet for each year for the period 2001 through 2020. Please complete the table below and provide an electronic copy in Excel (.xls file format) and hard copy.

Year		System Average Heat Rate (BTU/kWh)
Actual	2001	
	2002	
	2003	
	2004	
	2005	
	2006	
	2007	
	2008	
	2009	
	2010	
Projected	2011	
	2012	
	2013	
	2014	
	2015	
	2016	
	2017	
	2018	
	2019	
	2020	

30. Please provide the average cost of a residential customer bill, based upon a monthly usage of 1200 kilowatt-hours, in nominal and real dollars for the period 2001 through 2020. Please use the Consumer Price Index to calculate real residential bill values. Please complete the table below and provide an electronic copy in Excel (.xls file format) and hard copy.

Year		Residential Bill (\$/1200-kWh)		CPI
		Real	Nominal	
Actual	2001			
	2002			
	2003			
	2004			
	2005			
	2006			
	2007			
	2008			
	2009			
	2010			
Projected	2011			
	2012			
	2013			
	2014			
	2015			
	2016			
	2017			
	2018			
	2019			
	2020			



32. Please identify each of the Company’s existing and planned power sales, including firm capacity exports reflected in Schedule 7 of the Company’s Ten-Year Site Plan. Provide the purchaser, capacity, associated energy, and term of each purchase, and provide unit information if a unit power sale. Please complete the table below and provide an electronic copy in Excel (.xls file format) and hard copy.

**Existing Power Sales as of January 1, 2011**

Purchaser	Contract Term		Contract Capacity (MW)		Annual Generation (MWh)	Capacity Factor (%)	Primary Fuel (if any)	Description
	Begins	Ends	Summer	Winter				

**Planned Power Sales for 2011 through 2020**

Purchaser	Contract Term		Contract Capacity (MW)		Annual Generation (MWh)	Capacity Factor (%)	Primary Fuel (if any)	Description
	Begins	Ends	Summer	Winter				

33. Please discuss and identify the impacts on the Company’s capacity needs of all known firm power purchases and sales over the planning horizon. As part of this discussion, please include whether options to extend purchases or sales exist, and the potential effects of expiration of these purchase or sales.



## FUEL

36. Please provide, on a system-wide basis, the historic average fuel price (in nominal \$/MMBTU) for each fuel type for the period 2001 through 2010. Also, provide the forecasted annual average fuel price (in nominal \$/MMBTU) for each fuel type for the period 2011 through 2020. Please complete the table below and provide an electronic copy in Excel (.xls file format) and hard copy.

Nominal Fuel Price (\$/MMBTU)		Uranium	Coal	Natural Gas	Residual Oil	Distillate Oil
Actual	2001					
	2002					
	2003					
	2004					
	2005					
	2006					
	2007					
	2008					
	2009					
	2010					
Projected	2011					
	2012					
	2013					
	2014					
	2015					
	2016					
	2017					
	2018					
	2019					
	2020					



37. Please provide, on a system-wide basis, the historic annual fuel usage (in GWh) for each fuel type for the period 2001 through 2010. Also, provide the forecasted annual fuel usage (in GWh) for each fuel type for the period 2011 through 2020. Please complete the table below and provide an electronic copy in Excel (.xls file format) and hard copy.

Fuel Usage (GWh)		Uranium	Coal	Natural Gas	Residual Oil	Distillate Oil
Actual	2001					
	2002					
	2003					
	2004					
	2005					
	2006					
	2007					
	2008					
	2009					
	2010					
Projected	2011					
	2012					
	2013					
	2014					
	2015					
	2016					
	2017					
	2018					
	2019					
	2020					

38. Please discuss how the Company compares its fuel price forecasts to recognized, authoritative independent forecasts.
39. For each fuel type (coal, natural gas, nuclear fuel, etc.), please discuss in detail the expected industry trends and factors for the period 2011 through 2020. As part of this discussion, please include how these factors and trends will affect the Company.
40. What steps has the Company taken to ensure gas supply availability and transport over the 2011 through 2020 planning period?
41. Regarding existing and planned natural gas pipeline expansion projects, including new pipelines, affecting the Company for the period 2011 through 2020, please identify each project and discuss it in detail.

42. Please discuss in detail any existing or planned natural gas pipeline expansion project, including new pipelines and off-shore projects, outside the State of Florida that will affect the Company over the period 2011 through 2020.
  43. Regarding unconventional natural gas production (shale gas, tight sands, etc.), please discuss in detail the expected industry factors and trends for the period 2011 through 2020. As part of this discussion, please include how these factors and trends will affect the Company.
  44. Regarding liquefied natural gas (LNG) imports to the United States, please discuss in detail the expected industry factors and trends for the period 2011 through 2020. As part of this discussion, please include how these factors and trends will affect the Company.
  45. Please discuss in detail the Company's plans for the use of firm natural gas storage for the period 2011 through 2020.
  46. Please discuss the actions taken by the Company to promote competition within and among coal transportation modes.
  47. Regarding coal transportation by rail, please discuss the expected industry trends and factors for the period 2011 through 2020. As part of this discussion, please include how these factors and trends will affect the Company. Also include a discussion of any expected changes to terminals and port facilities that could affect coal transportation for the Company.
  48. Regarding coal transportation by water, please discuss the expected industry trends and factors for the period 2011 through 2020. As part of this discussion, please include how these factors and trends will affect the Company. Also include a discussion of any expected changes to terminals and port facilities that could affect coal transportation for the Company.
  49. Regarding planned changes and construction projects at coal generating units, please discuss the expected changes for coal handling, blending, unloading, and storage for the period 2011 through 2020.
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50. For the period 2011 through 2020, please discuss in detail the Company's plans for the storage and disposal of spent nuclear fuel. As part of this discussion, please include the Company's expectation regarding Yucca Mountain, dry cask storage, and litigation involving spent nuclear fuel, and the future of the Nuclear Waste Disposal Act.
  51. Regarding uranium production, please discuss the expected industry trends and factors for the period 2011 through 2020. As part of this discussion, please include how these factors and trends will affect the Company.
  52. Regarding the transportation of heavy fuel oil and distillate fuel oil, please discuss the expected industry trends and factors for the period 2011 through 2020. As part of this discussion, please include how these factors and trends will affect the Company.
  53. Please discuss the effect of changes in fossil fuel prices on the competitiveness of renewable technologies.
  54. Please discuss the effect of renewable resource development (for electric generation and non-generation technologies) on fossil fuel prices.
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## TRANSMISSION

55. Please provide a list of all proposed transmission lines in the planning period that require certification under the Transmission Line Siting Act. Please also include those that have been approved, but are not yet in-service.

Transmission Line	Line Length	Nominal Voltage	Date Need Approved	Date TLSA Certified	In-Service Date
	(Miles)	(kV)			