060220-EC

SEMINOLE ELECTRIC COOPERATIVE, INC.

Petition to Determine Need for

Electric Power Plant

March 2006

Appendices

Seminole Electric
COOPERATIVE INC
IN PARTNERSHIP WITH THOSE WE SERVE

APPENDICES

060220-EC

Appendix A	Summary of Seminole's Existing Generation
Appendix B	Seminole Interconnections with Other Utilities
Appendix C	Pace Global Energy Services Report
Appendix D	Seminole's Forecasts of Consumers, Energy Sales and Coincident Peak Demands
Appendix E	Computer Models Used in Seminole's Resource Planning
Appendix F	Seminole's Fuel Price Forecast
Appendix G	Seminole's Financial and Economic Assumptions
Appendix H	April 2004 Request For Proposals with Addenda
Appendix I	News Release Regarding April 2004 RFP
Appendix J	Economic Assessment Results
Appendix K	Risk Assessment of Base Load Options
Appendix L	Seminole Members' Conservation and DSM Programs

Appendix A

Summary of Seminole's Existing Generation Resources

GENERATION FACILITIES

Plant/Unit	% Owned	Type	MW	In-service Date	Financed by RUS
SGS Unit 1	100	Coal-fired steam	665	2/1/1984	Yes
SGS Unit 2	100	Coal-fired steam	665	12/31/1984	No
Payne Creek	100	Dual fuel (gas, oil) combined cycle	572	1/1/2002	Yes
CR3	1.7	Nuclear	15	3/1/1977	Yes

MW ratings are for winter season

Appendix B

Seminole Interconnections with Other Utilities

Utility Interconnection	Voltage (kV)	Location
FPL	230	Rice
FPL	230	Rice
FPL	230	SGS
FPL	230	SGS
FPL/Lee	230	Lee North Cape Tie Point
FPL	230	Charlotte
TECO	230	Hardee Sub
Hardee Power Partners, Limited	230	Hardee Sub
PEF	230	Vandolah
JEA	230	Firestone Tie Point
City of Ocala	230	Ocala #2 Tie Point
PEF	230	Martin West Tie Point
PEF	230	Silver Springs Tie Point
PEF	230	Silver Springs
PEF	230	Dearmin Tie Point

Note: This table describes the interconnection of physical facilities. The interconnections as described do not necessarily constitute contractual interconnections for purposes of transmission service or interconnections between control areas.

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Long-Term Solid Fuel Availability Analysis

Prepared for:

Seminole Electric Cooperative, Inc.

July 19, 2005

F-I-N-A-L

EXECUTIVE SUMMARY

BACKGROUND & OVERVIEW

Seminole Electric Cooperative, Inc. ("Seminole") retained Pace Global Energy Services, LLC ("Pace Global") to assess from the present through the year 2040 (the "Study Period") the supply availability of petroleum coke, low-sulfur coal, and mid- to high-sulfur coal (collectively referred to as "solid fuel") for proposed new electric generation facilities in Florida. Pace Global analyzed the availability of petroleum coke supply and engaged Hill & Associates Inc. as a subcontractor to evaluate the availability of coal supply for Seminole's new generation. Key findings providing an integrated view on solid fuel availability are presented below; the supporting analysis and commentary underpinning these statements follows in individual reports dedicated to petroleum coke and coal.

KEY FINDINGS

1. Seminole's proposed new solid-fuel-fired generation in Florida is expected to require on an annual basis 0.6-8.0 million short tons ("mmt") of petroleum coke and 1.2 mmt or more of coal, in addition to its existing annual requirements of approximately 4.0 mmt of solid fuel. These estimates assume certain fuel heat contents and blends. Seminole's existing and new generation's actual fuel requirements will likely vary from these estimates, but not significantly enough to change materially the conclusions of this report.

2. The supply of solid fuel from domestic and foreign sources will be adequate over the Study Period to meet the requirements of Seminole's existing and new generation.

3. Seminole's existing and new generation will most likely access petroleum coke supply from Gulf Coast, Midwest, and Caribbean refineries. These facilities currently supply quantities of fuel adequate to meet Seminole's existing and new generation's projected annual requirements.

4. Over the Study Period, refineries in the aforementioned regions are anticipated to add incremental coking capacity in response to the increased demand for transportation fuels and more sour, heavy crude streams.

5. Coal supply for Seminole's new generation is expected to come from Central Appalachia, Illinois, Northern Appalachia, Colombia, and Venezuela. These coal supply basins over the Study Period are expected to produce at levels sufficient to meet the incremental demand resulting from the commercial operation of Seminole's new generation.

6. All of the aforementioned coal supply basins, with the exception of Central Appalachia, are expected either to increase their level of production or have the capability to do so in the future.

7. Supply from Central Appalachia will decrease over the Study Period from its present level of 190 mmt, but growth in production in Illinois and Northern Appalachia as well as increased imports will offset the decline in Central Appalachian production.

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Long-Term Petroleum Coke Supply Availability Analysis

Prepared for:

Seminole Electric Cooperative, Inc.

July 19, 2005

PACE | Global Energy Services

TABLE OF CONTENTS

EXHIBITS

KEY FINDINGS

1. Pace Global expects over the period 2005-2040 (the "Study Period") adequate supplies of petroleum coke ("pet coke") will be available from domestic and foreign suppliers to meet the partial or full fuel demand requirements of new solid-fuel-fired generation in Florida.

2. The world's supply of pet coke will increase from current production levels in response to the increased production of transportation fuels from an increasingly heavy and sour quality crude oil stream.

3. New solid-fuel-fired generation in Florida will most likely access pet coke supply from Gulf Coast, Caribbean, and Midwest refineries. These facilities are expected to add additional coking units in response to the increased demand for higher value transportation fuels.

4. Although increased worldwide demand for and utilization of pet coke is expected over the Study Period, particularly in Asia, Pace Global anticipates that Gulf Coast, Caribbean, and Midwest supply will largely remain in the Atlantic Basin.

5. Due to the Kyoto Protocol, pet coke demand in Northern Europe and the Mediterranean region, the alternative market for Gulf Coast and Caribbean supplies, is expected to stagnate or decline gradually over the Study Period.

6. The cement industry is expected over the Study Period to remain the dominant end user of pet coke, however, the paper and fertilizer industries, which have relied extensively on natural gas as an energy and feed stock have recently shown increasing interest in pet coke as a source of energy and raw material for their plants. Power generators are expected to increase their share of pet coke consumption, as they increasingly install fluidized-bed boilers and scrubbers to comply with emissions restrictions.

7. The majority of pet coke production in the Gulf and Caribbean will be only water accessible, while pet coke shipments in the Midwest region will continue to rely on railroads and river barges.

INTRODUCTION

Seminole Electric Cooperative, Inc. ("Seminole") has retained Pace Global Energy Services, LLC ("Pace Global") to assess from the present through the year 2040 the supply availability of pet coke to meet the partial fuel requirements of new base-load electric generation facilities in Florida whose development is under consideration. Based on information previously conveyed by Seminole, Pace Global has for the purposes of this report assumed that Seminole is contemplating a new plant of approximately 800 megawatts that has the capability to burn both coal and pet coke starting around 2012.

A number of variables will determine the plant's actual pet coke consumption—including, but not limited to its: efficiency, annual capacity factor, and heat content of its fuel. For the purposes of this report, it is assumed that Seminole's new generation will consume annually 0.6-0.8 million short tons ("mmt") of pet coke,[1] in addition to Seminole's existing annual requirement of approximately 1.0 mmt of pet coke. This projection is included to serve as a very high-level estimate of what Seminole's proposed plant might require and to facilitate discussion in the report. Seminole's new generation's actual fuel requirements will likely vary from these estimates, but not significantly enough to change materially the conclusions of this report.

Given the estimated requirements established above, Pace Global in the four sections of the report that follow: 1) provides background discussion on pet coke qualities which make it desirable as a fuel; 2) reviews current pet coke supply; 3) identifies pet coke end uses; and 4) details pet coke market dynamics. The Study Period covers a lengthy span of time—the present, the projected start up of Seminole's new generation facility in five years, and the distant future. In the commentary that follows, Pace Global provides a review of the current market, expectations for the period 2006 through 2025, and probable trends for the period 2026-2040.

[1] All tonnage figures used throughout this report are expressed in tons of 2,000 pounds (so-called "short tons"). Pet coke internationally is priced and sold in metric tons. One short ton is equivalent to 0.907 metric tons.

PET COKE BACKGROUND

When discussing pet coke, it is important to remember that pet coke is a by-product of the process to refine crude oil into more valuable finished products, such as gasoline and jet fuel. The supply of pet coke results from the demand for refined petroleum products, not for pet coke itself. Refiners continuously monitor and adjust their refinery processes to accommodate differing crude slates; consequently, pet coke quality varies considerably making it impossible to identify pet coke with a single set of specifications. The typical specification ranges for pet coke are as follows:

- Moisture: The water content of pet coke is usually low, (less than 0.5 percent to 10.0 percent);
- Ash: Pet coke has less than 1.0 percent ash;
- Energy content: Pet coke averages approximately 14,000 British Thermal Units per pound ("Btu/lb."); and
- Hardness: Pet coke ranges on the Hardgrove Grindability Index ("HGI") from 32 to 70.[2]

In addition to these physical properties, sulfur content also plays a key role in determining how pet coke supply is used. Exhibit 1 provides an overview of the typical sulfur content of pet coke used in various applications.

Exhibit 1: Typical Pet Coke Sulfur Content by Application

Sulfur Content	Application	Industry
High-Sulfur (>4.5 %)	Fuel	Cement Electric Utilities
Mid-Sulfur (>2.5 %)	Manufacturing	Aluminum Steel
Low-Sulfur (>1.00%)	Product Component	Additives Modifiers

Source: Pace Global.

Seminole intends to utilize pet coke as a fuel; therefore, this report will focus on "fuel-grade" pet coke as opposed to "anode-grade" coke, which typically has sulfur content of 2.5 percent or less. Through blending, however, the sulfur level in some fuel-grade product can be reduced to levels

[2] The HGI test attempts to mimic the operation of a continuous solid-fuel pulverizer. The test results in a value generally between 30 and 100. The higher the HGI value of the material input into a solid-fuel processing mill, the closer that mill will operate near its design capacity. The HGI test is highly non-linear, such that a change in HGI from 90 to 80 results in a small decrease in mill capacity while a change from 50 to 40 leads to a considerably greater decrease in mill capacity.

suitable for anode-grade applications. Consequently, in practice, there is not a bold distinction purely on the basis of sulfur content between fuel-grade and anode-grade product. Other parameters, such as HGI and metals content also determine how pet coke is utilized.

SUPPLY

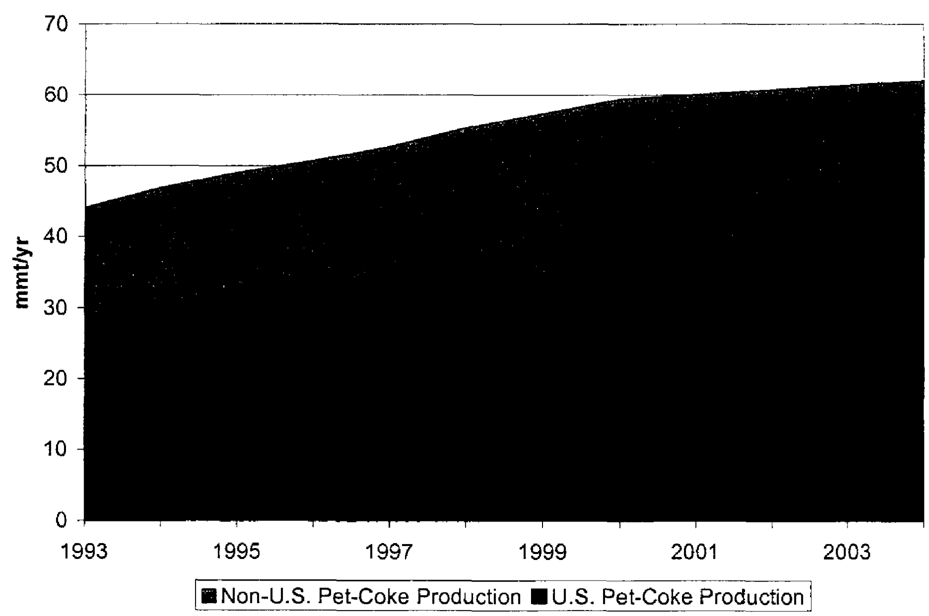
PRODUCTION

In 2004, total worldwide pet coke production is estimated to have totaled around 62 mmt. The major centers for pet coke production are North America producing slightly less than 42 mmt, South America producing almost 10 mmt, Asia producing just less than 6 mmt, and Europe producing 4 mmt. U.S. marketable pet coke production in 2004 was slightly more than 43 mmt (37 mmt of fuel-grade product and 6 mmt of anode-grade product).

Given transportation costs, Pace Global anticipates the pet coke for Seminole's proposed new generation will come from refineries: situated on the Gulf Coast, in the Caribbean, and in the Midwest. These three regions currently produce approximately 66 percent of the world's supply pet coke. When combined, the Gulf Coast and Midwest regions account for 82 percent of pet coke production in the U.S.

Worldwide production of pet coke has increased over the past ten years at a compound annual growth rate of slightly more than three percent. Exhibit 2 provides an overview of domestic and foreign pet coke production over the past decade.

Exhibit 2: Pet-Coke Production, 1993-2004



Source: Pace Global

The primary drivers behind this growth are increasing demand for refined products and deteriorating qualities of crude oil. Currently, the U.S. is the single largest producer of pet coke; its world market dominance results from high U.S. demand for transportation fuels and light petroleum products and the ability of its Gulf Coast refineries to process cheaper, heavier crude oils located in nearby countries, such as Venezuela and Mexico.

PRODUCTION CAPACITY

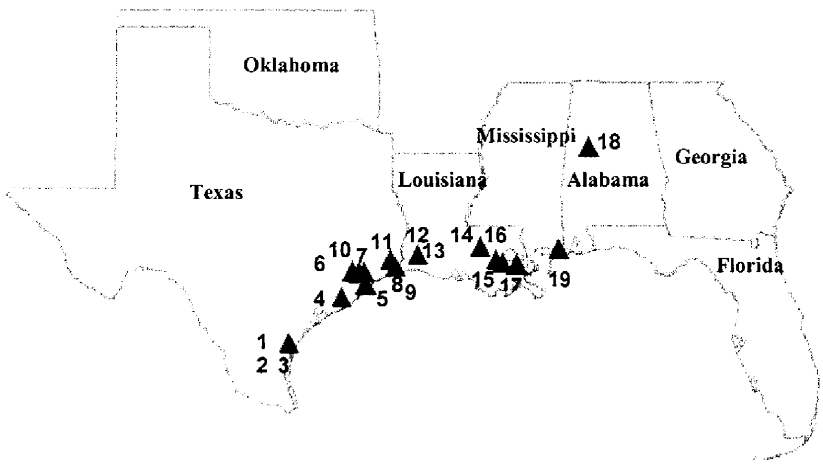
There are 674 refineries in the world, 108 of them currently have coking units. Worldwide annual pet coke capacity at the end of 2004 was estimated to stand at approximately 82 million mmt, with just over 48 mmt of this capacity located in the U.S.

With more than 24 mmt/year of installed production capacity, the U.S. Gulf Coast is home to the largest concentration of fuel-grade coking facilities in the world. The Caribbean region contains an additional 8 mmt/year of fuel-grade production capacity. Refineries in the Midwest are currently shipping pet coke to end users in Florida; therefore, Pace Global has also views these production facilities as possible supply sources for Seminole's new generation. The Midwest thus offers an additional 8 mmt of capacity. Seminole's proposed new generation in Florida would at present likely have access to over 40 mmt of production capacity.

In Exhibits 3, 4, and 5, Pace Global details annual fuel-grade pet coke production capacity by the major regions expected to supply Seminole's proposed new generation.

Gulf Coast

Exhibit 3: Gulf Coast

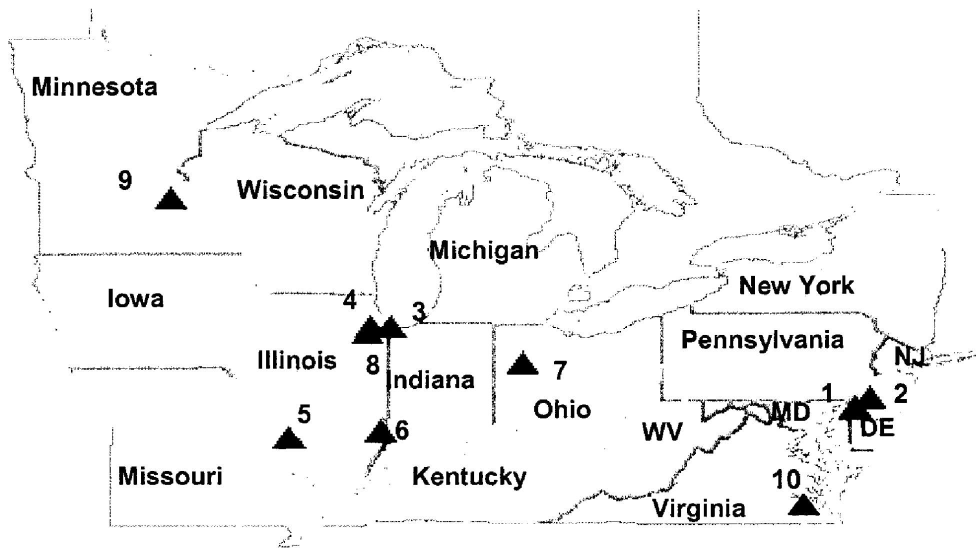


No.	Company	Facility	Annual Production Capacity (mmt)	Sulfur (%)	HGI
1	Citgo	Corpus Christi, TX	0.8	3.9	45-50
2	Flint Hill Resources	Corpus Christi, TX	0.3	3.0-5.5	70
3	Valero Refining Co.	Corpus Christi, TX	0.4	n/a	n/a
4	Phillips 66	Sweeny TX	1.5	4.3	52
5	BP	Texas City, TX	1.0	6.0	80
6	Deer Park Refining LTD Partnership*	Deer Park, TX	1.5	6.3-6.5	38-42
7	Exxon Mobil	Baytown, TX	0.9	6.0-7.0	35
8	Motiva	Port Arthur, TX	1.2	6.0-6.5	60-65
9	Premcor	Port Arthur, TX	1.9	6.5	30-35
10	Lyondell / Citgo	Houston, TX	2.1	3.8-4.0	55-60
11	Exxon Mobil	Beaumont, TX	1.1	6.0	48-55
12	Citgo	Lake Charles, LA	2.4	4.5-5.0	50-65
13	Conoco	Lake Charles, LA	1.2	6.0	40
14	Exxon Mobil	Baton Rouge, LA	2.6	5.0-7.5	45-90
15	Chalmette Refining, LLC**	Chalmette, LA	0.8	4.5	45-50
16	Marathon	Garyville, LA	0.8	7.5	30
17	Orion	Good Hope, LA	1.5	4.5	45-55
18	Hunt	Tuscaloosa, AL	0.3	5.0	40
19	Chevron Texaco	Pascagoula, MS	1.8	5.0	65
	Total Fuel-Grade Pet Coke Production Capacity		**24.1**		

*Joint venture between Shell and Petroleos Mexicanos (PEMEX)
**Joint venture between ExxonMobil and PDV Chalmette, Inc.
Source: Energy Argus Petroleum Coke, EIA, and Pace Global.

Midwest

Exhibit 4: Midwest

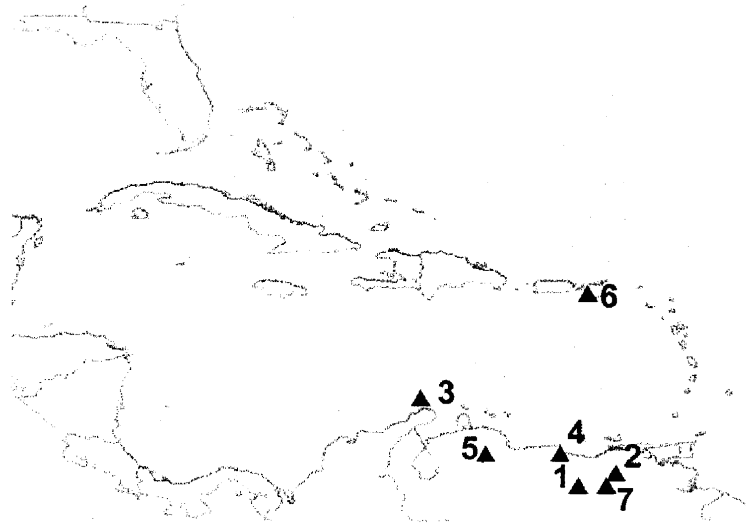


No.	Company	Facility	Annual Production Capacity (mmt)	Sulfur	HGI
1	Motiva	Delaware City, DE	1.1	4.0-6.0	37
2	Valero	Paulsboro, NJ	0.6	6.0-6.5	<50
3	BP	Whiting, IN	0.8	4.0-5.0	n/a
4	Citgo	Lemont, IL	0.8	4.5-5.5	50
5	Conoco Phillips	Hartford, IL	0.4	6.5	30-35
6	Marathon	Robinson, IL	0.6	4.1	65
7	Premcor	Lima, OH	0.5	6.5	30-35
8	ExxonMobil	Joliet, IL	1.3	5-5.5	45-50
9	Flint Hill Resources	Rosemount, MN	1.6	6.0	40
10	Giant Industries	Yorktown, VA	0.5	1.5	80
	Total Fuel-Grade Pet Coke Production Capacity		**8.2**		

Source: RDI, Energy Argus Petroleum Coke, and Pace Global.

Caribbean

Exhibit 5: Caribbean Region



No.	Company	Annual Production Capacity (mmt)	Sulfur	HGI
1	Conoco Petrozuata	1.2	4.00%	65
2	Exxon Cerro Negro	0.9	4.50%	60
3	Valero Aruba	1.7	6.00%	50
4	PDVSA Lagoven	0.7	4.20%	55
5	PDVSA Maraven	1.5	4.00%	45
6	Hovensa	1.3	4.50%	30
7	Hamaca Project	1.3	4.00%	40
Total Fuel-Grade Pet Coke Production Capacity		**8.6**		

Source: Energy Argus Petroleum Coke and Pace Global.

The majority of coking capacity additions are expected to take place in the U.S. (particularly along the Gulf Coast to handle sour imported crude and in the Midwest to process heavy crude from Canada) and the Caribbean. Over the longer-term, e.g., the next 20 years, Pace Global expects additional delayed coking capacity to come on-line throughout the world with continued emphasis on the North America due to its proximity to large heavy sour crude oil reserves and the lower investment cost of adding coking capacity, instead of other technological solutions, to serve growing transportation fuels demand.

In Exhibit 6, Pace Global details the nine fuel-grade coker additions that are either being planned or considered for the Gulf Coast, Midwest, and Caribbean.

Exhibit 6: Potential Fuel-Grade Pet Coker Additions

Producer	Refinery Location	Status	Expected Onstream Year of Incremental Capacity
Premcor	Port Arthur, TX	Under construction	2006:Q2
Citgo	Lake Charles	Planning	2008
ConocoPhillips	Hartford, IL	Planning	2008
Premcor	Lima, OH	Planning	2008
Marathon	Robinson, IL	Under review	2008
Hamaca	Venezuela	Under review	2010
El Palito	Venezuela	Under review	2010
Puerto La Cruz	Venezuela	Under review	2010

Source: Pace Global

Through its industry sources, Pace Global has learned that the refineries listed above intend to increase their pet coke production capacity in the next five to ten years. For instance, ConocoPhillips has recently confirmed budgeting to expand their coking operations at its Wood River, Illinois refinery.

PET COKE QUALITY

Pace Global expects that pet coke quality will continue to deteriorate as refineries process increasingly heavy-sour crude oils. Within the past decade, the gravity, as measured on the American Petroleum Institute ("API") Scale, of the crude processed at refineries in the U.S. has decreased at a rate in excess of 0.10 degree per year. This decline in crude quality is expected to accelerate in the future and will produce pet coke, which is generally harder and contains higher quantities of sulfur and metals. Any plant adding pet coke to its current fuel mix will likely require additional crushing capacity to handle supply that is often harder than coal.

The level of sulfur content, hardness, and metals concentrations determine the pet coke's application and thus its market value. A carbon usage pet coke generally requires a sulfur content of less than 2.5 percent and low metals content. When the sulfur content exceeds 2.5 percent, the pet coke becomes less suitable as a carbon source. The higher sulfur, fuel-grade pet cokes have been categorized into four price ranges based on their sulfur content and hardness. The best quality fuel-grade pet coke has sulfur content of 4.5 percent and an HGI of less than 50. The next best pet coke quality has the same sulfur limit, but is has a hardness of greater than 50 HGI. The other two fuel-grade pet cokes have a higher sulfur level of 6.5 percent and HGI's of less than 50 or greater than 50.

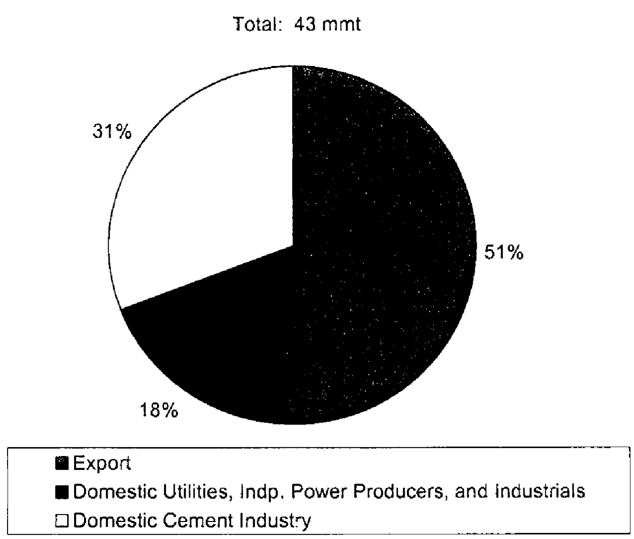
Pace Global anticipates that the average sulfur and metal contents of the fuel-grade pet coke will continue to continue increase through the Study Period. Currently, 33 percent of U.S. pet coke production is "shot pet coke." Shot pet coke has a HGI of less than 50, usually in the range of 35 to 45. It is expected that within 10 years, the U. S. production of shot pet coke will increase to 55 percent of the country's pet coke supplies. Consumers of fuel-grade pet coke will need to plan on grinding a harder pet coke between 2005 and 2040.

CONSUMPTION

The global cement industry is the largest purchaser of fuel-grade pet coke. It accounted for 71 percent of traded fuel-grade pet coke in the last decade. The cement industry has limited flexibility when using pet coke as a fuel because the pet coke's ash becomes part of the cement clinker during process. Pet coke is considered important fuel, but not a critical fuel to the cement industry.

Exhibit 7 provides a snapshot of pet coke consumption in the U.S. in 2004 and shows approximately 22 mmt of supply exported abroad.

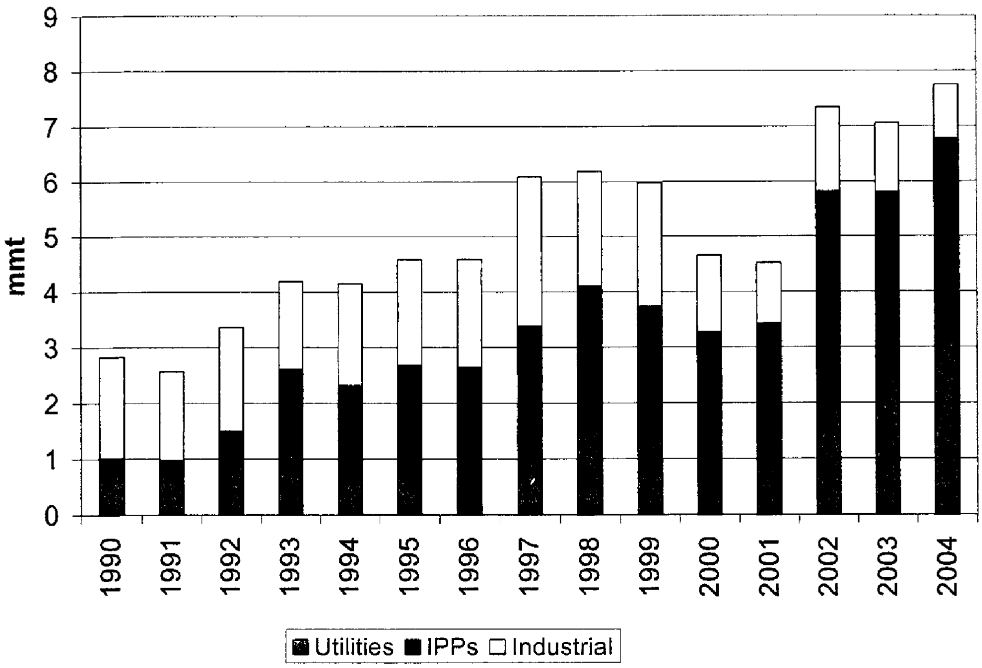
Exhibit 7: U.S. Pet Coke Consumption by Sector, 2004



Source: Pace Global & Energy Argus Petroleum Coke Report.

Total non-cement industry consumption of pet coke in the U.S. market was just over 7 mmt in 2004, with approximately 46 percent of non-cement-industry pet coke consumption coming from utilities. Exhibit 8 depicts by end-use type domestic pet coke consumption.

Exhibit 8: U.S. Pet coke Consumption, 1990-2004



Source: EIA

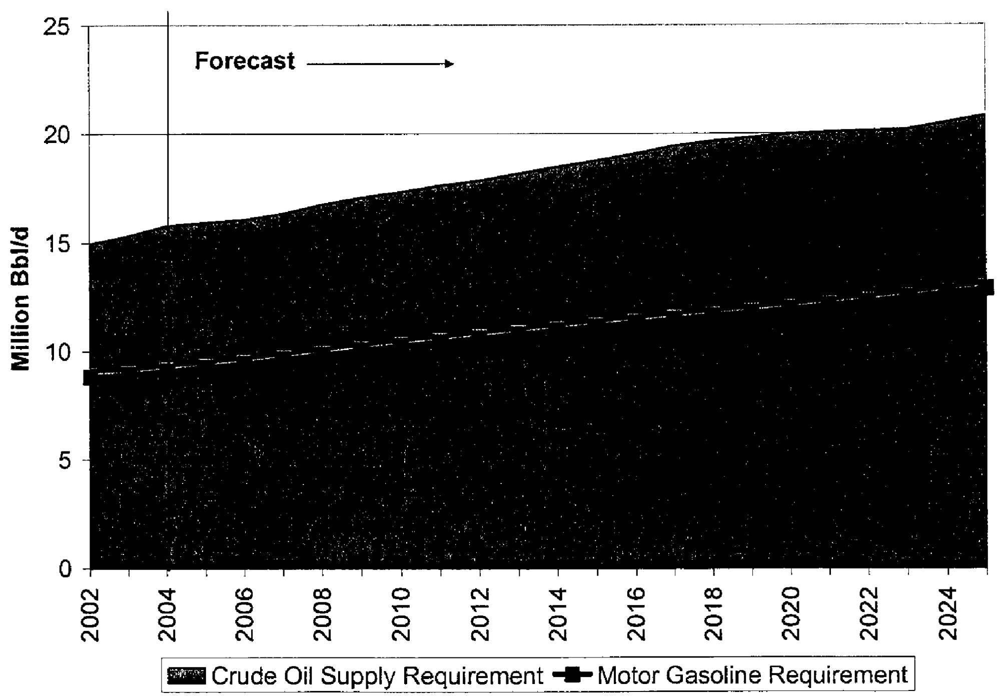
In the U.S., the power generation sector is a growing consumer of pet coke and is assuming a "swing" role in the market. Utilities over the past five years have increased their consumption of pet coke at a compound annual growth rate of almost 33 percent. Power stations have the flexibility of storage and fuel switching since pet coke is generally considered a secondary (opportunity) fuel to a station's overall fuel needs.

Power generators remain concerned about their existing plants' ability to use pet coke due to the tighter NO_x emission restrictions as well as expected tightening of the SO_2 emission allowance market towards the end of the decade. Due to these environmental concerns and the volatility of market-based pet coke prices, many end users consider pet coke as an "opportunity" fuel, e.g., they only use it to blend with coal, when pet coke is cheap. Hence, Pace Global expects pet coke demand from power generators to grow, though such demand is also expected to exhibit a high degree of price elasticity.

MARKET DYNAMICS

It is Pace Global's view that pet coke production capacity will be added regardless of projected pet coke demand or pricing. The production of fuel-grade pet coke is dependent on the world's demand for transportation fuels, especially motor gasoline, produced from increasingly heavy sour crudes. EIA has forecast that the world's demand for crude oil will continue to grow at an average of 1.9 percent per year until 2025. As shown in Exhibit 9, the consumption of crude oil in the U.S. is expected to grow from almost 16 million barrels per day ("Bbl/d") in 2004 to slightly more than 20 million Bbl/d in 2025, a compound annual growth rate of 1.3 percent. U.S. motor gasoline supply is expected over that same period to increase at a compound annual growth rate of 1.7 percent.

Exhibit 9: U.S. Crude Oil and Motor Gasoline Consumption Forecast



Source: EIA

Growth in world oil demand will move from the industrialized countries and regions, such as the United States, Western Europe, and Japan, to emerging areas such as Eurasia and the developing countries in Asia, South America, and Africa. The quality of annual crude production is expected to continue its decline to heavier and more sour crudes in all areas of the world. Thus the world's refineries will be under pressure to increase their coking operations to accommodate the poorer crude qualities.

As the demand for transportation fuels increases during the next two decades it is likely new refineries, with cokers, will be built nearer these emerging markets. As this trend accelerates, the U.S. will gradually lose its dominant position as the world's leading producer of pet coke but will likely continue to produce 45 to 55 mmt of fuel-grade product because of its transportation fuel requirements.

The demand for fuel-grade pet coke as a combustion fuel is likely to decrease in the industrialized countries and reduce U.S. exports. Due to the Kyoto Protocol, demand in Northern Europe and the Mediterranean region, the alternative market for Gulf Coast and Caribbean supply, is expected to stagnate or decline gradually over the Study Period. Similarly in Japan, a drop of 3 percent in in its current usage of pet coke (approximately 3.4 mmt annually) is anticipated to result from its emissions reduction programs. Due to transportation costs, displaced supply from Europe is likely to stay in the Atlantic Basin and enter the domestic market.

FUTURE PET COKE PRODUCTION

2005-2025

By 2010, annual pet coke production worldwide is forecast to exceed 85 mmt. The supply of pet coke in the following 15 years will continue to increase as the world's demand for crude oil is anticipated to to grow at a 1.9 percent compound annual growth rate. Much of the incremental crude supply will come from heavy sour crudes. Between 2010 and 2025, pet coke production is expected continue to increase at an annual average growth rate in excess of 3 percent, with annual production of pet coke production reaching just over 138 mmt in 2025. Pet coke production in the U.S. will likely reach its maximum during these two decades.

2026 to 2040

The world production of fuel-grade pet coke during this period will likely flatten out as the conservation of transportation fuels picks up its pace. Alternative methods of transportation, such as the hydrogen-based fuel cells, may begin to replace carbon-based fuel consumption. However, the decline of fossil fuels consumption will be slow and not reach significantly lower levels until the turn of the century.

COAL BASIN SUPPLY AVAILABILITY EVALUATION TO 2040

Prepared for:
SEMINOLE ELECTRIC COOPERATIVE, Inc.

By:
Hill & Associates, Inc.

June 24, 2005

HILL & ASSOCIATES INC.

Table of Contents

List of Figures

List of Tables

COAL BASIN SUPPLY AVAILABILITY EVALUATION TO 2040 FOR SEMINOLE ELECTRIC, FLORIDA

INTRODUCTION

Hill & Associates (H&A) was retained as a subcontractor to Pace Global Energy Services, Fairfax, VA to provide an evaluation of coal supply availability to 2040 for the following coal basins and supply countries:

- Central Appalachia
- Illinois Basin
- Northern Appalachia
- Colombia
- Venezuela

The report generated in response to this assignment is organized in the following manner. First, an **overview** of each basin is provided at the beginning of the section. The overview provides a description of the region from geologic and coal mining perspectives.

Then, a section is devoted to **production** for each basin, including historical and projected production according to sub-region (if applicable) and coal quality type. This section also contains discussion on current mining technologies employed in the basin and trends for future mining.

The section on **reserves** attempts to respond to the issue of availability of reserves to satisfy mining to 2040. Tables are included in this section that display reserves by coal quality type or level of reserve definition (e.g., measured, indicated, inferred, etc.).

The last section of each basin presentation provides a review of **key issues and drivers** impacting current and future mining in that basin.

Tonnage references throughout this report relate to short, or net, tons of 2000 lb. For all coal basins, reference to *mmt* references "million short tons."

KEY FINDINGS

Summary comments. The evaluation of the several coal sources reviewed in this study shows adequate reserves available to produce low-, mid- and high-sulfur coals at current levels far beyond 2040. Coal production will continue in all of the U.S. coal basins and will be increasingly supplemented by foreign sources evaluated in this review through year 2040. There are variances among the sources in sustainability by product type but, with prudent and strategic purchasing policies in place, the overall supply of coal to Florida generating plants should present no serious problem.

All of the basins either are expanding or have adequate expansion potential beyond 2040, with the exception of Central Appalachia which has been declining since 1998. Hill & Associates' outlook for the basins indicates that Central Appalachian coals will continue to be displaced in utility blends in the future. Illinois Basin and Northern Appalachian mid- and high-sulfur coals will move into the south and southeastern markets to serve those plants that install scrubbers. Both of these basins are likely to expand production to meet this new demand. Imported coals will compete in utility blends to free up SO_2 credits, to offset higher sulfur coals or, displace Central Appalachian coals. The penetration of imports will occur along the coastal regions from the northeast down and across the Gulf region. As railroads begin to embrace the import concept, H&A predicts that more imports will arrive at inland plants by rail in coming years.

Table 1 shows the production alignment of each coal source according to coal type for 2005:

Table 1

Coal Basin Production Alignment by Coal Type – 2005

Coal Source lb. SO2/mmBtu	**Compliance** <1.2	**Near-Compliance** 1.2-2.5	**Mid-sulfur** >2.5-5.0	**High-Sulfur** >5.0	**Total**
Central Appalachia - mmt	53.2	133.0	3.8	0.0	190.0
percent	*28*	*70*	*2*	*0*	*100*
Northern Appalachia	1.5	29.3	54.8	37.7	123.3
percent	*1*	*24*	*44*	*31*	*100*
Illinois Basin	2.1	23.1	18.5	52.0	95.7
percent	*2*	*24*	*20*	*54*	*100*
Colombia	24.3	49.4	0.0	0.0	73.7
percent	*33*	*67*	*0*	*0*	*100*
Venezuela	8.0	2.0	0.0	0.0	10.0
percent	*80*	*20*	*0*	*0*	*100*

The table shows that mid- to high-sulfur coals are most prevalent in the Northern Appalachian region and Illinois Basin region. Lower sulfur, compliance and near-compliance coals are found in all coal sources but the important volumes of compliance grade coals from Central Appalachia, which are declining, will, when replacement is required, be most available from Colombia. Near-compliance coals are also prevalent in all coal sources in sufficient amounts that would indicate less difficulty in the long term to obtain supply of this type of coal from several sources.

The following paragraphs summarize the key findings by source region or country. Full basin/country presentations follow this summary.

Central Appalachia. This basin is in decline and few large-scale economic reserve blocks remain. There are higher-cost reserves in deeper seams that can be developed and certain producers will be able to expand production at or near existing mine operations. CAPP will decline significantly by 2040 but, even then, we expect production at levels in the range of 50 to 100 mmt per year. Low-sulfur CAPP production will be replaced by Powder River Basin coals and imported coals from Latin America, Indonesia, South Africa and Russia.

Illinois Basin. Tremendous coal reserves exist and significant expansion is possible in the ILB. At existing or even greatly expanded production the basin will continue production well past year 2040. The ILB produces high-sulfur coals and will be positively impacted by the shift in demand to high sulfur coals that will occur in U.S. generating stations that will be adding scrubbers to meet emissions standards.

Northern Appalachia. Remaining Pittsburgh seam reserves would support production at existing levels for over 36 years. There are large reserves blocks controlled by major producers such as Consol and Foundation Coal that must be developed to sustain production. At present, H&A's forecast indicates NAPP production could begin to decline around 2015 but should still be producing at levels near 100 mmt per year by 2040. This source of mid- to high-sulfur coals will compete with the ILB in scrubber markets but both sources are capable of movement to Florida plants.

Colombia. Ample reserves and production will be available to ensure adequate supply of Colombian coals beyond 2040. This source is still in the developing stage and enormous reserves of low-sulfur thermal coals exist. Major producers Drummond and Cerrejon Coal are targeting aggressive expansion plans at generating and industrial plants in the U.S.

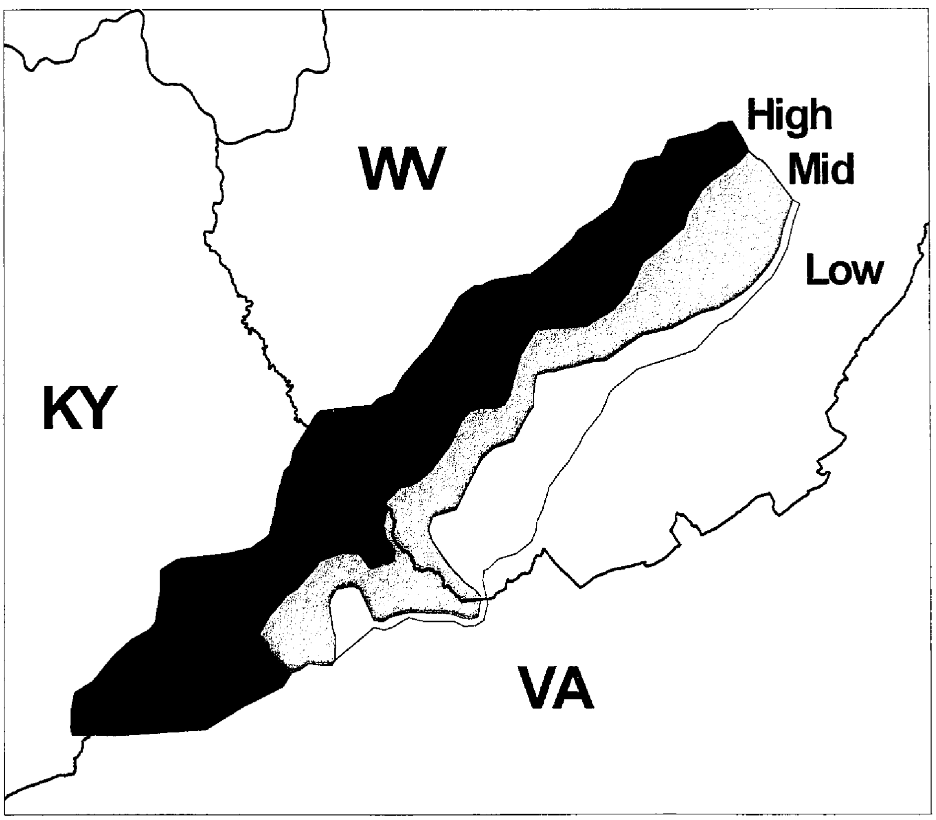
Venezuela. Like Colombia, Venezuela is only just developing its coal reserves. There are enormous reserves in Venezuela and the few producers there have solid plans to increase production significantly from around 8 mmt per year to over 20 mmt per year by 2014. This increase will come about after development of rail/port infrastructure which is now being undertaken. This coal source produces a high-calorific value, low-sulfur product that will compete with and replace dropping CAPP coal in the future. Supply availability beyond 2040 is assured unless there is a political upheaval that disrupts trade.

CENTRAL APPALACHIA

CENTRAL APPALACHIA OVERVIEW

The Central Appalachian coal region (CAPP) is comprised of bituminous coal production, principally from mines in southern West Virginia, eastern Kentucky, southwestern Virginia, and Tennessee (see Figure 1). The coal is generally high in Btu value, ranging from 12,000 – 13,000 Btu, and is low in sulfur content, ranging from 0.7% compliance coals up to 2.0% sulfur coals. The CAPP basin is the second largest producing region in the U.S., accounting for about 232 million tons of annual coal production. This is almost 20% of all U.S. coal production.

Figure 1
Central Appalachian Coalfields by Volatile Content



As the figure shows, the coal mining area of CAPP is aligned northeast to southwest. The region is the primary U.S. source of high quality metallurgical coals and low-sulfur, high-Btu thermal coals. Most of the thermal coals are high volatile content coals (i.e., greater than 32% volatile matter) and are produced in the areas shown in red in the figure.

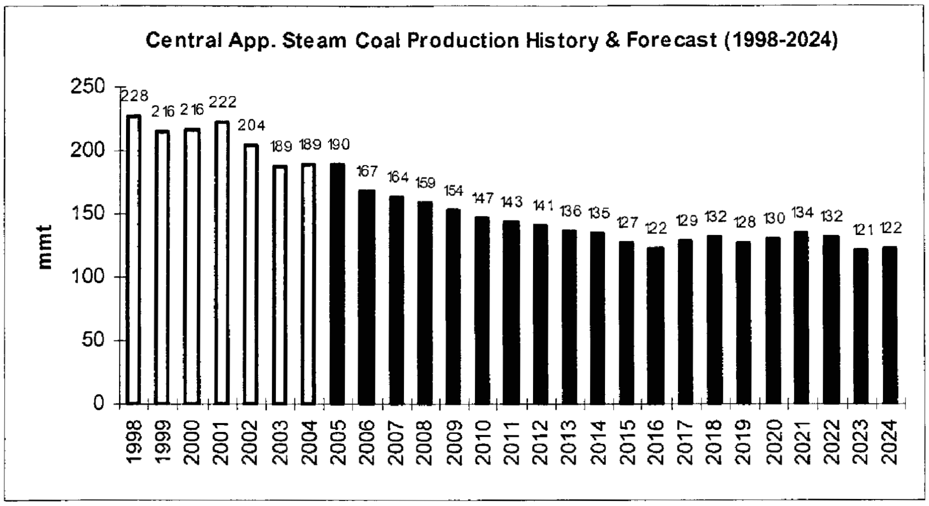
A brief description of the geology of the coal measures of each CAPP production area, by state, follows.

- **Southwestern West Virginia.** The major producing sub-region, SW WV produces about 45.6% of CAPP production. The rugged landscapes of West Virginia are held up by the presence of a series of rocks that thickens to the Southeast. When the coals were deposited, the southern part of the state subsided at a more rapid rate than the northern part. This resulted in a thicker rock package that contained more coal seams in the south. This is one of the key reasons why mountaintop removal is a popular form of mining in southern West Virginia.
- **Kentucky,** the second-largest producing CAPP state, contributes about 39.6% of CAPP production. The stratigraphic section of the eastern Kentucky coalfields is composed of a thick series of rocks that form a wedge shape, which thickens to the southeast. The rock package contains a few widespread shales with distinctive marine fossils that are easy to correlate. These zones aid geologists in determining the position of coal seams, how they relate to each other and include the Betsie, Kendrick and Magoffin shales. Most of the mineable coals in Kentucky occur within Breahitt Group. Most of the sub-groups of the Breahitt Formation start at the base of one of these shales.
- **Virginia** produces 13.7% of CAPP production. The coal-bearing portion of Virginia consists of a thick package of rocks that includes numerous coal seams. The following formations are present: Pocahontas, Lee, Norton and Wise.
- **Tennessee** produces a minor amount of coal (<2%). The Tennessee coalfields occupy the area where the Appalachian coalfields are very narrow (about 40 miles). In general, Tennessee coals contain higher sulfur content; the most significant coal seams include: the Walnut Mountain, Jellico, Sewanee and Richland seams.

CENTRAL APPALACHIA - PRODUCTION

Figure 2 shows that CAPP steam coal production is forecast to decline from 228 mmt in 1998 to 190 mmt in 2005, a 17% decrease. H&A's forecast predicts that CAPP will continue to experience a decline in production to as low as 121 mmt in 2024, a 46% decrease from 1998. Beyond H&A's formal forecast to 2024, our expert opinion is that coal production will continue well beyond 2024 in CAPP across all coal types in the remaining reserves of CAPP. Production is expected to continue to decline, possibly to a level of around 100 mmt by 2040, unless higher prices stimulate new projects in deeper, thinner seam coal resources in the future as described below.

Figure 2



About 28% of the Central Appalachian coals that are sold to utilities are compliance grade, containing less than 1.2 $LBSO_2$ per million Btus. 70% of the coals sold to utilities are "near-compliance grade", ranging between 1.2 and 2.5 $LBSO_2$ per million Btus. The remaining 2% of steam coals from the region are mid-sulfur coals, which contain greater than 2.5 $LBSO_2$ per million Btus.

The following figures depict H&A production projections across different coal quality types for S.WV, E.KY and VA coals:

Figure 3

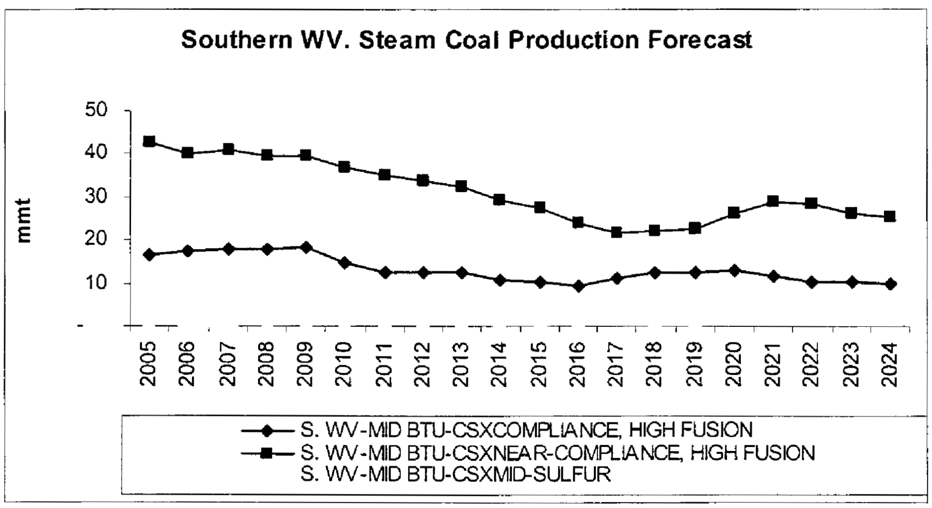


Figure 4

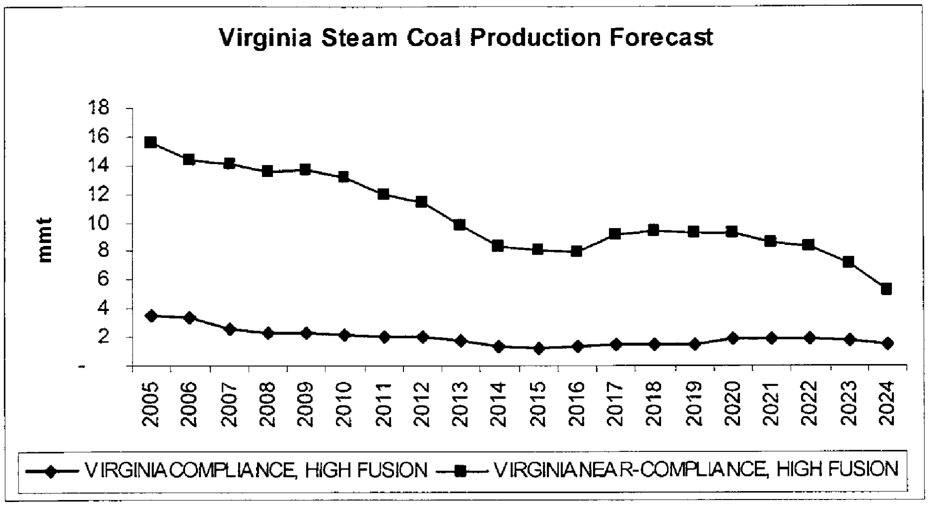
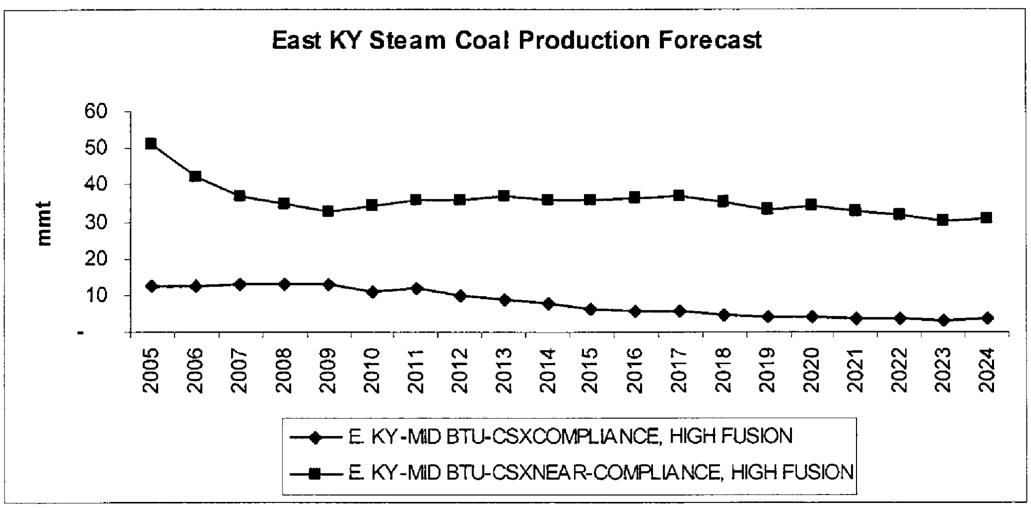


Figure 5



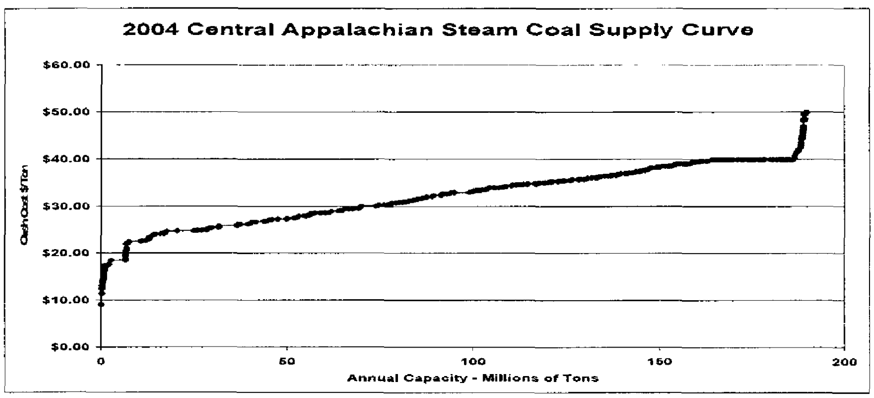
CAPP coal production is approximately 57.2% underground mined and 42.8% surface mined. Up until the past few years surface mined coal was increasing rapidly. However, the issue of mountain-top removal and legislation covering permitting and environmental compliance has caused this trend to stall. The future of surface mining in the region is threatened. Environmental groups and the general public have gained momentum in their challenges to the coal industry, on issues such as refuse impoundment stability; coal truck weight limits (especially in West Virginia); cumulative hydrological impact assessments.

In the past two years, with higher prices prevailing, there is renewed interest in accessing underground mineable reserves that are deeper and more difficult than those previously mined. Some operators are considering developing slopes to access coal seams in areas where the coal is below the drainage and does not outcrop. This type of mining, obviously, is more expensive and requires significant capital expenditure even to get into the producing coal.

The majority of underground mines utilize continuous miner technology although there are some productive longwalls remaining in CAPP. However, it is not likely that many, if any, new longwall mines will be developed in CAPP because there are no large reserve blocks remaining where a longwall could be employed. Many of the larger producers have adapted a specialized continuous mining technology, called "super-section" mining where two continuous miners are used on one section of a coal mine with one crew. This is more expensive in terms of initial equipment investment, but much more productive than a standard continuous miner section.

Cash costs for production CAPP have been steadily increasing due to mining regulations, decreasing productivity, thinner coal seams, reserve depletion, and deeper coal reserves. There was a significant increase in cash costs in 2004. Figure 6 shows the 2004 steam coal mine cash costs for the cumulative potential production capacity in Central Appalachia. The figure shows FOB cash costs ranging from about $10 – $40 per ton.

Figure 6



The supply curve suggests that the marginal cost of production will be about $40 per ton at the 190 million tons per year production level. Coal prices above the $40 per ton range will be required for marginal producers to remain viable. Some of the higher cost production is supported with high priced contracts or industrial sales, and some of the higher costs are at mines that have closed.

Industry consolidation in the CAPP region has been robust. Sine 1998, the consolidation of large producers changes dramatically as: Massey added to its portfolio of properties, AEI Resources added substantial holdings in the late 1990's Arch and

Ashland merged into Arch Coal. AEI Resources purchased Zeigler Coal and Cyprus Amax's eastern operations which were later acquired by RAG American which, in turn, has become an IPO named Foundation Coal Corp.; James River bought Blue Diamond, much of Transco and Sun; Alpha Natural Resources Partners acquired the Pittston assets and several other producing entities; and there have been others.

Massey has increased production in 2004 and now holds a firm lead on Central Appalachian production of 42 million tons. Arch's production was 29.9 million tons in 2004, about 3.6 million tons more than it was in 2003; Peabody's production was 11.8 million tons. James River Coal produced 8.8 million tons. TECO increased production with the addition of Perry County Coal and "pushing more coal" through synfuel plants and was 8.1 million tons of production in 2004. Foundation produced 6.9 million tons. In summary, concentration in the region has been significant. This has allowed some of the companies, such as Massey, to command higher prices in the market due to their control of so much CAPP coal.

When prices went sky high in 2001, CAPP producers (as well as the rest of the country) opened higher cost mines to meet the demand. A similar occurrence again happened in 2003-2004, with prices even higher. CAPP steam coal was at 189 million tons in 2004; however, despite higher prices, the region is not able to further respond to the strong demand and H&A now projects that CAPP steam coal production will end up at 190 million tons in 2005.

We continue to project that production in the region will continue to decline in the long run, as the relatively easily accessible reserves are quickly depleting. However, if higher price levels are sustained in the long term, albeit at lower levels than today's prices, then investment groups will look favorably on big mining projects that will access deeper coal resources than are feasible today.

CENTRAL APPALACHIA – COAL RESERVES

The bulk of the remaining reserve base in Central Appalachia is characterized by thinner seams and associated geological problems. Most of the high-quality thick coal has been mined. There are few large blocks of coal remaining that can be extracted using longwalls or draglines. Over time, mines in this region will have trouble maintaining the productivity growth of the past few decades. Productivity levels and production will decline in the future and productivity growth is likely to slow significantly.

Table 2 summarizes CAPP's economic reserves across different sulfur content categories. The bulk of the reserves are in the near compliance bracket. These reserves exhibit the following characteristics:

- Depleting
- Long-term mining has extracted the thicker and more accessible coalbeds, the remaining thinner and deeper coal deposits are or will be progressively less competitive.

Table 2
CAPP Estimated Economic Reserves (mmt) by Sulfur Content (lbs/mmBtu)

State/SO2 Content	<1.2	1.21-2.49	2.5-4.49	Totals
E.KY	682	2,054	72	2,807
TN	25	95	30	150
VA	192	589	33	814
S.WV	1,348	2,525	317	4,190
Totals	**2,247**	**5,263**	**452**	**7,961**

The table indicates that reserves in southern West Virginia and eastern Kentucky combined could support production levels at current rates well beyond 2040, particularly for a near-compliance product. H&A predicts that, indeed, mines will continue to operate in this region. However, the increasing cost structure could diminish the amount of economic reserves in the future and will definitely do so, should prices drop significantly. Prices, according to our estimates, must sustain the range of $35 to $40 dollars, minimum or higher, in the future to sustain mining and encourage new investment.

KEY ISSUES AND DRIVERS FOR CAPP

- Rapid depletion of coal reserves is occurring (substantial decreases have occurred in the past 3 years and more are to come);
- Coal production costs are high, primarily due to deteriorating geologic conditions;
- Bonding, permitting problems and labor shortages will make it harder to expand existing mines or develop new ones;
- Increased competition from Western coal;
- With CAIR kicking in, more plants are investing in SO_2 clean-up equipment, which would allow them to use cheaper mid- and high-sulfur coals or even completely switch to PRB coal;
- Large mines are controlled by a few major coal producers (Peabody, Arch, Massey, etc.), but there are many smaller mines in the region;
- Most mines have either CSX or NS rail service, but not both;
- Productivity is declining because operations are moving into harder-to-reach coal; and
- There are significant coal mining regulatory and environmental issues in West Virginia (hollow-fills and Section 404 permits).

ILLINOIS BASIN

ILLINOIS BASIN - OVERVIEW

The coalfields of Illinois, Indiana, and western Kentucky lie in the Eastern Region of the Interior Coal Province, better known as the Illinois Basin (ILB). The ILB coal region is comprised of bituminous coal production, principally from mines in western

Kentucky, Indiana, and Illinois. The coal is wide ranging in quality, generally spanning from 10,000 to 12,800 BTU, and from about 0.5 % to 5.0 % sulfur. The ILB is the fourth largest coal-producing region in the U.S., accounting for about 91 million tons of coal production in 2004.

The entire Basin covers more than 50,000 square miles, which are underlain by the coal bearing sequence of rocks that constitute the Pennsylvanian System. Numerous coal beds are exposed at depths ranging from a few feet to over 1,500 feet in the center of the Basin. In Illinois, the beds outcrop in the southern, western, and northern portion of the field and gradually become deeper in the center of the Basin. The coal bearing strata in western Kentucky generally dips to the northwest, but is interrupted by major fault systems. In Indiana, the beds crop out in the eastern portion of the field and gradually become deeper westward.

The mineable beds are relatively thick, flat lying and continue over extensive areas. Beds one to ten feet thick (5.5 feet average) are mined utilizing surface and underground mining methods. The remaining large surface reserve blocks at low (< 19:1 clean) ratios are mainly controlled by Peabody, who has done a tremendous job of maximizing production from these reserves. However, these low-ratio, surface mineable reserves are depleting fast. Over the next 5-10 years most of the large surface mines will have depleted their reserve base and will likely close. Abundant reserves exist with ratios in the 19:1-24:1 range; however, these will probably not be mined due to the high cost versus expected future prices. There are only a few remaining draglines that can mine economically at these depths. Peabody controls most of these machines.

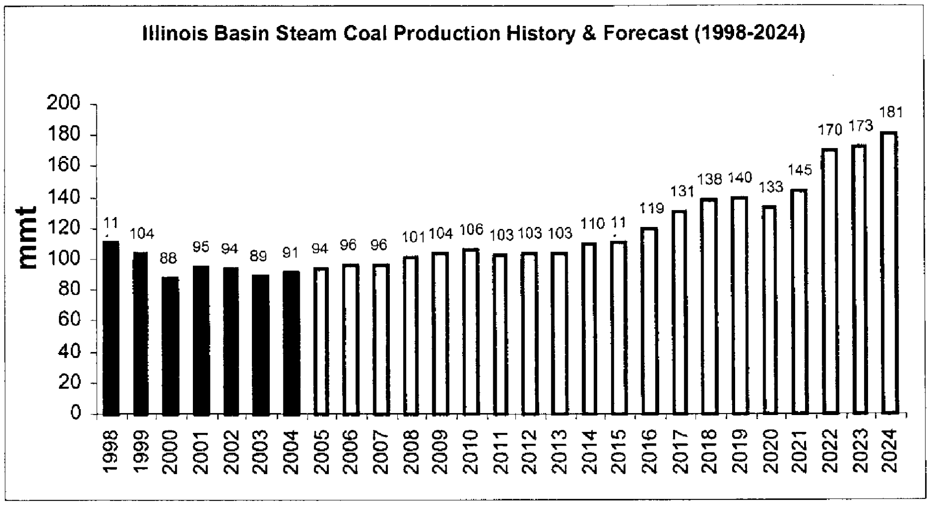
The Basin contains a tremendous underground reserve base, which is about 5 times larger than the Pittsburgh 8 seam reserve base in Northern Appalachia. As the surface reserves deplete and as demand increases and assuming prices justify, these reserves will likely be developed in the next ten years and will be able to support production from the basin well beyond 2040. The deeper reserves, however, contain higher chlorine content than those closer to the surface. And, even though the deeper reserves tend to support low-cost longwall technology, such technology may not be applied if the reserve is below prime farmland where subsidence could present problems.

The strongest companies in the future will be those with large reserve positions that can be developed as non-union mines or mines under modified United Mine Workers of America (UMWA) contracts. Peabody is the largest holder of resources with Alliance, Freeman, Consol, Addington, Horizon, Arch, Freeman, and ExxonMobil also having large reserve positions.

ILLINOIS BASIN - PRODUCTION

As illustrated in Figure 7 below, ILB production is forecast by H&A to increase from 94 mmt in 2005 to about 181 mmt in 2024. Beyond 2024, and prior to 2040 the basin production is expected to peak and begin a slow decline. This is because the existing mining operations begin to deplete and basin production begins to rely more on deeper, more costly operations to sustain production.

Figure 7



In the 1970s and early 1980s, approximately 63% of the Basin's production came from surface mines. Since 1983, there has been a trend toward more underground production, because many of the large surface mines have closed due to reserve depletion. In 2000, surface production reached a low and only represented 38% of the total Illinois Basin production in that year. As predicted by H&A in its 2001 study and thanks to a strong market and expansions by Peabody's non-union operations, surface production increased by 6-8 mmt in 2001 and 2002. It now represents 40-43% of the Basin's production.

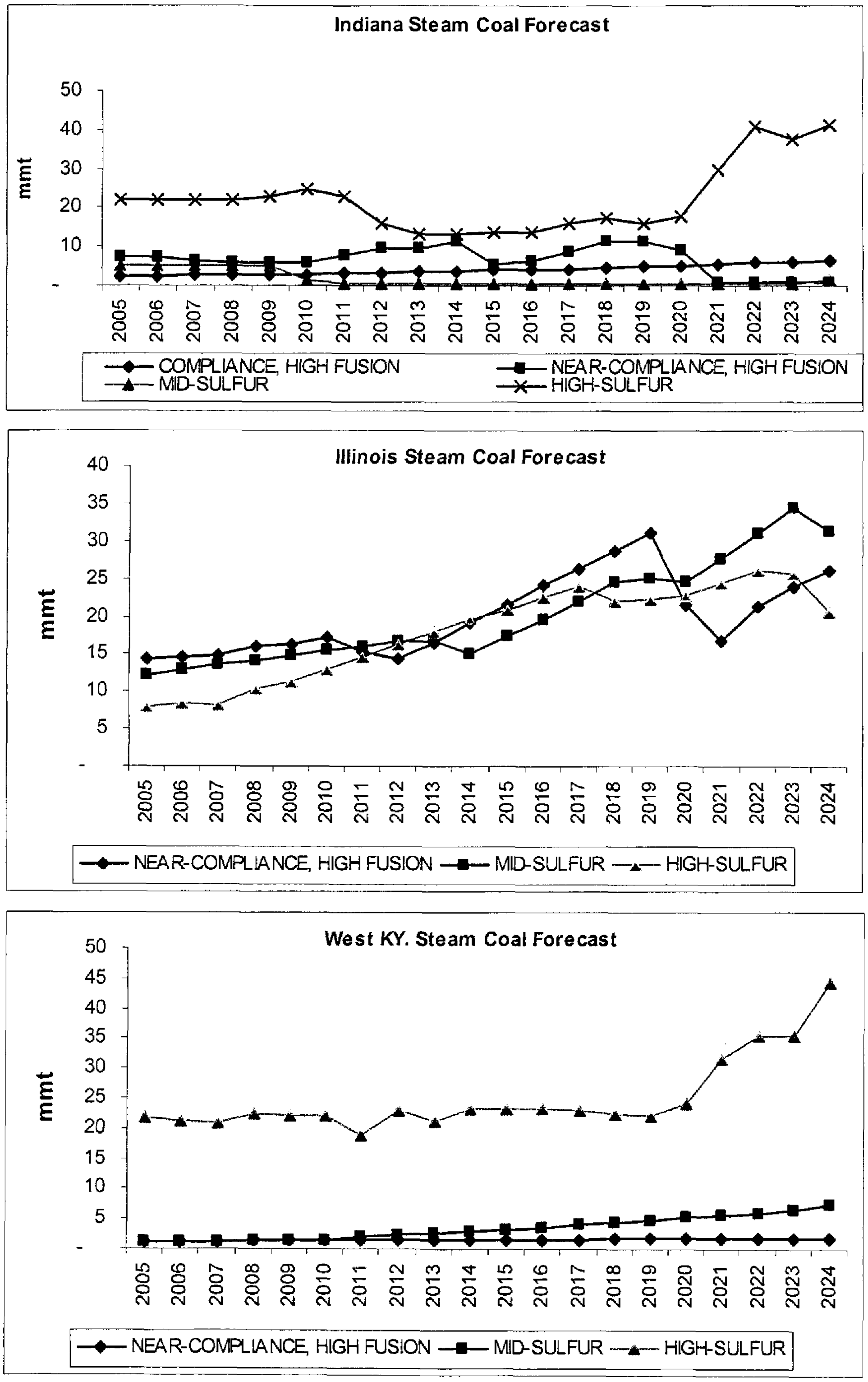
H&A's analysis has identified enough projects to suggest that Illinois Basin capacity could potentially increase to more than 200 million tons per year by 2013, if such demand is present; however, production will probably only be in the 100-105 million tons per year range. Peabody, the dominant producer in the region, is expanding its southeastern operations, and Jim Bunn/Steve Carter (Knighthawk) is consolidating holdings in the southwestern part of the state and could expand soon. Arc Light is under pressure to develop its TVA Franklin County reserve in the next two years.

A significant amount of consolidation took place in the Basin during the 1990s and, as a result, several operations have been closed or idled. Overall mine productivity has dropped by 10-15% over the last two years, mainly due to underutilized mines, and the higher prices of 2001, which allowed new mine development in higher cost reserves. In 2004, costs went up also due to raw materials and fuel cost increases. Mine costs are up 35% as a result of this, which will hurt Illinois Basin demand in the future, as it has to compete with lower cost alternatives.

Figure 8 provides three graphs to show the production forecast for Indiana, Illinois and western Kentucky coal, according to coal quality type. The charts indicate that Illinois is likely to produce the majority of the coals across all coal types. Indiana and western Kentucky have the potential to develop significant production of high-sulfur coals.

Figure 8

Illinois Basin Production Forecast to 2024 by State and Coal Quality Type

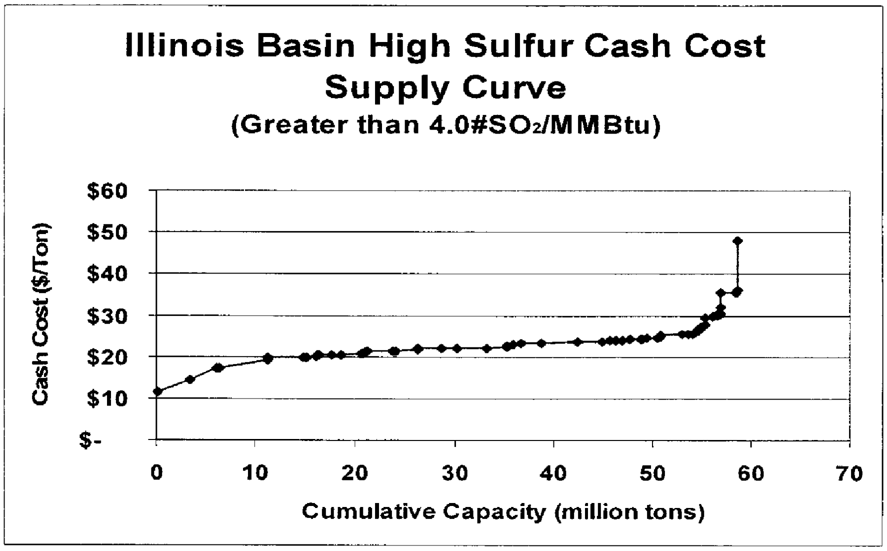


The above charts, if extended to 2040, would all display production at sustained levels or depleting marginally. As mentioned previously, the Illinois Basin is expected to produce adequate amounts of coals of near-compliance, mid-sulfur and high-sulfur type to sustain well beyond 2040.

Marginal mine cash costs for high sulfur Illinois Basin coals are shown in Figure 9. This figure shows that the cash costs for 11,700 Btu/lb. Western Kentucky production ranges from around $11.70 per ton to over $36.00 per ton. There are 55 million tons of high-sulfur coal capacity in the basin at under $30 cash cost in the railcar.

There are other, lower sulfur, products in the Illinois Basin, which could be considered also. However, the capacity for the other coals is far lower than that of the high-sulfur products. There is approximately 13 million tons of capacity of mid-sulfur coal (greater than 2.5/less than 4.0#SO_2/MMBtu) at mine cash costs below $27 per ton. Similarly, there is 25 million tons of capacity of low-sulfur coal (less than 2.5#SO_2/MMBtu) at mine cash costs of $32 or less.

Figure 9



ILLINOIS BASIN – COAL RESERVES

The Basin contains a tremendous underground reserve base, which is about 5 times larger than the Pittsburgh 8 seam reserve base in Northern Appalachia. As the surface reserves deplete, and as demand increases, these reserves will likely be developed in the next ten years. Table 3 summarizes the economic reserves for Illinois Indiana and W.KY.

The table shows adequate reserves available to produce mid- and high-sulfur coals at current levels far beyond 2040. The basin is expected to develop to serve scrubbed utility plants along the river system and, potentially, in the southeast.

Table 3
Illinois Basin Coal Reserves (mmt) by Sulfur Content (lbs/mmBtu)

State	<1.2	1.21-2.49	2.5-4.49	>=4.5	Grand Total
IL		897	2,894	5,623	9,414
IN	352	189	242	964	1,746
KY	4	15	486	1,097	1,602
Grand Total	**356**	**1,101**	**3,623**	**7,683**	**12,763**

KEY ISSUES AND DRIVERS FOR ILLINOIS BASIN

- Tremendous coal reserves exist and significant expansion is possible in the ILB;
- The large mines are controlled by a few major producers (Peabody, Alliance, Freeman, Consol, etc.), but there are also a number of smaller mines in the region;
- Most mines have either CSX or NS rail service, but not both;
- Some mines have access to waterways, but at additional transportation cost to the docks;
- Production has declined in recent years (but as shown in our production forecasts, this production is expected to grow);
- The region will benefit when scrubbers are installed to meet air quality requirements; and
- ILB is a swing coal and is expected to be a blending partner for low sulfur PRB coal.

NORTHERN APPALACHIA

NORTHERN APPALACHIA OVERVIEW

The Northern Appalachian (NAPP) coal region is comprised of bituminous coal production principally from mines in northern West Virginia, western Pennsylvania and southeastern Ohio. NAPP is the third largest coal-producing region in the U.S., accounting for about 135 million tons of annual coal production in 2004. Total regional production (about 65%) is dominated by Pittsburgh seam coal, which is produced by a few major producers including Consol Energy, Foundation Coal Corp. and American Energy (Robert Murray). The three sub-regions of NAPP are described below:

- **Pennsylvania**. Historically, in southwestern Pennsylvania, the Pittsburgh 8 seam has had good coking properties resulting in steel companies tying up much of the reserve base for their own captive use. However, because of changing long-term resource requirements and the need for lower sulfur coals, steel companies have relinquished control of these reserves and mines. What was once a major metallurgical coal resource has now become a major steam coal resource as utilities value the seam's characteristic high Btu (13,000) and relatively low sulfur (1.5-2.5%), low ash (6-10%), and low moisture content (6-8%).

Production from the Pittsburgh seam has historically come from Allegheny, Greene, Washington, Westmoreland, and Fayette counties. Because of good access to the coal crop and to navigable water, mines tended to be built along the Monongahela River. Thus, with a history of over 200 years of mining, most of the shallow, easily accessed coal along the river or along the coal outcrop in Allegheny and Fayette counties has been mined out; therefore, production has moved to deeper mines, further from the river. Virtually all production in this region now comes from Greene and Washington counties.

- **Northern West Virginia.** Production in Northern West Virginia historically serves two rivers. Mines in Monongalia, Marion, and Harrison counties typically serve or have access to the Monongahela River, while the mines in the West Virginia panhandle counties of Marshall, Ohio, and Brooke counties serve the Ohio River. The Northern West Virginia region is defined by those mines that are best served by the Monongahela River. The West Virginia mines on the Ohio River are present in the Ohio Valley region.

  In northern West Virginia, large blocks of higher sulfur Pittsburgh coal have been developed by CONSOL and Eastern Associated (Peabody) to supply coal to local power plants built along the Monongahela River. The Btu content of coal produced in this region varies from 12,500 to 13,300, sulfur values range from 2.5% to 3.5 %, and ash ranges from 7 to 12%. With 74% of the production tied up, CONSOL is the dominant producer and coal controller in this region. Peabody has 25%. The remainder is minor production from small producers operating in outliers of the Pittsburgh seam.

- **Ohio Valley Region.** West of the Pennsylvania/West Virginia state line, the Pittsburgh seam rapidly deteriorates in quality. Ash and sulfur content increase, and the Btu content drops from 13,000 Btu/lb. to around 12,000 Btu/lb in the Ohio Valley region. Because of its proximity to the river and the large utility and industrial markets, large amounts of Pittsburgh seam production have occurred in Ohio along the banks of the Ohio River. Most of the reserve in Ohio has been mined out and what remains is mainly controlled by CONSOL and Bob Murray. Substantial reserves remain in Northern West Virginia, and most of these reserves are controlled by CONSOL. Like the other areas, mining has moved away from the river over time. Many of the remaining mines transport raw coal production 5 to 15 miles underground to access the portal.

  Currently, CONSOL controls 54% of the production and Bob Murray controls about 46% of the production. With CONSOL's planned expansion of the McElroy, CONSOL will probably expand its control to 63% in 2005, while Murray drops to 37%. Alliance controls a major reserve block in West Virginia and hopes to open a mine in the next ten years.

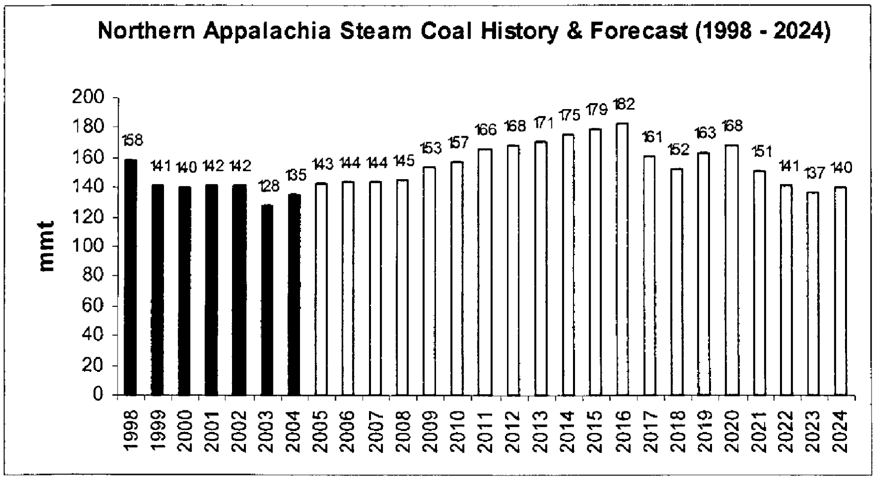
The coal is shipped to markets within the U.S. by rail, or rail-to-water, with some local deliveries by truck. As with CAPP, two major railroads, the NS and CSX, originate a great deal of the NAPP shipments, and then deliver the coal directly to power plants or to rail-to-barge docks for water delivery to other plants.

NORTHERN APPALACHIA - PRODUCTION

The Pittsburgh seam is the primary seam in NAPP, although other seams are produced, such as the Upper and Lower Freeport seams and the Bakerstown seam. The Freeport seams have metallurgical properties and both Freeport and Bakerstown seams can contain relatively high sulfur content. We focus on Pittsburgh seam coal in this report because of its dominance and because the transportation efficiencies that are available from large-scale loading facilities, which are unit train capable. Also, there are abundant reserves of mid- and high-sulfur coal available for underground mining. Consol Energy is the largest Pittsburgh seam producer. Pittsburgh seam coal is generally high in BTU value, ranging from 12,000 – 13,300 BTU, and is mid-to-high in sulfur content, ranging from about 2.2 % - 5.0 %.

Production from this region has taken place for over 200 years and will continue for years to come. Remaining Pittsburgh seam reserves would support production at existing levels for over 36 years. Our modeling shows that coal production in Northern Appalachia will reach a peak in about 10 years, as reserves in the important Pittsburgh Seam begin to deplete, and the remaining reserve base is unable to compensate for the loss of Pittsburgh Seam production. As seen in Figure 10, production from NAPP for 2005 is estimated to reach 143 million tons, which is 8 million tons up from 2004.

Figure 10



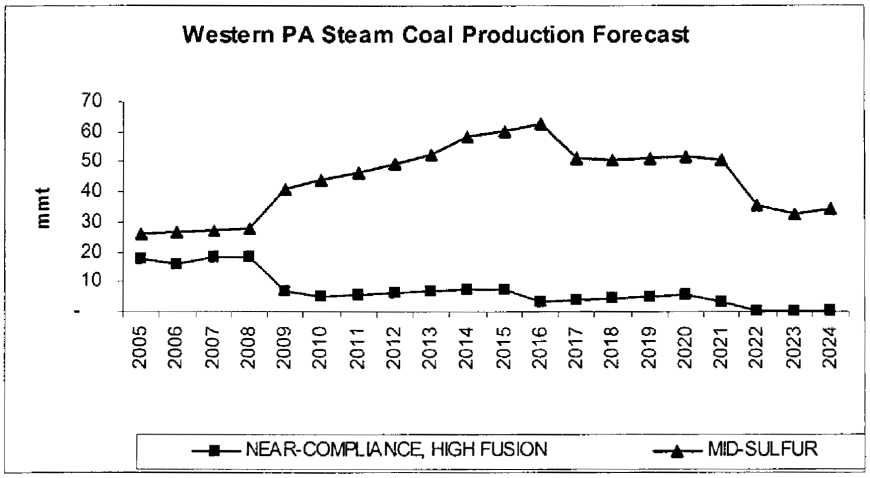
The Pittsburgh seam ranges from 5 to 8 feet thick and it is laterally extensive. As such, the seam is conducive to large scale, longwall mining methods. Almost 97% of Pittsburgh seam production comes from longwall operations, which provides for highly mechanized, very high productivity and very low cost coal mining. This has enabled the market prices for Pittsburgh seam coals to remain very low over the years and maintain a highly competitive presence in both U.S. and export coal markets.

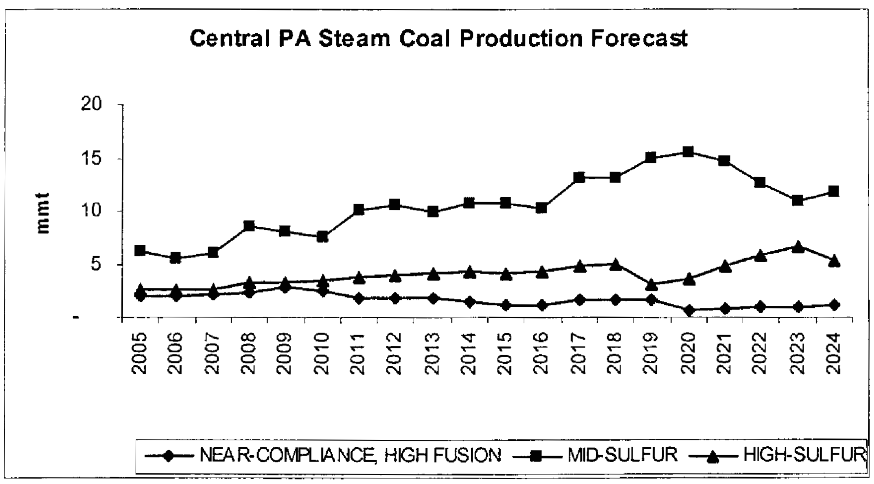
Assuming the market conditions maintain, several new greenfield mines could open up in the 2005-2011 timeframe. If so, Pittsburgh seam production could expand to 150 million tons per year by 2011. All proposed greenfield operations will be in mid- to high-sulfur coals.

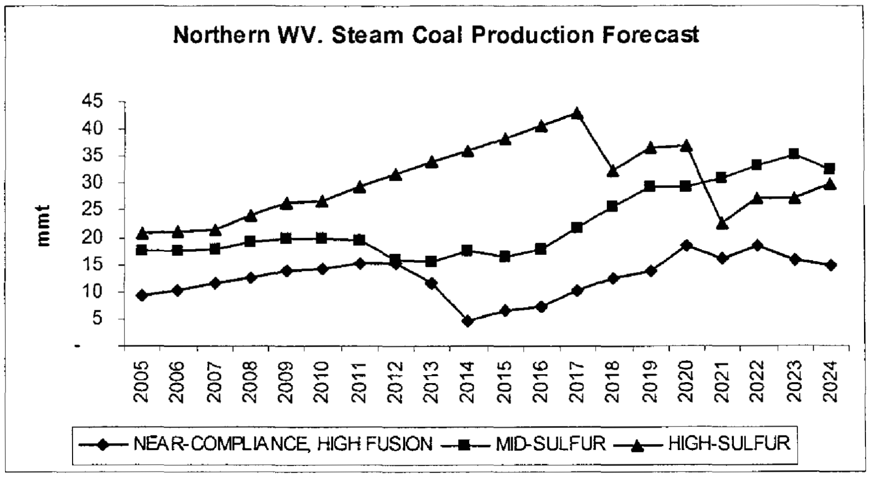
The following graphs illustrate our forecast for WPA, Central PA, NWV and Ohio NAPP coals by sub-region and coal quality type.

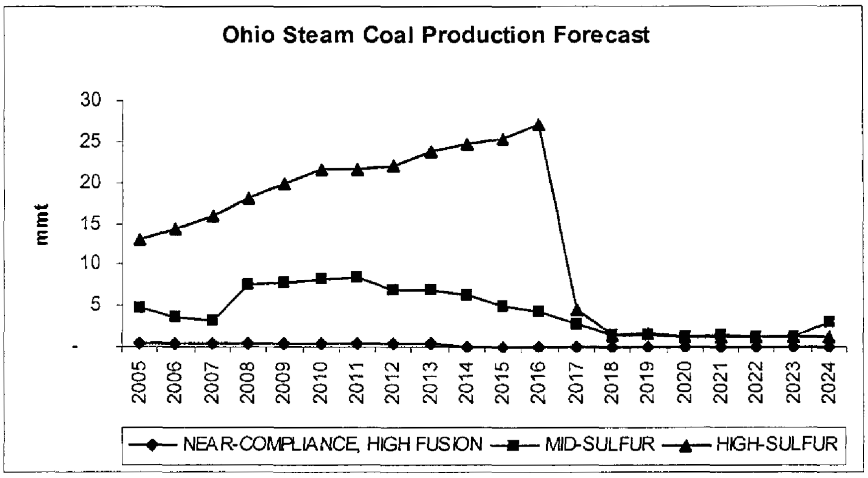
Figure 11

Northern Appalachia Production Forecast to 2024 by Sub-region and Coal Quality









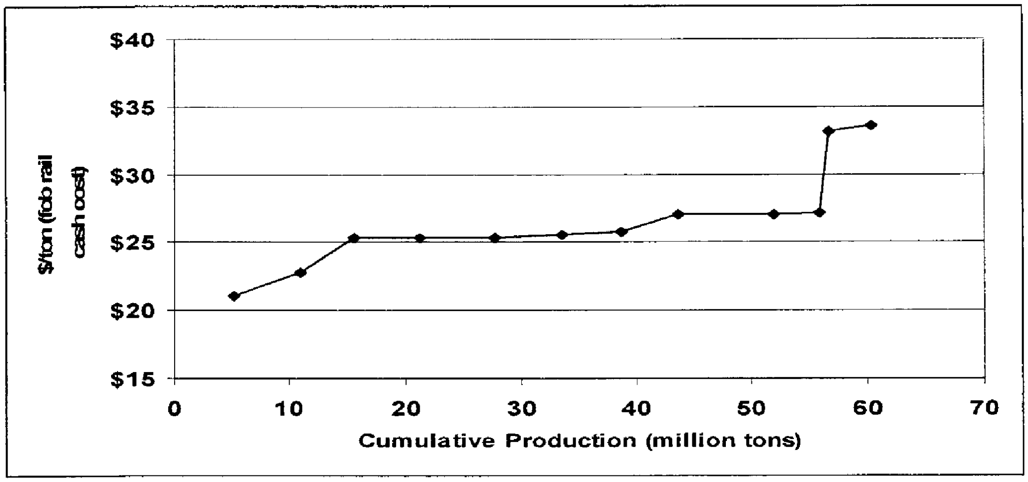
The graphs displayed above show that H&A anticipates production of Pittsburgh seam coal to peak out in the 2016-2017 time period and decline from that point forward. Other coal types in the basin are, relatively, much lower in productive capacity and are generally represented by numerous smaller producers. The decline will extend past 2040 and overall NAPP production could decline to a level of +/-100 mmt by 2040. This production level is still adequate to consider as a long-term fuel alternative for a new generating plant.

Since 1994, numerous mines producing coal from the Pittsburgh seam have closed due to reserve depletion or high costs. About 30 million tons of annual production has been lost due to depletion and another 22 million tons are anticipated to be lost by 2010. The lost production was offset by new mine openings or by expansions at other mines.

The SO_2 credit bank will be depleted around 2007, thus with a depleted credit bank and tighter SO_2 limits under the Clean Air Interstate Rules (CAIR), power plants will likely add scrubbers. Because of the Pittsburgh Seam's strong reserve base (although much smaller than ILB or CAPP) and relatively low costs (as compared to other producing regions), Pittsburgh Seam mid- and high-sulfur coal will likely be the beneficiaries of this new demand.

The 2004 NAPP supply curve for Pittsburgh Seam mines shows the low-cash mining costs for the region, ranging from around $21.00 to $33.56 per ton, as shown in Figure 12. Most of the mines have cash costs ranging from $25.30 to $27.20.

Figure 12
Coal Supply Curve for Pittsburgh Seam Mines -- 2004



According to our long-range forecasts, we project that mining costs in this region may decrease by $3 to $6 per ton by 2011, based upon improvements in productivity and the replacement of old longwall mining equipment with newer and more efficient ones. There is a possibility that our productivity improvement projections may not materialize because the coal seams are getting thinner and underground coal haulage will be longer. However, we anticipate that overall productivity in the region will increase over the next 8 – 10 years.

As tighter limits on SO_2 emissions take effect the SO_2 credit market will tighten and more plants will be installing scrubbers. New scrubber construction will cause an increase in demand for mid- to high-sulfur coals. The Illinois Basin and Northern Appalachia regions will compete fiercely for the new scrubber market that will be developing over the next decade.

Northern Appalachia has an inferior reserve base to the Illinois Basin. Although, current mining costs are comparable, the Illinois Basin has the edge over Northern Appalachia; but Northern Appalachia has higher Btu coal than the Illinois Basin, which makes it more attractive. In the near term, however, it appears that the Illinois Basin can expand more rapidly.

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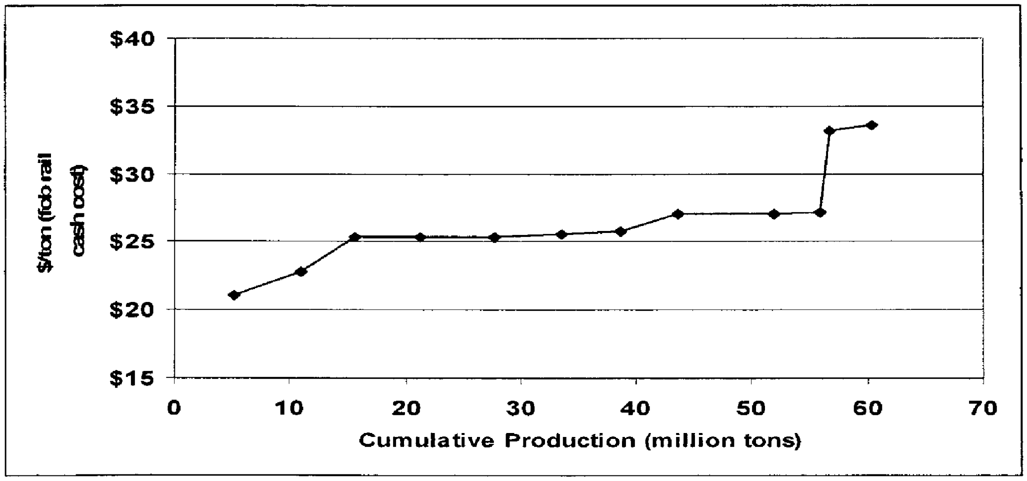

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NORTHERN APPALACHIA - RESERVES

Table 4

NAPP Total Steam Coal Reserves by Lbs SO_2/mmBtu and Total Pittsburgh Seam Reserves

Region/SO2 Content	=<1.2	1.21-2.49	2.5-4.49	>=4.50	Totals
Maryland	20	25	85	0	**130**
Ohio	200	400	2,900	2,000	**5,500**
Central PA	30	45	165	40	**280**
Western PA	10	10	800	30	**850**
N.WV	10	12	850	450	**1,322**
Totals	**270**	**492**	**4,800**	**2,520**	**8,082**
Pittsburgh seam total	n/a	131	1,427	1,471	3,029

The table indicates that reserves will sustain production at current levels well beyond 2040 before depleting. This assessment also assumes that several new greenfield longwall mines are developed in the Pittsburgh seam including Consol's Berkshire and Green Hill properties and Foundation's Green Manor reserves.

KEY ISSUES AND DRIVERS FOR NORTHERN APPALACHIA

- There are significant coal reserves and potential for expansion;
- Mining productivity is high and production costs are low at many mines due to long-wall mining;
- Most of the large mines are controlled by a few major coal producers (Consol, Foundation, etc.);
- There are many smaller mines, but they principally serve local industrial and utility plants;
- There is significant production capacity that has access to both CSX and NS rail service (e.g. Consol's Mine 85, Bailey and Enlow Fork complexes);
- A limited number of mines have access to waterways at additional cost of transportation to get to the docks; and
- Rail service to utilities in Florida is expected to carry a high rail rate.

COLOMBIAN COAL

COLOMBIA OVERVIEW

The Colombian coal industry is comprised of bituminous coal production principally from the following coalfields: **Cerrejón, La Loma,** and **La Jagua**. The coal is mid-to-high BTU, ranging from 11,400 – 12,200 BTU, and is very low in sulfur content, ranging from 0.6% to 0.8%. Colombia produces and exports about 64 – 69.5

million tons of coal annually to various markets in the U.S. and to other countries. We project that Colombian production and exports will grow to as much as 83 - 87 million tons by 2010. Figure 13 shows the major export mines in Colombia.

The country is a primary exporter of coal, and it has enormous amounts of coal equivalent to almost 7.7 billion tons of measured reserves. About 90%, or 6.90 billion tons, of the country's coal reserves are for steam coal use.

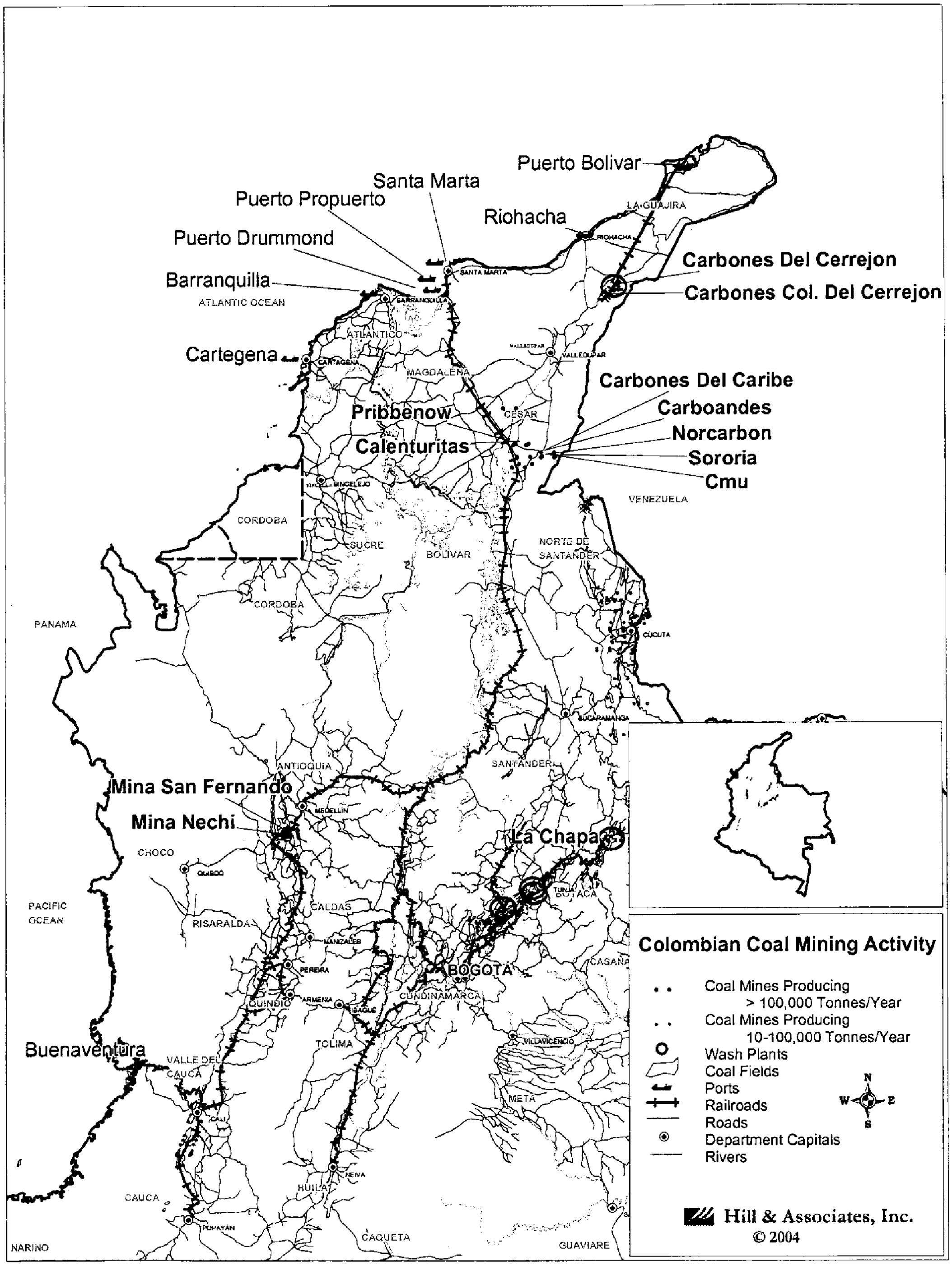
The vast majority of export tonnage comes from the Cerrejón, La Loma, and La Jagua regions. These three regions contain the bulk of the defined coal resources and offer relatively easy access to the coast. The mines in these regions share similar characteristics:

- Almost all production comes from surface operations;
- All are mining multiple seams at stripping ratios of approximately 6.5:1;
- In most, the seams are steeply pitched and lend themselves to truck and shovel methods;
- All have high quality coal with low-sulfur and ash, and medium- to high-BTU values; and
- Each region now has one large mine, and one or more smaller operations.

Most of the production is controlled by a small number of producers with the mine ownership in the hands of about 3 major supplies: Cerrejón Coal Company (BHP-Billiton, Anglo American and Glencore); La Loma (Drummond); and Carbones del Caribe. A number of smaller mines are owned by a mix of domestic and foreign companies.

Most of the mines in Colombia move their coal by truck to ports on the coast. A few mines have access to rail. A few other producers use barges on the Magdelena River to get coal into vessels. The expansion of rail service to additional mines will probably come in due time, but this has been slow to develop.

Figure 13
Major Coal Activity in Colombia



COLOMBIA - PRODUCTION

In the late 1970s, Colombian coal production was used to supply internal consumption, with the exception of small volumes of metallurgical coal for exports. In the 1980s, when the Cerrejón North Zone Project was developed, the country doubled coal production, going from 4.7 mmt to 9.8 mmt from 1980-1985.

During 1997, total production reached 36.0 mmt, increasing by 9.7% with respect to 1996's production of 32.5 mmt. In 1997, 84.2% of production (30.4 mmt) was exported to the international market and 15.7% (approximately 5.6 mmt) was for internal consumption.

During 1998, total production increased 3.17% with respect to 1997, reaching a total value of 37.2 mmt. Coal exports increased 2.49 mmt, totaling 33.0 mmt, while internal consumption was reduced to 4.2 mmt.

Total production fell to only 35.1 mmt in 1999, of which 32.9 mmt were shipped to the foreign markets and only 2.2 mmt were used for internal consumption. The slightly lower shipment levels in 1999 were the result of low international prices and the domestic economy's recession.

Contrary to the previous year, Colombian production in 2000 grew 16.54%, reaching 40.9 mmt which represents an increase of 5.8 mmt. On the shipment side, the growth was 16.26%, representing an increase in the exported volume of 5.4 mmt with respect to 1999 figures. The Colombian shipments totaled 41.6 mmt in 2000.

This growth during 2000 was supported mainly by a firm international market price and production increments of 2.07 mmt at Drummond's Pribbenow mine and 1.74 mmt at Carbones del Cerrejón, which returned to its normal production level after securing access to the railroad and Puerto Bolivar infrastructure. Cerrejón North Zone operations increased by a modest 0.97 mmt, and Carbones del Caribe also contributed with an additional 0.93 mmt.

During 2001, the country's total production reached 46.9 mmt, an increase of 6.0 mmt, which represents a production growth of 14.65% with respect to 2000 figures. Shipments totaled 41.83 mmt, a figure 9.28% above the 2000 shipments, representing an increase of 3.55 mmt.

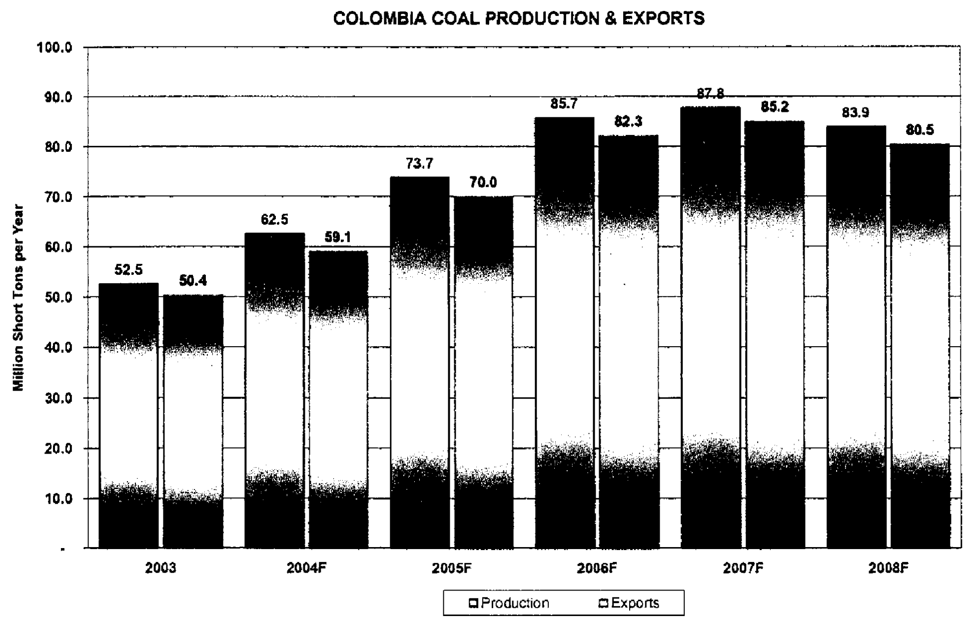
In 2002, Colombian production was 42.65 mmt, representing a reduction of 4.25 mmt in comparison with 2001 figures. This coal production reduction was due to the high mine inventory levels at the beginning of the year, the production cut announced by Cerrejón Coal Company, and the downward trend in the international coal prices.

Export shipments in 2002 were 40.22 mmt, a decrease of 1.6 mmt in comparison with 2001 shipments. This 3.83% reduction is due to the above-mentioned high inventory levels at the beginning of the year and the production cut of Cerrejón Coal.

Coal production during 2003 rebounded to 52.49 mmt (Figure 20), increasing 9.84 mmt or 23.08% when compared with 2002 figures. This increase was supported by production increases in Cerrejón, Drummond, and Carbones del Caribe. Following the production trend, the coal exports from Colombia reached 50.35 mmt, an increase of 10.12 mmt or 25.17%, returning coal inventories to normal levels.

In 2004, Colombia exported 59.08 mmt, which is 8.7 mmt above 2003, or 17% higher (Figure 14).

Figure 14



Cerrejon Coal. After the early 1999 access agreement signed between Cerrejón North Zone and Carbones del Cerrejón, modifications to the Cerrejón North Zone coal handling infrastructure were introduced, allowing these companies to increase the yearly capacity of the preparation plant, railroad, and Puerto Bolivar's coal handling infrastructure. The current capacity of the Cerrejón Coal infrastructure is approximately 32 mmt per year. Cerrejón Coal reaches this capacity by using short trains that allows for sending convoys more frequently, thus increasing the railing capacity.

After the consolidation of the above two companies, the existing plans to expand the coal handling infrastructure above 32 mmt per year are being reevaluated by the new owners of the Cerrejón Coal complex. Any production increment will be evaluated carefully in light of international coal demand. Any expansions will also have to be in accordance with the corporate plans of the three big companies forming the consortium (BHP Billiton, Anglo American, and Glencore).

Consolidation of mines in Colombia will bring more discipline to the supply side of the coal market. New Cerrejón owners have a different market strategy. Cerrejón Coal Company is now a "swing producer" and its output level will depend on the coal prices in South Africa and North America. If South African coal prices lower due to an excess of coal supply in the international market, Cerrejón Coal Company will continue withholding production increases. If necessary, Cerrejón Coal will reduce production as it was forced to do in 2002. Cerrejón's production forecast for 2005 is currently 30.3 mmt. Recently Cerrejón has adjusted its market strategy to avoid production tonnage and price reduction in the European markets. Most of the additional coal that will come from Cerrejón will be offered in the USA.

Drummond Coal. In the Cesar Department, Drummond has been continuing with the expansion of its Pribbenow mine and its port in Cienaga. Drummond had announced plans to increase production to 33 mmt in 2008. Early in 2004, Drummond announced that the company will produce 24.3 mmt, increasing its exports by about 6.15 mmt. We have not included this number in our yearly forecast; however, because rail constraints currently allow only a maximum export level of 23 mmt.

The future increase of production from Drummond will come from its new coal resources in El Descanso. This area will initiate production in 2005 and will reach a production of 11 mmt in 2008.

Other Producers. The other coal producers from El Cesar will increase production modestly. It is estimated that ***Carbones del Caribe*** will produce nearly 4.4 mmt in its operations of La Lagua and La Victoria mine. Another producer is ***Prodeco*** with its project Calenturitas. After several restart attempts to, Calenturitas mine was restarted and produces 0.55 mmt per year. Prodeco's Calenturitas plan was to gradually increase production to reach 2.2 mmt per year in 2008. ***Carbones del Cesar's*** El Paso mine started production in 2004 with 110,000 tons and should be at 660,000 tons by 2008.

As shown in Figure 15, the Colombian coal supply curve shows about 50 mmt per year of export capacity available at an FOBT cash cost of less than US$19 per ton. This tonnage is available from the two largest producers; Drummond and Cerrejon Coal. In addition, there will be another 8 mmt available at progressively higher costs.

Figure 15

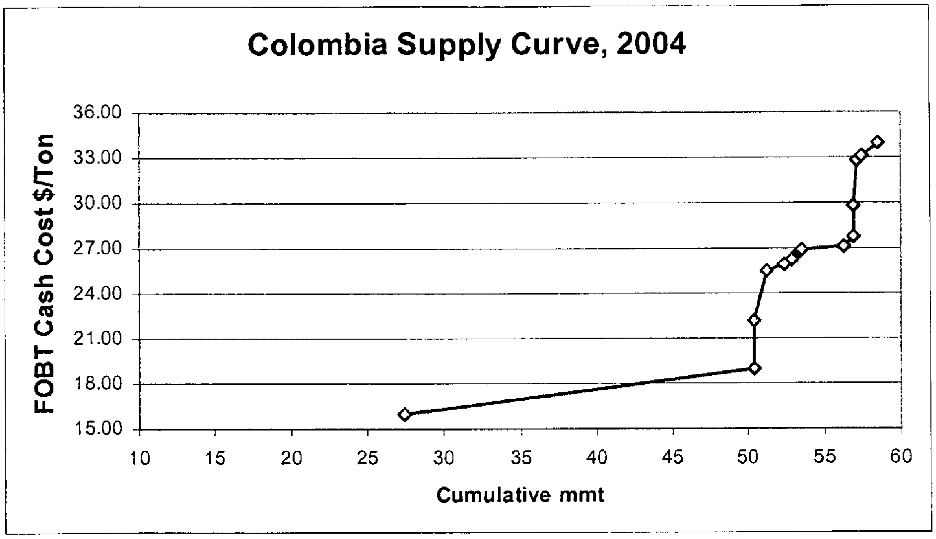
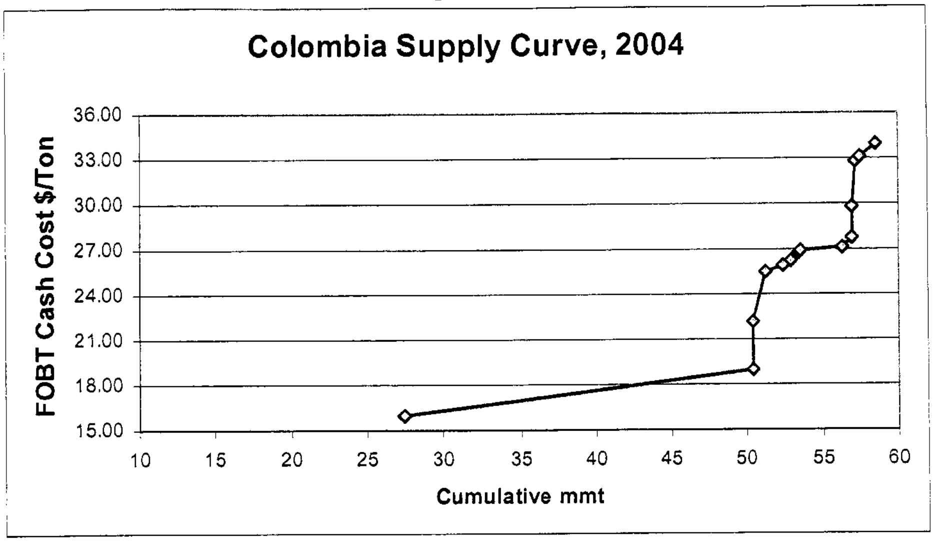


Table 5 shows the average ROM coal quality on an as-received basis for each coalfield. The Colombian coal is generally recognized for having a low-ash, high-volatile matter, low-sulfur content, and a high calorific value. The younger coals of the Cordoba Department in the San Jorge area are an exception to the rule; they exhibit a calorific value of 8,180 Btu/lb. with ash content of 17% and sulfur content of 1.50%. Other coals that exhibit high ash content are in Valle del Cauca and Santander where ash content ranges from 22 to 26%.

Table 5
Coal Qualities of the Colombian Coalfields

Zone	Moisture (%)	Ash (%)	Volatile Matter (%)	Sulfur (%)	Cal.Val (Btu/lb)
ANTIOQUIA	10.1	9.5	37.9	0.63	10,769
BOYACA					
• Sogamoso-Jericó	5.2	11.6	35.4	1.4	12,401
• Samacá-Ráquira	3.6	10.4	25.7	0.86	13,356
• Paipa-Tunja	9.9	11	40	1.74	11,340
CESAR					
• El Descanso	13.6	10.6	32.3	0.57	10,374
• La Jagua	7.1	5.3	35.7	0.62	12,606
• La Loma	10.3	5.6	36.8	0.59	11,616
CORDOBA					
• San Jorge	17	17	33.7	1.5	8,180
CUNDINAMARCA					
• Cogua Lenguazaque	3.8	10.2	28.1	0.92	13,185
GUAJIRA					
• Cerrejon North	11	8.9	33.4	0.75	11,550

Figure 15



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Zone	Moisture (%)	Ash (%)	Volatile Matter (%)	Sulfur (%)	Cal.Val (Btu/lb)
• Central Cerrejon	9.5	8.0	33.9	0.66	11,900
NORTE DE SANTANDER					
• Tasajero	2.6	7.7	33.7	0.85	13,925
• Zulia Sur	3.4	11.9	35.3	1.27	12,967
• Zulia Norte	3.7	9.2	37.6	0.95	12,602
SANTANDER					
• San Luis	2.7	25.9	28.1	1.76	10,913
VALLE DEL CAUCA	2.7	22.4	28.1	2.85	11,088

COLOMBIA - COAL RESERVES

Colombian coal resources are distributed in the three main mountain ranges (Oriental, Central, and Occidental), mainly on the north coast and in the interior part of the country. The Colombian government has calculated measured plus indicated coal resources of 12.5 billion short tons, of which 7.7 billion tons are classified as measured resources and 4.8 billion tons as indicated. This represents 88 years of production at a level of 89 mmt per year. Colombia can adequately supply well beyond 2040.

Of the reserve total, approximately 90% is located in the North Coast area. The thermal coals are located mainly in the departments of Guajira, Cesar, Cordoba, Antioquia, Caldas, Valle del Cauca, and Cauca. Metallurgical coals are located in the central and eastern parts of the country in the departments of Cundinamarca, Boyacá, Santander, and Norte de Santander. Also, there are some anthracitic coal resources in these departments.

Table 6 shows the Colombian coal reserves by region.

Table 6

Zone	Area	Resources and Reserves: Reserves: Measured	Indicated	Inferred	Hypothetical Resources	Total Resources	Type of coal
La Guajira	Cerrejón North	3,306.93	-	-	-	3,306.93	S
	Cerrejón Central	738.55	-	-	-	738.55	S
	Cerrejón South	290.24	494.72	140.54	29.87	955.37	S
	Total	4,335.72	494.72	140.54	29.87	5,000.85	S
Cesar	La Loma	1,969.65	1,790.51	2,270.99	1,095.18	7,126.33	S
	La Jagua de Ibirico	284.73	-	-	-	284.73	S
	Total	2,254.38	1,790.51	2,270.99	1,095.18	7,411.06	S
Córdoba-Norte de Antioquia	Alto San.Jorge	419.98	375.89	-	-	795.87	S
	Totales	419.98	375.89	-	-	795.87	S
Antioquia-Antiguo Caldas	Venecia-Fredonia	9.85	44.25	18.60	-	72.70	S
	Amagá-Angelópolis	13.05	70.15	101.78	27.98	212.96	S
	Venecia-Bolombolo	63.88	93.48	20.67	-	178.02	S
	Titiribí	12.49	41.06	4.91	1.18	59.64	S
	Totals	99.27	248.93	145.95	29.16	523.31	S
Valle del Cauca - Cauca	Yumbo-Asnazú	33.84	62.19	52.35	12.10	160.49	S
	Río Dinde-Quebrada Honda	4.82	18.36	21.70	-	44.89	S
	Mosquera-El Hoyo	7.03	21.01	33.86	-	61.91	S
	Total	45.69	101.57	107.92	12.10	267.28	S
Cundinamarca	Jerusalén-Guataquí	2.00	6.32	5.82	3.56	17.69	S
	Guaduas-Caparrapí	5.08	28.60	21.76	1.00	56.45	M
	San Francisco-Subachoque-La Pradera	12.51	53.13	67.12	7.12	139.88	M. S
	Guatavita-Sesquilé-Chocontá	24.14	70.89	117.81	11.18	224.02	M. S
	Tabio-Río Frío-Carmen de Carupa	21.42	61.53	60.45	27.32	170.71	M.S
	Checua-Lenguazaque	154.79	380.78	232.21	17.91	785.69	M.S
	Suesca-Albarracín	36.29	96.68	75.95	-	208.92	S
	Zipaquirá-Neusa	1.81	5.47	11.48	-	18.75	M.S.A
	Total	258.03	703.41	592.60	68.09	1,622.13	
Boyacá	Checua-Lenguazaque	39.34	143.16	127.69	-	310.19	M.S
	Suesca-Albarracín	8.61	47.72	117.13	-	173.46	S
	Tunja-Paipa-Duitama	26.49	107.16	188.95	-	322.59	S.M
	Sogamoso-Jericó	113.36	454.43	522.18	-	1,089.97	M.S
	Total	187.80	752.46	955.95	-	1,896.21	
Santander	San Luis	61.82	119.76	136.07	-	317.64	M. S
	Capitanejo-San Miguel	-	19.84	1.58	-	21.42	A.S
	Miranda	-	6.05	-	-	6.05	A.S
	Molagavita	-	8.76	-	-	8.76	A.S
	Páramo del Almorzadero	-	130.34	26.86	-	157.20	A.S
	Total	61.82	284.75	164.51	-	511.08	
Norte de Santander	Chitagá	0.73	2.18	8.16	-	11.07	A. M
	Mutiscua-Cácota	1.72	0.73	0.18	-	2.62	S. M
	Pamplona-Pamplonita	3.08	6.89	5.32	-	15.29	S. M
	Herrán-Toledo	5.27	16.13	10.11	-	31.50	S. M
	Salazar	8.50	17.09	6.39	-	31.98	S. M
	Tasajero	15.63	35.84	61.98	-	113.45	S. M
	Zulia-Chinácota	44.15	136.85	113.76	-	294.76	M
	Catatumbo	56.57	140.40	217.09	-	414.06	S
	Total	135.64	356.10	422.99	-	914.73	
Grand Total		7,736.51	4,823.58	4,636.94	1,234.40	18,431.43	

KEY ISSUES AND DRIVERS FOR COLOMBIAN COAL

- Colombia has enormous reserves so mining at high levels can sustain well past year 2040;
- Coal production is controlled by a small number of major coal producers
- Coal production costs are low;
- Large coal loading ports have been built for exports;
- Imports are making in-roads into the U.S.;
- Prices can be competitive with U.S. coal supplies, but they are subject to global competition for the coals and ocean freight rate variation;
- A medium degree of political and civil instability exists in Colombia;
- High ocean freight rates exist at the present time – likely to ease but slowly; and
- U.S. railroads have been reluctant to provide cost-competitive rail rates for imported coals destined for inland plants in the U.S.

VENEZUELAN COAL

VENEZUELA - OVERVIEW

The Venezuelan coal industry is comprised of bituminous coal production principally from the Guasare coalfield where over 95% of Venezuelan coal is produced. The coal is high BTU, ranging from 12,200 – 13,000 BTU, and is low in sulfur content, ranging from 0.7% to 0.83%. Venezuela produces and exports about 8.7 million ton of coal annually not including 1.3 mmt of coal from Colombia that is shipped via Maracaibo lake ports to various markets in the U.S. and to other countries.

We project that Venezuelan production and exports will grow to as much as 27.5-28.7 million tons by 2014. This growth takes into account the development of projects like Socuy, Las Carmelitas (Cosila), Cachiry and Casigua.

The country has an enormous amount of coal, equivalent to almost 770 million ton of measured reserves. About 70%, or 540 million ton, of the country's coal reserves are for steam coal use.

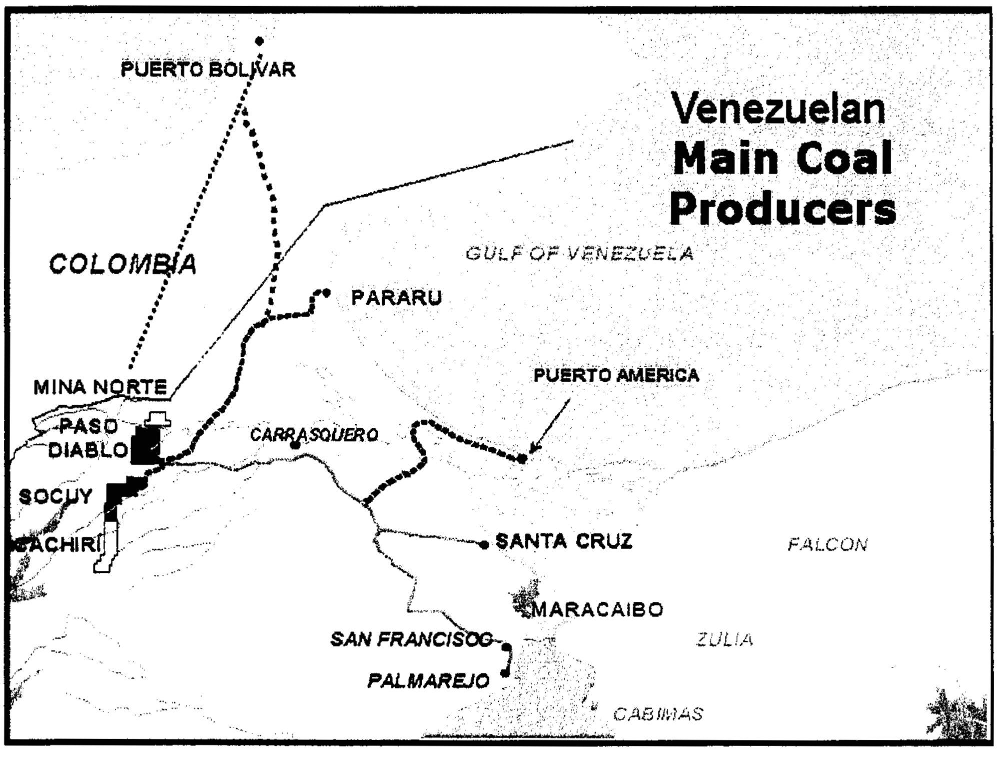
The vast majority of export tonnage comes from the Guasare basin and Tachira with a small amount from Fila Maestra in the eastern part of Venezuela. Paso Diablo and Mina Norte are the primary mines but there are also small mines in Tachira state with a marginal production of 0.2 mmt. Maracaibo lake ports also serve the coal produced in the Cucuta area in the Norte de Santander department. These regions contain the bulk of the defined coal resources and offer relatively easy access to the coast. The mines in these regions share similar characteristics:

- Almost all production comes from surface operations;
- All are mining multiple seams at stripping ratios of approximately 7.2:1;
- In most, the seams are steeply pitched and lend themselves to truck and shovel methods; and
- All have high quality coal with low-sulfur and ash and high-BTU values.

Venezuela coal transport infrastructure is limited, and inefficient. With the current infrastructure, and with some efficiencies gain, Venezuela export capacity will probably reach 11 -12 mmt. However, Carbozulia is currently negotiating a deal with a Brazilian company to develop the Socuy mine project, transport, and port infrastructure that will allow Venezuelan coal supply to reach about 28.7 mmt by 2014.

Figure 16, shows the location of producing coal mines and projects in Venezuela. As can be seen these are all located close to the northern shore of Venezuela and access export markets through ports on Lake Maracaibo or along the Gulf of Venezuela.

Figure 16
Venezuelan Coal Activity Map



VENEZUELA - PRODUCTION

Venezuela is the third largest producer of coal in Latin America after Colombia and Brazil. The Venezuelan coal industry marginally increased coal production during

2004, to 8.7 mmt, mainly through a production increase at Paso Diablo Mine, which was partially offset by a reduction of Mina Norte production. Mina Norte Production was affected by the rainy season that caused the destruction of the main bridge on the road connecting the mine with the ports.

Over 95% of Venezuelan coal production originates from the Guasare coalfield where the Paso Diablo and Mina Norte Mines are operated by Carbones del Guasare and Carbones de la Guajira, respectively. Carbozulia is a wholly-owned subsidiary of Corpozulia, a government entity in charge of the economic development of Zulia State.

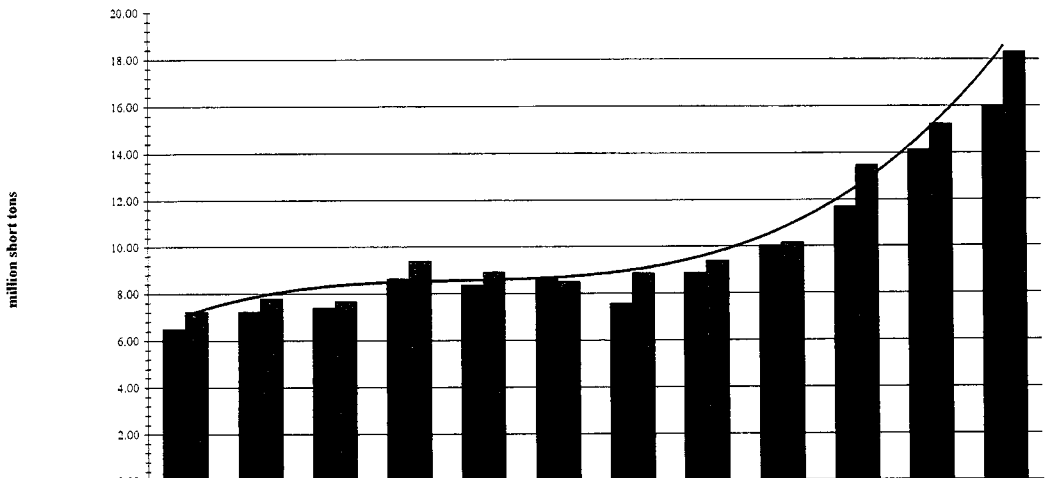
The Guasare coalfield is the most important of the coalfields, and Venezuela relies on this coalfield for future expansion of coal production. Expansion of production capacity at this field depends on the improvement of transport and port systems.

In 2000, coal production totaled 8.63 mmt and during 2001, coal production decreased to 8.34 mmt. In 2001, Venezuelan coal production was reduced by 3.4 % mainly because of the production problems encountered by Mina Norte, which produced approximately 772,000 tons, 330,000 tons lower than its normal level.

In 2002, coal production reached 8.61 mmt despite a civil strike that paralyzed the country from December 2002 to January 2003. The consequences of the civil strike on the economy and the severe foreign exchange currency restrictions imposed by the government also affected Venezuelan coal production in 2003, which reached 7.55 mmt, a decrease of 12.3%. Venezuelan coal production recovered again during 2004, reaching a production level of 8.86 mmt. It is estimated that Mina Norte will continue expanding its production, and new developments like Cosila in el Guasare basin and Fila Maestra in the east will come online, increasing the total production of Venezuela to 16 mmt in 2008. Figure 17 shows the export trends from 1997 to 2008.

Figure 17

Venezuela Coal Production and Export History



	1997	1998	1999	2000	2001	2002	2003	2004	2005 F	2006 F	2007 F	2008 F
■ Production mmt	6.47	7.22	7.37	8.63	8.34	8.61	7.55	8.86	10.03	11.68	14.11	15.98
■ Exports mmt*	7.21	7.78	7.65	9.37	8.89	8.49	8.84	9.37	10.14	13.45	15.21	18.30

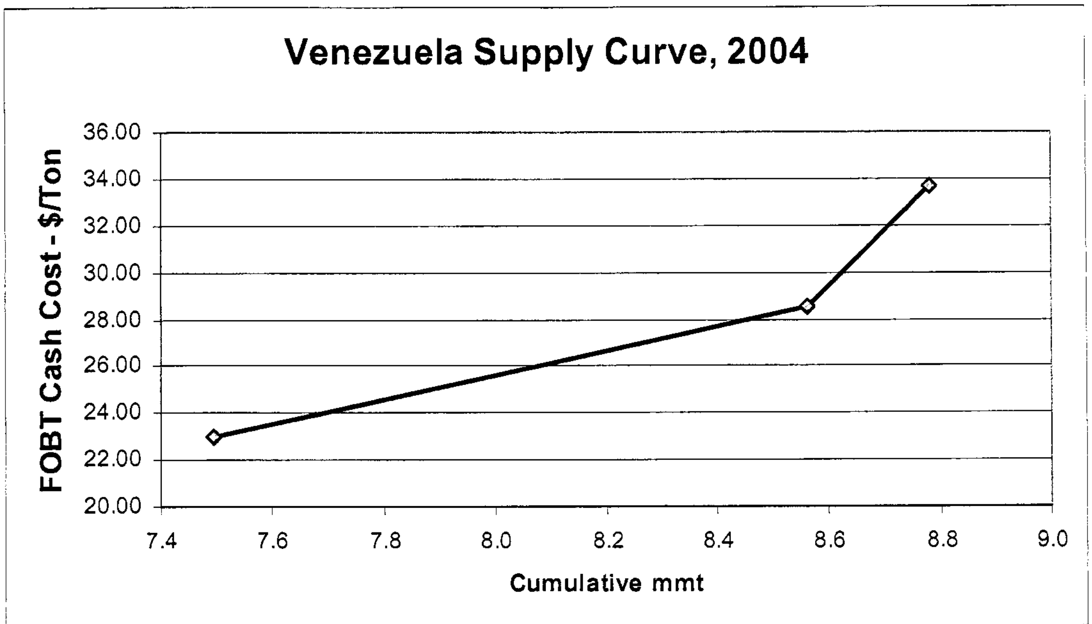
Venezuela's opportunities for increasing production in the future will be dependent on Carbones de Guasare's expansion projects in Paso Diablo and the development of the Socuy project mentioned above, as well as Carbones de la Guajira's Mina Norte and Cachiri projects.

Future Venezuelan coal industry growth will depend on the development of an effective transportation and port system, also mentioned above, that allows Guasare Basin producers to reduce FOBT cash costs and increase throughput capacity.

Due to infrastructure constraints, Venezuelan coal exports are currently limited to a maximum of about 12 mmt per year. Above this tonnage level, Venezuela will require a coal railroad transportation system and the development of one of several options for a modern port capable of handling capesize vessels. The port options include Puerto América and Pararu.

The FOBT cash cost curve for Venezuelan coal mines is shown in Figure 18. The chart shows that cash cost for the three operations range from $23.00 to $33.66. A total of 8.8 mmt cumulative capacity is available at cash costs below $34.00. New projects are expected to come in below the lower end of this curve, around $19-20 per ton FOBT. The lower costs will be attributable to efficiencies of a new rail and port infrastructure.

Figure 18



The typical coal qualities of the main Venezuelan coalfields are shown in Table 7. Venezuelan coals have an advantage over most Colombian coals in terms of higher heating value. Of course, a premium price is paid for this in comparison to the prices for Colombian products. The Venezuelan coals are generally lower in sulfur content than CAPP coals and, thus, compete very well against CAPP coals in coastal plants in the northeast of the U.S.

Table 7
Venezuelan Typical Coal Quality (GAR Basis)

	INHERENT MOISTURE (%)	ASH (%)	SULFUR (%)	(BTU/LB)
Paso Diablo	4 – 7	6 - 8	0.55 - 0.70	12,200 - 12,750
Naricual	4 – 6	6 - 7	0.80 - 1.1	12,800 - 13,100
Lobatera	NA	16 - 19.2	0.90 - 1.0	11,300 - 11,500

VENEZUELA - COAL RESERVES

The main coal reserves of Venezuela are distributed in four different areas -- Zulia, Táchira, Falcón, and Anzoátegui -- comprising a total estimated coal resource of 9,412 mmt. These coalfields are mainly located on the north coast. As Table 8 shows, the Venezuelan coal resources of the Zulia area are the most important.

Table 8
Venezuela Coal Reserves (mmt)

State	Reserves			Total
	Measured mmt	Indicated mmt	Inferred mmt	Resources mmt
Zulia	1,204	2,468	4,050	7,722
Táchira	163	263	732	1,159
Anzoátegui	134	98	31	263
Falcón	18	30	122	170
Merida	NA	NA	10	10
Guarico	NA	NA	55	55
Aragua	NA	NA	33	33
Total	**1,519**	**2,859**	**5,033**	**9,412**

The table indicates that, considering only measured and indicated reserves, Venezuela has the potential to support coal production at levels above 22 mmt per year for over 100 years. Reserves will not be the constraint in our view, it will be the development of those reserves that limits access to Venezuelan coals in the future.

KEY ISSUES AND DRIVERS FOR VENEZUELAN COAL

- Venezuela has adequate reserves to sustain existing & planned mines;
- Coal production is controlled by a small number of major coal producers;
- Coal production costs are low;
- Deepwater port infrastructure is lacking and necessary to expand exports;
- Imports are making in-roads into the U.S., particularly in the Northeast;
- Prices are can be competitive with U.S. coal supplies, but they are subject to global competition for the coals and ocean freight rate variation;
- A higher degree of political and civil instability exists in Venezuela versus Colombia;
- High ocean freight rates exist at the present time – likely to ease but slowly; and
- U.S. railroads have been reluctant to provide cost-competitive rail rates for imported coals destined for inland plants in the U.S.

Appendix D

2004 REVENUE CLASS DISTRIBUTION

CONSUMERS

	Central Florida	Clay	Glades	Lee County	Peace River	Sumter	Suwannee Valley	Talquin	Tri-County	Withlacoochee River	Seminole	% Share of System Total
Residential	28,250	133,081	11,514	154,233	23,807	118,937	20,797	47,203	14,796	160,929	713,547	90.0%
Commercia	2,263	14,971	2,920	13,862	5,121	11,723	1,712	3,226	1,637	16,804	74,239	9.4%
Other	115	45	1,171	653	43	2,054	0	808	136	301	5,326	0.7%
Total	30,628	148,097	15,605	168,748	28,971	132,714	22,509	51,237	16,569	178,034	793,112	100.0%

ENERGY SALES
MWH

	Central Florida	Clay	Glades	Lee County	Peace River	Sumter	Suwannee Valley	Talquin	Tri-County	Withlacoochee River	Seminole	% Share of System Total
Residential	355,199	2,058,603	150,519	2,154,118	336,558	1,600,184	306,414	733,647	164,883	2,360,427	10,220,552	70.1%
Commercia	110,425	868,340	148,223	975,482	132,091	614,985	158,347	215,766	83,476	888,084	4,195,219	28.8%
Other	6,900	858	40,729	24,321	34,622	19,400	0	23,860	1,600	14,201	166,491	1.1%
Total	472,524	2,927,801	339,471	3,153,921	503,271	2,234,569	464,761	973,273	249,959	3,262,712	14,582,262	100.0%

TOTAL CONSUMERS
2005 LOAD FORECAST STUDY

Year	Central Florida	Clay	Glades	Lee County	Peace River	Sumter	Suwannee Valley	Talquin	Tri-County	Withlacoochee River	Seminole
1990	20,344	101,525	11,337	116,818	18,023	68,376	14,345	35,390	12,225	122,056	520,439
1991	20,995	103,318	11,704	120,051	18,530	71,135	14,851	36,520	12,395	125,426	534,925
1992	21,610	105,465	12,129	122,542	18,916	73,938	15,368	37,618	12,601	128,667	548,854
1993	22,253	107,685	12,482	125,173	19,222	76,482	15,893	38,858	12,707	131,617	562,372
1994	22,977	110,505	12,763	128,500	19,718	79,923	16,448	40,066	12,902	135,043	578,845
1995	23,751	114,216	13,115	130,986	20,262	82,405	17,104	41,308	13,210	138,457	594,814
1996	24,536	117,955	13,382	133,444	20,984	85,779	17,789	42,691	13,535	141,359	611,454
1997	25,432	121,795	13,584	136,223	21,694	89,954	18,565	44,084	13,821	144,694	629,846
1998	26,231	125,891	14,091	139,048	22,511	94,488	19,234	45,320	14,198	148,068	649,080
1999	26,941	130,657	14,304	142,489	23,506	99,300	19,735	46,493	14,596	151,674	669,695
2000	27,702	134,270	14,420	145,820	24,417	104,657	20,325	47,367	15,023	155,756	689,757
2001	28,405	137,863	14,692	150,031	25,391	110,283	20,846	48,344	15,377	159,724	710,956
2002	29,119	141,899	14,936	155,417	26,260	115,970	21,343	49,176	15,740	164,449	734,309
2003	29,826	146,359	15,223	160,877	27,400	123,130	21,899	50,276	16,140	170,509	761,639
2004	30,628	148,097	15,605	168,748	28,971	132,714	22,509	51,237	16,569	178,034	793,112
2005	31,481	151,950	15,921	176,265	30,842	141,957	23,118	52,290	16,999	186,142	826,965
2006	32,351	156,224	16,186	182,082	32,668	150,671	23,728	53,350	17,431	193,788	858,479
2007	33,094	160,463	16,447	187,945	34,470	158,180	24,351	54,406	17,760	199,841	886,957
2008	33,842	164,672	16,704	193,802	36,292	164,592	24,971	55,461	18,091	205,579	914,006
2009	34,593	168,868	16,961	199,631	38,146	170,945	25,591	56,514	18,424	211,307	940,980
2010	35,346	173,060	17,215	205,443	40,020	177,334	26,211	57,569	18,759	217,029	967,986
2011	36,033	176,817	17,433	210,374	41,879	183,894	26,642	58,443	19,047	221,342	991,904
2012	36,722	180,576	17,651	215,326	43,742	190,468	27,073	59,317	19,338	225,663	1,015,876
2013	37,409	184,336	17,868	220,277	45,511	197,052	27,504	60,192	19,631	229,983	1,039,763
2014	38,096	188,097	18,087	225,227	47,182	203,644	27,936	61,065	19,925	234,302	1,063,561
2015	38,785	191,860	18,303	230,174	48,855	210,239	28,368	61,939	20,220	238,619	1,087,362
2016	39,457	195,537	18,514	235,144	50,188	216,191	28,777	62,783	20,509	242,935	1,110,035
2017	40,127	199,216	18,725	240,113	51,422	222,131	29,186	63,609	20,798	247,250	1,132,577
2018	40,798	202,896	18,936	245,079	52,458	228,073	29,595	64,434	21,089	251,566	1,154,924
2019	41,469	206,576	19,146	250,048	53,493	234,016	30,004	65,260	21,380	255,883	1,177,275
2020	42,139	210,256	19,357	255,014	54,530	239,960	30,413	66,087	21,672	260,200	1,199,628
2021	42,791	213,802	19,545	259,844	55,580	246,026	30,802	66,882	21,978	264,401	1,221,651
2022	43,442	217,347	19,734	264,674	56,628	252,092	31,190	67,677	22,285	268,603	1,243,672
2023	44,094	220,893	19,922	269,505	57,678	258,160	31,580	68,472	22,593	272,806	1,265,703
2024	44,745	224,440	20,111	274,333	58,728	264,226	31,967	69,268	22,900	277,009	1,287,727
2025	45,397	227,985	20,300	279,162	59,779	270,293	32,356	70,063	23,208	281,212	1,309,755
2026	45,995	231,286	20,466	283,695	60,834	276,361	32,721	70,794	23,504	285,169	1,330,825
2027	46,593	234,588	20,632	288,228	61,890	282,432	33,086	71,525	23,800	289,125	1,351,899
2028	47,191	237,890	20,799	292,760	62,946	288,500	33,450	72,257	24,097	293,081	1,372,971
2029	47,790	241,190	20,966	297,292	64,002	294,570	33,815	72,988	24,393	297,038	1,394,044
2030	48,387	244,491	21,132	301,823	65,058	300,638	34,180	73,720	24,690	300,996	1,415,115

RESIDENTIAL ENERGY USAGE PER CONSUMER
2005 LOAD FORECAST STUDY

Year	Central Florida	Clay	Glades	Lee County	Peace River	Sumter	Suwannee Valley	Talquin	Tri-County	Withlacoochee River	Seminole
1990	9,025	11,942	9,753	11,149	9,502	10,104	11,030	12,532	8,722	11,123	11,097
1991	8,957	12,159	9,962	11,134	9,780	10,368	11,104	12,303	8,471	11,125	11,154
1992	9,312	12,438	9,800	10,993	9,738	10,480	11,262	12,460	8,657	11,262	11,245
1993	9,526	12,893	10,101	11,272	9,839	10,914	11,561	12,970	8,970	11,437	11,566
1994	9,697	12,680	10,834	12,038	10,281	10,902	11,449	12,853	8,873	11,756	11,770
1995	10,489	13,933	11,408	12,348	10,980	12,114	12,256	13,509	9,500	12,753	12,630
1996	10,905	13,966	11,705	12,749	11,321	12,158	12,756	14,166	9,657	13,185	12,930
1997	10,537	13,606	11,593	12,396	11,236	11,982	12,429	13,360	9,491	12,536	12,515
1998	11,537	14,628	12,454	13,098	12,328	12,926	13,532	14,736	10,448	13,575	13,461
1999	11,533	14,461	11,961	12,652	12,136	12,679	13,683	14,196	10,327	13,272	13,167
2000	11,831	14,988	12,594	13,130	12,706	13,163	13,999	14,821	10,758	14,032	13,720
2001	11,871	14,589	12,741	13,512	13,082	12,750	13,904	14,830	10,635	14,057	13,674
2002	12,490	15,530	13,231	14,113	14,057	13,658	14,555	15,305	11,325	14,829	14,431
2003	12,434	15,480	13,708	14,562	14,491	13,757	14,629	15,178	11,089	15,097	14,598
2004	12,573	15,469	13,073	13,967	14,137	13,454	14,734	15,542	11,144	14,668	14,324
2005	12,965	15,170	13,644	13,943	14,292	13,361	14,882	15,329	11,254	14,694	14,269
2006	13,221	15,289	13,856	14,049	14,481	13,474	14,928	15,502	11,654	14,894	14,414
2007	13,491	15,423	14,089	14,196	14,682	13,600	14,971	15,683	11,803	15,128	14,578
2008	13,844	15,616	14,429	14,421	14,994	13,778	15,094	15,935	11,946	15,434	14,811
2009	14,121	15,737	14,666	14,567	15,215	13,884	15,127	16,098	12,030	15,659	14,966
2010	14,451	15,904	14,949	14,753	15,489	14,030	15,214	16,328	12,160	15,939	15,169
2011	14,798	16,077	15,251	14,937	15,774	14,178	15,296	16,570	12,315	16,229	15,376
2012	15,212	16,300	15,607	15,179	16,112	14,371	15,422	16,884	12,515	16,583	15,638
2013	15,556	16,450	15,827	15,347	16,380	14,495	15,464	17,101	12,644	16,859	15,824
2014	15,945	16,651	16,164	15,564	16,705	14,662	15,570	17,380	12,811	17,188	16,061
2015	16,228	16,869	16,479	15,783	17,062	14,830	15,776	17,623	12,962	17,488	16,293
2016	16,546	17,133	16,838	16,049	17,467	15,037	16,038	17,920	13,148	17,834	16,570
2017	16,765	17,312	17,102	16,227	17,787	15,169	16,212	18,099	13,255	18,083	16,758
2018	17,041	17,539	17,423	16,454	18,160	15,343	16,434	18,344	13,404	18,388	16,996
2019	17,321	17,770	17,749	16,687	18,540	15,520	16,660	18,593	13,555	18,699	17,239
2020	17,659	18,052	18,138	16,972	18,977	15,740	16,936	18,909	13,748	19,069	17,534
2021	17,899	18,247	18,468	17,167	19,327	15,884	17,123	19,107	13,864	19,340	17,739
2022	18,202	18,497	18,832	17,419	19,739	16,076	17,364	19,377	14,025	19,677	18,002
2023	18,515	18,756	19,203	17,679	20,165	16,273	17,614	19,656	14,191	20,024	18,272
2024	18,892	19,069	19,639	17,997	20,654	16,518	17,923	20,007	14,405	20,434	18,600
2025	19,168	19,294	19,975	18,223	21,054	16,684	18,141	20,236	14,540	20,741	18,835
2026	19,506	19,574	20,375	18,505	21,514	16,897	18,415	20,537	14,721	21,112	19,126
2027	19,851	19,858	20,783	18,792	21,984	17,114	18,693	20,843	14,905	21,489	19,422
2028	20,264	20,200	21,261	19,140	22,521	17,380	19,032	21,226	15,139	21,936	19,780
2029	20,565	20,447	21,627	19,387	22,956	17,563	19,271	21,478	15,288	22,272	20,036
2030	20,933	20,751	22,062	19,694	23,458	17,795	19,568	21,805	15,485	22,675	20,353

COMMERCIAL ENERGY USAGE PER CONSUMER
2005 LOAD FORECAST STUDY

Year	Central Florida	Clay	Glades	Lee County	Peace River	Sumter	Suwannee Valley	Talquin	Tri-County	Withlacoochee River	Seminole
1990	32,884	61,923	22,139	53,477	19,990	30,527	48,589	62,548	32,595	47,547	45,156
1991	32,570	61,654	22,095	54,773	19,237	30,473	46,592	59,973	33,754	49,984	45,757
1992	33,022	47,776	24,648	55,138	20,047	31,568	45,749	60,367	35,325	52,024	44,848
1993	33,512	46,473	25,031	56,750	21,816	33,870	45,776	62,527	34,986	54,511	46,070
1994	34,229	47,251	28,408	60,265	23,724	32,356	45,440	63,624	34,946	55,455	47,287
1995	37,138	48,551	32,637	62,127	23,975	37,430	44,845	67,510	38,553	58,246	49,866
1996	38,234	48,602	36,292	62,914	25,121	39,902	41,173	67,977	36,009	57,820	50,379
1997	37,930	48,315	38,811	65,505	22,776	40,509	34,809	68,107	38,815	57,795	50,827
1998	40,241	51,100	39,074	64,966	24,414	42,923	36,341	71,144	40,608	58,879	51,908
1999	43,304	48,425	39,166	69,646	24,479	44,761	37,939	70,057	39,965	57,866	52,637
2000	46,671	55,901	42,384	64,932	25,388	47,579	36,143	70,966	38,440	59,337	54,339
2001	46,923	57,346	42,049	63,737	26,834	49,264	37,211	68,637	39,669	58,593	53,185
2002	47,357	58,102	48,802	59,179	26,042	51,107	38,098	67,720	41,876	57,796	54,219
2003	48,163	58,200	49,828	68,327	27,020	54,305	57,958	65,024	41,152	55,777	56,370
2004	48,796	58,001	50,761	70,371	25,794	52,460	92,492	66,883	50,993	52,850	56,510
2005	49,337	58,293	51,783	69,444	26,307	52,821	92,492	67,694	51,235	54,955	56,843
2006	50,156	58,435	52,231	69,412	26,429	53,321	92,503	76,898	51,504	55,126	57,271
2007	51,033	58,584	52,535	69,852	26,549	53,928	92,507	77,031	51,780	55,404	57,479
2008	52,244	58,921	53,651	70,731	26,851	54,840	92,517	77,454	52,196	55,879	57,983
2009	53,197	58,985	54,333	71,235	26,990	55,455	92,534	77,508	52,380	56,088	58,197
2010	54,329	59,203	55,167	71,910	27,214	56,251	92,549	77,824	52,750	56,449	58,568
2011	55,507	59,432	56,064	72,652	27,450	57,097	92,558	78,204	53,132	56,824	58,962
2012	56,915	59,826	57,187	73,685	27,771	58,154	92,579	78,847	53,678	57,371	59,551
2013	58,092	59,946	58,024	74,383	27,960	58,965	92,600	79,104	53,947	57,649	59,911
2014	59,386	60,234	59,038	75,302	28,237	59,949	92,625	79,592	54,354	58,075	60,466
2015	60,189	60,548	59,889	76,208	28,556	60,928	92,650	79,977	54,693	58,444	60,990
2016	61,071	61,019	60,863	77,298	28,946	62,048	92,678	80,571	55,163	58,953	61,688
2017	61,614	61,198	61,470	77,968	29,185	62,855	92,706	80,723	55,331	59,162	62,077
2018	62,321	61,526	62,261	78,846	29,500	63,819	92,735	81,106	55,658	59,521	62,620
2019	63,032	61,853	63,048	79,720	29,813	64,780	92,766	81,489	55,978	59,881	63,163
2020	63,908	62,332	64,023	80,804	30,204	65,903	92,794	82,102	56,451	60,394	63,861
2021	64,458	62,520	64,634	81,482	30,445	66,723	92,819	82,281	56,622	60,610	64,255
2022	65,196	62,866	65,460	82,394	30,772	67,733	92,851	82,701	56,953	60,989	64,822
2023	65,950	63,220	66,299	83,328	31,107	68,766	92,875	83,136	57,292	61,377	65,401
2024	66,887	63,730	67,343	84,490	31,523	69,977	92,907	83,804	57,796	61,925	66,147
2025	67,226	63,937	68,030	85,234	31,789	70,868	92,939	84,026	57,988	62,168	66,575
2026	67,864	64,295	68,903	86,191	32,134	71,918	92,966	84,490	58,342	62,564	67,159
2027	68,628	64,647	69,777	87,144	32,478	72,960	92,995	84,948	58,691	62,958	67,743
2028	69,573	65,149	70,855	88,323	32,905	74,175	93,023	85,641	59,201	63,507	68,490
2029	70,161	65,343	71,539	89,049	33,169	75,035	93,057	85,870	59,391	63,740	68,906
2030	70,929	65,689	72,424	90,000	33,513	76,068	93,082	86,329	59,737	64,130	69,486

ENERGY PURCHASES FROM SEMINOLE
2005 LOAD FORECAST STUDY
GWH

Year	Central Florida	Clay	Glades	Lee County	Peace River	Sumter	Suwannee Valley	Talquin	Tri-County	Withlacoochee River	Seminole
1990	235	1,630	179	1,868	229	875	201	573	146	1,781	7,717
1991	246	1,682	185	1,935	237	923	209	595	148	1,897	8,057
1992	257	1,717	195	1,962	246	973	217	620	153	1,977	8,317
1993	276	1,825	206	2,064	259	1,055	232	672	160	2,090	8,839
1994	282	1,844	227	2,201	272	1,079	233	675	158	2,142	9,113
1995	321	2,044	252	2,347	299	1,251	263	762	177	2,399	10,115
1996	337	2,120	267	2,410	318	1,316	277	784	184	2,467	10,480
1997	343	2,150	277	2,446	328	1,370	279	778	187	2,477	10,635
1998	381	2,374	292	2,620	366	1,542	312	854	205	2,685	11,631
1999	402	2,427	298	2,625	380	1,631	326	873	213	2,737	11,912
2000	432	2,569	326	2,786	417	1,790	345	926	224	2,908	12,723
2001	437	2,619	322	2,869	434	1,849	344	901	224	2,949	12,948
2002	479	2,840	346	3,082	482	2,067	379	984	245	3,239	14,143
2003	489	2,925	363	3,286	520	2,220	416	974	246	3,355	14,794
2004	504	3,004	363	3,341	536	2,368	494	1,010	272	3,456	15,348
2005	542	3,098	381	3,460	581	2,555	526	1,041	283	3,657	16,124
2006	568	3,213	392	3,590	625	2,729	543	1,107	297	3,860	16,924
2007	593	3,330	402	3,740	668	2,891	560	1,141	306	4,041	17,672
2008	622	3,461	417	3,913	718	3,045	580	1,180	315	4,225	18,476
2009	649	3,578	429	4,067	765	3,185	598	1,214	323	4,394	19,202
2010	679	3,706	442	4,232	816	3,337	617	1,253	332	4,579	19,993
2011	710	3,829	455	4,385	868	3,497	631	1,289	340	4,746	20,750
2012	743	3,966	470	4,557	924	3,671	648	1,331	350	4,933	21,593
2013	775	4,086	482	4,712	975	3,831	661	1,367	359	5,103	22,351
2014	809	4,221	497	4,883	1,026	4,006	677	1,407	368	5,290	23,184
2015	838	4,361	510	5,058	1,081	4,184	695	1,445	377	5,471	24,020
2016	869	4,514	525	5,249	1,131	4,366	716	1,487	387	5,670	24,914
2017	896	4,647	537	5,417	1,176	4,528	733	1,521	395	5,844	25,694
2018	926	4,794	551	5,602	1,220	4,705	752	1,559	404	6,037	26,550
2019	956	4,944	565	5,791	1,266	4,886	772	1,599	413	6,234	27,426
2020	990	5,109	581	6,000	1,316	5,084	793	1,643	424	6,451	28,391
2021	1,019	5,251	594	6,180	1,361	5,263	811	1,679	432	6,641	29,231
2022	1,051	5,409	609	6,382	1,411	5,460	831	1,721	443	6,853	30,170
2023	1,085	5,571	624	6,589	1,462	5,663	852	1,763	453	7,070	31,132
2024	1,122	5,751	641	6,819	1,518	5,886	875	1,812	465	7,310	32,199
2025	1,154	5,906	655	7,021	1,569	6,084	895	1,852	474	7,522	33,132
2026	1,188	6,074	670	7,238	1,625	6,303	916	1,896	485	7,750	34,145
2027	1,224	6,246	686	7,460	1,683	6,525	938	1,942	496	7,984	35,184
2028	1,264	6,436	703	7,706	1,745	6,770	962	1,993	509	8,242	36,330
2029	1,299	6,598	718	7,919	1,802	6,986	982	2,035	519	8,467	37,325
2030	1,337	6,780	734	8,157	1,864	7,224	1,005	2,083	531	8,718	38,433

SUMMER PEAK COINCIDENT WITH SEMINOLE
2005 LOAD FORECAST STUDY
MW

Year	Central Florida	Clay	Glades	Lee County	Peace River	Sumter	Suwannee Valley	Talquin	Tri-County	Withlacoochee River	Seminole
1990	55	379	30	364	43	203	50	127	30	405	1,686
1991	54	369	30	328	42	199	50	131	30	419	1,652
1992	59	392	36	400	49	225	55	145	34	436	1,831
1993	64	394	38	403	50	238	56	142	32	472	1,889
1994	58	378	40	418	48	234	51	129	31	467	1,854
1995	71	449	45	443	53	274	62	173	38	516	2,124
1996	75	466	42	446	60	291	66	165	37	531	2,179
1997	80	476	45	455	64	312	72	178	41	529	2,252
1998	89	527	45	514	76	365	79	199	45	608	2,547
1999	93	580	42	504	73	371	83	198	49	597	2,590
2000	92	552	47	489	74	379	80	195	49	609	2,566
2001	97	547	39	542	87	402	76	193	48	631	2,662
2002	98	605	50	567	91	441	82	198	50	697	2,879
2003	90	589	50	612	97	449	85	186	49	670	2,877
2004	99	622	52	649	105	497	87	216	56	706	3,089
2005	114	621	58	670	120	553	104	228	58	759	3,285
2006	119	643	59	695	128	590	107	242	62	798	3,443
2007	124	665	61	724	137	624	111	250	63	832	3,591
2008	129	689	63	755	146	654	114	257	65	865	3,737
2009	135	713	65	786	156	685	118	265	66	898	3,887
2010	140	737	67	817	166	717	122	273	68	933	4,040
2011	146	760	69	845	176	751	124	281	69	963	4,184
2012	152	784	70	874	187	785	127	288	71	995	4,333
2013	158	809	72	905	197	820	130	297	73	1,028	4,489
2014	164	834	74	936	207	856	132	305	74	1,061	4,643
2015	169	860	76	968	218	893	136	313	76	1,093	4,802
2016	174	887	78	1,001	227	928	139	320	78	1,126	4,958
2017	179	913	80	1,034	236	963	142	328	79	1,160	5,114
2018	184	941	82	1,068	244	1,000	146	336	81	1,194	5,276
2019	189	968	84	1,102	253	1,036	149	344	82	1,228	5,435
2020	195	997	86	1,137	262	1,074	153	352	84	1,264	5,604
2021	200	1,025	88	1,173	271	1,113	156	360	86	1,299	5,771
2022	206	1,054	90	1,209	280	1,153	160	369	87	1,336	5,944
2023	212	1,084	92	1,246	290	1,195	163	377	89	1,373	6,121
2024	217	1,114	94	1,285	300	1,236	167	386	91	1,411	6,301
2025	223	1,145	97	1,324	311	1,279	171	395	93	1,450	6,488
2026	229	1,176	99	1,363	321	1,323	174	404	95	1,488	6,672
2027	235	1,207	101	1,403	332	1,368	178	413	96	1,527	6,860
2028	241	1,238	103	1,443	343	1,414	182	422	98	1,567	7,051
2029	247	1,271	106	1,485	354	1,460	186	432	100	1,608	7,249
2030	254	1,304	108	1,527	366	1,508	190	441	102	1,649	7,449

WINTER PEAK COINCIDENT WITH SEMINOLE
2005 LOAD FORECAST STUDY
MW

Year	Central Florida	Clay	Glades	Lee County	Peace River	Sumter	Suwannee Valley	Talquin	Tri-County	Withlacoochee River	Seminole
1990	46	311	33	380	47	191	36	119	23	411	1,597
1991	53	380	49	448	63	257	41	137	26	527	1,981
1992	59	418	50	498	73	288	42	144	30	615	2,217
1993	51	357	46	507	67	266	36	147	23	584	2,084
1994	64	420	51	511	64	293	49	172	31	609	2,264
1995	74	476	64	618	84	349	56	180	34	694	2,629
1996	87	533	73	723	95	408	65	228	39	801	3,052
1997	89	512	68	662	93	389	67	207	39	740	2,866
1998	76	450	43	502	71	331	59	188	36	614	2,370
1999	105	600	63	678	102	446	76	234	47	797	3,148
2000	103	589	64	657	101	454	75	226	47	821	3,137
2001	116	669	74	743	116	520	82	244	50	905	3,519
2002	117	681	67	682	115	544	82	239	51	857	3,435
2003	131	788	81	879	130	587	95	291	60	940	3,982
2004	118	699	54	613	106	524	90	248	55	857	3,364
2005	140	747	80	805	139	692	103	269	63	1,026	4,064
2006	148	775	80	831	149	745	105	294	66	1,084	4,277
2007	155	804	82	863	159	793	109	304	69	1,136	4,474
2008	162	834	84	899	170	836	113	314	71	1,185	4,668
2009	170	864	87	936	182	877	117	324	74	1,234	4,865
2010	178	895	90	975	193	919	121	335	76	1,285	5,067
2011	186	925	92	1,011	206	963	125	345	78	1,333	5,264
2012	194	955	95	1,047	218	1,009	128	356	80	1,379	5,461
2013	202	986	97	1,085	231	1,055	131	366	83	1,428	5,664
2014	211	1,018	100	1,126	243	1,103	134	378	85	1,479	5,877
2015	220	1,051	103	1,165	256	1,152	138	388	87	1,528	6,088
2016	227	1,084	106	1,207	268	1,200	142	399	90	1,578	6,301
2017	235	1,118	109	1,249	280	1,247	146	409	92	1,628	6,513
2018	242	1,153	111	1,291	291	1,296	150	420	94	1,680	6,728
2019	250	1,188	114	1,335	302	1,345	154	431	96	1,733	6,948
2020	258	1,224	117	1,380	313	1,395	158	442	99	1,787	7,173
2021	266	1,260	120	1,426	324	1,447	162	453	101	1,842	7,401
2022	275	1,297	123	1,471	336	1,501	166	464	103	1,898	7,634
2023	283	1,335	126	1,520	348	1,556	170	476	106	1,956	7,876
2024	292	1,373	129	1,570	360	1,612	175	488	108	2,016	8,123
2025	301	1,413	132	1,621	373	1,670	179	500	111	2,077	8,377
2026	308	1,452	135	1,673	386	1,729	183	512	113	2,138	8,629
2027	317	1,492	138	1,725	400	1,789	187	524	116	2,200	8,888
2028	326	1,532	142	1,778	414	1,851	192	537	119	2,263	9,154
2029	336	1,574	145	1,832	428	1,914	196	550	121	2,328	9,424
2030	346	1,616	148	1,888	443	1,978	201	563	124	2,395	9,702

ENERGY PURCHASES FROM SEMINOLE

2005 LOAD FORECAST STUDY
GWH

Year	Central Florida	Clay	Glades	Lee County	Peace River	Sumter	Suwannee Valley	Talquin	Tri-County	Withlacoochee River	Seminole
2005	542	3,098	381	3,460	581	2,555	526	1,041	283	3,657	16,124
2006	568	3,213	392	3,590	625	2,729	543	1,107	297	3,860	16,924
2007	593	3,330	402	3,740	668	2,891	560	1,141	306	4,041	17,672
2008	622	3,461	417	3,913	718	3,045	580	1,180	315	4,225	18,476
2009	649	3,578	429	4,067	765	3,185	598	1,214	323	4,394	19,202
2010	679	3,706	442	4,232	816	3,337	617	1,253	332	4,579	19,993
2011	710	3,829	455	4,385	868	3,497	631	1,289	340	4,746	20,750
2012	743	3,966	470	4,557	924	3,671	648	1,331	350	4,933	21,593
2013	775	4,086	482	4,712	975	3,831	661	1,367	359	5,103	22,351
2014	809	4,221	497	4,883	1,026	4,006	677	1,407	368	5,290	23,184
2015	838	4,361	510	5,058	1,081	4,184	695	1,445	377	5,471	24,020
2016	869	4,514	525	5,249	1,131	4,366	716	1,487	387	5,670	24,914
2017	896	4,647	537	5,417	1,176	4,528	733	1,521	395	5,844	25,694
2018	926	4,794	551	5,602	1,220	4,705	752	1,559	404	6,037	26,550
2019	956	4,944	565	5,791	1,266	4,886	772	1,599	413	6,234	27,426
2020	990	5,109	581	6,000	1,316	5,084	793	1,643	424	6,451	28,391
2021	1,019	5,251	594	6,180	1,361	5,263	811	1,679	432	6,641	29,231
2022	1,051	5,409	609	6,382	1,411	5,460	831	1,721	443	6,853	30,170
2023	1,085	5,571	624	6,589	1,462	5,663	852	1,763	453	7,070	31,132
2024	1,122	5,751	641	6,819	1,518	5,886	875	1,812	465	7,310	32,199
2025	1,154	5,906	655	7,021	1,569	6,084	895	1,852	474	7,522	33,132
AAGR											
05-15	4.5%	3.5%	3.0%	3.9%	6.4%	5.1%	2.8%	3.3%	2.9%	4.1%	4.1%
15-25	3.3%	3.1%	2.5%	3.3%	3.8%	3.8%	2.6%	2.5%	2.3%	3.2%	3.3%

2003 LOAD FORECAST STUDY
GWH

Year	Central Florida	Clay	Glades	Lee County	Peace River	Sumter	Suwannee Valley	Talquin	Tri-County	Withlacoochee River	Seminole
2005	537	3,226	370	3,349	539	2,394	430	1,078	283	3,540	15,746
2006	561	3,358	384	3,473	563	2,531	448	1,117	296	3,686	16,417
2007	587	3,494	398	3,599	588	2,672	466	1,158	305	3,835	17,102
2008	615	3,646	414	3,745	616	2,827	486	1,204	313	4,002	17,868
2009	643	3,786	428	3,906	643	2,977	504	1,246	321	4,160	18,614
2010	673	3,943	445	4,060	673	3,144	525	1,294	330	4,338	19,425
2011	705	4,110	462	4,219	705	3,326	547	1,343	340	4,532	20,289
2012	740	4,290	480	4,390	740	3,516	570	1,397	351	4,733	21,207
2013	772	4,454	496	4,541	772	3,694	591	1,445	361	4,914	22,040
2014	808	4,635	514	4,711	807	3,888	615	1,498	372	5,118	22,966
2015	845	4,822	533	4,885	844	4,094	640	1,554	383	5,330	23,930
2016	886	5,032	555	5,076	885	4,311	667	1,614	396	5,566	24,988
2017	925	5,222	574	5,249	924	4,514	692	1,668	407	5,781	25,956
2018	966	5,432	595	5,439	966	4,735	719	1,727	419	6,018	27,016
2019	1,010	5,649	617	5,634	1,010	4,963	748	1,788	432	6,264	28,115
2020	1,057	5,887	641	5,850	1,058	5,213	779	1,856	447	6,534	29,322
2021	1,101	6,104	662	6,039	1,103	5,449	807	1,917	459	6,779	30,420
2022	1,150	6,343	686	6,248	1,152	5,707	838	1,984	473	7,050	31,631
2023	1,200	6,590	710	6,463	1,202	5,974	869	2,053	488	7,330	32,879
2024	1,252	6,846	734	6,685	1,255	6,253	902	2,125	503	7,621	34,176
2025	1,306	7,112	760	6,915	1,310	6,545	937	2,199	518	7,924	35,526
AAGR											

SUMMER PEAK COINCIDENT WITH SEMINOLE

2005 LOAD FORECAST STUDY
MW

Year	Central Florida	Clay	Glades	Lee County	Peace River	Sumter	Suwannee Valley	Talquin	Tri-County	Withlacoochee River	Seminole
2005	114	621	58	670	120	553	104	228	58	759	3,285
2006	119	643	59	695	128	590	107	242	62	798	3,443
2007	124	665	61	724	137	624	111	250	63	832	3,591
2008	129	689	63	755	146	654	114	257	65	865	3,737
2009	135	713	65	786	156	685	118	265	66	898	3,887
2010	140	737	67	817	166	717	122	273	68	933	4,040
2011	146	760	69	845	176	751	124	281	69	963	4,184
2012	152	784	70	874	187	785	127	288	71	995	4,333
2013	158	809	72	905	197	820	130	297	73	1,028	4,489
2014	164	834	74	936	207	856	132	305	74	1,061	4,643
2015	169	860	76	968	218	893	136	313	76	1,093	4,802
2016	174	887	78	1,001	227	928	139	320	78	1,126	4,958
2017	179	913	80	1,034	236	963	142	328	79	1,160	5,114
2018	184	941	82	1,068	244	1,000	146	336	81	1,194	5,276
2019	189	968	84	1,102	253	1,036	149	344	82	1,228	5,435
2020	195	997	86	1,137	262	1,074	153	352	84	1,264	5,604
2021	200	1,025	88	1,173	271	1,113	156	360	86	1,299	5,771
2022	206	1,054	90	1,209	280	1,153	160	369	87	1,336	5,944
2023	212	1,084	92	1,246	290	1,195	163	377	89	1,373	6,121
2024	217	1,114	94	1,285	300	1,236	167	386	91	1,411	6,301
2025	223	1,145	97	1,324	311	1,279	171	395	93	1,450	6,488
AAGR											
05-15	4.0%	3.3%	2.7%	3.7%	6.2%	4.9%	2.7%	3.2%	2.7%	3.7%	3.9%
15-25	2.8%	2.9%	2.5%	3.2%	3.6%	3.7%	2.3%	2.4%	2.0%	2.9%	3.1%

2003 LOAD FORECAST STUDY
MW

Year	Central Florida	Clay	Glades	Lee County	Peace River	Sumter	Suwannee Valley	Talquin	Tri-County	Withlacoochee River	Seminole
2005	114	674	52	637	107	496	89	240	59	722	3,190
2006	119	700	54	660	112	524	92	249	63	750	3,323
2007	124	726	56	684	117	552	96	257	64	779	3,455
2008	130	754	58	709	122	582	99	266	66	809	3,595
2009	135	783	60	737	127	613	103	275	67	841	3,741
2010	141	813	62	764	133	646	107	285	69	875	3,895
2011	148	845	64	792	139	682	111	295	71	912	4,059
2012	154	877	67	820	145	718	115	305	73	947	4,221
2013	161	911	69	848	151	754	119	316	75	983	4,387
2014	168	945	71	878	158	792	123	326	77	1,022	4,560
2015	175	981	74	909	165	832	128	337	79	1,061	4,741
2016	182	1,018	76	940	172	872	132	349	81	1,103	4,925
2017	190	1,056	79	972	180	913	137	360	83	1,146	5,116
2018	198	1,096	82	1,005	188	956	142	372	86	1,190	5,315
2019	206	1,136	84	1,039	196	1,000	147	384	88	1,236	5,516
2020	215	1,178	87	1,074	204	1,045	152	397	91	1,283	5,726
2021	224	1,222	91	1,110	213	1,093	157	409	93	1,332	5,944
2022	233	1,266	94	1,146	222	1,142	163	423	96	1,382	6,167
2023	243	1,312	97	1,183	231	1,193	168	436	98	1,434	6,395
2024	252	1,359	100	1,221	241	1,246	174	450	101	1,488	6,632
2025	263	1,409	103	1,261	251	1,302	180	465	104	1,544	6,882
AAGR											
05-15	4.4%	3.8%	3.6%	3.6%	4.4%	5.3%	3.7%	3.5%	3.0%	3.9%	4.0%
15-25	4.2%	3.7%	3.4%	3.3%	4.3%	4.6%	3.5%	3.3%	2.8%	3.8%	3.8%

WINTER PEAK COINCIDENT WITH SEMINOLE

2005 LOAD FORECAST STUDY
MW

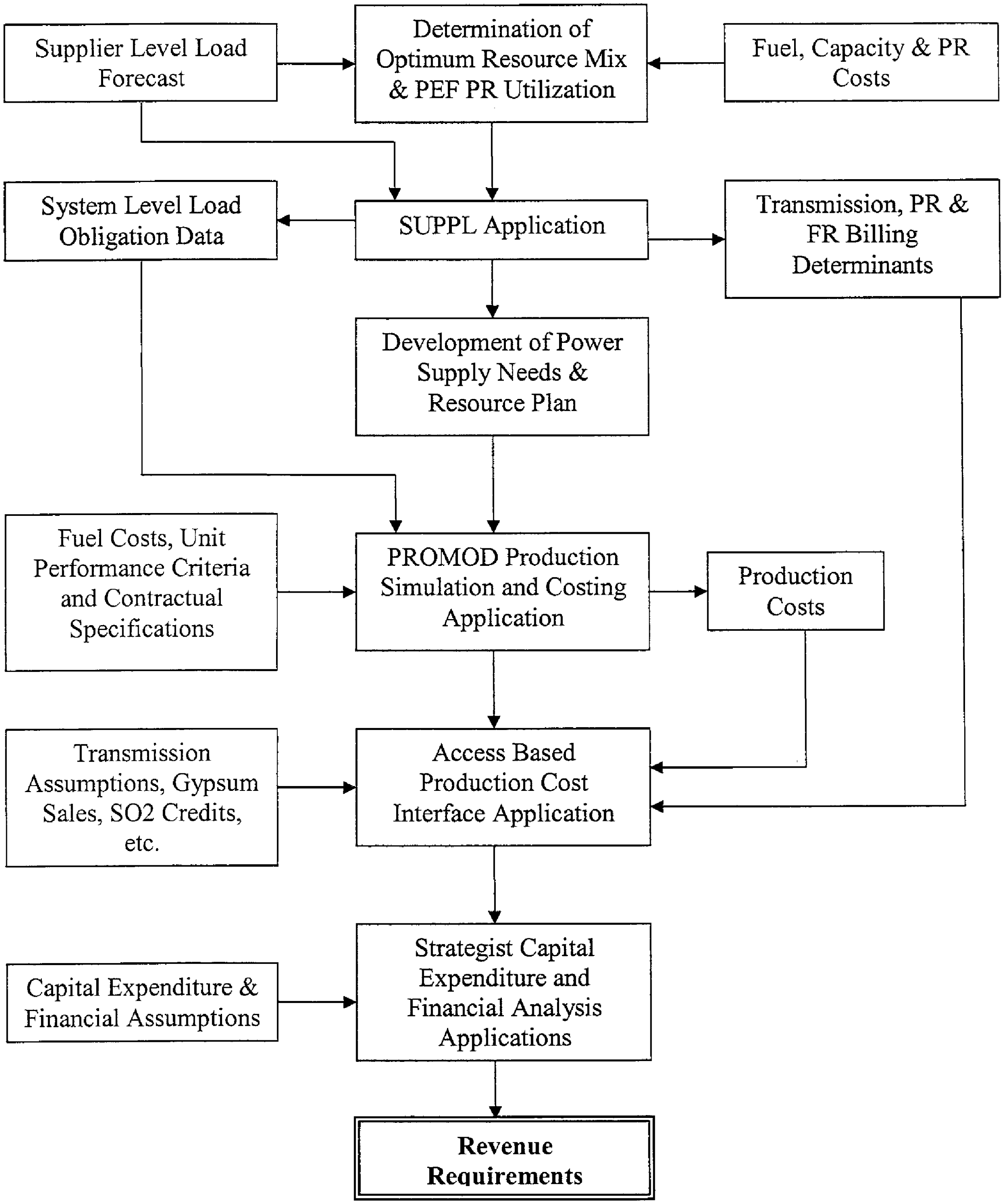
Year	Central Florida	Clay	Glades	Lee County	Peace River	Sumter	Suwannee Valley	Talquin	Tri-County	Withlacoochee River	Seminole
2005	140	747	80	805	139	692	103	269	63	1,026	4,064
2006	148	775	80	831	149	745	105	294	66	1,084	4,277
2007	155	804	82	863	159	793	109	304	69	1,136	4,474
2008	162	834	84	899	170	836	113	314	71	1,185	4,668
2009	170	864	87	936	182	877	117	324	74	1,234	4,865
2010	178	895	90	975	193	919	121	335	76	1,285	5,067
2011	186	925	92	1,011	206	963	125	345	78	1,333	5,264
2012	194	955	95	1,047	218	1,009	128	356	80	1,379	5,461
2013	202	986	97	1,085	231	1,055	131	366	83	1,428	5,664
2014	211	1,018	100	1,126	243	1,103	134	378	85	1,479	5,877
2015	220	1,051	103	1,165	256	1,152	138	388	87	1,528	6,088
2016	227	1,084	106	1,207	268	1,200	142	399	90	1,578	6,301
2017	235	1,118	109	1,249	280	1,247	146	409	92	1,628	6,513
2018	242	1,153	111	1,291	291	1,296	150	420	94	1,680	6,728
2019	250	1,188	114	1,335	302	1,345	154	431	96	1,733	6,948
2020	258	1,224	117	1,380	313	1,395	158	442	99	1,787	7,173
2021	266	1,260	120	1,426	324	1,447	162	453	101	1,842	7,401
2022	275	1,297	123	1,471	336	1,501	166	464	103	1,898	7,634
2023	283	1,335	126	1,520	348	1,556	170	476	106	1,956	7,876
2024	292	1,373	129	1,570	360	1,612	175	488	108	2,016	8,123
2025	301	1,413	132	1,621	373	1,670	179	500	111	2,077	8,377
AAGR											
05-15	4.6%	3.5%	2.6%	3.8%	6.3%	5.2%	3.0%	3.7%	3.3%	4.1%	4.1%
15-25	3.2%	3.0%	2.5%	3.4%	3.8%	3.8%	2.6%	2.6%	2.5%	3.1%	3.2%

2003 LOAD FORECAST STUDY
MW

Year	Central Florida	Clay	Glades	Lee County	Peace River	Sumter	Suwannee Valley	Talquin	Tri-County	Withlacoochee River	Seminole
2005	138	772	76	798	136	642	94	272	61	982	3,971
2006	144	804	79	826	142	680	98	283	64	1,019	4,139
2007	151	836	82	855	148	718	103	294	67	1,058	4,312
2008	158	870	84	885	154	758	107	305	69	1,099	4,489
2009	166	905	87	916	161	800	112	317	71	1,141	4,676
2010	173	942	91	949	168	845	117	330	73	1,186	4,874
2011	182	980	94	981	176	893	122	343	75	1,236	5,082
2012	190	1,020	97	1,014	184	942	127	357	78	1,286	5,295
2013	199	1,061	101	1,046	192	992	132	371	80	1,335	5,509
2014	208	1,103	104	1,077	201	1,044	138	385	83	1,387	5,730
2015	217	1,146	108	1,110	210	1,098	143	400	85	1,441	5,958
2016	227	1,191	112	1,142	219	1,153	149	415	88	1,498	6,194
2017	237	1,238	116	1,172	229	1,210	155	430	91	1,556	6,434
2018	248	1,287	120	1,205	240	1,268	161	446	94	1,617	6,686
2019	259	1,336	125	1,238	250	1,329	168	463	96	1,679	6,943
2020	270	1,388	129	1,269	261	1,391	174	479	99	1,744	7,204
2021	281	1,441	134	1,301	273	1,457	181	497	102	1,811	7,478
2022	293	1,495	139	1,332	285	1,525	188	515	105	1,879	7,756
2023	306	1,552	143	1,365	297	1,595	195	533	109	1,950	8,045
2024	319	1,610	148	1,398	310	1,669	202	552	112	2,024	8,344
2025	332	1,671	153	1,432	324	1,746	210	572	115	2,100	8,655
AAGR											
05-15	4.6%	4.0%	3.6%	3.4%	4.4%	5.5%	4.3%	3.9%	3.4%	3.9%	4.1%
15-25	4.3%	3.8%	3.5%	2.6%	4.4%	4.7%	3.9%	3.6%	3.1%	3.8%	3.8%

Appendix E

Planning Process and Models



Load Forecast and Resource Mix. Development of Seminole's Corporate Model and revenue requirements projections begins with the load forecast, aggregated to the supplier area and system levels from member level data. The system level data is analyzed for load duration base-intermediate and intermediate-peaking breakpoints, which are identified through correlation analysis of the cost of capacity and the cost of fuel.

Concurrently, the PEF area load data is analyzed to determine the optimum amount and type of PR to purchase. Under the agreement with PEF, Seminole supplies its members' aggregate loads in the PEF control area up to a specified commitment level, and PEF supplies all loads in excess of this commitment. The terms of the PR contract allow, with some restrictions, the adjustment of PR purchases to optimize the amount of load served by each resource type.

SUPPL and Initial Power Supply Plan. A computer application written in-house in the SAS language is used to remove the load to be served with PEF PR and any full requirements contracts. This application also calculates billing determinants for this load and transmission billing determinants which are passed to the Production Cost Interface Application. SUPPL also develops load input data input for the PROMOD application.

A preliminary load and resource plan is developed at this point in the process, using load and reserve requirements and existing resources. Projected capacity needs are filled with a mix of generic base, intermediate and peaking type resources as identified in the load duration optimization process.

PROMOD, Final Power Supply Plan, and Base Case. Seminole uses NewEnergy's software application, PROMOD, for its production simulation and costing process. The model contains performance criteria for all existing and planned resources, including cost of fuel, heat rate, outage expectations, generation restrictions, and maintenance requirements, as well as external market restrictions. Model inputs include the hourly load data that Seminole is obligated to serve and a market energy price profile which has been tuned for daily and seasonal fluctuations. PROMOD dispatches the resources against the load requirements so as to minimize costs while maintaining reliability. The model allows production costs to be reduced with opportunity market sales or purchases under the restrictions and pricing specified.

Following development of the PROMOD model, the resource plan is finalized through iterative production costing studies that test the base-intermediate-peaking allocation of projected needs in conjunction with existing resources. This final plan and model become the PROMOD Base Case against which resource alternatives can be compared. To evaluate resource alternatives, a new supply plan scenario is developed and modeled in which the proposed resource(s) replaces generic capacity.

Production Cost Interface. Results from the PROMOD study are passed to the Access based Production Cost Interface Application. This application produces purchased power, production cost and transmission reports in addition to preparing data for input into Strategist.

Strategist. Seminole uses NewEnergy's strategic tool, Strategist, to evaluate the financial impact of our resource planning studies. Capital costs, financing assumptions, tax and insurance rates, and beginning balances are provided along with the production cost data in order to determine revenue requirements.

Appendix F

AUGUST 2003 FUEL PRICE FORECAST (Nominal $/MBtu)
Based on the March 2003 Global Insight Long Term Fuel Price Forecast
COMMODITY PRICES

Year	Distillate Oil	Natural Gas	Pittsburg Seam 13,000 Btu/Lb	Petroleum Coke 14000 Btu/Lb
1998	3.04	2.31	0.83	
1999	3.68	2.45	0.78	
2000	6.36	4.10	0.73	0.53
2001	5.43	4.39	1.25	0.50
2002	4.99	3.27	0.97	0.34
2003	6.29	5.38	0.92	0.50
2004	8.25	6.02	1.33	0.43
2005	5.02	3.95	1.09	0.34
2006	5.31	3.79	1.07	0.34
2007	5.51	3.91	1.06	0.35
2008	5.66	4.06	1.08	0.36
2009	5.79	4.15	1.12	0.37
2010	5.96	4.30	1.15	0.37
2011	6.15	4.56	1.16	0.38
2012	6.38	4.76	1.16	0.39
2013	6.73	4.92	1.17	0.40
2014	7.04	5.05	1.17	0.41
2015	7.38	5.24	1.18	0.42
2016	7.71	5.40	1.19	0.43
2017	8.03	5.56	1.20	0.44
2018	8.34	5.76	1.21	0.45
2019	8.69	5.93	1.22	0.47
2020	9.04	6.12	1.23	0.48
2021	9.38	6.36	1.25	0.49
2022	9.75	6.60	1.26	0.50
2023	10.14	6.85	1.28	0.52
2024	10.57	7.09	1.29	0.53
2025	10.97	7.35	1.31	0.55

Coal price represents a blending of EIA and Global Insight's forecast.
All other fuels are the Global forecast entire forecast period.

APRIL 2004 FUEL PRICE FORECAST (Nominal $/MBtu)
Based on the December 2003 Global Insight Long Term Fuel Price Forecast
COMMODITY PRICES

Year	Distillate Oil	Natural Gas	Illinois Basin High Sulfur 12,000 Btu/Lb	Petroleum Coke 14000 Btu/Lb
1998	3.04	2.31	0.83	
1999	3.68	2.45	0.78	
2000	6.36	4.10	0.73	0.53
2001	5.43	4.39	1.25	0.50
2002	4.99	3.27	0.97	0.34
2003	6.29	5.38	0.92	0.50
2004	8.25	6.02	1.33	0.43
2005	6.25	5.20	1.03	0.30
2006	5.79	4.80	1.03	0.33
2007	5.63	4.50	1.06	0.34
2008	5.47	4.40	1.10	0.37
2009	5.42	4.31	1.15	0.40
2010	5.82	4.31	1.21	0.42
2011	6.04	4.53	1.26	0.45
2012	6.27	4.70	1.29	0.47
2013	6.62	4.90	1.32	0.48
2014	6.93	5.07	1.35	0.49
2015	7.25	5.29	1.39	0.53
2016	7.57	5.46	1.42	0.54
2017	7.87	5.66	1.46	0.54
2018	8.19	5.88	1.49	0.55
2019	8.54	6.12	1.53	0.56
2020	8.90	6.36	1.58	0.57
2021	9.26	6.60	1.62	0.58
2022	9.64	6.86	1.66	0.59
2023	10.05	7.12	1.71	0.60
2024	10.50	7.40	1.75	0.61
2025	10.90	7.69	1.80	0.62
2026	11.36	7.98	1.85	0.64
2027	11.83	8.29	1.90	0.65
2028	12.33	8.62	1.95	0.66
2029	12.88	8.95	2.00	0.67
2030	13.38	9.30	2.06	0.68

Coal price represents a blending of EIA and Global Insight's forecast.
All other fuels are the Global forecast entire forecast period.

DECEMBER 2004 FUEL PRICE FORECAST (Nominal $/MBtu)
Based on the October 2004 Global Insight Long Term Fuel Price Forecast
COMMODITY PRICES

Year	Distillate Oil	Natural Gas	Illinois Basin High Sulfur 12,000 Btu/Lb	Petroleum Coke 14000 Btu/Lb
1998	3.04	2.11	0.83	
1999	3.68	2.27	0.78	
2000	6.36	3.88	0.73	0.53
2001	5.43	4.26	1.25	0.50
2002	4.99	3.22	0.97	0.34
2003	6.29	5.38	0.92	0.50
2004	8.25	6.14	1.33	0.43
2005	9.51	7.78	1.88	1.23
2006	8.25	7.12	1.64	0.93
2007	6.99	5.99	1.32	0.64
2008	6.85	5.75	1.00	0.34
2009	6.87	5.52	1.05	0.38
2010	6.86	5.28	1.10	0.43
2011	6.80	5.04	1.14	0.48
2012	6.74	5.17	1.18	0.51
2013	6.81	5.34	1.20	0.54
2014	7.05	5.47	1.22	0.57
2015	7.32	5.65	1.25	0.60
2016	7.59	5.81	1.27	0.65
2017	7.86	6.00	1.30	0.69
2018	8.13	6.04	1.33	0.73
2019	8.39	6.27	1.36	0.77
2020	8.66	6.48	1.38	0.82
2021	8.94	6.67	1.41	0.84
2022	9.22	6.86	1.44	0.86
2023	9.49	7.06	1.47	0.88
2024	9.77	7.26	1.51	0.89
2025	10.04	7.46	1.54	0.90
2026	10.33	7.68	1.57	0.92
2027	10.61	7.90	1.61	0.94
2028	10.89	8.12	1.64	0.95
2029	11.18	8.35	1.68	0.97
2030	11.46	8.58	1.72	0.98

Natural Gas NYMEX futures as of 10/29/2004 then merged with Global forecast, 2011-2030 Global forecast.
Distillate Oil for 2005-2010 adjusted for current market prices, 2011-2030 Global forecast.
Coal adjusted to EIA in 2005 then merged with Global; 2008-2030 Global forecast.
Petcoke adjusted 2005 based on 2004 actual then merged with Global; 2008-2030 Global forecast.

AUGUST 2005 FUEL PRICE FORECAST (Nominal $/MBtu)
Based on the June 2005 Global Insight Long Term Fuel Price Forecast
COMMODITY PRICES

Year	Distillate Oil	Natural Gas	Illinois Basin High Sulfur 12,000 Btu/Lb	Petroleum Coke 14000 Btu/Lb
1998	3.04	2.31	0.83	
1999	3.68	2.45	0.78	
2000	6.36	4.10	0.73	0.53
2001	5.43	4.39	1.25	0.50
2002	4.99	3.27	0.97	0.34
2003	6.29	5.38	0.92	0.50
2004	8.25	6.02	1.33	0.43
2005	12.27	8.02	1.31	0.57
2006	12.48	8.13	1.24	0.33
2007	11.75	7.64	1.22	0.33
2008	11.20	6.80	1.20	0.37
2009	10.77	5.96	1.19	0.42
2010	10.43	5.13	1.20	0.47
2011	8.84	5.28	1.25	0.52
2012	9.01	5.43	1.29	0.56
2013	9.05	5.79	1.31	0.59
2014	9.06	5.98	1.34	0.62
2015	9.06	6.11	1.36	0.66
2016	9.18	6.25	1.39	0.71
2017	9.31	6.71	1.42	0.75
2018	9.45	6.25	1.45	0.80
2019	9.59	6.57	1.48	0.84
2020	9.73	6.86	1.51	0.89
2021	10.25	6.97	1.54	0.91
2022	10.64	7.18	1.57	0.93
2023	11.13	7.39	1.60	0.95
2024	11.55	7.60	1.63	0.96
2025	11.98	7.81	1.66	0.98
2026	12.37	8.01	1.70	0.99
2027	12.77	8.21	1.73	1.00
2028	13.14	8.41	1.76	1.00
2029	13.52	8.62	1.80	1.01
2030	13.94	8.80	1.84	1.02

Natural Gas NYMEX futures as of 6/21/2005 then merged with Global forecast, 2010-2030 Global forecast.
Distillate Oil NYMEX futures as of 6/21/2005 then merged with Global forecast, 2011-2030 Global forecast.
Coal and Petcoke, 2005-2030 Global forecast.

APPENDIX G

Economic and Financial Assumptions

Financial and economic assumptions used in Seminole's evaluations of power supply options are shown in the following table.

Inflation Rates. The general inflation rate applied to operation and maintenance (O&M) costs and other expenses was based on the implicit price deflator (IPD) forecast published by Economy.com in May, 2005. Real price escalation of O&M and other expenses was assumed to be zero.

Financing Rates. Seminole plans to finance the project with 100% long-term debt funded by the Rural Utilities Service (RUS). Cost of debt projections, therefore, assume RUS financing. The discount rate, which is used for present worth calculations, is equal to the average annual long term cost of debt.

Allowance for Funds Used During Construction (AFUDC). The construction cost of the project includes a rate equal to the average annual long term debt rate on funds used during the construction period.

Financial and Economic Assumptions (%)			
Year	General Inflation Rate	Long Term Debt Rate	AFUDC Rate
2006	2.6	6.0	6.0
2007	2.4	6.0	6.0
2008	2.0	6.0	6.0
2009	2.0	6.0	6.0
2010	2.0	6.0	6.0
2011	2.0	6.0	6.0
2012	1.9	6.0	6.0
2013	1.9	6.0	6.0
2014	1.9	6.0	6.0
2015	1.9	6.0	6.0
2016	1.8	6.0	6.0
2017	1.8	6.0	6.0
2018	1.8	6.0	6.0
2019	1.8	6.0	6.0
2020	1.8	6.0	6.0
2021	1.8	6.0	6.0
2022	1.8	6.0	6.0
2023	1.8	6.0	6.0
2024	1.8	6.0	6.0
2025	1.8	6.0	6.0
2026	1.8	6.0	6.0
2027	1.8	6.0	6.0
2028	1.8	6.0	6.0
2029	1.8	6.0	6.0
2030	1.7	6.0	6.0

Discount rate = 6%

Appendix H

Request for Proposals

Request for Firm Base Load Capacity
RFP No. BL 2012

Seminole Electric
COOPERATIVE, INC.
IN PARTNERSHIP WITH THOSE WE SERVE

April 2004

Seminole Electric
COOPERATIVE, INC.
IN PARTNERSHIP WITH THOSE WE SERVE

Request for Proposals
RFP No. BL 2012

Table of Contents

Seminole Electric Cooperative, Inc.
RFP No. BL 2012

April 2004
Request for Base Load Capacity

1.0 Purpose

Seminole Electric Cooperative, Inc. ("Seminole") is seeking proposals from qualified and eligible bidders to meet up to 600 MWs of **base load** capacity, beginning as early as the summer of 2009 but no later than December 2012.

Seminole seeks fuel price stability and will favor proposals that provide coal capacity and/or non-coal capacity resources with energy pricing which provides long term price stability.

2.0 Description of Seminole Electric Cooperative, Inc.

Seminole is an electric generation and transmission (G&T) cooperative headquartered in Tampa Florida. Seminole provides wholesale electric service to ten (10) member electric distribution cooperatives ("Members"). The Members are located throughout peninsular Florida, serving loads located in 46 different counties. More than 775,000 consumers rely on Seminole and its Members for electric service.

Seminole supplies the Members' capacity and energy requirements from a mix of firm resources including owned generation and purchased capacity, supplemented by interchange purchases. Seminole's owned generation includes two coal-fired units, a gas fired combined cycle unit, and an ownership interest in Progress Energy Florida's (PEF) nuclear unit. Seminole has system purchase agreements with PEF and Gainesville Regional Utilities. Seminole has several unit power purchase agreements which are predominantly natural gas-fired units.

3.0 RFP Provisions

3.1 This RFP is open to all parties, including, but not limited to: independent power producers, exempt wholesale generators, qualifying facilities (under PURPA), power marketers, and electric utilities.

3.2 Preference will be given to proposals that maximize scheduling flexibility, including real-time control capability, such as automatic generation control (AGC).

3.3 Seminole prefers the term of a proposal to be in the range of 10 years to 20 years, but Seminole would consider shorter and longer terms as well.

3.4 Offers of capacity must be firm, from identifiable (either planned or existing) generating resources. Energy products will be considered if adequate, reliable back-up capacity is specified and verifiable.

3.5 Proposals may be for less than the amount as shown in Section 1.0.

3.6 Offers of capacity and energy may be from one or more resources. Such resources must be suitable to meet Seminole's firm load and/or reserve obligations Proposals based on system resources must provide Seminole with reliability equivalent to seller's firm native load customers.

3.7 Existing Seminole plant sites are not available for the addition of unit(s) to sell to Seminole.

4.0 Delivery to the Seminole System

4.1 Seminole currently serves its load primarily through its own transmission system or through the transmission systems of PEF and Florida Power and Light Company (FPL). Wheeling and interconnection arrangements and all costs to deliver the capacity and energy to the Seminole, PEF or FPL transmission system delivery points are the responsibility of the bidder.

4.2 Proposed prices must include all integration and interconnection costs, and transmission network service upgrades to deliver the capacity and energy to the Seminole members.

4.3 All proposals must identify any wheeling and interconnection agreements with third parties that are required to deliver the capacity and energy to Seminole. Seminole requires that any transmission arrangements to deliver the offered capacity [to the, Seminole, PEF or FPL transmission system] to be firm.

5.0 Bidder Forms

5.1 All applicable Bidder Forms, 1 through 9, must be included as part of each submittal. If more than one submittal is made, separate Bidder Forms 4 through 8, clearly marked, must be prepared for each submittal.

5.2 All price quotes must be communicated on the attached Bidder Forms. Prices quoted shall always include all costs that Seminole would be expected to pay. Charges subject to change must be stated and estimates for the period provided along with their underlying assumptions.

6.0 Other Terms and Conditions

Each proposal must comply with all applicable federal and state laws. All permits, licenses, fees, emissions allowances, and environmental requirements are the responsibility of the bidder for the entire term of each proposal. If a resource detailed in a proposal is not yet in service, a detailed milestone schedule describing major project activities, including a permitting schedule, leading up to the commencement date for commercial service must also be provided.

7.0 Reservation of Rights

Seminole expects to fulfill the capacity needs of this RFP through contracts resulting from this RFP, and/or from self-build options including joint ownership projects; however,

7.1 Seminole reserves the right to make resource commitments outside this RFP which result from (1) negotiated amendments to agreements with its current power suppliers, (2) negotiated arrangements with parties that Seminole is currently engaged in negotiations with for all or a portion of said capacity needs, or (3) negotiated arrangements for small power resources not exceeding an aggregate cap of 50 MW from such resources.

7.2 Seminole reserves the right, without qualification and at its sole discretion, to modify, supplement or withdraw this RFP and to reject any or all proposals or portions thereof or to waive irregularities or omissions. Those who submit proposals to Seminole do so without recourse against Seminole for either rejections by Seminole or failure to execute an agreement for any reason.

7.3 Seminole reserves the right to request further information, as necessary, to complete its evaluation of the proposals received.

7.4 No part of this RFP and no part of any subsequent communications with Seminole, its Members, trustees, employees, or officers shall be taken as providing legal, financial, or other advice, nor as establishing a commitment, promise or contractual obligation with a bidder.

7.5 Any negotiated contract shall be subject to the approval and award by the Seminole Board of Trustees.

8.0 Procedures for Application

8.1 A copy of this RFP, together with supporting forms, is on the Seminole website, "**www.seminole-electric.com**". The link to the RFP appears on the Seminole home page.

8.2 Seminole requires a non-refundable RFP Fee in the amount of $5,000 to accompany a bidder's proposal in order for Seminole to proceed with the bid evaluation. Make your check payable to "Seminole Electric Cooperative, Inc.". One RFP Fee covers all proposals submitted by an individual bidder.

8.3 Bidders must submit their bid proposals via e-mail to the e-mail address below. In addition, an **original bid proposal, signed by an authorized officer, plus four (4) copies,** and a check in the amount of $5,000 (non-refundable RFP Fee) **must be mailed by either courier or U.S. Postal Service.**

By Courier:
Seminole Electric Cooperative, Inc.
Attention: Ms. Trudy Novak, Director of Pricing and Bulk Power Contracts
16313 North Dale Mabry Highway
Tampa, FL 33618

By U.S. Postal Service:
Seminole Electric Cooperative, Inc.
Attention: Ms. Trudy Novak, Director of Pricing and Bulk Power Contracts
P.O.Box 272000
Tampa, FL 33688-2000

By E-Mail:
"SeminoleRFP@seminole-electric.com".

8.4 All proposals must arrive via e-mail by 5:00 PM Eastern Prevailing Time (EPT), September 1, 2004. Paper copies and the RFP Fee must arrive at Seminole's Tampa offices by 5:00 PM

EPT on the next date (i.e., September 2, 2004). Seminole is not obliged to contact bidders concerning missing or incomplete forms. Only versions of the forms attached to this RFP may be used to submit proposals.

8.5 All bid packages should include any additional information required to support evaluation of the proposal, including a completed Credit Application, Form 9, and Questionnaire, Form 3. Documents requested in support of the Credit Application, including the applicant's most recent annual report and financial statements, must accompany the mailed versions of the proposals.

9.0 Confidentiality

9.1 Seminole recognizes that certain information contained in proposals submitted may be confidential and, as permitted by applicable law, will use reasonable efforts to maintain the information contained in the proposal as confidential. However, Seminole reserves the right to submit the proposal to the Rural Utilities Service ("RUS") and to any other regulatory or judicial authority that may request.

9.2 Seminole also reserves the right to disclose any or all of the information submitted in response to this request to any consultant(s) retained by Seminole to assist with aspects of this process. Seminole will take reasonable steps to ensure that its consultant(s) will also treat information received from bidders as confidential; however, Seminole will not be liable for any failure of any consultant(s) to do so.

10.0 Bid Evaluation Process

The procedures and criteria utilized to evaluate proposals will be as follows: first, to determine if the proposals are responsive to the RFP; second, to evaluate proposals from a technical, commercial, and economic viewpoint; and third, to develop a short-list for negotiations, if determined to be in the best interests of Seminole.

10.1 Proposals will initially undergo a review from a technical perspective:

- to ensure that the service offered is consistent with this RFP based upon the factors included herein, including, but not limited to:
    - the reliability of the proposed power supply, and
    - acceptable fuel supply;
    - acceptable siting and permitting plan (if applicable)
    - acceptable third party transmission (if applicable)
- to confirm that the capacity and energy will be delivered to the Seminole, PEF or FPL transmission systems, and can be delivered further to Seminole's member delivery points within the control areas of Seminole, PEF and/or the FPL; and if wheeling is required, that a firm transmission path will be available during the term;
- to evaluate the number and type of exceptions taken to the terms and conditions of this RFP.

10.2 Proposals will then undergo a review from a commercial perspective, which will include but not be limited to the following, to ensure that the bidder has:

- adequate and pertinent experience, resources, and qualifications ;
- the necessary financial and operational viability to sustain an offer;
- made a commitment of guaranteed firm capacity to Seminole with adequate non-performance guarantees and remedies.
- either itself, or through its guarantor, an investment grade credit rating, or is willing to post a letter of credit acceptable to Seminole.

10.3 The economic evaluation of the RFP will use common economic assumptions for all proposals where appropriate, and will consider, among other factors, the net present value of the revenue requirements given the projected proposal prices over the term.

10.4 Seminole may conduct scenario and sensitivity analyses of proposals to evaluate risks and strategic value. The results of these analyses may be considered in Seminole's evaluation of proposals, including the selection of proposal(s) for the short list.

11.0 Communication

11.1 Seminole expects to identify a short list by December 15, 2004. Negotiations with those bidders on the short list are expected to be completed by March 15, 2005. Contracts detailing the terms and conditions of the completed purchased power agreement(s), if any, are expected to be executed by May 16, 2005.

11.2 This RFP is available on the Internet at **http://www.seminole-electric.com**, or by e-mail, fax or U.S. mail. Please routinely check this web site for addendums and/or clarifications to this RFP.

11.3 Prospective bidders will be placed on Seminole's RFP e-mail distribution list for RFP updates. Please send your contact information (name, business, title, phone and fax numbers, and e-mail address) to "**SeminoleRFP@seminole-electric.com**".

11.4 If any prospective bidder has any questions or desires additional information related to this request for proposals, **such questions or information requests should be made in writing and directed via fax at (813) 264-7906 or via e-mail at "SeminoleRFP@seminole-electric.com"** to Ms. Trudy S. Novak, Director of Pricing and Bulk Power Contracts. Any question of general interest and the respective answer will be posted on the above web site and e-mailed to parties on the Seminole's RFP distribution list.

Thank you for your interest in this RFP.

BIDDER FORMS

All forms are due by September 1, 2004.

Form 1	Respondent's Contact Information Form
Form 2	Firm Offer
Form 3	Questionnaire
Form 4	Executive Summary of the Proposal
Form 5	General Information
Form 6	Description of Pricing Methodology
Form 7	Pricing Information
Form 8	Wheeling / Transmission
Form 9	Credit Application

Seminole Electric Cooperative, Inc.
RFP No. BL 2012

Respondent's Contact Information Form

DUE September 1, 2004

____ hereby responds to the
(Name of Firm)
Seminole Electric Cooperative, Inc.'s April 2004 - Request for Proposals No. BL 2012, Base Load Capacity.

Respondent's Street Address ____
____
____

Mailing Address ____
____
____

Primary Contact ____
Title ____
Phone # ____________________ **Fax #** ______________
E-Mail Address ____

Alternate Contact ____
Title ____
Phone # ____________________ **Fax #** ______________
E-Mail Address ____

FIRM OFFER

The undersigned submits this proposal as a firm offer and hereby gives assurance that the proposal will remain open, and not be revocable, for a period of three (3) months from the date it is submitted.

It is anticipated that the bid evaluation and contract execution could extend as long as nine months. Accordingly, the bidder will be requested to renew its firm offer at the end of each three month period.

Name of Bidding Company: ______________________________

Authorized Signature: ______________________________

Date Proposal Submitted: ______________________________

Seminole Electric Cooperative, Inc.
RFP No. BL 2012

Questionnaire

1. **Briefly describe your company with emphasis on your wholesale business activities in the southeast United States and Florida:**

2. **Describe your experience with supplying electric power agreements:**

3. **Briefly describe the generation resources and purchase power agreements that will be used to supply Seminole's power requirements under this RFP. Include, at a minimum, a breakdown of generation technologies, fuel mix and supply characteristics, and physical location:**

4. **Describe the fuel types to be used, by resource, and how such fuel(s) will be priced.**

5. **Will any of the capacity and/or energy be supplied by renewable resources? Will Seminole receive any associated renewable energy credits?**

6. **Which regional office would support the sale over its term?**

Seminole Electric Cooperative, Inc.
RFP No. BL 2012

Executive Summary of Proposal

Please provide a one-page summary of the proposal.

Seminole Electric Cooperative, Inc.
RFP No. BL 2012

General Information

1. **Name of the Bidding Company:** ______________________________

2. **Term**

Service Beginning	(mo/day/yr)	___/___/___
Termination Date	(mo/day/yr)	___/___/___
Renewal Options	(describe on separate sheet)	
Notice of Termination	(years)	__________

3. **Type of Resource(s) Offered:**

For each resource during the term of the proposal:

- Description of resource(s) (Plant and unit names, Generating Technology and size)
- Provide heat rate curves, if applicable, for each fuel type.
- Provide the following generating unit data

	Load Level (MW)	Heat Rate (Btu/kWh HHV):		
		At 32 degrees	At ISO	At 95 degrees
Minimum Load				
1st Intermediate Load				
2nd Intermediate Load				
Full Load				
Emergency				

- Primary and secondary fuel types
- Describe fuel delivery logistics and on-site storage facilities
- Provide type and duration of annual planned (major maintenance) outages for the contract term

General Information

- Provide Operational Parameters:

Minimum Run Time per Dispatch		Hours
Minimum Down Time		Hours
Expected Forced Outage Rate or Availability		%
Ramp Rate		MW / minute
Start up Time from Cold Start		Minutes
Start up Time from Hot Start		Minutes
Automatic Generation Control (AGC) Capability?		Yes/No
Minimum sustained operating level (MW) of the facility (unit) when operating on each applicable fuel?		MW

- Guarantees for contract capacity, heat rates and availability.

<u>For Resources Planned, Proposed, or Under Construction provide the following in addition to the above:</u>

- Facility's Geographical Location and proximity (miles) to nearest currently existing Transmission Facilities. Describe to what extent the site of the facility is under the bidder's control. Please identify the Control Area.
- Discuss Interconnection Plans
- Environmental permitting status and schedule
- Expected In-Service Date (mm/yy) and Milestone Schedule
- Guarantees for in-service dates.

General Information

5. **Guarantees and Related Remedies:**
   Discuss guarantees (e.g., for in-service dates, reliability and availability) and remedies for non-performance of such guarantees:

6. **Terms and Conditions**
   Provide specific proposed language for terms and conditions associated with the provision of a Purchased Power Agreement for Base Load Capacity.

Seminole Electric Cooperative, Inc.
RFP No. BL 2012

Description of Pricing Methodology

Describe the pricing mechanism.

Is the pricing multi-part? For example, are there separate Demand ($/kW-month) and Energy ($/MWh) Charges or a single Energy Rate ($/MWh)? Is there a separate Fuel and Non-Fuel Energy Charge? The transmission component of the bid (by transmission provider) must be separately identified.

If there is a separate Demand Charge, describe the methodology for calculating the kW billing demand determinant.

Is pricing fixed or subject to change?

If rates are subject to change, describe the mechanism by which rates may change in the future. For example, do rates automatically change or are rate changes subject to regulatory approval? If rates automatically change, describe the factors (e.g., inflation rate, an index, a rate with a minimum or maximum level) which are the basis for the change.

If the charges include a pass through of actual fuel costs, provide sufficient information, to model such costs in the future. Information required includes (but not limited to) generating unit data by resource (fuel type and heat rates), fuel mix based upon projected dispatch, average fuel costs for each fuel type, fuel transportation and fuel commodity rate forecasts.

Provide supporting documentation to demonstrate that any estimated prices reflected in the proposal are reasonable.

Seminole Electric Cooperative, Inc.
RFP No. BL 2012

Pricing Information

Provide the applicable unit charges and the total capacity payment for Base Load Capacity below for each year of the term offered. Transmission Charges must be separately identified. Provide a description of each charge. If the pricing proposal is not based upon a multipart rate, (e.g., a flat rate per MWh) the Total Energy Charge ($/MWh) row can be utilized to provide the applicable rate in the chart below. If prices are not fixed, provide the estimated unit charges and the supporting information as to how the unit charges have been projected.

		Enter Year					
Base Load Prices	**F(ixed) or E(st)[1]**						
Capacity – (MW)							
Capacity Charges –___________. (i.e., Generation)($/kW-mo)							
Capacity Charges –___________. (e.g.,_Transmission) ($/kW-mo)							
Annual Capacity Payments ($000)							
Energy (MWh)							
Energy Charge – ____________. (e.g., Fuel) ($/MWh)							
Energy Charge – ____________. (e.g., Non-Fuel) ($/MWh)							
Energy Charge – ____________. (e.g., Total Energy) ($/MWh)							
Base Load Prices							
Capacity – (MW)							
Capacity Charges -___________. (i.e., Generation)($/kW-mo)							
Capacity Charges –___________. (e.g., Transmission) ($/kW-mo)							
Annual Capacity Payments ($000)							
Energy (MWh)							
Energy Charge – ____________. (e.g., Fuel) ($/MWh)							
Energy Charge – ____________. (e.g., Non-Fuel) ($/MWh)							
Energy Charge -- ____________. (e.g., Total Energy) ($/MWh)							

(1) Estimated Unit Charges, subject to change

(2) Please use separate sheet for additional years, if needed.

Seminole Electric Cooperative, Inc.
RFP No. BL 2012

Wheeling / Transmission

1. **Identify all Transmission Providers to wheel energy to the Seminole, PEF or FPL Transmission system(s).**

Credit Application

1. Name of Firm: ______________________
2. Street Address: ______________________
   ____
3. Federal Tax Identification Number: ______________________
4. Person to Contact with Financial/Credit Questions:
   a. Name: ______________________
   b. Address: ______________________
   c. Phone: ______________________
   d. E-mail: ______________________
5. Number of years firm has been in active, full-time business under present business name? ______
6. Is your firm currently involved in any litigation, the outcome of which could adversely affect your company's financial position? If so, please describe:
   ____
   ____
7. Primary Bank Name ______________________
8. Contact Name at Primary Bank ______________________
9. Primary Bank Address ______________________
   ____
10. Phone No.: ____________ Fax No.: ____________
11. Account Numbers ____________ ____________
12. and Type of Account ____________ ____________
13. Name of Authorized Signer on Bank Account ______________________

CREDIT REFERENCES (Please list suppliers from whom you have made purchases in the past three years.):

14. Company Name ____________ Contact: ____________
    Address ____________ Fax: ____________
    Phone: ____________
15. Company Name ____________ Contact: ____________
    Address ____________ Fax: ____________
    Phone: ____________
16. Company Name ____________ Contact: ____________
    Address ____________ Fax: ____________
    Phone: ____________
17. Company Name ____________ Contact: ____________
    Address ____________ Fax: ____________
    Phone: ____________

Please clarify relationships of any associated companies (parent, subsidiaries, etc.) that relate to the financial position of your firm or your firm's capabilities to complete the proposed contracts/agreements. If such relationship indicates your firm's capabilities and financial position are reliant upon the financial support of such associated company or other third party, please indicate and provide a copy of the form of credit support you are willing to provide (e.g., third party guaranty, letter of credit). <u>Please provide a copy of your most recent Annual Report and financial statements (including last full year's and interim reports).</u>
Please sign this release below:

Authorized Signature ______________________ Date: ________

Seminole Electric Cooperative, Inc.
RFP No. BL 2012

Addendum #1

Issue: Fuel inventory and Back-up fuel

General: Seminole's self-build base-load option consists of a coal-fired unit having a coal inventory level of 45 days. Proposals for coal-fired generating units must have a comparable inventory level.

For gas-fired generating units, proposals must include firm gas transportation sufficient for the base load operation.

<u>Question 1</u>. If a gas fired facility is being proposed, does Seminole want fuel oil back up included as part of the gas fired generation proposal?

Response: A bidder may propose various methods to meet Seminole's base load plant availability requirement. Alternatives Seminole would consider include: (1) Providing access to other generating units, with assurances to Seminole that the selling utility has rights to sufficient physical reserves to cover all their obligations; and (2) adequate fuel inventory (gas and/or oil).

<u>Question 2</u>. If Seminole does prefer to have fuel oil back up, how much would be preferred (i.e. 48 hours at full load, etc.)?

Response: Minimum fuel inventory levels: If a single gas facility is proposed, the bidder must provide for a minimum fuel inventory (either natural gas or oil) of 144 hours at full load.

Issue: In the case of proposed resources, or those generators with interconnection agreements but have not yet been designated as firm network resources by Seminole, interconnection and integration costs are unknown by the bidder until such service is obtained from a Transmission Provider.

General: For new generation, the bidder shall be responsible for the location, development and permitting of the proposed facility site, including the transmission interconnection and integration costs. Seminole expects the bidder to conduct studies of the transmission system(s) to estimate these costs.

<u>Question 3:</u>
If the proposed price of the bid includes an estimate of interconnection and integration costs estimated by the bidder, would Seminole be amenable to a provision in the subsequent PPA that would provide an adjustment to the price based on actual interconnection and integration costs assigned to the bidder by the Transmission Provider when such charges are finalized?

Response: The bidder may set a maximum amount of interconnection and integration costs in its bid, but must include in its bid (a) a contingency analysis report in sufficient detail such that Seminole can corroborate the transmission study and (b) the detail components of the cost estimate(s).

Addendum #1 – Amended June 21, 2004

Issue: Fuel inventory and Back-up fuel

General: Seminole's self-build base-load option consists of a coal-fired unit having a coal inventory level of 45 days. Proposals for coal-fired generating units must have a comparable inventory level.

For gas-fired generating units, proposals must include firm gas transportation sufficient for the base load operation.

Question 1. If a gas fired facility is being proposed, does Seminole want fuel oil back up included as part of the gas fired generation proposal?

Response: Seminole prefers that any proposed gas-fired project have back-up fuel oil capability.

Question 2. If Seminole does prefer to have fuel oil back up, how much would be preferred (i.e. 48 hours at full load, etc.)?

Response: Seminole prefers a 4-day to 6-day inventory of fuel oil to back up a base load gas-fired unit.

Issue: In the case of proposed resources, or those generators with interconnection agreements but have not yet been designated as firm network resources by Seminole, interconnection and integration costs are unknown by the bidder until such service is obtained from a Transmission Provider.

General: For new generation, the bidder shall be responsible for the location, development and permitting of the proposed facility site, including the transmission interconnection and integration costs. Seminole expects the bidder to conduct studies of the transmission system(s) to estimate these costs.

Question 3:
If the proposed price of the bid includes an estimate of interconnection and integration costs estimated by the bidder, would Seminole be amenable to a provision in the subsequent PPA that would provide an adjustment to the price based on actual interconnection and integration costs assigned to the bidder by the Transmission Provider when such charges are finalized?

Response: The bidder may set a maximum amount of interconnection and integration costs in its bid, but must include in its bid (a) a contingency analysis report in sufficient detail such that Seminole can corroborate the transmission study and (b) the detail components of the cost estimate(s).

Addendum #2

Issue: Capacity Offers External to Florida Market

Issue/Question: Will Seminole accept responses to the RFP where, at the time of the submittal of the response, the transmission service for the energy from the offered capacity has not been secured as firm transmission to Seminole, FPL, or PEF's control areas?

RFP Reference: Section 4.0 of the 2012 Baseload RFP (below):

4.0 Delivery to the Seminole System

4.1 Seminole currently serves its load primarily through its own transmission system or through the transmission systems of PEF and Florida Power and Light Company (FPL). Wheeling and interconnection arrangements and all costs to deliver the capacity and energy to the Seminole, PEF or FPL transmission system delivery points are the responsibility of the bidder.

4.2 Proposed prices must include all integration and interconnection costs, and transmission network service upgrades to deliver the capacity and energy to the Seminole members.

4.3 All proposals must identify any wheeling and interconnection agreements with third parties that are required to deliver the capacity and energy to Seminole. Seminole requires that any transmission arrangements to deliver the offered capacity [to the, Seminole, PEF or FPL transmission system] to be firm.

Seminole Response: Seminole will accept and evaluate responses to the RFP in which arrangements for firm transmission for the delivery of energy to one of Seminole's delivery points are being studied or finalized.

Prospective bidders should note that it may be very unlikely that firm transmission service can be obtained for delivery of energy being offered from resources outside of Florida into Florida through the SERC/FRCC interface. As stated in Section 4.3 above, Seminole can and may reject a bidder's offered capacity if firm transmission is not obtained by the bidder prior.

Appendix I

NEWS RELEASE

Seminole Electric
COOPERATIVE, INC.
IN PARTNERSHIP WITH THOSE WE SERVE

RELEASE: 2 p.m., April 19, 2004 CONTACT: Michele Collet Kriz at 813-739-1322

Seminole Issues RFP for 600 MW of base load capacity and energy

April 19, 2004 (Tampa, FL) – To meet the growing power supply needs of its 10 member distribution cooperatives, Tampa-based Seminole Electric Cooperative, Inc., today issued a Request For Proposals (RFP) for up to 600 megawatts (MW) of base load capacity and energy. Seminole is seeking delivery of base load capacity and energy as early as the summer of 2009 but no later than December 2012. Proposals must be received by Seminole by September 1, 2004.

For more details and bid forms visit Seminole's web site at **http://www.seminole-electric.com** or e-mail **SeminoleRFP@seminole-electric.com**.

Seminole operates generating stations in Florida's Putnam and Hardee counties and has numerous purchased power contracts with other utilities and independent power suppliers. More than 1.6 million individuals and businesses in 46 counties rely on Seminole and its Members for electric service.

DISTRIBUTION OF APRIL 19 2004 NEWS RELEASE FOR RFP NO. BL 2012

Florida wire

Business editors at the following news media and news agencies in Florida.

- Boca Raton News Boca Raton, FL
- Jewish Horizons Radio Network Boca Raton, FL
- South Florida Newspaper Network Boca Raton, FL
- Holmes County Advertiser Bonifay, FL
- Southeast Press International, Inc., Boynton Beach, FL
- Bradenton Herald Bradenton, FL
- Charlotte Sun Herald Charlotte Harbor, FL
- Florida's News Channel Clearwater, FL
- Clewiston News Clewiston, FL
- Hendry Glades Times Clewiston, FL
- EFE News Service Coral Gables, FL
- Broward Times Coral Springs, FL
- Citrus County Chronicle Crystal River, FL
- Daytona Beach News Journal Daytona Beach, FL
- Boca Raton Business Journal Deerfield Beach, FL
- Reporter, The DeLand, FL
- Sun-Sentinel Fort Lauderdale, FL
- WAFG 90.3 FM Fort Lauderdale, FL
- WWGR-FM Fort Meyers, FL
- Fort Myers News Press Fort Myers, FL
- Fort Pierce Tribune Fort Pierce, FL
- El Heraldo de Broward Y Palm Beach Ft. Lauderdale, FL
- New Times Broward Palm Beach Ft. Lauderdale, FL
- Gainesville Sun, The Gainesville, FL
- WSKY-FM Gainesville, FL
- WUFT-FM, 89.1/WJUF-FM, 90.1 Gainesville, FL
- Islander Newspaper Gulf Breeze, FL
- Telemundo Network Operation/Nationa Hialeah, FL
- Miami Herald Hollywood, FL
- AP - Jacksonville Jacksonville, FL
- Florida Times Union Jacksonville, FL
- Jacksonville Business Journal Jacksonville, FL
- Resource, The Jacksonville, FL
- WJXT-TV, Channel 4 Jacksonville, FL
- WJXX-TV, Channel 25 Jacksonville, FL
- Lakeland Ledger Lakeland, FL
- Caribbean Chronicle Lauderdale Lakes, FL
- Florida Radio Network Maitland, FL

- Florida Today Melbourne, FL
- AP - Miami Miami, FL
- Diario Las Americas Miami, FL
- El Nuevo Herald Miami, FL
- La Republica Newspaper Miami, FL
- Miami Herald Miami, FL
- Supertalk 940 am Miami, FL
- WAXY-AM, 790 Miami, FL
- Weekly Sun Miami, FL
- WINZ-AM, 940 Miami, FL
- WIOD-AM, 610 Miami, FL
- WLTV-TV, Channel 23 Miami, FL
- WPLG-TV, Channel 10 Miami, FL
- WSVN-TV Miami, FL
- Miami Herald Miami Beach, FL
- WAMI-TV Miami Beach, FL
- Radio Progresso Miami Springs, FL
- Bay News 9 N. Pinellas Park, FL
- Naples Daily News Naples, FL
- WPBT-TV North Miami, FL
- Ocala Star Banner Ocala, FL
- Orlando Business Journal Orlando, FL
- Orlando Sentinel Orlando, FL
- Seminole Herald Orlando, FL
- WESH-TV, Channel 2 Orlando, FL
- Palm Beach Daily News Palm Beach, FL
- News Journal Palm Coast, FL
- News-Herald Panama City, FL
- Pensacola News-Journal Pensacola, FL
- Pompano Ledger Pompano Beach, FL
- Palm Beach Post Port St. Lucie, FL
- Walton Sun Santa Rosa Beach, FL
- Sarasota Herald-Tribune Sarasota, FL
- WBSV-TV, Channel 62 Sarasota, FL
- WWSB-TV, Channel 40 Sarasota, FL
- News-Sun, The Sebring, FL
- WWTK-AM, 730 Sebring, FL
- WPUL-AM South Daytona, FL
- St. Petersburg Times St. Petersburg, FL
- United Trust Financial News Network (radio) St. Petersburg, FL
- Palm Beach Post Stuart, FL
- Port St. Lucie News Stuart, FL
- Stuart News Stuart, FL
- Florida News Channel Tallahassee, FL
- Tallahassee Democrat Tallahassee, FL
- Community News Tampa, FL

- Tampa Bay Business Journal Tampa, FL
- Tampa Tribune Tampa, FL
- WFLA-AM, 970 Tampa, FL
- WMNF-FM, 88.5 Tampa, FL
- WTSP-TV, Channel 10 Tampa, FL
- Palm Beach Post West Palm Beach, FL
- South Florida Business Journal West Palm Beach, FL
- WEAT-AM West Palm Beach, FL
- News Chief Winter Haven, FL

Energy Media:

- 21st Century Fuels
- Africa Oil & Gas
- Alternative Fuels
- American Gas
- American Gas & Oil Reporter
- American Oil & Gas
- Asia / Pacific Oil Weekly Report
- Asian Electricity
- Asian Petroleum News
- Black Gold Petroleum Investment
- Bunkerwire
- C I M Bulletin
- Canadian Mining Journal
- Chemical & Engineering News
- Chemical News and Intelligence
- Clearing Up Newsletter
- Coal & Synfuels Technology
- Coal Age
- Coal Daily
- Coal Journal
- Coal Outlook
- Coal People
- Coal Trade and Market News
- Coal Transportation Report
- Coal Week
- Columbia Energy
- Cotton Gin & Oil Mill Press
- Crude Oil Marketwire
- Daily Petroleum Monitor
- Diesel Fuel News
- Drilling Contractor
- E&P - Energy & Politics
- Electric Light & Power

- Electric Perspective
- Electric Power
- Electric Power Daily
- Electric Power Generation & Markets
- Electric Power International
- Electric Times
- Electric Utility Business
- Electric Utility Week
- Electrical World
- EUR / Electronic Urban Report

Internet & Online Distribution - Per PR Newswire, "All Domestic Newsline distributions also reach over 3600 of the world's most widely accessed Internet and online news services at no extra charge."

- 24.com
- ABCNews.com
- about.com
- Access Business
- Accordant Health Services
- ADP Global Report/GTIS
- ADP MarketMax
- ADP/ISS
- Advantis
- Affiliated Networks
- Aftermarketnews.com
- Agcast.com
- Alex Brown & Sons
- All Quotes
- Allstarmag.com
- Alpha Micro Systems
- America Online
- American Association of Individual Investors
- American Banker
- American Business Information
- American Century Brokerage
- American Computer Experience (A.C.E.)
- American Reporter
- American Stock Exchange
- Ameritrade
- AMIC.com
- Amuznet.com

- AntiAgingResearch.com
- AP Alert
- APBNews.com
- APIS Corporation
- Arol.com
- Arthur Andersen
- A-T Financial
- AT&T Easylink Services
- AT&T Interchange
- Atlantic Financial
- ATT WorldNet.com
- Audio Highway
- AutoInteractive.com
- Autolink.com
- AutoWire.net
- Avenue Technologies
- Aviationzone.com
- B. Watley Inc.
- Babycenter.com
- Backstage West
- Bank for International Settlement
- BankBoston.com
- BankOnline.com
- Baseline
- Baseline Financial Services
- Bcmovies.com
- Beachley, David
- Bear Sterns Secured Investors
- Beartracker.com
- Bell of Pennsylvania
- Bellsouth
- Big Ticket Productions
- Bigcharts.com
- Billboard Online
- Bio World Today Online
- Bio.org
- Biospace.com
- Bizee.com
- BizSpaceOnline.com
- BizWatch
- Bla-bla.com
- Bloomberg Financial
- Bloomberg.com
- BMI
- Bridge Information Systems
- Bridge Station

- Bridge Telerate
- Bridge-K2
- Briefing.com
- BT Telecom Gold
- Buckmaster Publications
- Bullmart.com
- Bullsession
- Burke, Christensen & Lewis Securities
- Burrelle's Information Services
- Business Dateline
- Business Factory
- Business Library
- Byte.com
- Cambridge Scientific Abstracts
- Canada Stockwatch
- CARL Systems Network
- Carmel High Internet Radio
- CARS.RU
- Carson Group
- Castlenet, LLC
- CCS Coordinated Capital Securities
- CDBeat.com
- Chamber World Network
- Charles Schwab & Co., Inc.
- Chemical News & Intelligence
- Chemicalonline.com
- Chicago Music Web
- Citibank
- Civic.com
- ClariNet Communications
- Clark Street Capital
- Clearstation
- Clevelandlive.com
- ClinDev.com
- Close Up Magazine
- CMP TechInvestor
- CNN.com
- Companylink
- CompuServe
- Compustat
- computer-select.com
- Comtex Scientific Corp.
- Connected Health
- consumerama.org
- Convergence Corporation

- Coopers & Lybrand
- Corporate Executive Solutions
- Coursey.com
- CrainsChicagoBusiness.com
- CrainsClevelandBusiness.com
- Creative Labs, Inc.
- Creativeplanet.com
- CSS Market Data
- Current Drugs Ltd.
- Cyberbase
- Cybernet Trade
- Cyberstocks
- Cybertech
- Daily Stocks
- Daily Ticker
- Data Courier
- Data Link Systems Corp
- Data Pro
- Data Times
- Data Transmission Network- IQ
- DataQuest
- DataStar
- Dbusiness.com
- Delphi Internet Services
- Desktop Data, Inc.
- desmoines.com
- Developer.com - EarthWeb
- Dial/Data
- Dialog
- Dialog Select(sm)
- DialogWeb
- Digital City Dallas
- Direct Wire Magazine/
- Urban Style Weekly
- Disclosure
- Discover Brokerage
- Dividend Department
- DoctorDirectory.com
- Dow Jones Interactive
- Dowjones.com
- DowVision
- Dr Koop.com

- Dreyfus Securities
- DSLdigest.com
- Dun & Bradstreet
- DVD.com
- Dynamic Imaging Systems Corp.
- E! Online
- E*Trade Group
- EarningsNet
- EBNK Trading Corporation
- EBSCO Publishing
- Edgar Online
- Electric Library
- Electronic Commerce Today.com
- eLogic
- Energy.com
- EnergyInfoSource.com
- EnergyOnline
- Engineersonline.com
- Ensemble
- Entertainment Industry
- Entertainment Tonight Online
- Entertainment Weekly
- EntryPoint
- Eperks.com
- erzone.net
- ESA-IRS
- eSchwab.com
- E-Systems
- Etalknews.com
- EuroAmerican Group
- EuropeanInvestor.com
- EWatch
- Ex Machina, Inc.
- Excalibur Technologies
- Exchange Market Systems
- Expresso Online
- Facsimile Marketing
- Factset Data Systems
- Farcast
- Farrington & Associates
- Fax Focus, Inc.
- Federal Filings

- Federal News Service
- FederalCourt.com
- Fidelity Investments
- Film Scouts
- Film Worldwide Entertainment
- Financial Intranet (FNTN.com)
- Financial Times Information Services
- FinancialWeb.com
- FINWEB
- First Call Notes
- First Chicago National Bank
- First International Financial
- FIRST!
- Firstrade.com
- Fleet Street
- Florida Trend Online
- Food Ingredients Online
- Fox News Online
- FoxMarketwire.com
- Freerealtime.com
- FT Profile
- Ft.com
- fuelnews.com
- Fwuniversity.com
- Gale Group
- Gartner Group
- General Magic
- Generation Technologies, Inc.
- GEnie
- Gettingit.com
- GigaNet
- Global Business Browser
- Global Market Information
- Global Report
- Global Scan
- Globe and Mail
- GlobeInvestor.com
- Go2Net, Inc.
- Grayfire
- GTE Mainstreet
- GTE Service Corporation
- Harkers (Australia)

- Heads Up
- Health Scout Online
- Health5000.com
- HealthMall- hlthmall.com
- Heart Information Network
- Higheryield.com
- HIVandHepatitis.Com
- Hollywood News Calendar
- Hollywoodhotline.com
- Hoovers Online
- Hospitalnetwork.com
- Hotel.Online
- Human Resources Network
- Hydrocarbon Online
- IAC-Insite.com
- IBM InfoMarket
- IBM Petroconnect
- Icount Holdings
- IDD Information Services
- IDD M&A Transactions
- iGuide.com
- IIOnline
- IIT (Saudi Arabia)
- ILX Systems
- Imation Corporation
- IMPOMAG.com Online Magazine
- Indepth Data
- IndieWire.com
- Individual Inc.
- Individual Investor Group
- Industry Insiders
- Industry.net
- IndustryClick.com
- IndustryWatch
- INews
- Infobanco (Peru)
- Infrastructure Defense
- Inquisit
- Insite
- insite2.gale.com
- insitesales.com
- Intell.X
- Intelligent Information
- Intellihealth
- IntellX

- Interactive Data
- Interface Daily.com
- Internet
- Internet Broadcast Systems
- Internet Financial Network
- Internet Movie Database
- Internet Music Report
- Internet Reviews
- Internet Stock Exchange
- Internet.au
- Internet.works
- InternetNews.com
- Investec Securities
- InvestIN.com
- Investorama
- InvestorLinks
- Investor's Edge
- IPO Maven
- IPO-Zone.com
- I-Publishing, Inc.
- IQC Corporation
- IRChannel.com
- iSyndicate
- J.B. Oxford & Co.
- J.P. Morgan
- justquotes.com
- Kinetic Technologies
- KMV Corporation
- Knight-Ridder BusinessBase
- Knight-Ridder Financial
- KPMG Insiders
- KPMG Peat Marwick
- Launch.com
- Law Office Information
- Systems, Inc.,
- Law.com
- Lawmoney.com
- Legi-Slate
- Lucent Technologies
- M.A.I.D. PLC
- Macroworld
- MacVirus
- Managed Care Online
- Market Guide
- Market Page Systems
- Market Voice Satellite Network

- Marketing Direct Concepts
- Marketingcafe.com
- Marketplace Technologies
- MarketScope
- marketspace.news
- MarketTrack
- MarketTrackMX
- MaxMiles.com
- MAXXESS
- MAXXInvest
- MAXXnet
- Mayer & Schweitzer, Inc.
- McGraw Hill
- Aviation Week Group
- Media General Financial
- Medicaldesignonline.com
- Mediconsult.com
- Meridian Emerging Markets
- Merrill Lynch
- Meta Group
- Metropolis Transactive
- Microcap 1000
- Microsoft Network
- Microstrategy
- Mindspring Enterprises
- Money.com
- MoneyCentral
- Moneyclub.com Inc.
- monster.com
- Montgomery Securities
- Morningstar.com
- Motley Fool
- MPOG.com
- Mredgar.com
- Mrgadget.com
- MSNBC.com
- MTV Online
- Muscle Magazine Online
- Musicanet.com
- Musicdirect.com
- Musicnewswire.com
- MySAP.com
- Mysterykitchen.net
- MyTrack
- Nagdeman & Company

- Nasdaq.com
- National Datamax
- National Discount Brokers
- Netlink Solutions
- Netquity
- Netstocksinvestor.com
- NetVest
- Newbeats.com
- NEWS.COM – CNET: The Computer Network
- Newsbytes.com
- NewsHub.com
- Newstraders, Inc.
- Newsvest.com
- NEXAGE.COM
- Norby International
- North American Quotations
- Northern Light Technology Corp.
- NotebookNews.com
- OCLC Epic
- Office.com
- OGJ Online
- Olde Discount Brokers
- OMEN Inc.
- One Ecommerce Corporation
- OneChannel, Inc.
- OneSource
- OnHealth.com
- Online Film Critics Society
- Online Networks
- Online USA, Inc.
- Oracle
- Orbit-Questel
- Ovid
- Paradigm Investment Services
- PC Financial Network
- PC Orbit
- PC Quote
- PC Quote Web
- PeopleWeb Communications
- Pharmaceuticalonline.com
- Pharmwire.com
- Pharmwire.net
- PhotonicsNet.com
- Phys.com
- Pointcast

- PoliticsOnline.com
- Portera Systems
- Predicasts
- Preferred Technology
- PRNewswire.com
- PR Newswire for Journalists
- ProDiscount
- professionals Web.com
- Profound
- Profound LiveWire&153;
- ProLaunch.com
- prolyx
- PROMPT
- ProQuest Direct
- Prowler Investment Group
- Q4i
- Quicken.com
- Quote.com
- Quotecentral.com
- Quotes Unlimited
- Quoteserver
- RaceNet
- Radiodigest.com
- RadioMail Corporation
- Raging Bull, Inc.
- Rainbow Pages
- Rapidresearch.com
- RateNet
- React.com
- Real Market Data, Inc.
- Reality Online
- RealTime Quotes
- RealTrick III
- Reel Site, The
- Reel.com
- Remarq Communities, Inc.
- Research Holdings
- Retrieval Technologies, Inc.
- Reuters Australia Briefing
- Reuters Business Alert
- Reuters Business Briefing
- Reuters Company Newsyear
- Reuters Eastern Europe
- Reuters Inc. Link
- Reuters Insurance Briefing
- Reuters MoneyNet

- Reuters Securities 2000/3000 News Service
- Reuters Target News
- Reuters Treasury 200/3000 News Service
- Rock & Roll Casino.com
- RTTrader
- S&P Personal Wealth
- Saritel (Italy)
- SatQuote
- Searle
- Securities Data
- SecurityFocus.com
- Semiconductoronline.com
- Senior World Online
- Shark Information Services
- Sheshunoff Information Services
- Showbizz.Net
- Silvertip Technologies
- Sleep Deprivation Institute - needcoffee.com
- Smallcapinvestor.com
- SmartMoney Interactive
- Sonicnet.com
- South Jersey Online
- Southern California Edison
- Sovereign Securities
- Spear Leeds & Kellog
- Spin Magazine Online
- Standard & Poors
- Star Data
- Star Quote
- Stock News Now
- Stock Research Group, Inc.
- StockDetective.com
- StockEdge Online
- Stockgroup.com Media, Inc.
- Stockhouse
- StockMaster
- StockPoint
- StockReporter.com
- Stockselector.com
- StockServer.com
- StockSmart
- StockTools.com
- Stockup.com
- StoryStreet, Inc.
- Street.com

- Streetchat.com
- Strikeprice.com
- StrockSites.net
- suite101.com
- SURETRADES
- T. RoweRice.com
- tech-review.com
- Teenhollywood.com
- Teenwire.com
- Telekurs AG
- Telerate
- Telescan
- The Depot
- Thebigscreeen.com
- TheIPSiteOnline.com
- Thomson Consumer Products
- Thomson Financial
- ThomsonInvest.net
- TIBCO
- Tipnet.com
- Toronto Dominion Bank
- Townsend Analytics, Ltd.
- Trade & Industry ASAP
- Trade Plus
- Trendline (Israel)
- Truckserve.com
- Truck Webusa.com
- TV Online
- UFS Ltd.
- (fka Unilink Financial Services)
- UK Business Browser
- UMI
- Upside Today
- US Business Browser
- USA Network/Targetworlds.com
- USAutonews.com
- UVEST Inc.
- Vegas.com
- Verity
- Virgin Online
- VirtualIR.com
- Wall Street Electronica
- Wall Street Journal Interactive

- Wall Street Source
- Wallstreetcity.com
- Wallstreetguru.com
- Wallstreetlinks.com
- Washed-Update
- Wayfarer Communications
- Web Securities
- Webforia
- WebMD
- WebMetroplex.com
- Webpower.com
- WebTools, LLC
- Webtrends, Inc.
- Westinghouse Electronics
- Window on Wall Street
- WOAI.com
- Women.com
- World Street
- World Wide Quotes
- world webtalk.com
- WUGNET
- Y2KCertified.com
- Y2KInformant.com
- Y2Ktoday.com
- Yahoo
- Your Health Daily
- Yourfunds.com
- Zacks Investment Research
- ZDNet Personal View

- Energy & Environmental Management
- Energy & Power Risk Management Magazine
- Energy Alert
- Energy and Business
- Energy Argus
- Energy Business
- Energy Commerce
- Energy Compass
- Energy Daily
- Energy Info Source
- Energy Insight
- Energy Intelligence Group
- Energy Journal
- Energy Magazine
- Energy Manager
- Energy Markets

- Energy Matters
- Energy NewsData
- Energy Perspective
- Energy Policy
- Energy Report
- Energy Times
- Energy User
- Energy User News
- Energy Week in Review
- Energy West
- Engineered Systems Magazine
- Enhanced Energy Recovery News
- EOS
- European Fuels News
- European Offshore Petroleum Newsletter
- European Petroleum Finance Week
- Financial Times Energy
- First Break/ Offshore Engineer
- Fuel Cell Quarterly
- Fuel Oil News
- Fuel Technology & Management
- Gas Daily
- Gas Markets Week
- Gas Processors Report
- Gas Turbine World Diesel Progress Engines and Drives
- Gas/LPG Markets
- Gas-to-Liquids News
- Generation Week
- Geotimes
- Global Alert
- Global Energy Business
- Global Energy Risk
- Global Power Report
- Gulf of Mexico Drilling Permits
- Gulf of Mexico Drilling Report
- Gulf of Mexico Field Development
- Gulf of Mexico Newsletter
- Gulf of Mexico Rig Locator
- Hart Publications
- HazTECH Publications Inc.
- Hydrocarbon Processing
- I.H.S Energy Group
- Independent Energy
- International Petrochemical Report
- International Petroleum Finance
- International Solar Energy Intelligence Report
- Inside Energy / with Federal Lands

- Jet Fuel Intelligence
- Journal of Canadian Petroleum Technology
- Journal of Petroleum Marketing
- Journal of Petroleum Technology
- Kansas Oil Marketer
- Kings Western Coal
- LNG Express
- LPGaswire
- Lubricants World
- Marketscans
- Michigan Oil & Gas News
- Middle East Electricity
- Mine Regulation Reporter
- Mining Engineering
- Mining Record
- Mining World News
- National Coal Association
- National Energy Information
- National Energy Information Center
- National Environmental Technology Centre
- National Oil and Lube News
- National Petroleum
- National Trade Publications
- Natural Gas Focus
- Natural Gas Markets & Regulation
- Natural Gas Week
- Nebraska Energy Office
- Nebraska Petroleum
- NEFTE Compass
- New Fuels Report
- New Technology Week
- NG Magazine
- Nuclear Fuel
- Nuclear Power
- Nuclear Waste News
- Ocean Oil Weekly Report
- Octane Week
- Offshore
- Offshore Drilling Bits
- Offshore Field Development International
- Offshore International Newsletter
- Offshore Magazine
- Offshore Rig Locator
- Offshore Rig Newsletter
- Offshore Rigging
- Oil & Gas Finance Sourcebook

- Oil & Gas Investor
- Oil & Gas Journal
- Oil & Gas Journal Global Hotline
- Oil & Gas World
- Oil Buyers Guide/Bloomberg Financial Mkts.
- Oil Can
- Oil Daily
- Oil Market Intelligence
- Oil Week
- Oil, Gas & Petrochem Equipment
- Oilers Exclusive
- Oilfield Markets
- Oilgram Newswire
- Oilgram Price Report
- Oilman Newsletter
- Oilman Weekly Newsletter
- Oklahoma Electronic Commerce Connection
- Olefinsscan
- Oxy-Fuel News
- Pay Dirt
- Petrochem Magazine
- Petrochemical Alert
- PetroChemical News & International Oil News
- Petroleum Argus
- Petroleum Engineer
- Petroleum Engineer International
- Petroleum Finance Week
- Petroleum Independent
- Petroleum Information
- Petroleum Intelligence Weekly
- Petroleum News Alaska
- PetroMart Business Magazine
- Petroscans
- Pipeline & Gas Industry
- Pipeline & Gas Journal
- Pipeline Digest
- Platts Oilgram News
- Polymerscan
- Power Delivery
- Power Engineering
- Power Engineering International
- Power Magazine
- Power Media Group
- Power Online
- Power Plant Technology
- PowerMart

- Refining Economics Report
- Remote Gas Strategies
- Rocky Mountain Oil Journal
- Roustabout
- Russian Oil & Gas Guide
- S P E Drilling
- Skilling Mining Review
- Solventwire
- South Louisiana Drilling Report
- Tankerfaxes
- Technology Century Magazine
- Terminals Magazine
- Texas Energy Week
- Texas Oil Marketer
- Transportation & Storage Week
- United Mine Workers Journal
- US Department of Energy
- US Oil Week
- Utility Automation Magazine
- Utility Business Magazine
- Utility Environment Report
- UtilityGuide
- Water Conditioning & Purification Magazine
- Water Technology
- Waters Information Services
- Waters Market Data Web Wire
- Wordpower and Energy
- World Gas Intelligence
- World Oil
- World Refining
- Yankee Oilman

In addition Seminole also paid for the release to go to a "microlist" of 107 independent journalists who write on energy issues (proprietary - names not available).

APPENDIX J

Economic Assessment Results

Summary of Bus Bar Costs

Levelized Costs for 2012 – 2031

		90% Capacity Factor		80% Capacity Factor		70% Capacity Factor	
Coal Alternatives	**MW**	**Nominal $/MWh**	**PW 2012 $/MWh**	**Nominal $/MWh**	**PW 2012 $/MWh**	**Nominal $/MWh**	**PW 2012 $/MWh**
Self Build	600	$51.29	$30.73	$54.10	$32.47	$57.71	$34.70
FMPA Joint Project	150	$52.84	$31.74	$56.28	$33.83	$63.70	$38.54
Invenergy	650	$58.41	$34.55	$62.23	$36.83	$70.70	$41.43
Longleaf/LS Power	400	$62.19	$36.95	$66.74	$39.68	$72.57	$43.18
Peabody	400	$62.85	$37.01	$69.08	$40.69	$77.10	$45.41
Gas Alternatives	**MW**	**Nominal $/MWh**	**PW 2012 $/MWh**	**Nominal $/MWh**	**PW 2012 $/MWh**	**Nominal $/MWh**	**PW 2012 $/MWh**
Self Build	500	$66.52	$38.50	$68.09	$39.47	$70.11	$40.73
Invenergy	516	$69.23	$39.68	$71.20	$40.84	$73.73	$42.33
Southern Co., Orange Cty	533	$72.32	$41.68	$74.30	$42.88	$77.33	$44.72
Southern Co., Orange Cty	553	$72.53	$41.60	$75.43	$43.23	$78.41	$44.98
Southern Co., Orange Cty	645	$71.83	$41.31	$73.56	$42.37	$75.93	$43.81
Southern Co., Orange Cty	645	$72.90	$41.69	$74.88	$42.86	$77.47	$44.39
Southern Co., St. Lucie Cty	533	$72.99	$42.13	$75.20	$43.48	$78.20	$45.30
Southern Co., St. Lucie Cty	533	$74.08	$42.52	$77.34	$44.35	$80.64	$46.30
Southern Co., St. Lucie Cty	645	$72.71	$41.85	$74.58	$43.00	$77.13	$44.55
Southern Co., St. Lucie Cty	645	$73.61	$42.18	$76.35	$43.72	$79.14	$45.37
Pasco Cogen	106	$83.14	$47.70	$85.41	$49.05	$88.59	$50.83

Economic Results (PWRR)

Updated Economic Analyses Based on 7/2005 Base Case Present Worth Revenue Requirements (PWRR) in 2005 $000 for 2006 – 2030			
Study Description by Base Load Unit	**Average Annual PWRR**	**Average Annual PWRR Cost/ (Savings)**	**Cumulative PWRR Cost/ (Savings)**
500 MW Self-build Gas-Fired Combined Cycle Unit	770,653	19,903	497,568
750 MW Self-build Coal Unit	750,751	--	--

Initial Economic Analyses Based on 12/2004 Base Case Present Worth Revenue Requirements (PWRR) in 2005 $000 for 2006 – 2030			
Study Description by Base Load Unit	**Average Annual PWRR**	**Average Annual PWRR Cost/ (Savings)**	**Cumulative PWRR Cost/ (Savings)**
600 MW Self-build Coal Unit and 150 MW FMPA Coal Unit	682,903	4,940	123,493
All Gas Self-build Scenario	701,952	23,988	599,705
600 MW Purchased Power Coal Unit and 150 MW FMPA Coal Unit	705,321	27,357	683,923
750 MW Self-build Coal Unit	677,964	--	--

Cumulative and Annual PWRR Results

Case Description:

Comparison of Coal versus Gas Scenarios

Cumulative PWRR Savings + $497,568,000
Average Annual PWRR Savings = $19,903,000
Average Annual Nominal PR Savings = $49,878,000

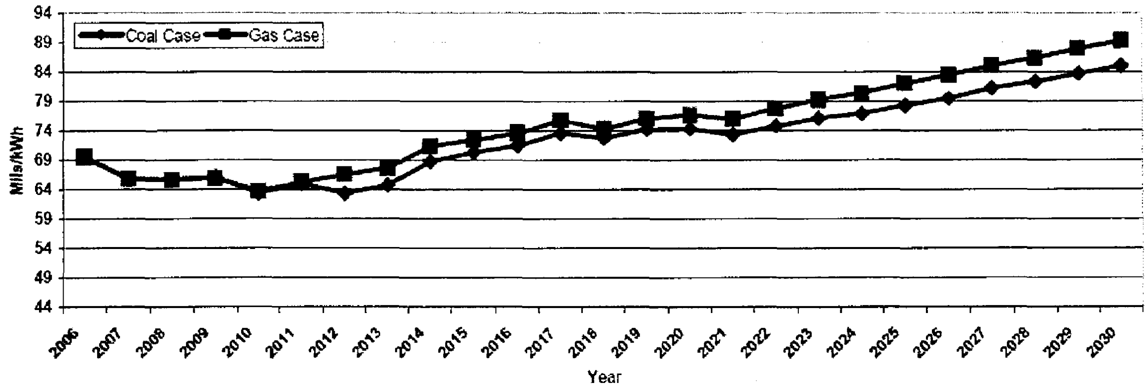
Assumptions:

- 2005 Load Forecast
- August 2005 Fuel Price Forecast
- 7 Member Load Commitment after July 2020
- Reliant Peaking Extension
- Calpine CC Extension

Term: 2006-2030

Seminole Electric Cooperative. Inc.

Revenue Requirements Projection
Comparison of Coal & Gas Scenarios



Year	Coal Case (05BASEA1)	Gas Case (05SBCCA1)	Difference	Coal Case (05BASEA1)	Gas Case (05SBCCA1)	Difference	PW Difference
2006	$69.50	$69.50	$0.00	$1,168,257.000	$1,168,321.000	$64.000	$60.377
2007	$65.80	$65.80	($0.00)	$1,155,427.000	$1,155,402.000	($25.000)	($22.250)
2008	$65.69	$65.64	($0.05)	$1,206,180.000	$1,205,245.000	($935.000)	($785.044)
2009	$66.16	$65.96	($0.20)	$1,262,822.000	$1,259,011.000	($3,811.000)	($3,018.669)
2010	$63.32	$63.73	$0.40	$1,258,799.000	$1,266,806.000	$8,007.000	$5,983.296
2011	$64.96	$65.26	$0.30	$1,340,497.000	$1,346,766.000	$6,269.000	$4,419.398
2012	$63.27	$66.56	$3.29	$1,358,947.000	$1,429,567.000	$70,620.000	$46,966.334
2013	$64.73	$67.60	$2.87	$1,439,463.000	$1,503,175.000	$63,712.000	$39,973.697
2014	$68.68	$71.42	$2.74	$1,584,450.000	$1,647,625.000	$63,175.000	$37,393.186
2015	$70.24	$72.46	$2.21	$1,679,262.000	$1,732,181.000	$52,919.000	$29,549.694
2016	$71.41	$73.54	$2.12	$1,770,919.000	$1,823,609.000	$52,690.000	$27,756.435
2017	$73.55	$75.85	$2.30	$1,881,348.000	$1,940,225.000	$58,877.000	$29,260.066
2018	$72.75	$74.33	$1.58	$1,923,229.000	$1,964,897.000	$41,668.000	$19,535.585
2019	$74.26	$76.09	$1.83	$2,028,180.000	$2,078,085.000	$49,905.000	$22,073.030
2020	$74.34	$76.70	$2.35	$1,730,659.000	$1,785,456.000	$54,797.000	$22,864.874
2021	$73.33	$76.05	$2.72	$1,239,041.000	$1,285,007.000	$45,966.000	$18,094.345
2022	$74.76	$77.77	$3.01	$1,304,996.000	$1,357,540.000	$52,544.000	$19,512.972
2023	$76.15	$79.32	$3.17	$1,372,889.000	$1,430,101.000	$57,212.000	$20,043.869
2024	$76.84	$80.41	$3.58	$1,433,886.000	$1,500,609.000	$66,723.000	$22,052.820
2025	$78.23	$82.01	$3.78	$1,503,487.000	$1,576,171.000	$72,684.000	$22,663.215
2026	$79.53	$83.51	$3.98	$1,576,782.000	$1,655,705.000	$78,923.000	$23,215.627
2027	$81.20	$85.07	$3.87	$1,660,251.000	$1,739,403.000	$79,152.000	$21,965.084
2028	$82.34	$86.35	$4.01	$1,740,119.000	$1,824,925.000	$84,806.000	$22,201.979
2029	$83.64	$87.94	$4.30	$1,817,863.000	$1,911,268.000	$93,405.000	$23,069.033
2030	$84.94	$89.30	$4.36	$1,902,617.000	$2,000,210.000	$97,593.000	$22,739.035
						$1,246,940.000	$497,567.990

Note: Discount rate is 6.00%

Final Report

Risk Assessment of Base Load Options

Seminole Electric
COOPERATIVE, INC.
IN PARTNERSHIP WITH THOSE WE SERVE

July 6, 2005

R·W·BECK

July 6, 2005

R·W·BECK

Lane Mahaffey
Director of Corporate Planning
Seminole Electric Cooperative, Inc.
16313 North Dale Mabry Highway
Tampa, Fl. 33618

Subject: **Risk Assessment of Base Load Options Report**

Dear Lane:

At your request, we have prepared the attached summary report of the risk assessment of two base load power supply options currently being considered by Seminole. The risk assessment process used to assess the risks of the power supply options being considered are described in more detail in the attached report.

The results of the risk assessment summarized herein depend on numerous considerations and assumptions, which are described in the attached report. While we believe these considerations and assumptions are reasonable for the purposes of this evaluation, we offer no other assurances with respect thereto. To the extent actual conditions differ from those assumed by us herein or from information and assumptions provided to us by others, the results of our evaluation would vary from those shown herein.

Section 1 – Summary of Risk Process and Results, summarizes the risk analysis, results of the risk assessment and summary of our observations and conclusions that are described in more detail in Section 2 – Risk Assessment Process and Development of Risk Variables and Section 3 – Principal Considerations and Assumptions. The Report also includes several appendices which contain more detail and technical information on the risk process and risk variables and a glossary of terms.

We appreciate the opportunity to provide assistance to Seminole in developing a custom risk assessment process and a risk assessment of Seminole's base load power options. We are available to provide any further assistance if necessary.

Respectfully submitted,

R. W. BECK, INC.

Jeanna L. Barnard

Jeanna L. Barnard
Principal and Senior Director

800 N.Magnolia Avenue, Suite 300, PO Box 538817, Orlando, FL 32803-3274, Phone (407) 422-4911, Fax (407) 648-8382

Seminole Electric Cooperative, Inc.
Risk Assessment of Base Load Options

Table of Contents

List of Figures

APPENDICES

Section 1
SUMMARY OF RISK PROCESS AND RESULTS

1.1 Risk Analysis

A team that included representatives of the Seminole Electric Cooperative, Inc. (Seminole) staff and R. W. Beck, Inc. (R. W. Beck) jointly developed a custom risk analysis process to be integrated into Seminoles' long-range generation planning process. This process and the associated risk analysis tools are intended to enhance the information used for decision-making related to power supply alternatives. A further objective was to render Seminole staff self-sufficient in its evaluation of risk issues related to future power supply alternatives.

The initial use of this process was to prepare a risk assessment of two base load power supply options currently being considered by Seminole. The approach included (i) preparing market data inputs (such as gas prices and coal prices), environmental cost inputs, inputs on future generation costs by type of plant (including capital costs, operating costs, etc.) and load forecast inputs; (ii) defining the variability of major inputs that could impact power supply decisions ("risk" variables); and (iii) preparing probability distribution functions (PDFs) or volatility term structures that describe the uncertainty of each "risk" variable. The risk variables addressed by this process are shown in the table below.

RISK VARIABLES

- Major Loss of Load
- Fuel prices
  - natural Gas
  - coal
  - pet coke
  - oil
- Power Market Prices
- Inflation
- Environmental Cost (CO2 emissions costs only)
- Capital Cost Uncertainty Related to:
  - construction costs
  - construction schedule
  - interest Rates
- Fixed Cost of Generic Units (base, intermediate and peaking)

Based on the PDFs and/or volatility defined for each risk variable, the risk assessment process (described further in Section 2.1 and the appendices) uses stochastic modeling and statistical analysis techniques to analyze how in aggregate these risks could impact Seminole's projected annual power costs. These analysis tools are used to assess the risks under the two base load power options currently being considered by Seminole. The results of the risk assessment include a projection of the potential range (with a certain confidence level) and expected outcome of annual power costs and average annual Member Rates under the two options.

1.2 Results of Initial Risk Assessment

The initial risk assessment described herein quantified the relative risks between the "Coal Option" and "Gas Option" power supply portfolios being considered by Seminole for the period from 2006 through 2030 (Study Period). The two options are summarized below:

- Coal Option (or Coal Case)
  - Ownership of 600 MW coal unit on-line 1/1/2012
  - Participation share of 150 MW in jointly-owned coal unit on-line 1/1/2012
  - Existing Seminole contracts and resources
  - New gas-fired generic resources to meet additional capacity requirements
- Gas Option (or Gas Case)
  - Ownership of 516 MW combined cycle unit on-line 1/1/2012
  - Existing Seminole contracts and resources
  - New gas-fired generic resources to meet additional capacity requirements

Expected Member Rate Projections and Estimated Confidence Interval

Figure 1, below, provides a graphical representation of the results of the risk analysis, as the average annual Member Rate (in \$/MWh), for an expected value and a 90% confidence interval (area between the 5% and 95% confidence estimate) under the 7 Member load forecast scenario The studies considered 7 Member and 10 Member load forecast scenarios. (i.e., the 7 Member scenario represents the status quo and is considered to be the worst case scenario as discussed in Section 2.2). These results are shown for the Coal Option and Gas Option power supply portfolios over the Study Period in Figure 1. From a risk perspective, the level of uncertainty or volatility in the portfolios is proportional to the size of the range between the 5% and 95% estimates. The band between the 5% and 95% estimates represents the 90% confidence interval—in other words, you would expect the average Member Rate to be within this band 90% of the time.

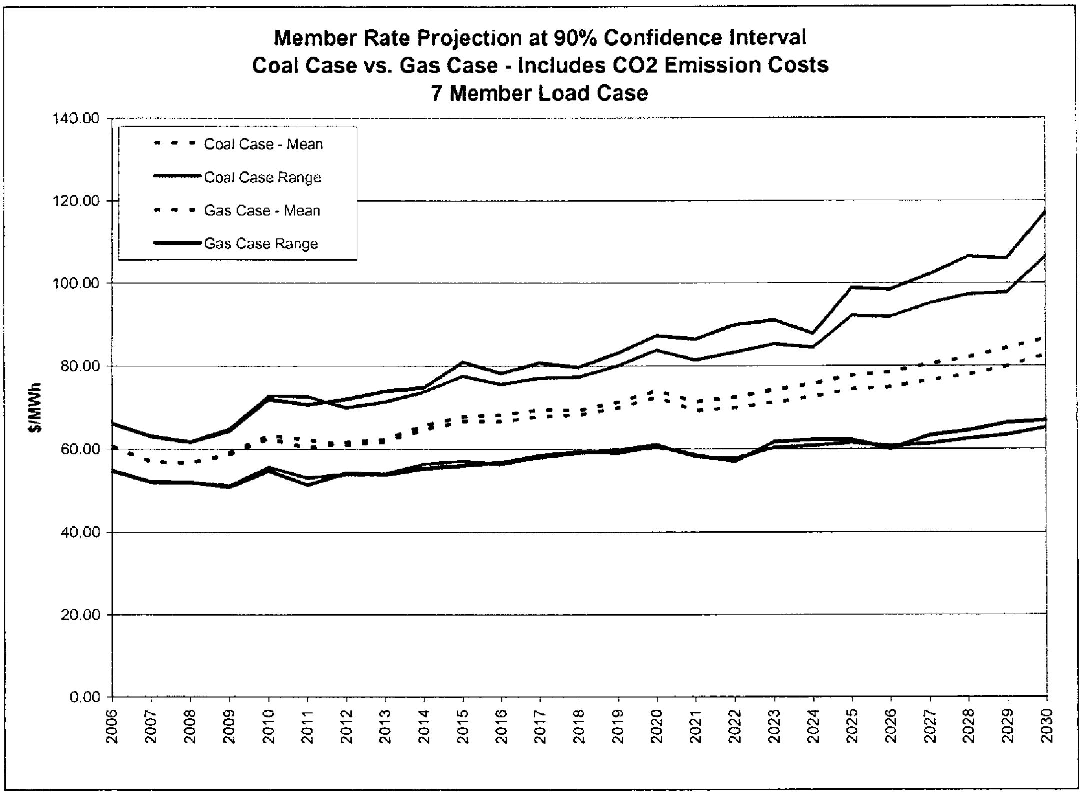


Figure 1 – Member Rate Projection at 90% Confidence Interval

As demonstrated in Figure 1, the mean value and probabilistic range of costs around the average Member Rate is projected to be lower under the Coal Option (blue lines on the graph) than under the Gas Option (red lines on the graph) which indicates less volatility under the Coal Option.

Risk Profile of Coal versus Gas Options

The major difference between the Coal Option (blue lines on the graph) and the Gas Option (red lines on the graph) is that the Coal Option assumes the addition of coal capacity rather than combined cycle gas-fueled capacity assumed in the Gas Option in 2012. To highlight this incremental difference, we have prepared an analysis of the total projected annual "bus-bar" cost ($/MWh) assuming an 80% capacity factor for the 600 MW coal unit and the 516 MW combined cycle gas-fired unit, as depicted in Figure 2. The range shown in each graph represents a 90% confidence interval.

As demonstrated in the figure, the annual bus bar cost is projected to be lower in every year for the coal unit when compared to combined cycle gas-fueled unit and the risk profile (or uncertainty in costs) estimated by the 90% confidence interval is also projected to be narrower for the coal unit when compared to the combined cycle gas-fueled unit.

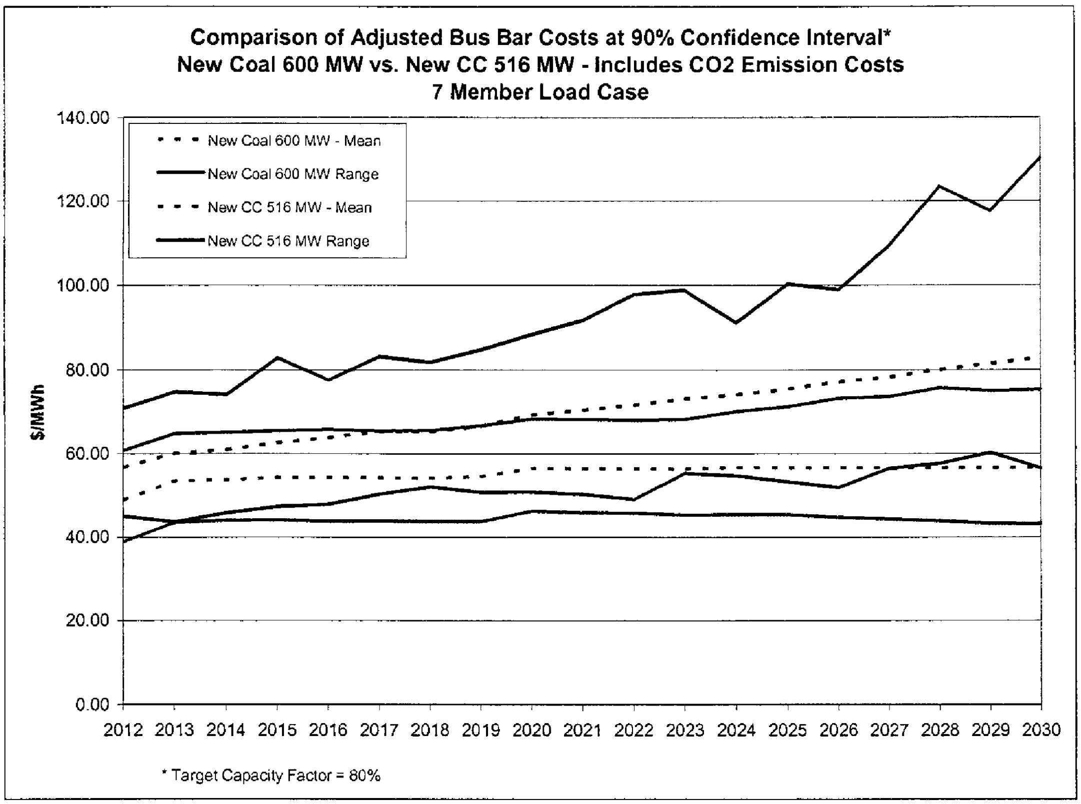


Figure 2 – Comparison of Bus Bar Costs

Probability That Power Cost under Gas Option is Less than Coal Option

We have also developed a cumulative probability of the estimated difference in cumulative net present value (NPV) costs between the Gas Option and the Coal Option projected over the Study Period. As shown in Figure 3 below, the cumulative NPV cost difference between the two options is projected to be $331 million over the Study Period. The figure also shows that there is a 20% probability that the cumulative NPV costs under the Gas Option are projected to be lower than the cumulative NPV costs under the Coal Option. Conversely, there is an 80% probability that cumulative NPV under the Coal Option will be lower than the cumulative NPV under the Gas Option.

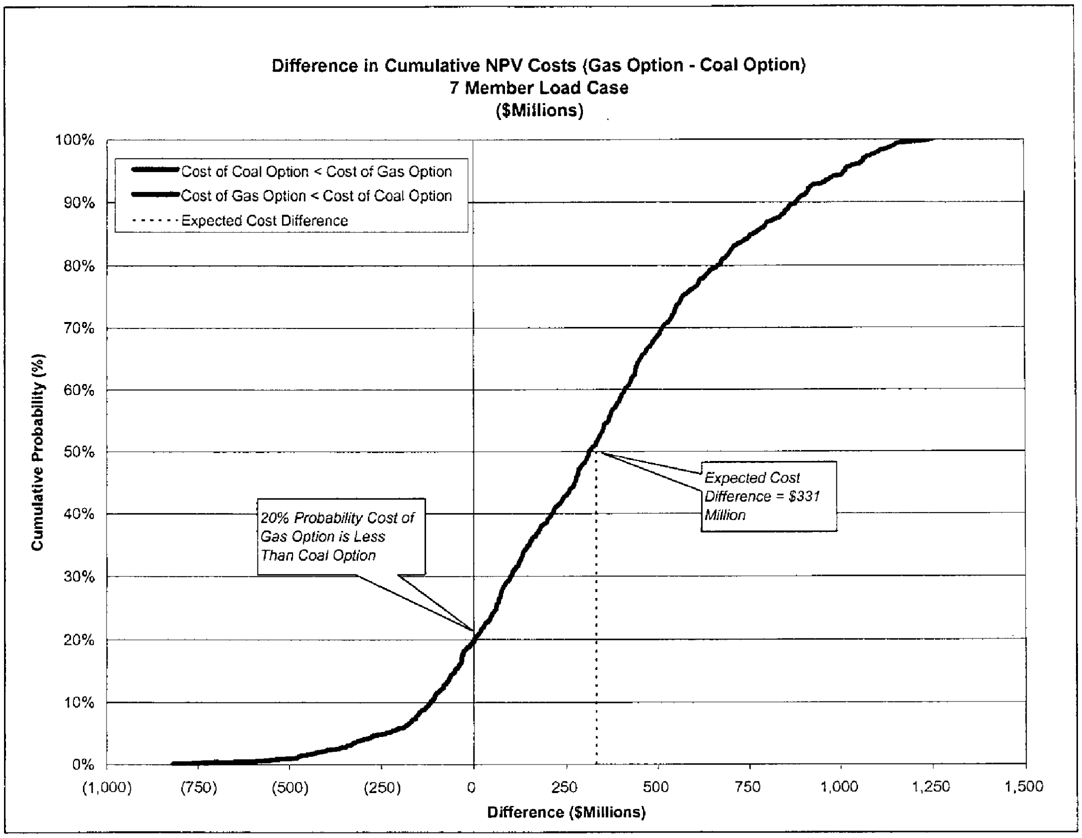


Figure 3 – Difference in Cumulative NPV Costs (Gas Option – Coal Option)

1.3 Summary of Observations and Conclusions

Based on the results of our risk analysis and the principal considerations and assumptions used by us in such analysis, which are outlined in Section 4 of this report, we offer the following general observations and conclusions:

1. The 90% confidence interval (risk profile) is projected to be narrower and the expected value of the annual average Member Rate (in $/MWh) is projected to be less under the Coal Option when compared to the Gas Option over the Study Period.
2. The annual "bus bar" costs of the 600 MW coal unit when compared to the 516 MW combined cycle gas-fueled unit are projected to be lower every year over the Study Period and the risk profile estimated by the 90% confidence interval of the 600 MW coal unit when compared to the 516 MW combined cycle gas-fueled unit is projected to be narrower over the Study Period.
3. The cumulative NPV costs under the Coal Option are projected to be $331 million less than under the Gas Option over the Study Period.
4. There is an 80% probability that the projected cumulative NPV costs under the Coal Option will be lower than under the Gas Option.

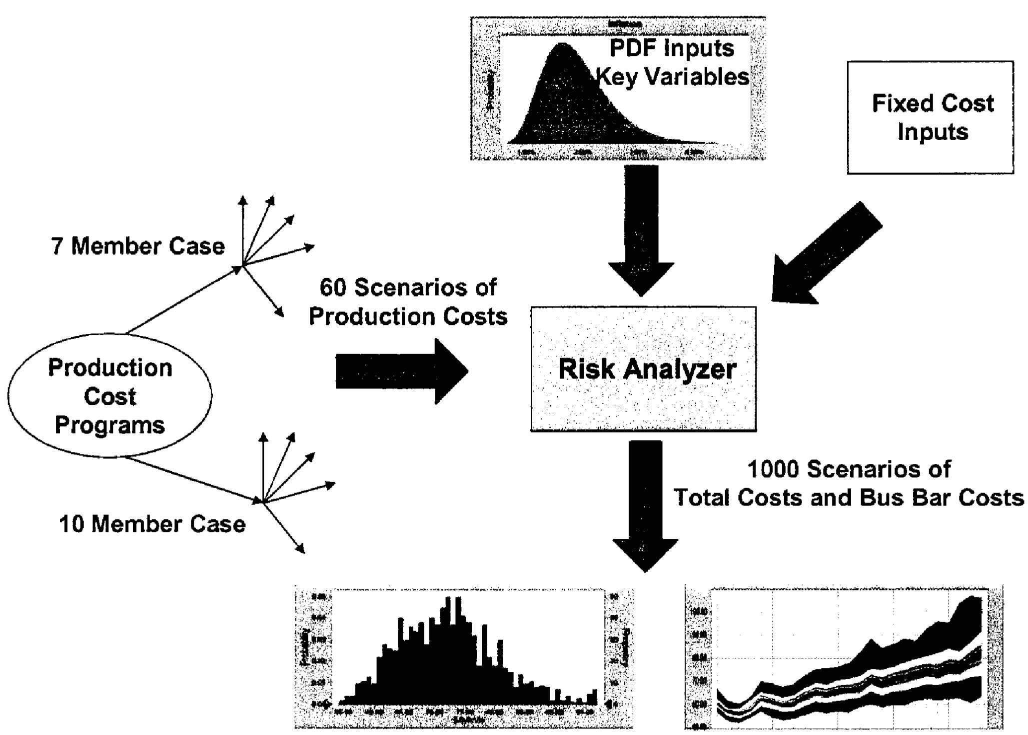
Section 2
RISK ASSESSMENT PROCESS AND DEVELOPMENT OF RISK VARIABLES

2.1 Risk Assessment Process

The risk assessment process developed by Seminole staff and R. W. Beck is designed to supplement and enhance Seminole's current planning process and build upon data and inputs from that existing process. It consists of four basic steps: (1) identifying the risk variables to be analyzed; (2) developing data necessary to represent the volatility, probability and range of values for each key risk variable; (3) developing generation cost data to represent the range of probable dispatches of Seminole's generating resources; and (4) running all of the generation cost scenarios through the risk analyzer model to identify the range and probabilities of the outcomes (results) for each power supply alternative.

An overview of this risk assessment process is shown below in Figure 4. It is explained in more detail in Appendix A.

Figure 4 – Overview of Risk Assessment Process



In the Production Costing portion of the risk analysis process, because variability in fuel prices also causes variability in the economic dispatch of Seminole's generation portfolio and its interaction with the wholesale market, the fuel cost variable and load variability require special handling. It is necessary to perform multiple production costing runs using PROMOD to capture the range of probable dispatches to be considered in conjunction with the next stage of statistical sampling using the "Risk Analyzer" model. To accomplish this, in order to capture the range of Seminole's production costs (related to uncertainty in fuel prices, market prices and Member loads), the risk tools use sampling methods that draw from the PDFs for fuel prices and power prices to create a finite number (30 for each case run) of production costing scenarios that are equally likely to occur (i.e., application of Latin Hypercube sampling technique). The results of the production costing scenarios are stored in a database for further analysis by the "Risk Analyzer" program.

The Risk Analyzer program, a customized model developed for this process, is used to summarize Seminole's total Member power costs and bus bar costs of each new power supply resource being considered. The uncertainty in other risk variables are addressed by the Risk Analyzer based on PDFs defined for specified risk variables. The Risk Analyzer program develops 1,000 simulations of the total power supply costs and bus bar costs based on the defined PDFs, fixed costs inputs from the user and results from the production costing scenarios (i.e., application of Monte Carlo sampling technique). Resulting PDFs and confidence intervals of total power costs and other analyses were developed from the 1,000 simulations.

2.2 Development of Risk Variables

The risk assessment summarized herein, takes into account the following types of risks:

- Major Loss of Load
- Price Risk
- Construction Cost Risk
- Interest Cost Risk
- Cost Risk Related to Inflation
- Environmental Cost Risk

Major Loss of Load

The risk assessment incorporates the risks associated with the potential loss of Member load (i.e., some Member contracts expiring in 2020). Currently, seven of Seminole's ten member systems have extended their long term wholesale power contracts through 2045, and negotiations are continuing with the remaining three Members). Seminole developed two load forecasts scenarios, a 7-Member and a 10-

Member Case. Similar generation expansion plans and production costing analyses were developed for each load forecast scenario. The Seminole risk tools and process provide for probabilities to be assigned to one or more load forecast scenarios, as such are further described in the appendices. For purposes of the initial risk analysis, Seminole selected the 7-Member Case because this case includes the least amount of wholesale load Seminole will serve and is therefore considered to be a worst case scenario for economic justification of a base load capacity commitment.

Price Risk

The risk assessment reflects the range of estimates resulting from the consideration of price volatility. For the Seminole portfolio of resources, the risk category that produces the greatest amount of risk is price risk (i.e., fuel price and wholesale market price). This risk source may be mitigated somewhat through a balanced portfolio that spreads price risks among the various sources, including power market prices and fuel prices. However, despite such mitigation, price risk remains the dominant risk to be considered.

Seminole prepared a base case projection of market prices and fuel prices. The risk assessment methodology involves developing reasonable probability distributions around the forecasted variables of fuel prices and market power prices. These ranges of values illustrate the volatility and uncertainty inherent in the mean value estimates and, therefore, illustrate the risks associated with unknown events. Appendix B sets forth the assumed volatility and uncertainty inherent in the forecasts of fuel prices and market power prices.

Figure 5 below shows the probabilistic ranges around the projected mean value of market prices (average annual prices). For presentation purposes, we have shown the range of values within the "90% confidence interval" - two standard deviations above and below the mean, generally referred to as the "95th" percentile and "5th" percentile values, respectively. Also shown are the 67th percentile and the 33rd percentile values, which represent approximately one standard deviation above and below the mean, respectively.

Figure 6 below shows the projected average annual natural gas price in $/MMBtu and the probabilistic ranges around the projected mean value.

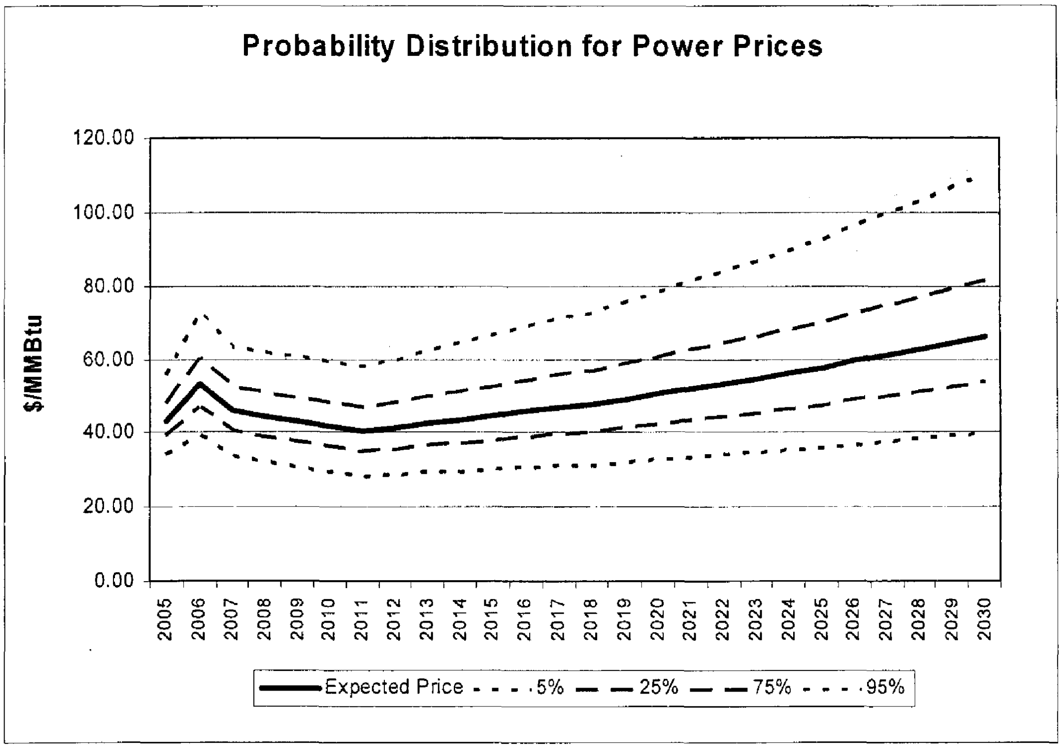


Figure 5 – Avg. 7x24 Market Price Range ($/MWh)

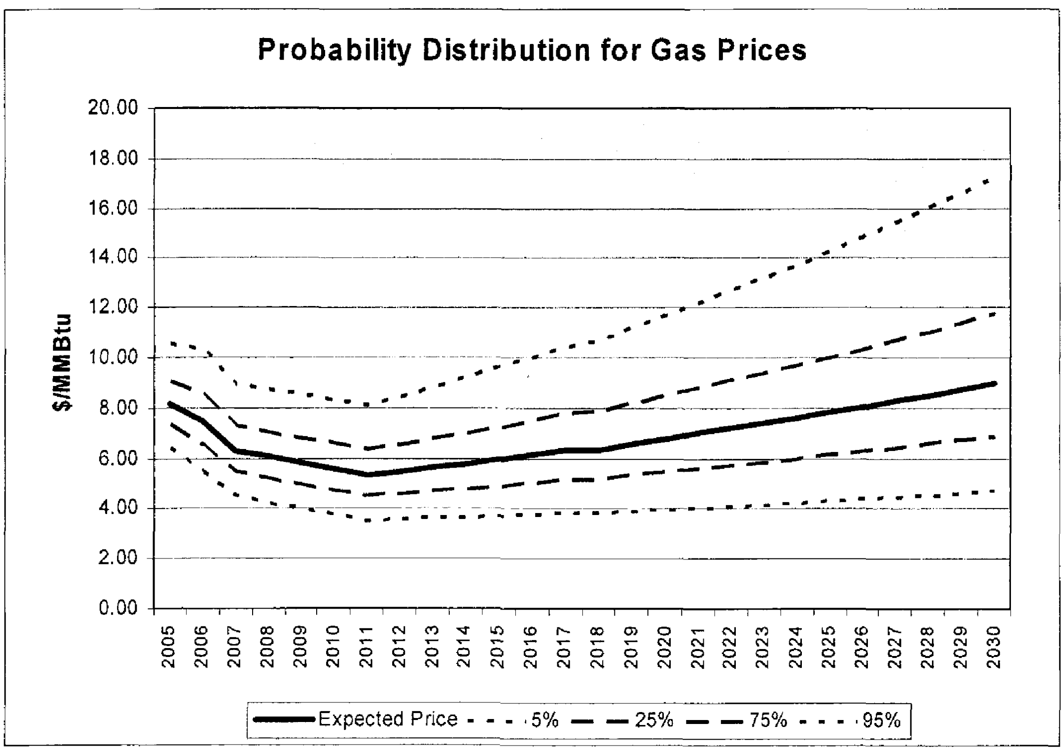


Figure 6 – Projected Average Natural Gas Commodity Price ($/MMBtu)

Figure 7 below shows the projected average coal price in $/MMBtu and the probabilistic ranges around the projected mean value.

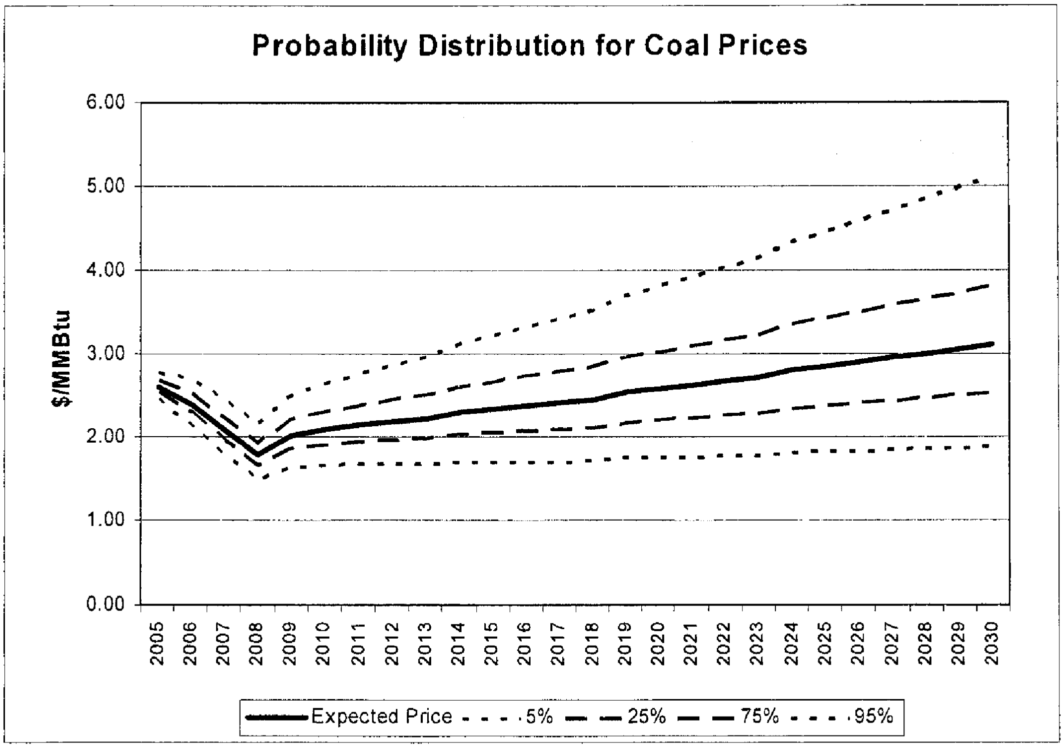


Figure 7 – Projected Average Coal Delivered Price ($/MMBtu)

Figure 8 below shows the projected average distillate oil price in $/MMBtu and the probabilistic ranges around the projected mean value.

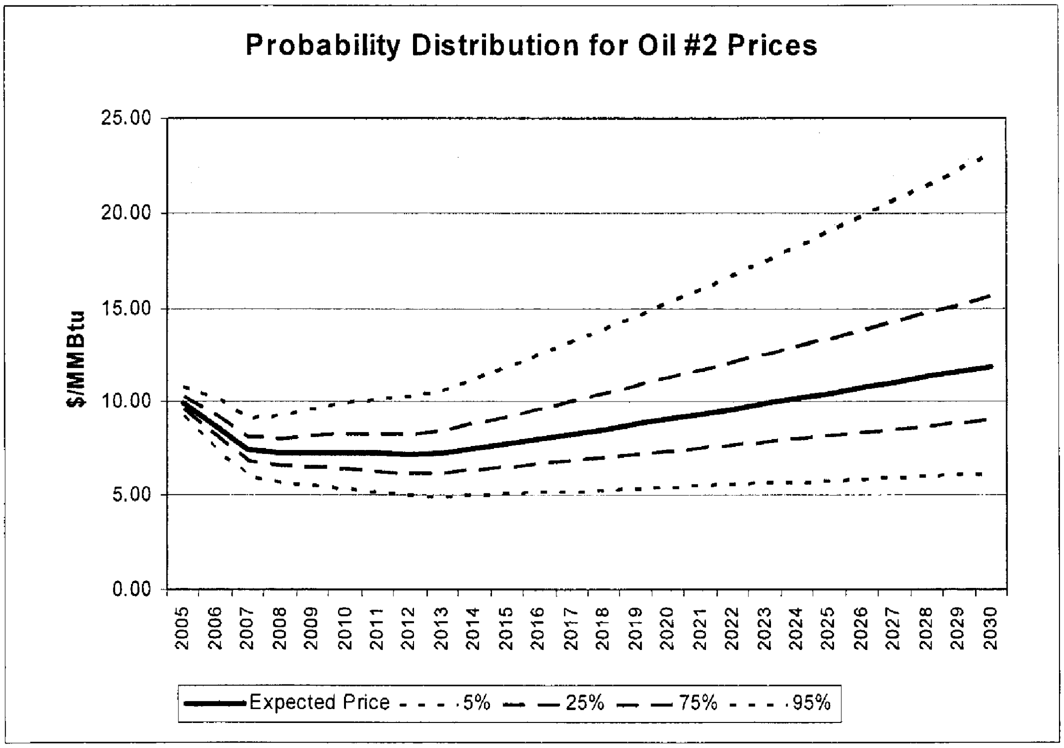


Figure 8 – Projected Average No. 2 Oil Price ($/MMBtu)

Construction Cost Risk

In addition to fuel and power price risk, the Coal Option and Gas Option introduce certain additional risks associated with new units not yet under construction. Generally, these risks relate to the uncertainty surrounding the ultimate cost to build this future resource. To evaluate these risks, certain input factors have been specified as ranges of values with a corresponding probability distribution function. These ranges of estimates are intended to reflect the uncertainty or potential variability in these input factors. The quantitative assumptions for each of these variables, including a graphical display of the associated PDF, are included in Appendix D. The following is a general discussion of these variables.

As future resources, the financial investment for the Coal Option and Gas Option are uncertain. The risk of potential construction cost increases has been evaluated in terms of the probability of occurrence of cost deviations within the construction cost contingency allowance reflected in the estimated cost of the completed project. Included in the total project cost estimate is a construction cost contingency allowance. According to Seminole there is a 10% contingency allowance included in its technical consultant's feasibility study in the base case construction cost estimates for engineering, procurement and construction (the EPC cost). Seminole, in consultation with its technical consultants, has partitioned this EPC contingency into a 5% portion representing a reasonably anticipated cost overrun allowance with the other 5% representing cost uncertainty (plus or minus). To evaluate the effects of the risks associated with the construction costs, we have incorporated a triangular probability distribution with a most likely value of 5%, a minimum of 0% and a maximum of 10%. A triangular distribution was chosen because of the limited data available to develop a PDF. The only values known were the minimum, maximum and most likely values. The distributions assumed for the Coal Option and Gas Option are illustrated in Appendix D.

To evaluate the effects of the risks associated with the construction schedule delays, we have incorporated a triangular probability distribution (because of the limited data available to develop a PDF) with respect the number of months of construction with a most likely value of no delays and a minimum of the construction schedule being 3 months early to a maximum of a 6 months delay. In evaluating the range of likely scenarios regarding construction under both options, we have also assumed a high degree of correlation between the cost and the schedule. In other words, if some unforeseen event or condition occurs during construction that causes the schedule to be delayed, that event or condition is also very likely to cause an increase in costs. Similarly, adjustments to the contract cost during construction are likely to involve additional work that may impact the schedule. Any variance in the construction cost will also cause a variance in the cost associated with interest during construction (IDC). In the Seminole risk models of fixed costs, IDC is automatically recalculated for different scenarios with respect to construction costs.

Interest Cost Risk

To evaluate the financial risks associated with potential interest rate fluctuations, we have developed PDFs based on historical (over the period 1990 to date) interest rates for the short-term interest rate assumed during the construction period (based on the 3-month T-Bill rates) and the long-term interest rate assumed after commercial operation (based on the 10-year T-Note rates). Based on historical data for the 3-month T-Bill rates, we have incorporated a lognormal probability distribution with respect to the IDC rate, with a mean value of 4.7% and a standard deviation .9%. Based on historical data for the 10-year T-Note rates, we have assumed a lognormal probability distribution with respect to the long-term interest rate, with a mean value of 6% and a standard deviation 1.2%. The PDFs for each of these variables are illustrated in Appendix D.

Cost Risk Related to Inflation

Due to the uncertainty of inflation and the potential impact on future power costs, the Seminole risk tools reflect variability in inflation rates. Based on historical data for inflation rates, we have incorporated a lognormal probability distribution with respect the assumed annual escalation rate with a mean value of 1.9% and a standard deviation of 0.63%. The PDF for this variable is illustrated in Appendix D.

Environmental Cost Risk

The Coal Option and the Gas Option also introduce additional environmental risks. Fossil fuel-fired generating plants are subject to federal, state, and local air and water quality requirements which regulate, among other things, emissions of particulate matter, sulfur dioxide ("SO_2") and nitrogen oxide ("NO_x") into the air; the transportation, storage and disposal of hazardous and toxic wastes; and discharges of pollutants, including thermal discharges, into the waters of the United States.

New future environmental restrictions and regulations will also affect the costs of fossil-fueled generation. President George W. Bush announced that his Administration supports a multi-pollutant control strategy requiring power plants to reduce emissions of SO_2, NO_x and mercury as part of a balanced national energy policy. The strategy would be phased in over a reasonable period of time, providing regulatory certainty and offering market-based incentives to help industry meet emissions targets.

In 2002, President Bush announced two initiatives. The first initiative, the Clear Skies Initiative, would reduce nationwide SO_2, NO_x, and mercury emissions from power plants in two phases. The first phase would begin in 2008 and the second phase would occur in 2018. The second initiative, the Global Climate Change Initiative, would set a voluntary national goal to reduce greenhouse gas emissions intensity, measured as the ratio of greenhouse gas emissions to Gross Domestic Product, by 2012. In addition, various Congressional bills introduced in 2001, 2002 and 2003 would require reductions in air emissions, including carbon dioxide (CO_2), by power plants. The Clean Air Interstate Rule, if promulgated, will in essence address many of the aspects of the Clear Skies Initiative.

Compliance with possible new air quality regulations that may be issued by Federal or State environmental protection agencies under existing legislation could significantly affect the Coal Option and Gas Option. The full impact of the new potential regulations cannot be determined at this time, pending the final promulgation of applicable regulations, the continuing development of the emission allowance market and the possibility of new emission reduction technologies.

Based on discussions with Seminole staff, the Seminole risk assessment does not address the potential impacts of increased costs due to more stringent controls on SO_2, NO_x and mercury. According to Seminole, the impact on Seminole's average annual power costs would not be greatly affected by increases in the costs of these emissions because of existing Seminole emissions allowance allocations and environmental controls included in the design and construction costs of the new coal units.

The potential costs of controlling CO_2 emissions have been included in the Seminole risk assessment. Based on discussion with Seminole staff, we have estimated that the average price ($/ton) for CO_2 allowances would be $5/ton. To reflect the uncertainty in this estimate, based on discussions with Seminole, we have assumed a lognormal PDF with a mean value of $5/ton (in 2005$) and a standard deviation of $1.5/ton.

In addition to the uncertainty related to cost, there is also an uncertainty related to when and if CO_2 emissions controls will be put in place. As shown below, based on discussions with Seminole, we have assumed that there is a 33% probability controls are in place by 2010, 50% by 2015 and 90% by 2020. After adjusting for inflation and the probability of occurrence, the expected costs of CO_2 emissions are shown in the table below. The PDFs assumed for these variables are illustrated in Appendix D.

	Expected CO_2 Emissions Costs		
	2010	2015	2020
Estimated Costs $C0_2$ Emissions ($/ton) with inflation	$5.39	$5.92	$6.51
Probability $C0_2$ Controls in Place by this date	33%	50%	90%
Expected Cost $C0_2$ Emissions ($/ton) *	$1.78	$2.96	$5.86

* *The Expected Cost of CO2 Emissions reflects the probability that controls are in place by this date, Cost of CO2 Emissions in 2005 dollars equal to $5 / ton plus inflation to the date shown.*

Section 3
PRINCIPAL CONSIDERATIONS AND ASSUMPTIONS

3.1 Principal Considerations and Assumptions

In the course of this risk assessment, we and Seminole staff have made certain assumptions with respect to conditions that may occur in the future. While we believe these assumptions are reasonable for the purpose of this report, they are dependent upon future events and actual conditions may differ from those assumed. We have used and relied upon certain information and assumptions provided by Seminole, as well as certain information and assumptions provided to Seminole by others. While we believe the sources to be reliable, we have not independently verified the information and offer no assurances with respect thereto. To the extent that actual future conditions differ from those assumed herein, the actual results will vary from those forecast. The principal considerations and assumptions used in preparing this report that were made by us or provided to us by Seminole are summarized below.

1) The Coal Option includes the construction of a new 600 MW coal plant at Seminole's existing Putnam County site. For purposes of this evaluation, we have assumed the units would have the following:
   a) commercial operation date of January 1, 2012 based on a January 2007 construction start date and a 60-month construction period;*
   b) total direct capital cost of the power plant is estimated at $923,323,000 (in nominal dollars excluding interest during construction)*;
   c) production fixed and variable costs provided by Seminole per multiple PROMOD output files;
   d) additional fixed costs associated with property taxes ranging from 1.98% of net plant investment in 2012 to 2.18% of net plant investment in 2030;
   e) additional fixed costs for insurance ranging from 0.24% of net plant investment in 2012 to 0.29% of net plant investment in 2030; and
   f) depreciation of the investment on a straight-line basis assuming a 3.1% rate.
2) The Coal Option also includes 150 MW of ownership interest in a new jointly owned coal plant. For purposes of this evaluation, we have assumed this unit would have the following operating characteristics:

* Reflects base case estimate assumption. The potential variance in the assumption has been evaluated using an estimated probability distribution of potential outcomes as part of the risk assessment.

a) commercial operation date of January 1, 2012 based on a January 2007 construction start date and a 60-month construction period;*
b) total direct capital cost of the power plant is estimated at $261,406,000 (in nominal dollars excluding interest during construction*;
c) production fixed and variable costs provided by Seminole per multiple PROMOD output files;
d) additional fixed costs associated with property taxes ranging from 1.98% of net plant investment in 2012 to 2.18% of net plant investment in 2030;
e) additional fixed costs for insurance ranging from 0.24% of net plant investment in 2012 to 0.29% of net plant investment in 2030; and
f) depreciation of the investment on a straight-line basis assuming a 3.1% rate.

3) The Gas Option includes the construction of a new 516 MW combined cycle gas plant at Seminole's existing Hardee site. For purposes of this evaluation, we have assumed this unit would have the following operating characteristics:
   a) commercial operation date of January 1, 2012 based on a January 2009 construction start date and a 36-month construction period;*
   b) total direct capital cost of the power plant is estimated at $345,661,000 (in nominal dollars excluding interest during construction) *;
   c) production fixed and variable costs provided by Seminole per multiple PROMOD output files;
   d) additional fixed costs associated with property taxes ranging from 1.98% of net plant investment in 2012 to 2.18% of net plant investment in 2030;
   e) additional fixed costs for insurance ranging from 0.24% of net plant investment in 2012 to 0.29% of net plant investment in 2030; and
   f) depreciation of the investment on a straight-line basis assuming a 3.1% rate.
4) For purposes of estimating environmental costs, we have reflected estimated costs of emissions allowances assuming existing environmental cost regulations. We have also included additional costs estimated to be incurred in the future relating to new stricter environmental regulations. A more detailed discussion of existing and future regulations and the estimated future costs of environmental compliance are set forth in Section 3 under the heading "Environmental Risk."
5) For purposes of evaluating Seminole's ownership share of the total capital cost for each project, we have calculated interest during construction (IDC) using a probabilistic cost of capital with a mean value of 4.7% and that the total capital costs would be financed from a debt issue with a probabilistic interest rate with a mean value of 6.0% and level principal payments over a 30-year amortization period.

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* Reflects base case estimate assumption. The potential variance in the assumption has been evaluated using an estimated probability distribution of potential outcomes as part of the risk assessment.

6) For purposes of net present value calculations, we have used a discount rate of 6.0% and a base year of 2005.

7) The projections of Seminole's demand and energy requirements for the period 2006 through 2030 are based on the load forecast prepared by Seminole.

8) The base case projections of power market prices and fuel prices for the Study Period were prepared by Seminole.

9) The production costing analyses from PROMOD of the projected output, fuel costs and other operating costs were prepared by Seminole.

10) In preparing the projections used in our quantitative risk assessment, we have relied on the principal assumptions used to quantify the volatility and uncertainty of the defined "risk variable" as set forth in Appendices B, C and D.

11) We have assumed that all of the power purchase contracts and generating units in Seminole's Existing Power Supply Portfolio will continue to operate during each year until the end of their respective contract terms or estimated useful lives (see Figure 9 below).

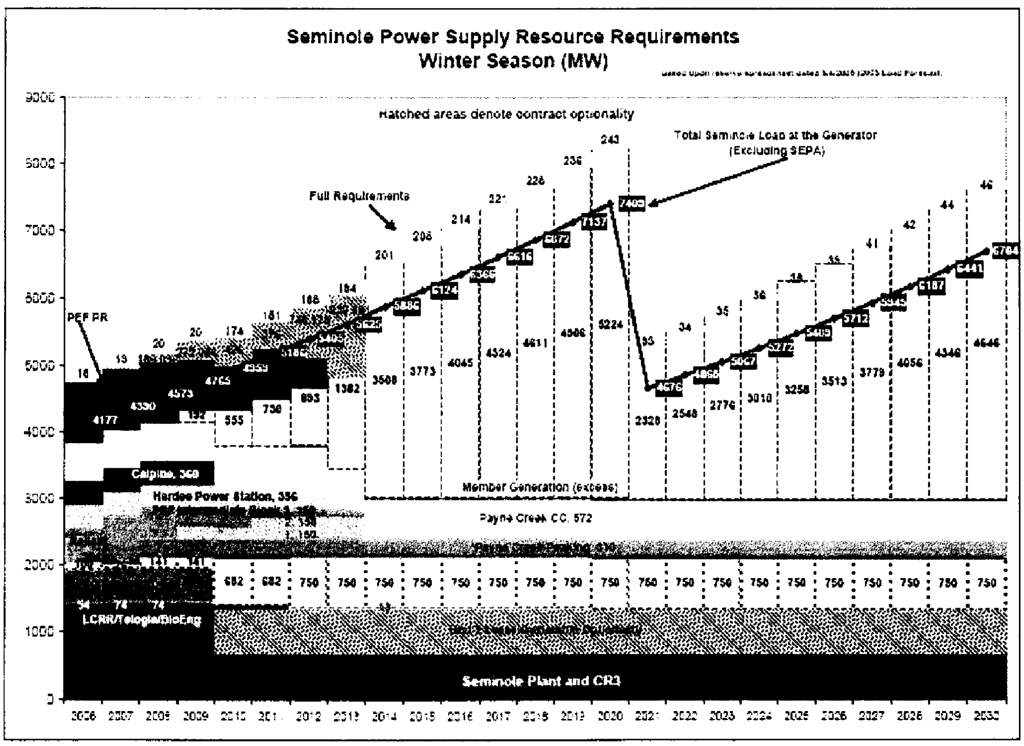


Figure 9 – Seminole Power Supply Requirements and Resources

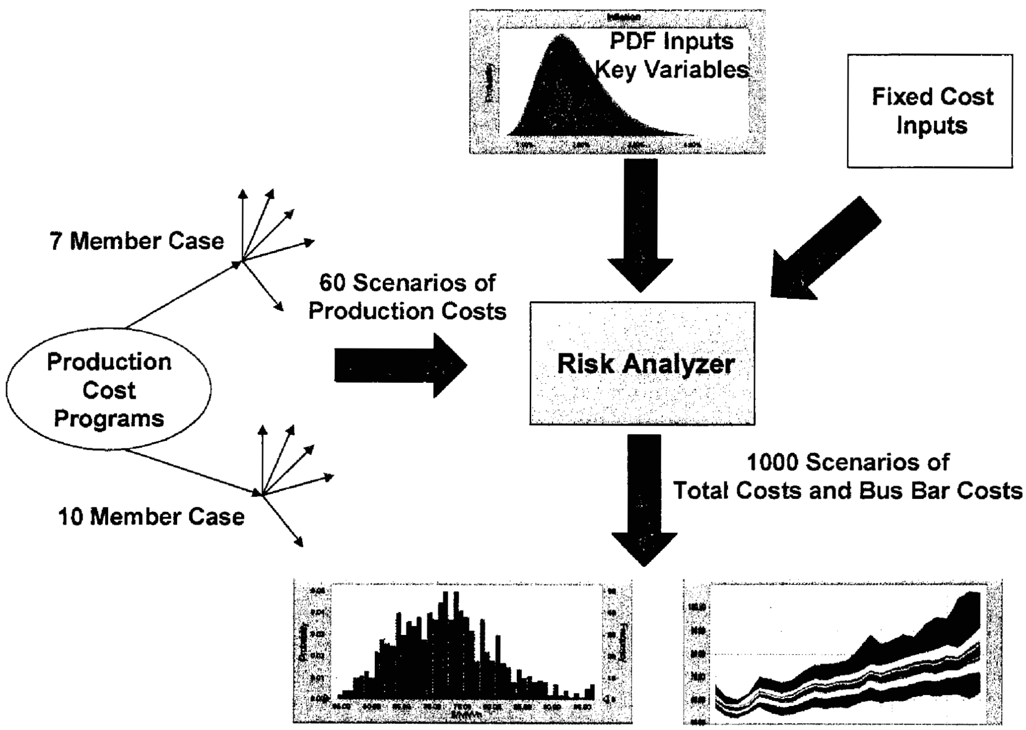
The projections herein have been prepared based on the assumption that all contracts, agreements, statutes, rules and regulations (hereinafter described as "contractual and legal requirements") that have been relied upon by us in reviewing or preparing projections will be fully enforceable in accordance with their terms and conditions.

The projections of electric power and energy requirements for Seminole are based on Seminole's approved load forecast and an inherent assumption that the Florida region which includes the Seminole service territory will continue to experience economic growth consistent with that forecast. The projected wholesale power costs under the Coal Option and Gas Option have been projected assuming a relative status quo situation from the standpoint of market structure, through the year 2030. Changes in costs, technology, legislation and regulation could affect the considerations and assumptions.

Appendix A – Risk Analysis Tool Set and Process

Seminole Risk Analysis Tool Set

The Seminole Risk Analysis Tool Set is a set of customized models to assist Seminole to (i) evaluate and compare on a consistent basis individual power resources alternatives that could be added to Seminole's existing portfolio of resources, and (ii) evaluate its total and incremental power supply costs with one or more generic and specific alternative power resources added to Seminole's existing portfolio of resources. The models include customized spreadsheets and programs incorporated into Seminole's existing processes and include probabilistic techniques (e.g., using the Excel Add-in "Crystal Ball") to evaluate the projected costs and risks of power supply resources and alternative portfolios. The overall process is shown below:



The set of programs and associated inputs and outputs are set forth in the flow chart set below. Specifically the risk analysis programs and/or processes developed by R. W. Beck include:

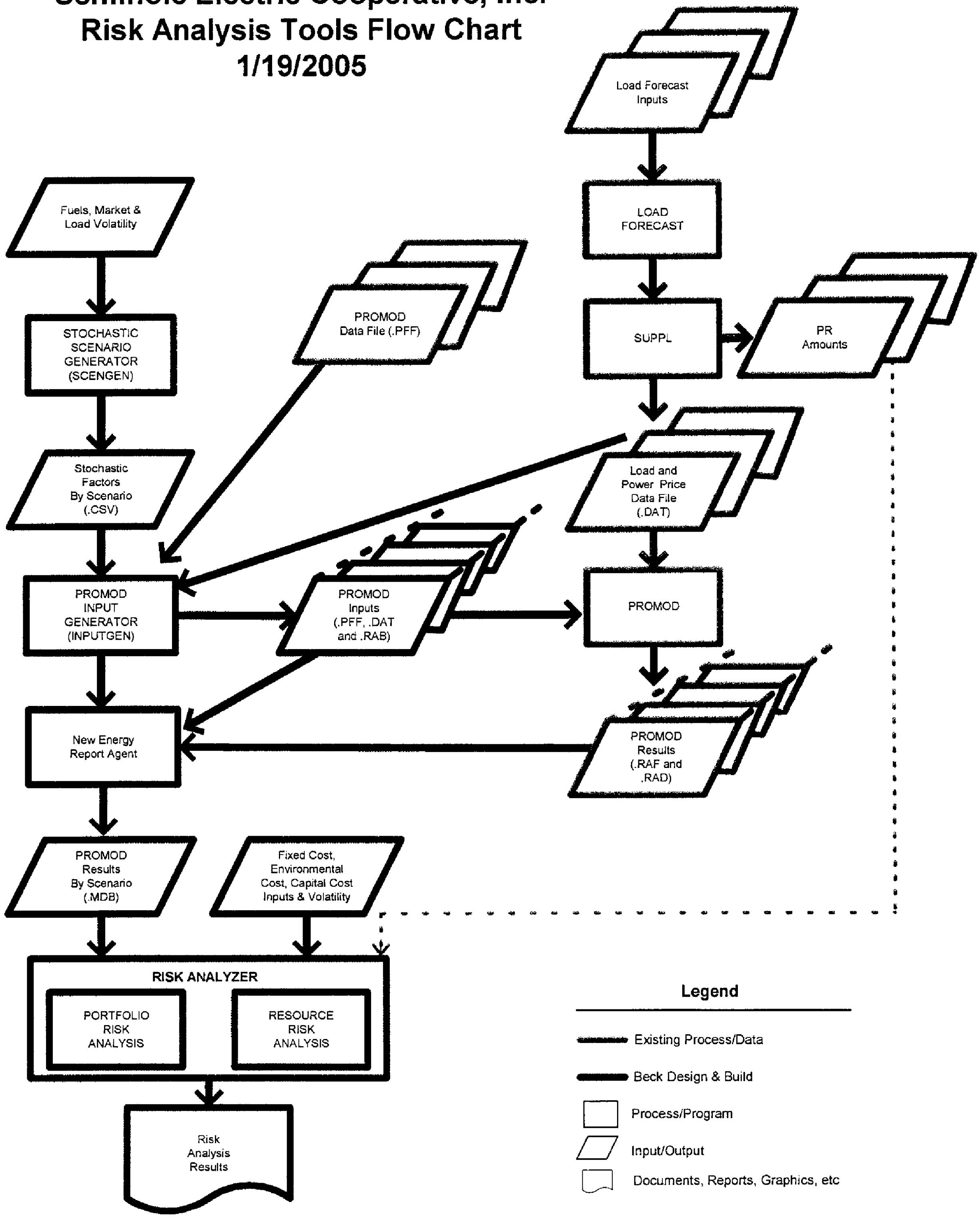
- Stochastic Scenario Generator (SCENGEN) – Excel based program using Visual Basic that develops monthly factors for a specified number of Scenarios for fuel prices and power prices
- PROMOD Input Generator (INPUTGEN) – Excel based program using Visual Basic that applies monthly factors from each Scenario generated by SCENGEN to fuel and power prices and develops a set of PROMOD input files

- Risk Analyzer (RISK ANALYZER) – Excel based program with Crystal Ball add-in that is based on user developed PDF, fixed costs inputs from the user, data from the PROMOD runs and total power supply costs with one or more generic and specific alternative power resources added to Seminole's existing portfolio of resources are developed

Other tools and processes developed include:

- Templates (using New Energy's Report Agent) to extract data from output files of PROMOD runs and put the data in a Microsoft Access database
- Excel spreadsheets that develop results graphs and charts

Seminole Electric Cooperative, Inc.
Risk Analysis Tools Flow Chart
1/19/2005



Risk Analysis Process

Following is a general outline of the risk analysis process.

1. The risk analysis process should be reviewed and refined to determine the risk variables that will be considered in the risk analysis. Following are the risk variables that have been determined in this initial analysis to be important in the power supply decision.

   - Major Loss of Load (e.g., Loss of Member Load)
   - Fuel prices
     - Natural Gas
     - Coal
     - Pet coke
     - Oil
   - Power Market Prices
   - Inflation
   - Environmental Costs (CO_2 emissions costs only)
   - Capital Costs Uncertainty Related to:
     - Construction Costs
     - Construction Schedule
     - Interest Rates
   - Fixed cost of Generic Units (Base, Intermediate and Peaking)

2. The following initial set up process is required:

   2.1. Develop volatility term structures and correlation factors for fuel and power prices for input into the Stochastic Scenario Generator (SCENGEN). See Appendix B for the assumptions used in the initial analysis.
   2.2. Determine the number of fuel and power prices Scenarios desired (e.g. 30).
   2.3. Execute SCENGEN to develop fuel and power prices factors file.
   2.4. Verify that the fuel price and power price ranges produced by the volatility term structures and the 30 scenarios are reasonable. See Appendix C for the results from the initial analysis.
   2.5. Determine probability distribution functions for input into Risk Analyzer. See Appendix D for the results from the initial analysis.
   2.6. Develop the other "fixed cost" data required for existing resources and contracts for input into RISK ANALYZER.

3. For each power supply alternative, the following process is required to generate the production costing data for the n Scenarios:

   3.1. For each set of PROMOD files (one for each load forecast considered), execute the PROMOD Input Generator (INPUTGEN) that applies monthly factors from each Scenario generated by SCENGEN to fuel and power prices and develops a set of PROMOD input files.
   3.2. Execute Batch file which executes PROMOD and produces output for each Scenario (Sample Batch file text is shown in Appendix E).
   3.3. Execute Template (using New Energy's Report Agent) to extract data from output files of PROMOD and puts the data in a Microsoft Data Base (Sample Batch file text to process multiple PROMOD output files through Report Agent is shown in Appendix E).

4. For each power supply alternative a separate version of the RISK ANALYZER spreadsheet is required to be developed and the following tasks are required:

   4.1. Define fuel and generation categories.
   4.2. Pull in Fixed Costs information for existing resources and contracts.
   4.3. Import in Production Costing data for this power supply alternative.
   4.4. Build out New Resource information sheet for each new generating resource option being considered in the power supply alternative.
   4.5. Bench-mark deterministic/base case results of RISK ANALYZER to results from Seminole's Corporate Planning Model.
   4.6. Execute Crystal Ball to produce "N" Monte Carlo simulation results (e.g. N = 1000 simulations).
   4.7. Extract results data and produce summary graphs.

Appendix B – Price Volatility Term Structures and Correlation Factors

Market and Fuel Price Volatility Inputs

In the portfolio risk analysis, market prices are used as the "underlying markets" from which the instruments (generating assets, purchase power contracts, etc.) in the portfolio derive their value.

- Price inputs include (see the Table 1 below):
  - Power prices: This includes the FRCC hourly power price and capacity prices for the region.
  - Fuel prices: This model included monthly fuel prices for coal, oil, nuclear, and natural gas.

Table 1
Price and Volatility Parameters for Model

Parameter	Comment
Market Price ($/MWh)	Base case projection of market prices.
Fuel Price ($/MMBtu)	Base case projection of fuel prices.
Volatility	
Medium- and Long-Factor Volatility	Volatility factors for two-factor model.
Medium-Factor Reversion Rate	Describes how quickly the volatility reverts to the long-factor.
Medium-Factor Seasonality	Changes volatilities by month.

Three components define the prices for both the underlying power and fuel markets:

Market Prices: The prevailing market price at which market participants are willing to commit to today for delivery of an asset at a defined future date and delivery point. Payment is made at the time of delivery.

Volatilities: Measures the expected range or band within which the forward price path, as it converges into spot prices, may occur within some confidence interval.

Correlations: A measure of how the value of one variable changes if another variable is changed—in this case the correlation between the power and the fuel markets.

Base Case projected monthly market and fuel prices were provided by Seminole.

Price Volatilities

The volatilities used in this analysis were developed from historical forward curves, historical forecasts, and stochastic market price simulations using the R.W. Beck's structural market model. Historical forward curves from MegaWatt Daily were used to develop the medium-factor volatility, mean reversion, and seasonality parameters. The Entergy market was used as a proxy for the Florida volatility factors. Monthly volatilities are calculated from historical forwards curves by estimating the standard deviation of daily returns. Daily returns are the natural log of the change in price from one day to the next.

Return = $\ln(F_t/F_{t-1})$, where F is the forward price of a monthly contract

By evaluating the standard deviation of returns by time to maturity (difference between the trade date and the contract date in months) the monthly volatilities against time to maturity were developed.

An analysis of historical prices indicates a great deal of volatility with a mean reversion behavior in prices, which is the tendency in prices to revert to some long-term level and not to drift off to higher and higher levels. Historical monthly volatilities and volatility term structures can estimated by medium- and long-factor volatilities and mean reversion rates. Based on a historical analysis of market price volatilities, for this analysis, a medium volatility of 50% with a 400% mean reversion rate was assumed.

We estimated long-factor volatility using two techniques. First, thirty MarketPower simulations were analyzed to determine how prices change with changes in load, fuel, and inflation inputs. The range of long-factor volatilities from the simulations ranged from 5% to 12%. The lower volatility occurs when the model is allowed to build new generation in each simulation. In this case, the market corrects for changing fuel prices and load levels. The higher volatility occurs when the capacity expansion plan is fixed. Under this scenario, a base case is run and then the units that were built for that case are forced on all the simulations.

Alternatively, we computed the changes in the national average electricity price forecasts from year to year based on historical electricity price forecasts develop by the Energy Information Agency (EIA) from 1996 through 2004. The standard deviations of these changes were then graphed to look at the long-factor volatility. The range of these volatilities was 4% to 10%. For this analysis, we have assumed 5% for the long-factor volatility.

The resulting volatility term structure for market prices are show in Figure 1 below. As demonstrated in the graph, because of mean reversion, the estimated volatility over term tends to revert to the long-term volatility.

Fuel volatilities were calculated in a similar fashion as the power volatilities. To estimate natural gas volatilities, we used historical Henry Hub Natural Gas NYMEX forward prices for the medium-factor and historical EIA forecasts for the long-factor. For oil, coal, nuclear, and loads we used historical EIA forecasts. The resulting volatility term structure for gas prices is shown below in Figure 2. As demonstrated in the graph, because of mean reversion, the estimated volatility over term tends to revert to the long-term volatility.

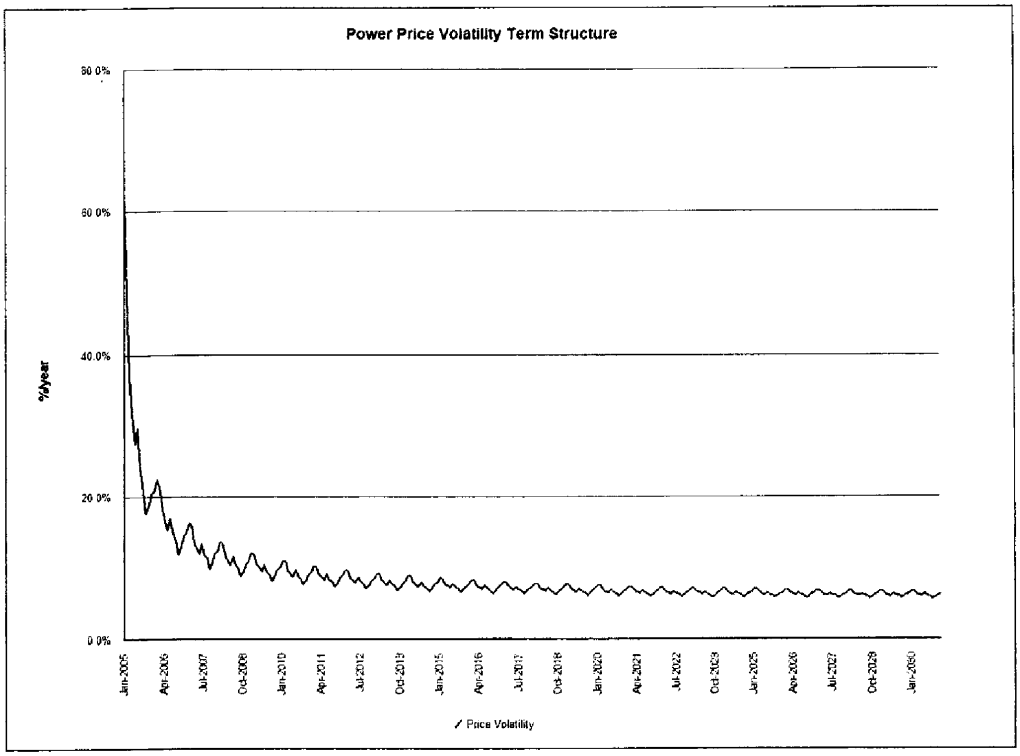


Figure 1 – Volatility Term Structure for Market Prices

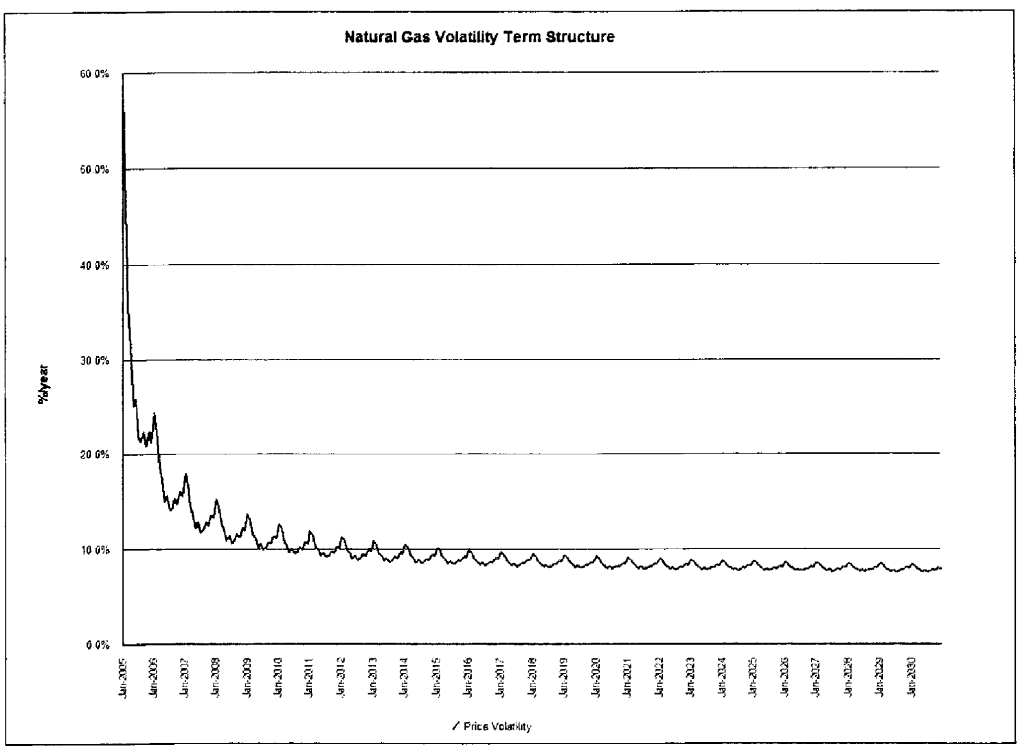


Figure 2 – Volatility Term Structure for Gas Prices

Table 2 presents a summary of the annual volatilities and mean reversion rates used in the model for power and fuels. Because the volatility assumption for oil and coal prices has only a long-term component, the volatility term structure is flat and equal to the long term volatility throughout the entire study period.

Table 2
Volatility and Mean Reversion Rates

	Medium Term Volatility[1]	Mean Reversion Rate[2]	Long Term Volatility[1]
Power	50%	400%	5%
Natural Gas	50%	400%	7%
Oil			8%
Coal			6%

[1] Volatility measures the magnitude of percentage changes in prices over time, in annualized terms. Volatility equals the price return's standard deviation over time.

[2] Mean-Reversion is the price behavior in which spot and forward prices revert to an equilibrium or "mean" level, typically a price in energy markets or a yield in other markets. The "spot' price mean reverts to the long-term level of prices at a speed given by the mean-reversion rate. A 400% mean reversion rate implies that the then current volatility will revert exponentially to the long-term volatility rate with a time scale of 3 months.

Correlation Assumptions

Correlation is a measure of how the value of one variable changes if another variable is changed. Tables 3 and 4 set forth the correlation assumptions for the medium and long term correlations.

Table 3
Medium Term Correlations[1]

	Power	Gas	Coal	PetCoke	Oil6	Oil2
Power	1	0.5	0.3	0.3	0.15	0.15
Gas	0.5	1	0.15	0.15	0.3	0.3
Coal	0.3	0.15	1	0.6	0.15	0.15
PetCoke	0.3	0.15	0.6	1	0.15	0.15
Oil6	0.15	0.3	0.15	0.15	1	0.6
Oil2	0.15	0.3	0.15	0.15	0.6	1
C7	0	0	0	0	0	0
C8	0	0	0	0	0	0

Table 4
Long Term Correlations[1]

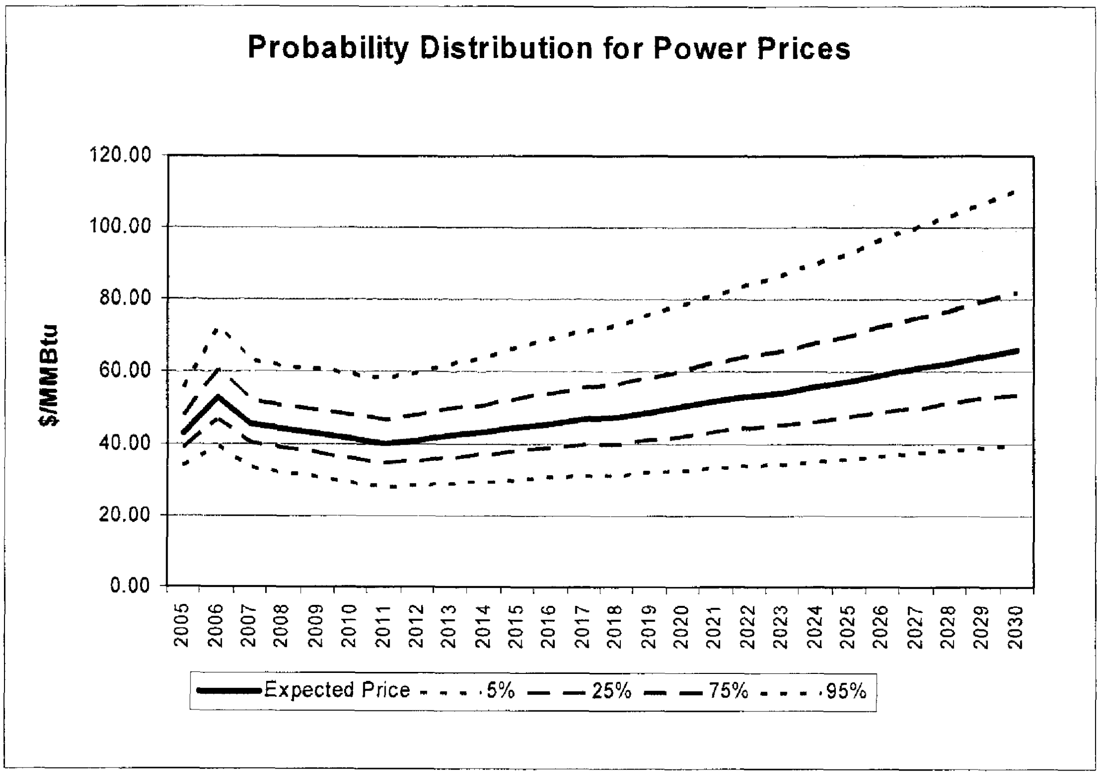
	Power	Gas	Coal	PetCoke	Oil6	Oil2
Power	1	0.75	0.5	0.5	0.25	0.25
Gas	0.75	1	0.25	0.25	0.5	0.5
Coal	0.5	0.25	1	0.9	0.25	0.25
PetCoke	0.5	0.25	0.9	1	0.25	0.25
Oil6	0.25	0.5	0.25	0.25	1	0.9
Oil2	0.25	0.5	0.25	0.25	0.9	1
C7	0	0	0	0	0	0
C8	0	0	0	0	0	0

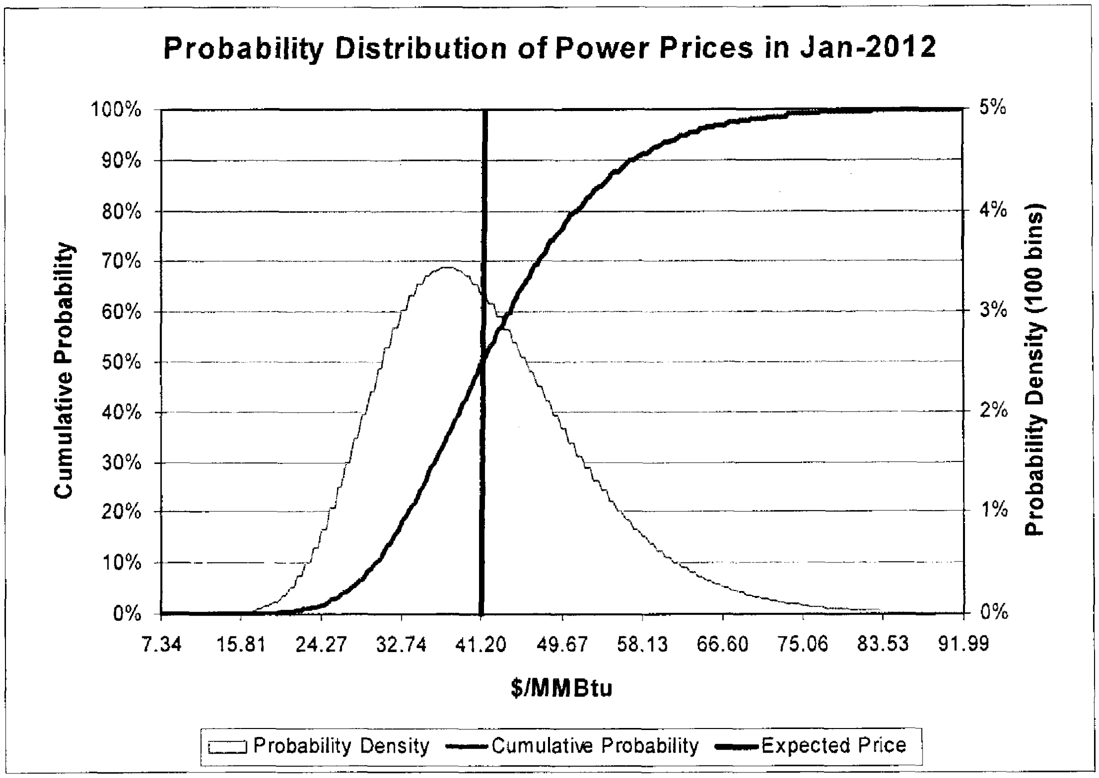
[1] Correlation is a statistical measure of the relationship between the behaviors of two price processes. Perfect positive correlation implies that the percentage change in the two prices is always the same. Perfect negative correlation implies that the percentage change in one of the prices is exactly equal to the negative percentage change in the other price. Zero correlation, or no correlation, results in the two price processes being entirely independent of each other.

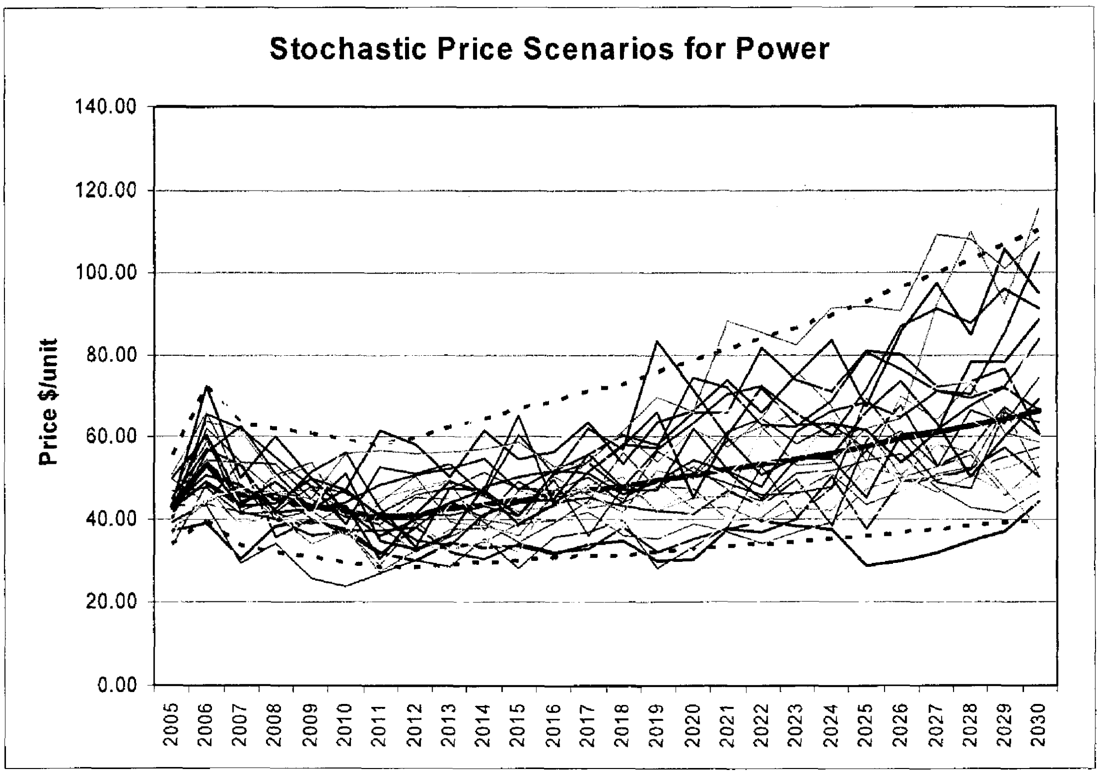
Appendix C – Projected Range of Fuel and Market Prices

The following charts set forth the probability distribution assumptions for prices and the stochastic price scenarios produced by the SCENGEN program.

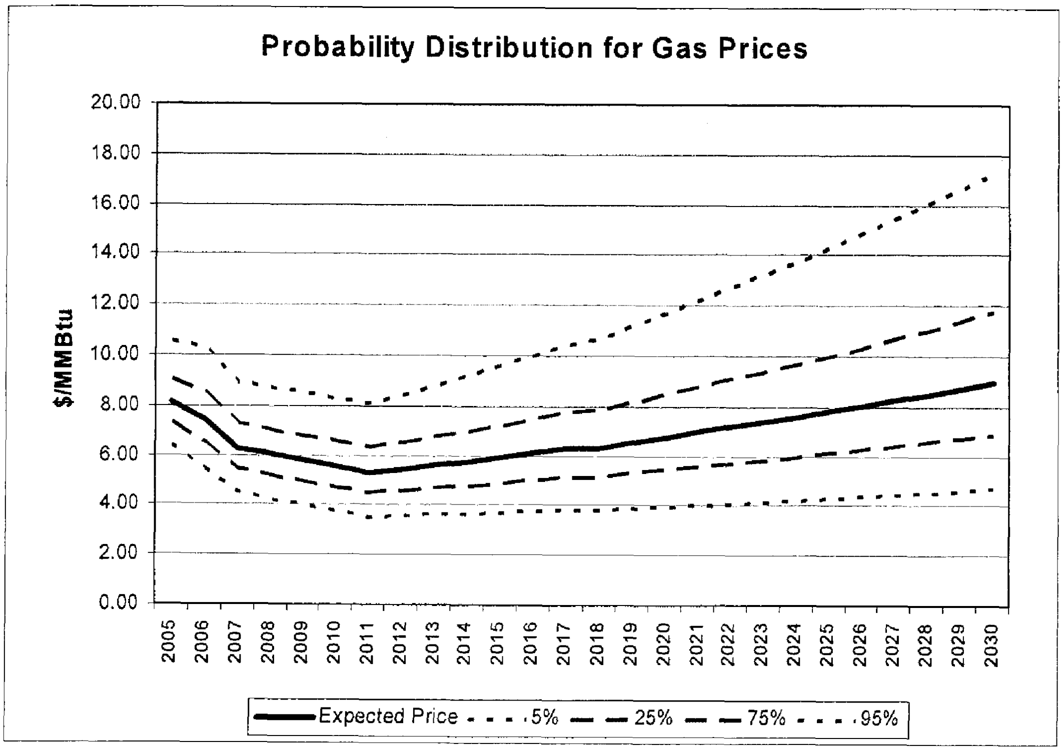
Power Price Range

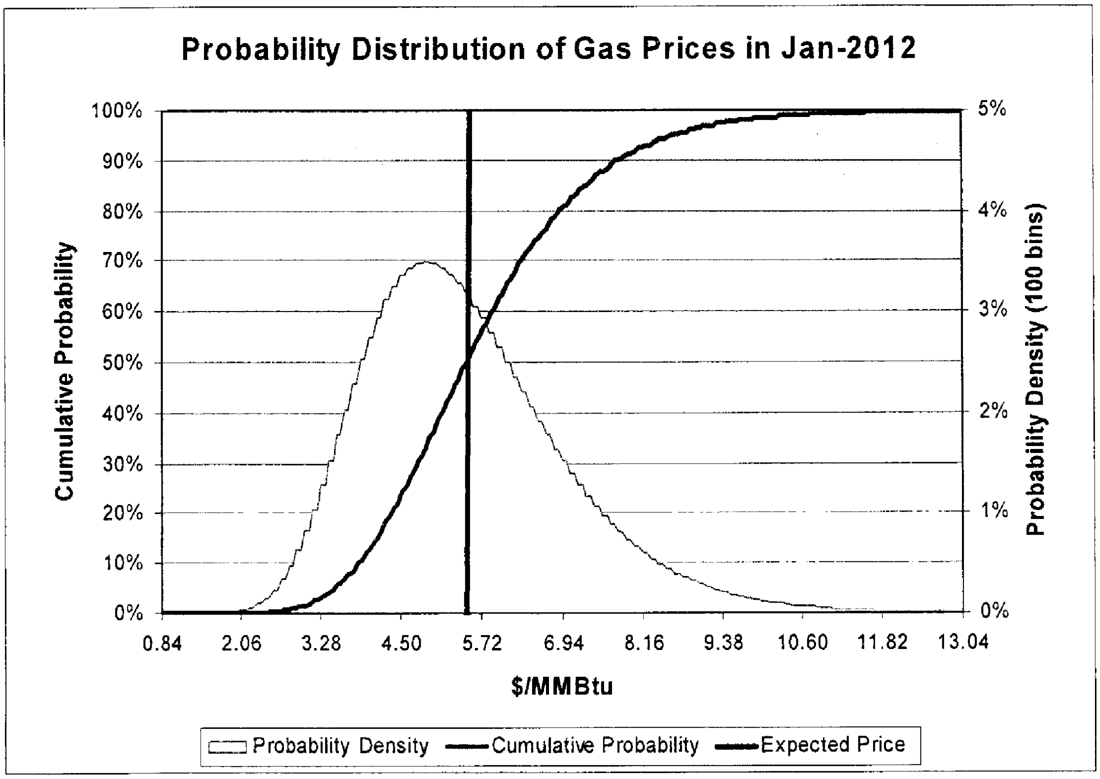


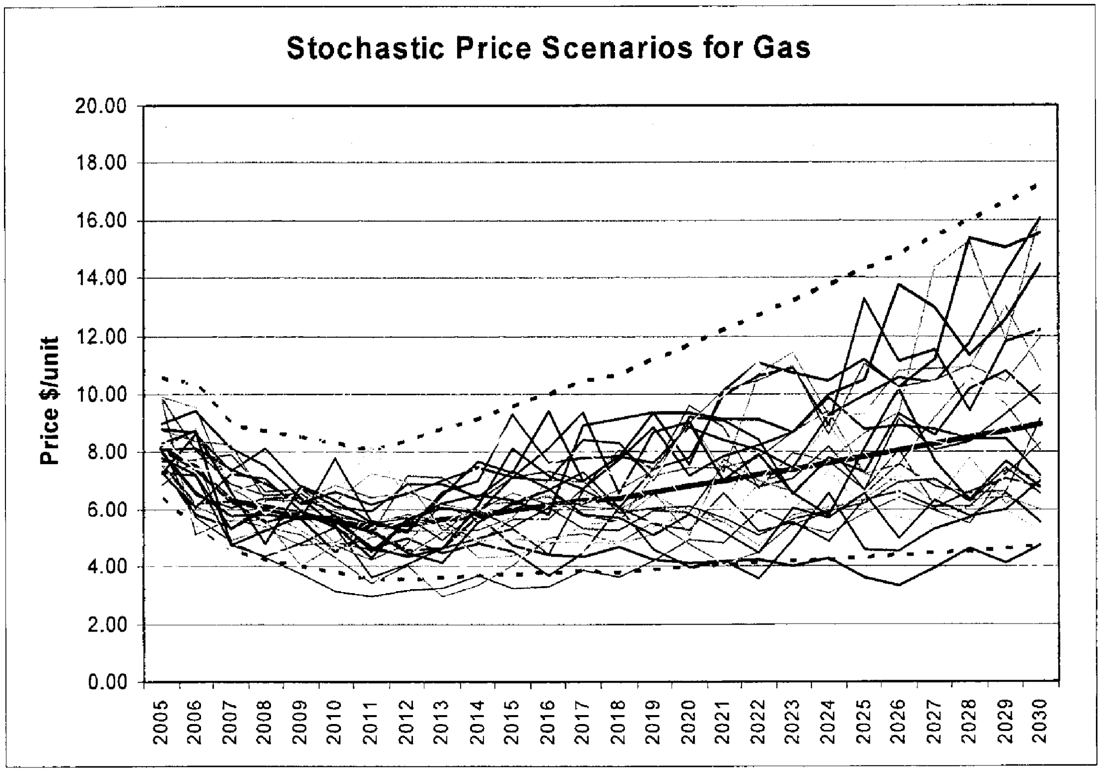

Probability Distribution of Power Prices in Jan-2012
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Cumulative Probability
5%
4%
3%
2%
1%
0%
Probability Density (100 bins)
7.34
15.81
24.27
32.74
41.20
49.67
58.13
66.60
75.06
83.53
91.99
$/MMBtu
Probability Density
Cumulative Probability
Expected Price


Stochastic Price Scenarios for Power
140.00
120.00
100.00
80.00
60.00
40.00
20.00
0.00
Price $/unit
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030

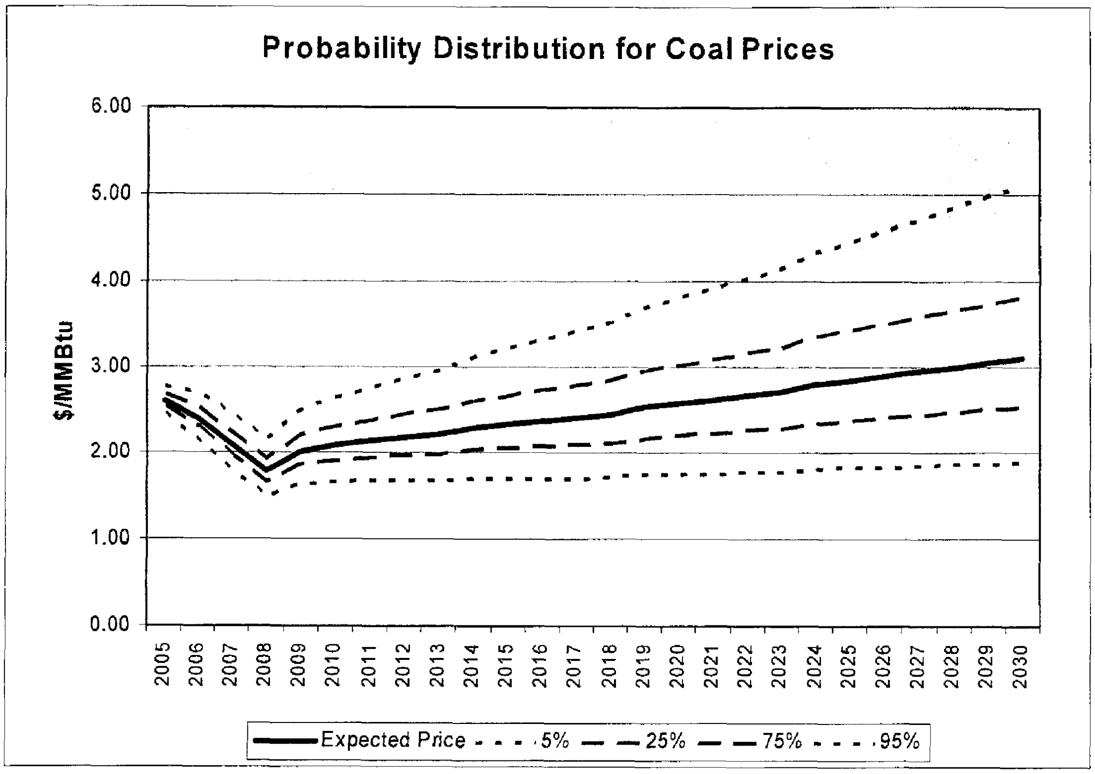
Natural Gas Price Range

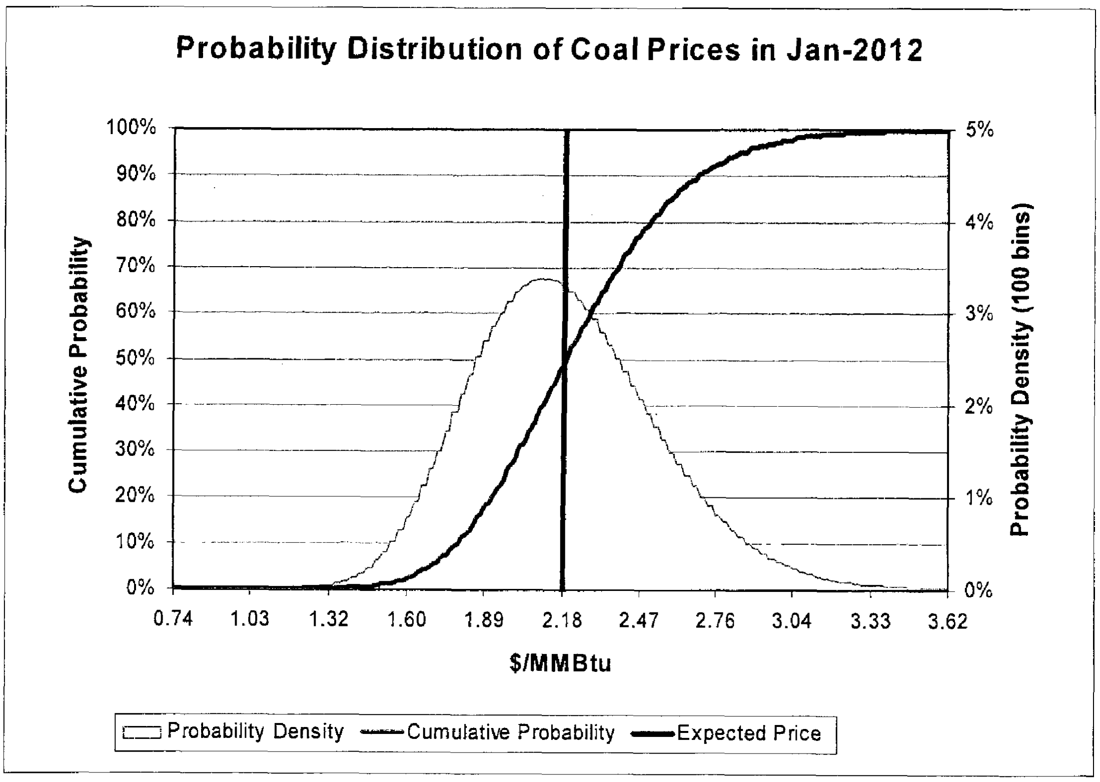


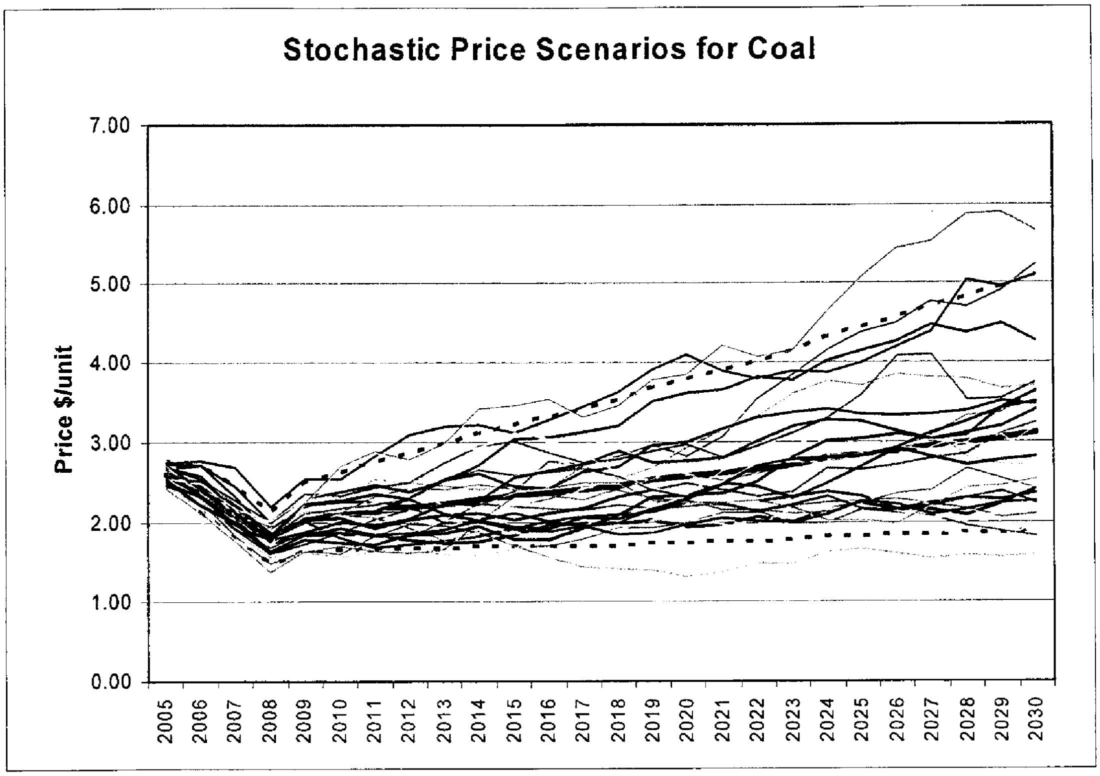

Probability Distribution of Gas Prices in Jan-2012
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Cumulative Probability
5%
4%
3%
2%
1%
0%
Probability Density (100 bins)
0.84
2.06
3.28
4.50
5.72
6.94
8.16
9.38
10.60
11.82
13.04
$/MMBtu
Probability Density
Cumulative Probability
Expected Price


Stochastic Price Scenarios for Gas
20.00
18.00
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
Price $/unit
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030

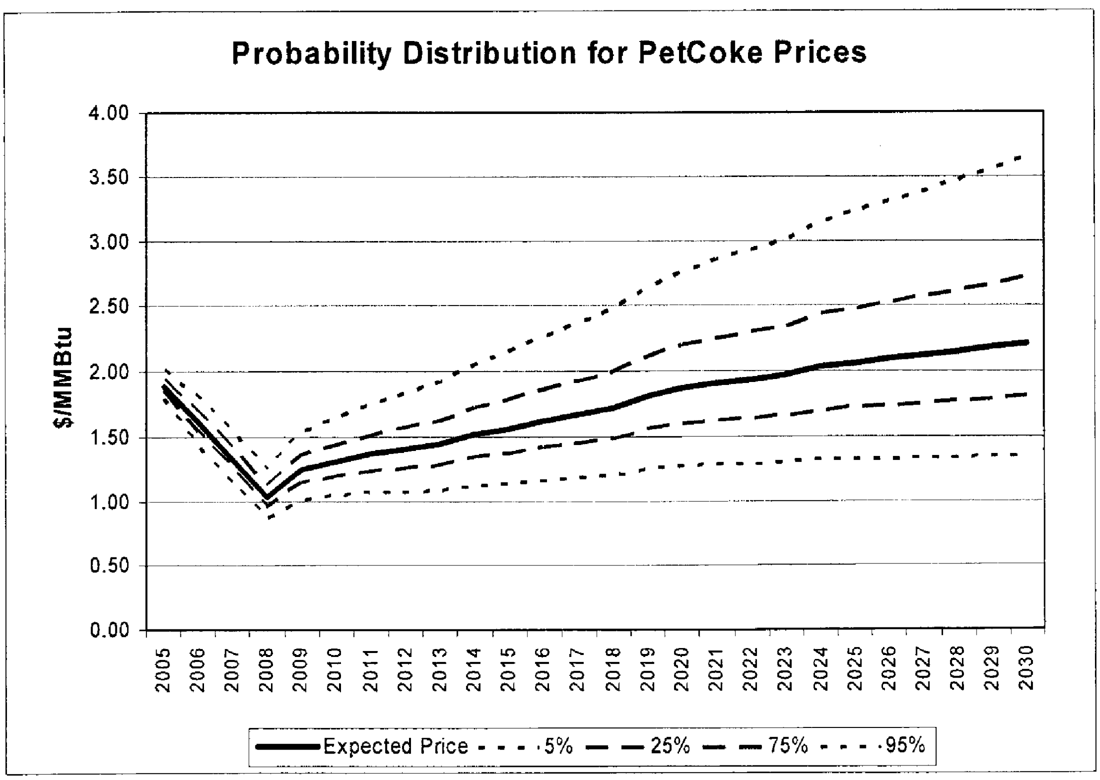
Coal Price Range

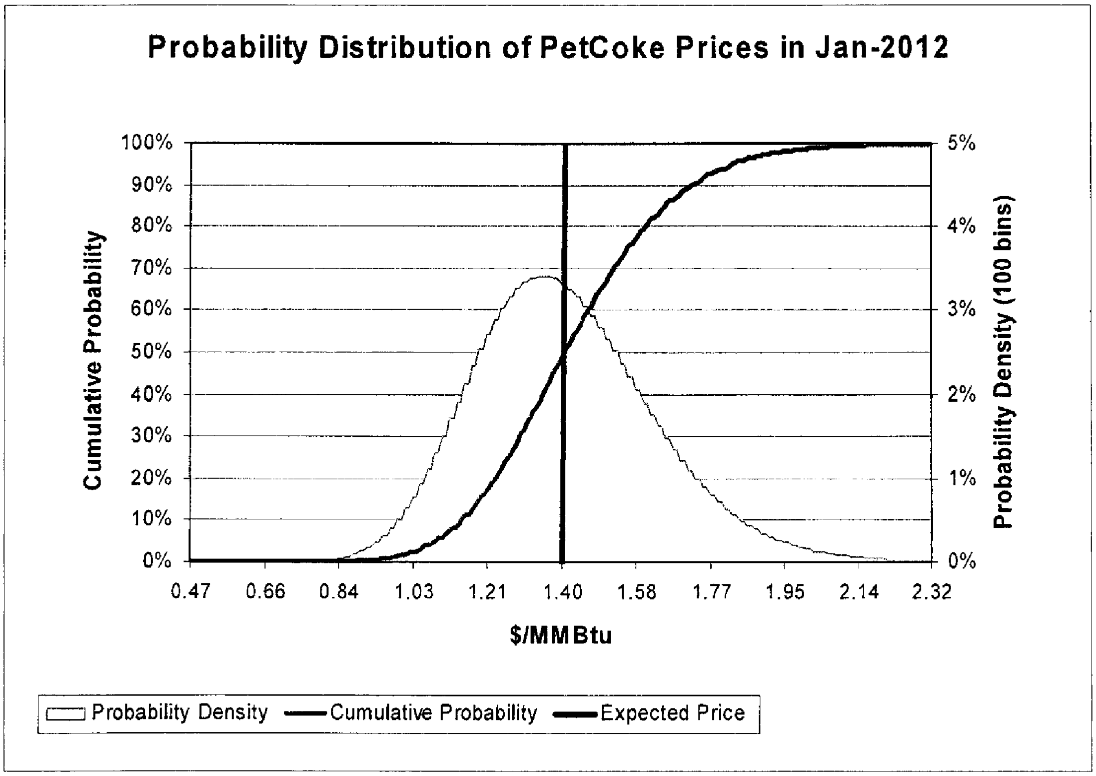


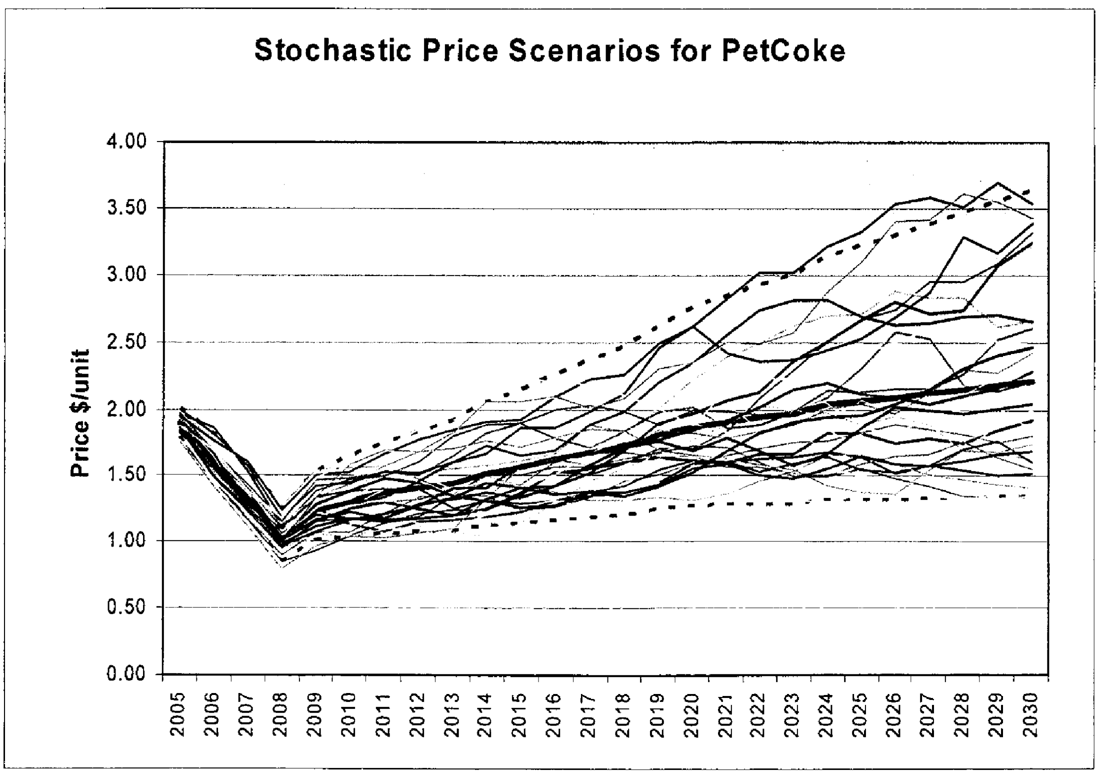




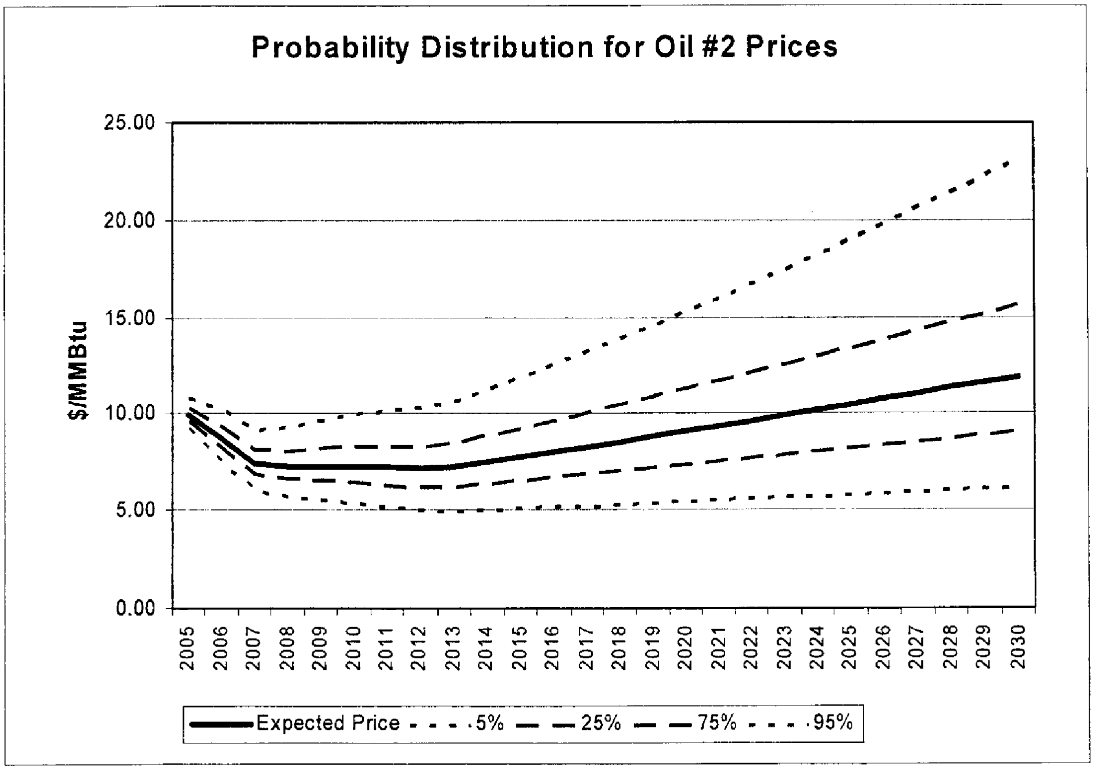
Pet Coke Price Range

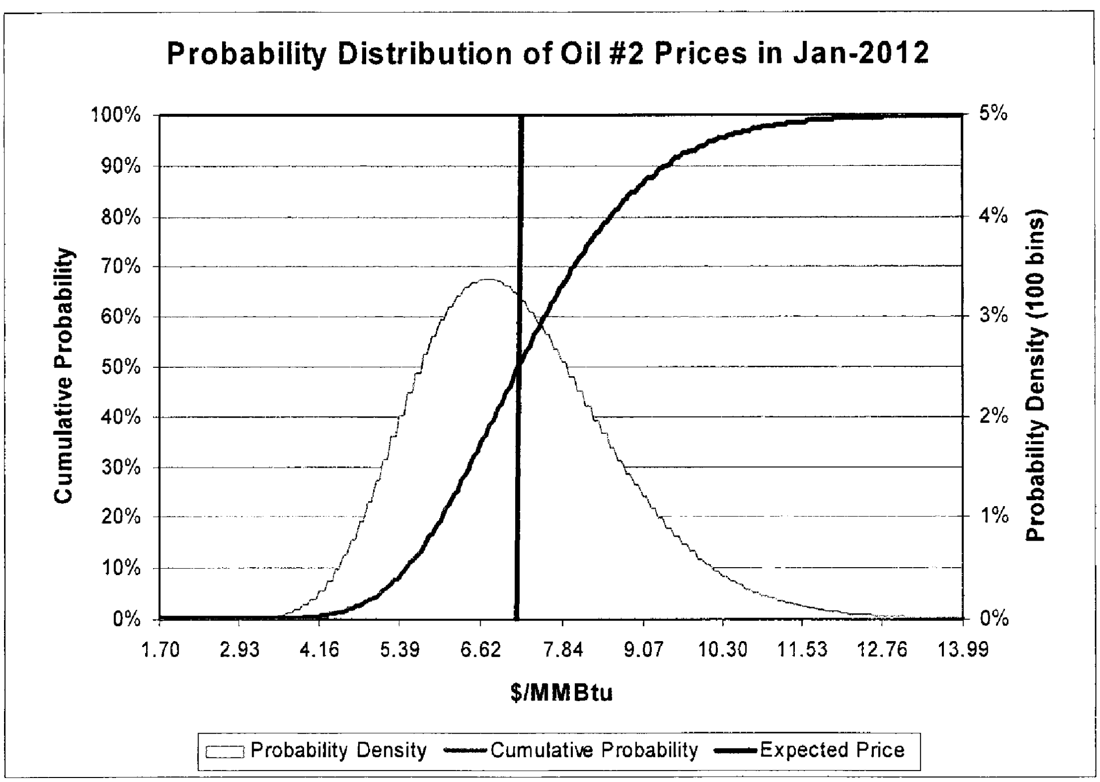


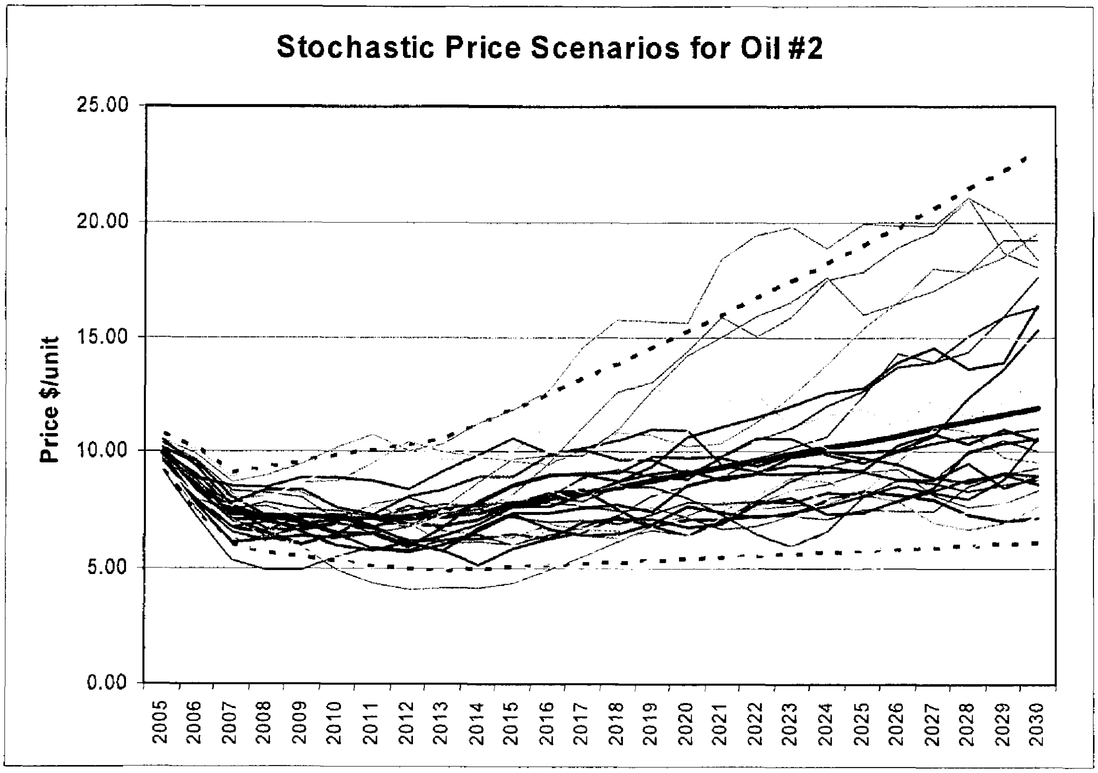

Probability Distribution of PetCoke Prices in Jan-2012
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Cumulative Probability
5%
4%
3%
2%
1%
0%
Probability Density (100 bins)
0.47
0.66
0.84
1.03
1.21
1.40
1.58
1.77
1.95
2.14
2.32
$/MMBtu
Probability Density
Cumulative Probability
Expected Price


Stochastic Price Scenarios for PetCoke
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
Price $/unit
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030

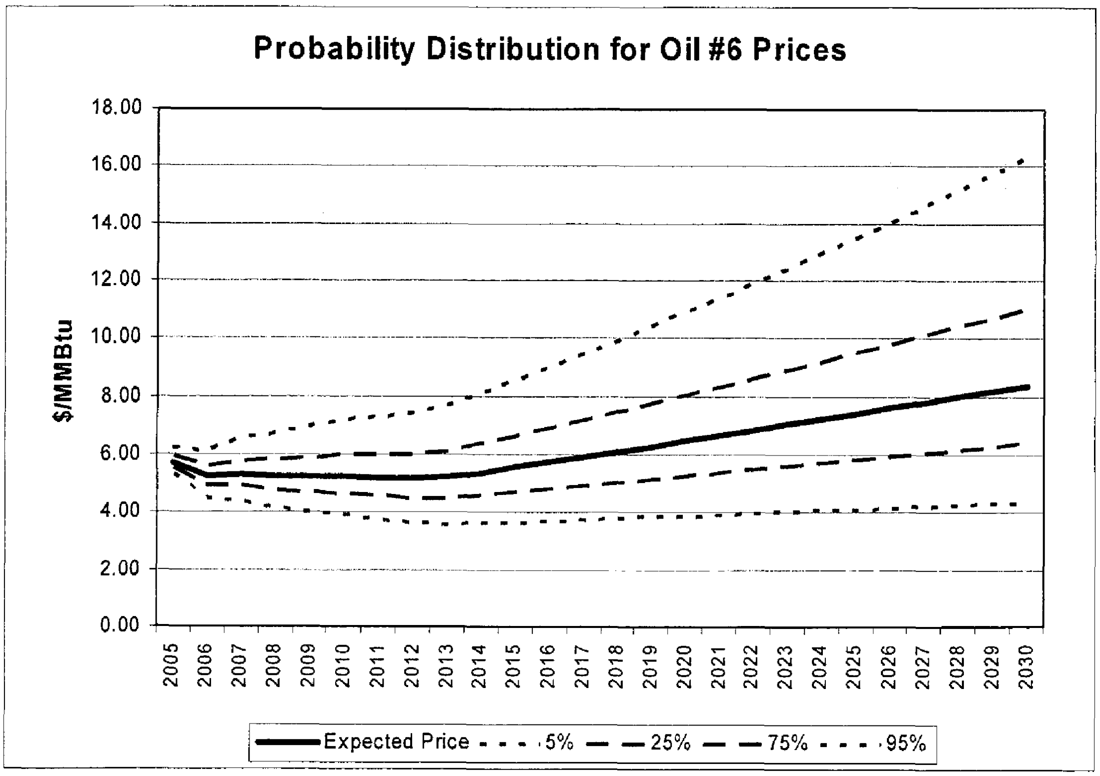
No. 2 Oil Price Range

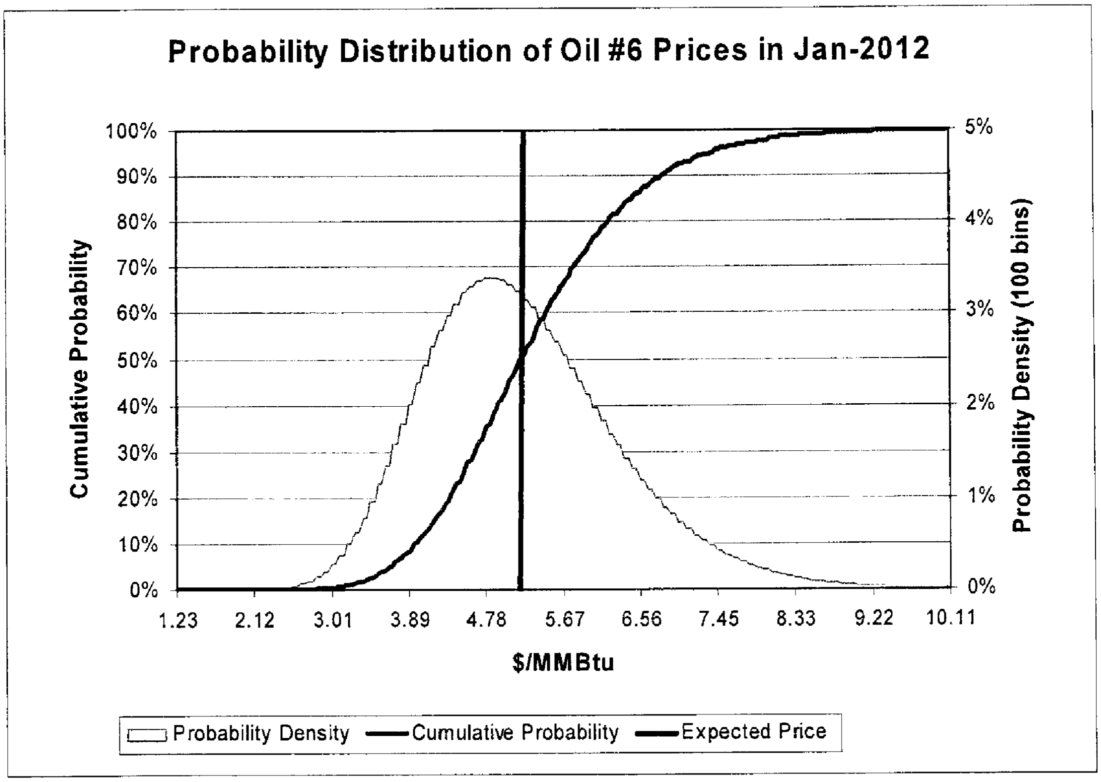


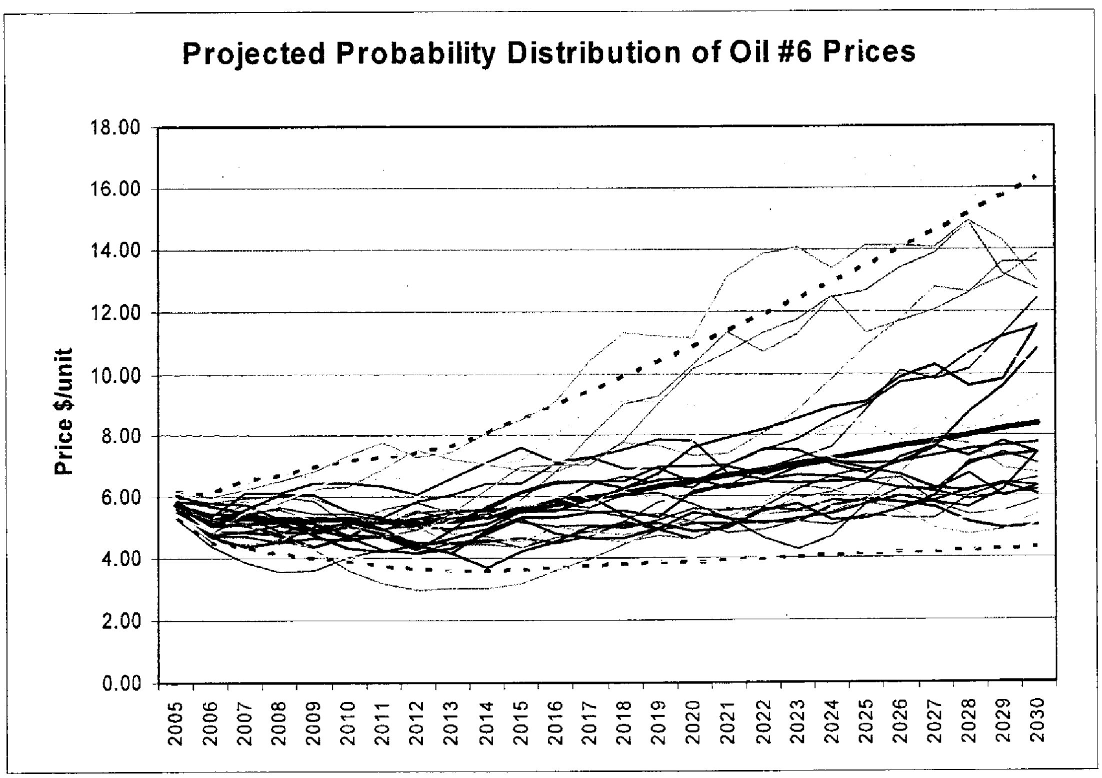




No. 6 Oil Price Range



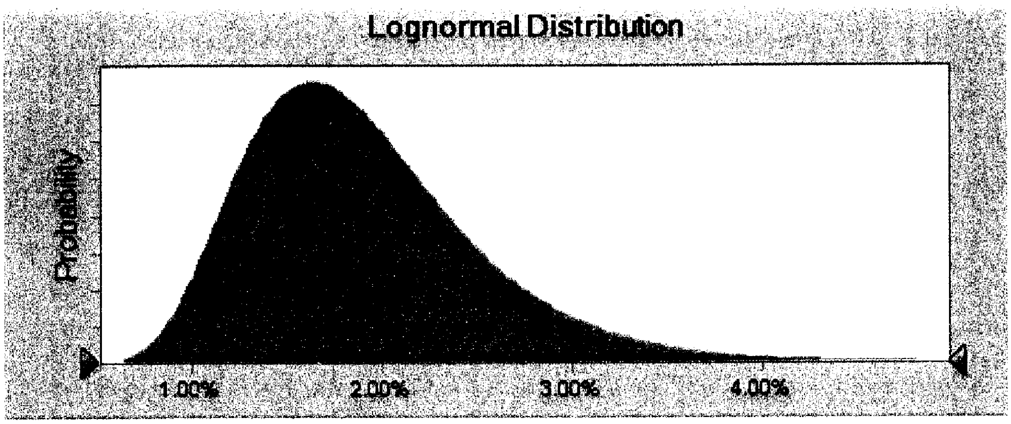

Probability Distribution of Oil #6 Prices in Jan-2012
Cumulative Probability
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
5%
4%
3%
2%
1%
0%
Probability Density (100 bins)
1.23
2.12
3.01
3.89
4.78
5.67
6.56
7.45
8.33
9.22
10.11
$/MMBtu
Probability Density
Cumulative Probability
Expected Price


Projected Probability Distribution of Oil #6 Prices
Price $/unit
18.00
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030

Appendix D – Probability Distribution Assumptions for Risk Variables (other than Fuel and Market Prices)

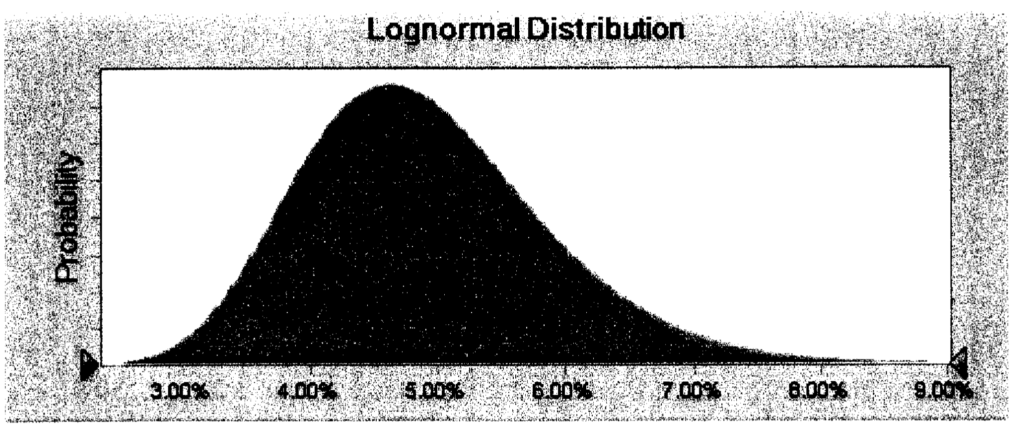
Inflation

Mean	1.90%	
Std. Dev.	0.63%	
Correlated with:		Coefficient
LT Interest Rate		0.70



IDC Rate

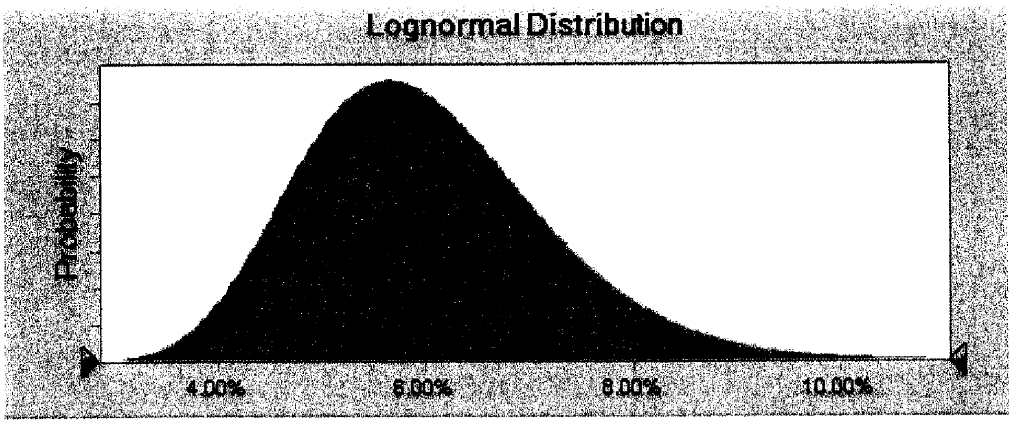
Mean	4.90%	
Std. Dev.	0.98%	
Correlated with:		Coefficient
LT Interest Rate		0.90



Long-Term Interest Rate

Mean	6.00%
Std. Dev.	1.20%

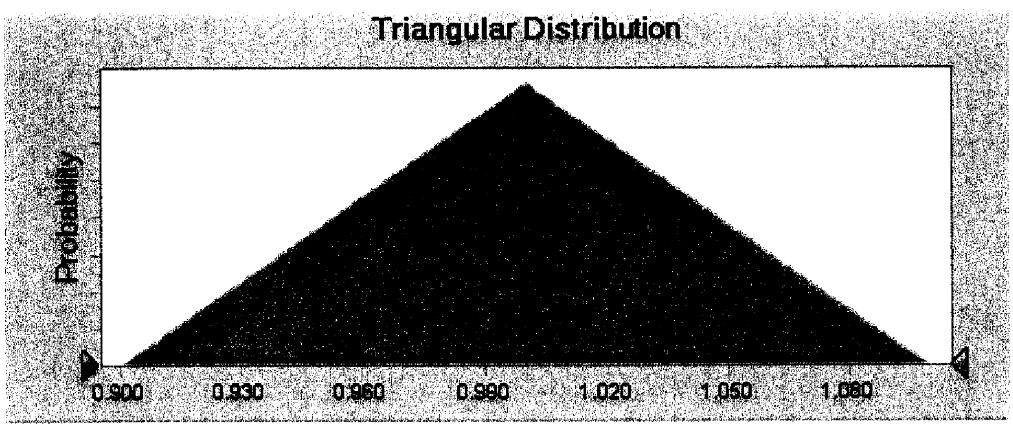
Correlated with:	Coefficient
Inflation	0.70
IDC Rate	0.90



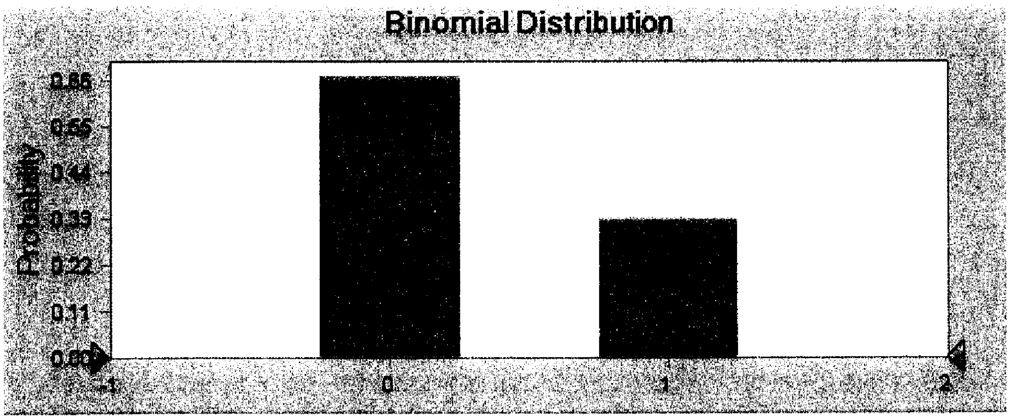
Generic Fixed Cost Uncertainty

Triangular distribution with parameters:

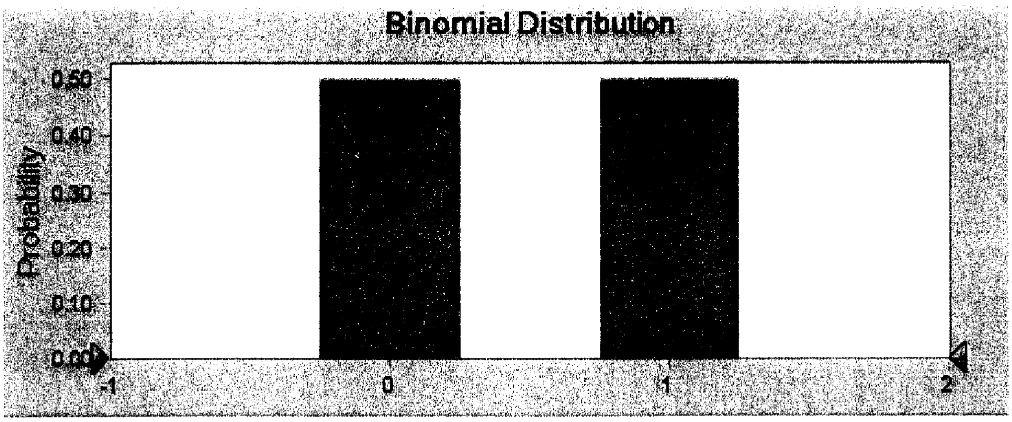
Minimum	0.900
Likeliest	1.000
Maximum	1.100



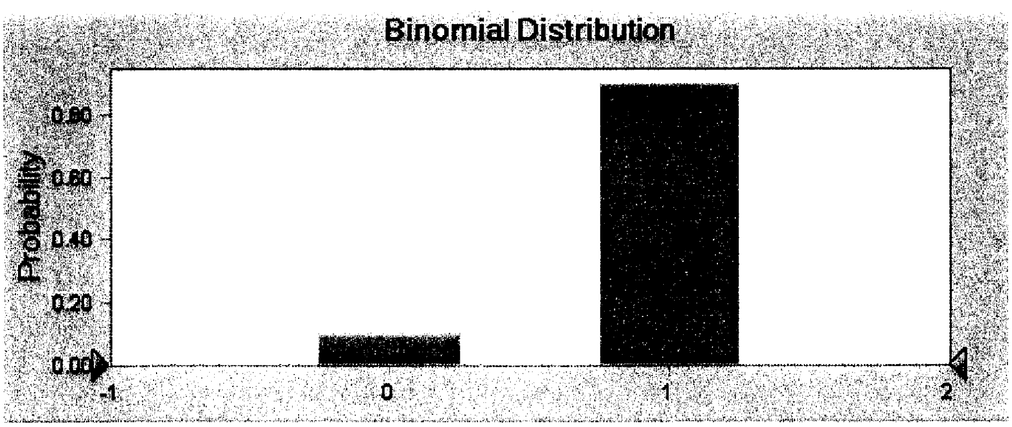
CO2 Emissions Costs in Place in 2010



CO2 Emissions Costs in Place in 2015

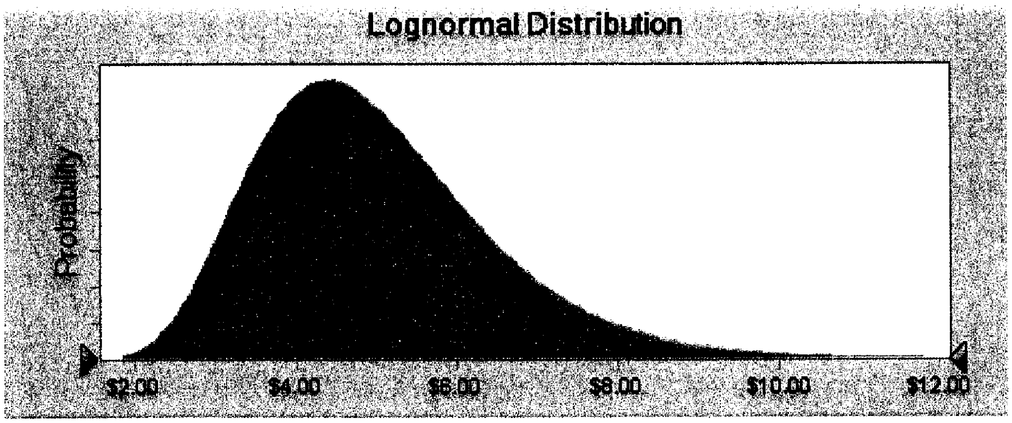


CO2 Emissions Costs in Place in 2020



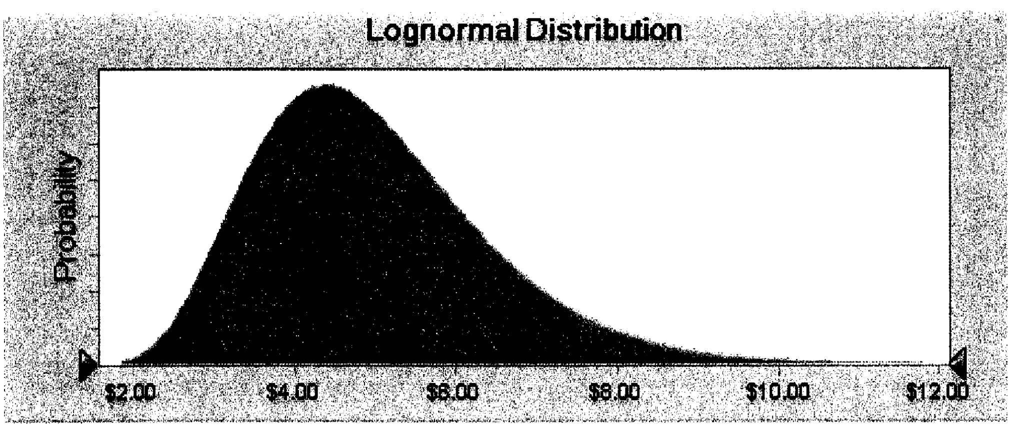
CO2 Allowance Price – Real - 2005 $/Ton (2010)

Mean	$5.00	
Std. Dev.	$1.50	
Correlated with:		Coefficient
CO2 Price in 2015		0.80



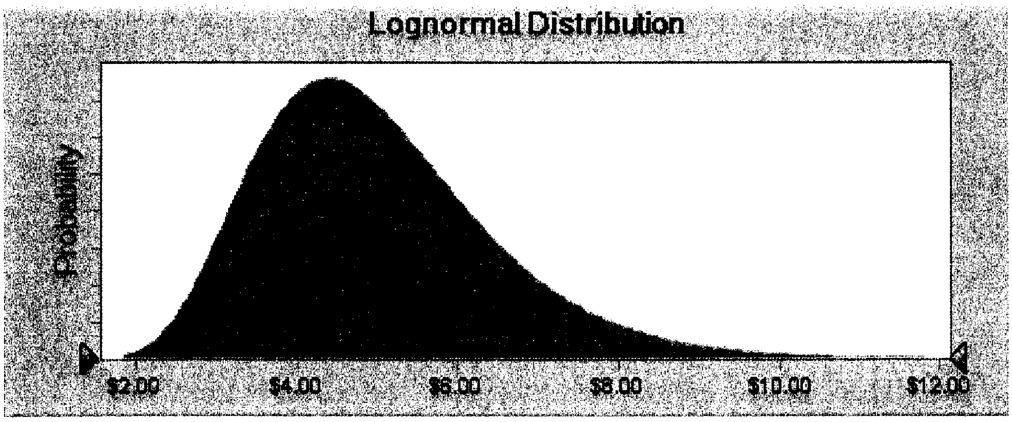
CO2 Allowance Price - Real - 2005 $/Ton (2015)

Mean	$5.00	
Std. Dev.	$1.50	
Correlated with:		Coefficient
CO2 Price in 2010		0.80
CO2 Price in 2020		0.80



CO_2 Allowance Price - Real – 2005 $/Ton (2020)

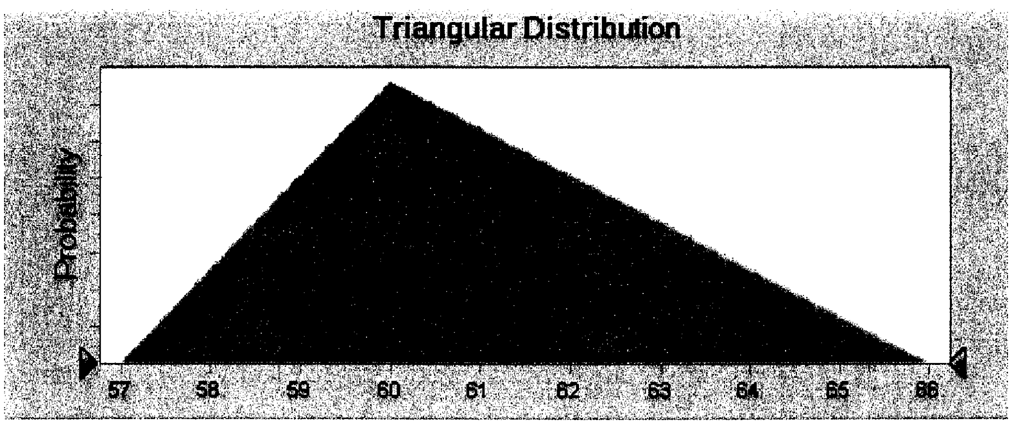
Mean	$5.00	
Std. Dev.	$1.50	
Correlated with:		Coefficient
CO_2 Price in 2015		0.80



New 600 MW Coal Unit – Construction Period (Months)

Triangular distribution with parameters:

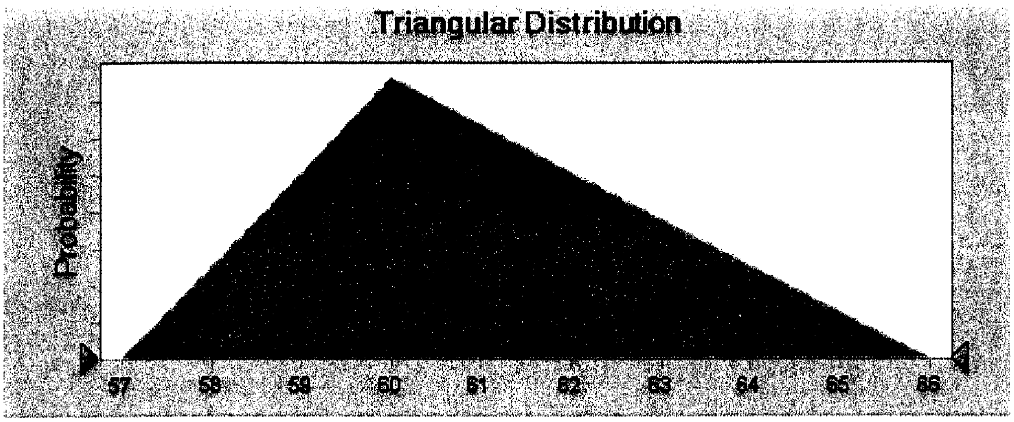
Minimum	57
Likeliest	60
Maximum	66



New 150 MW Coal Unit – Construction Period (Months)

Triangular distribution with parameters:

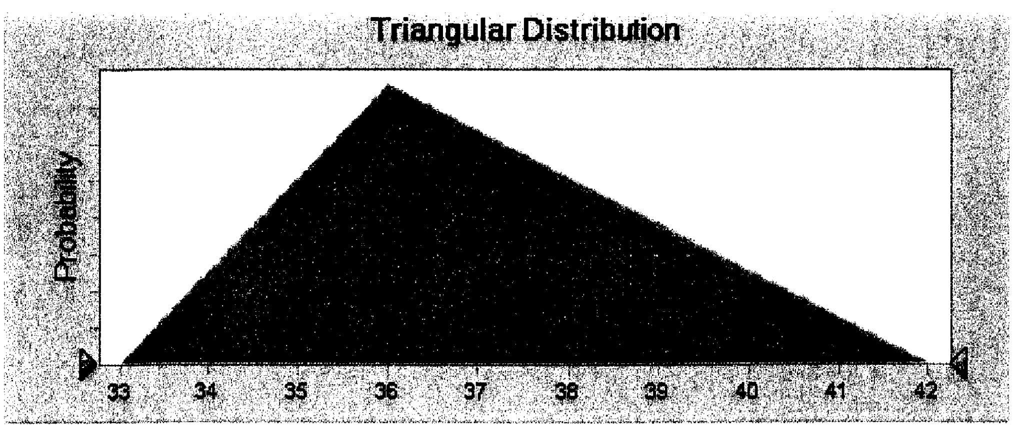
Minimum	57
Likeliest	60
Maximum	66



New 516 MW Combined Cycle Unit – Construction Period (Months)

Triangular distribution with parameters:

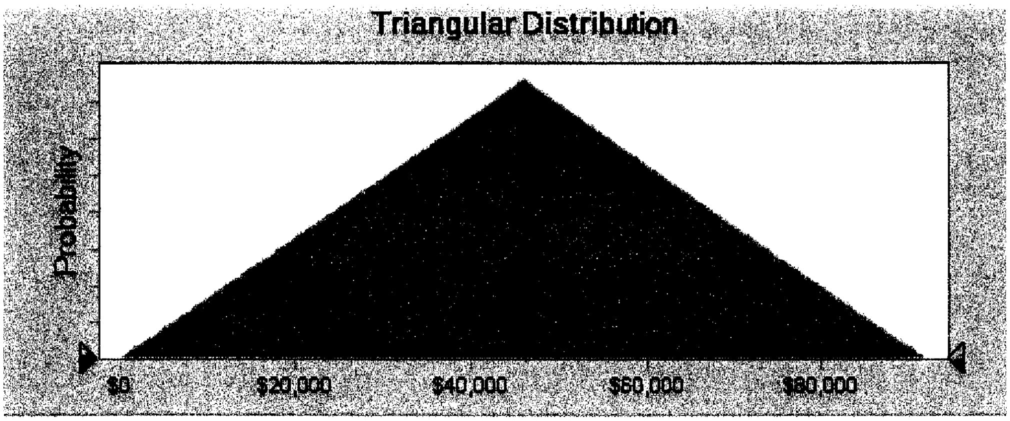
Minimum	33
Likeliest	36
Maximum	42



New 600 MW Coal Unit – Contingency Costs ($000)

Triangular distribution with parameters:

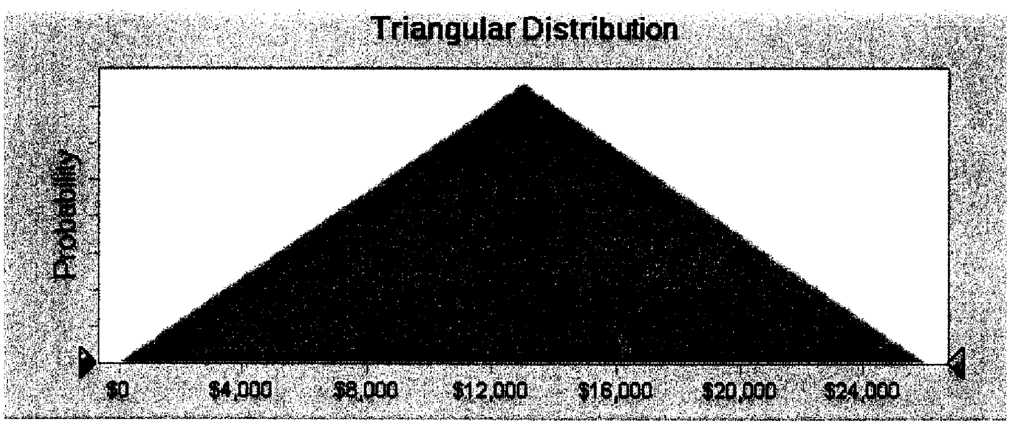
Minimum	$0
Likeliest	$45,914
Maximum	$91,828



New 150 MW Coal Unit – Contingency Costs ($000)

Triangular distribution with parameters:

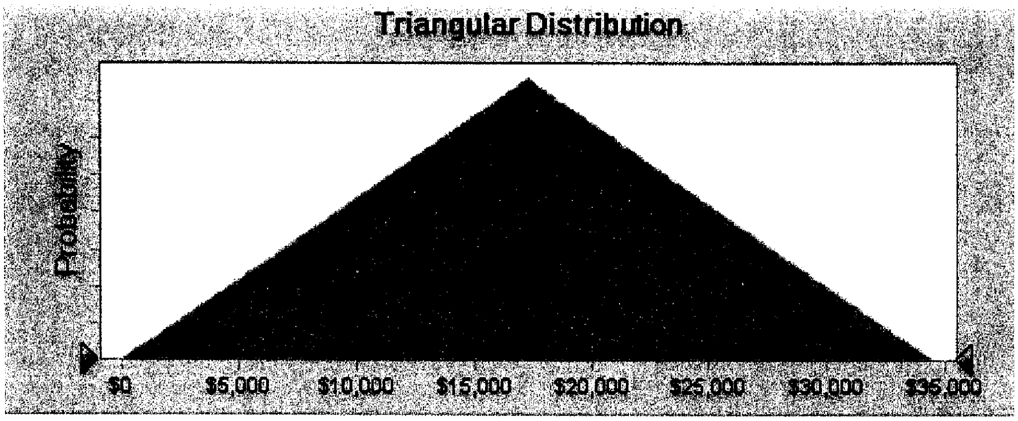
Minimum	$0
Likeliest	$13,000
Maximum	$26,000



New 516 MW Combined Cycle Unit – Contingency Costs ($000)

Triangular distribution with parameters:

Minimum	$0
Likeliest	$17,283
Maximum	$34,566



Appendix E – Sample Batch File Text to Execute Multiple PROMOD Runs and Process Multiple PROMOD Output Files Through Report Agent

Sample Batch File Text to Execute Multiple PROMOD Runs

(Note: Batch File Name Must Have File Extension of *.RUN)

```
%4 C:\PM_86030\PROMAPD.exe C:\PROMOD\RISK\BASE05A1_000.in
%4 C:\PM_86030\PROMAPD.exe C:\PROMOD\RISK\BASE05A1_001.in
%4 C:\PM_86030\PROMAPD.exe C:\PROMOD\RISK\BASE05A1_002.in
%4 C:\PM_86030\PROMAPD.exe C:\PROMOD\RISK\BASE05A1_003.in
%4 C:\PM_86030\PROMAPD.exe C:\PROMOD\RISK\BASE05A1_004.in
%4 C:\PM_86030\PROMAPD.exe C:\PROMOD\RISK\BASE05A1_005.in
%4 C:\PM_86030\PROMAPD.exe C:\PROMOD\RISK\BASE05A1_006.in
%4 C:\PM_86030\PROMAPD.exe C:\PROMOD\RISK\BASE05A1_007.in
%4 C:\PM_86030\PROMAPD.exe C:\PROMOD\RISK\BASE05A1_008.in
%4 C:\PM_86030\PROMAPD.exe C:\PROMOD\RISK\BASE05A1_009.in
%4 C:\PM_86030\PROMAPD.exe C:\PROMOD\RISK\BASE05A1_010.in
%4 C:\PM_86030\PROMAPD.exe C:\PROMOD\RISK\BASE05A1_011.in
%4 C:\PM_86030\PROMAPD.exe C:\PROMOD\RISK\BASE05A1_012.in
%4 C:\PM_86030\PROMAPD.exe C:\PROMOD\RISK\BASE05A1_013.in
%4 C:\PM_86030\PROMAPD.exe C:\PROMOD\RISK\BASE05A1_014.in
%4 C:\PM_86030\PROMAPD.exe C:\PROMOD\RISK\BASE05A1_015.in
%4 C:\PM_86030\PROMAPD.exe C:\PROMOD\RISK\BASE05A1_016.in
%4 C:\PM_86030\PROMAPD.exe C:\PROMOD\RISK\BASE05A1_017.in
%4 C:\PM_86030\PROMAPD.exe C:\PROMOD\RISK\BASE05A1_018.in
%4 C:\PM_86030\PROMAPD.exe C:\PROMOD\RISK\BASE05A1_019.in
%4 C:\PM_86030\PROMAPD.exe C:\PROMOD\RISK\BASE05A1_020.in
%4 C:\PM_86030\PROMAPD.exe C:\PROMOD\RISK\BASE05A1_021.in
%4 C:\PM_86030\PROMAPD.exe C:\PROMOD\RISK\BASE05A1_022.in
%4 C:\PM_86030\PROMAPD.exe C:\PROMOD\RISK\BASE05A1_023.in
%4 C:\PM_86030\PROMAPD.exe C:\PROMOD\RISK\BASE05A1_024.in
%4 C:\PM_86030\PROMAPD.exe C:\PROMOD\RISK\BASE05A1_025.in
%4 C:\PM_86030\PROMAPD.exe C:\PROMOD\RISK\BASE05A1_026.in
%4 C:\PM_86030\PROMAPD.exe C:\PROMOD\RISK\BASE05A1_027.in
%4 C:\PM_86030\PROMAPD.exe C:\PROMOD\RISK\BASE05A1_028.in
%4 C:\PM_86030\PROMAPD.exe C:\PROMOD\RISK\BASE05A1_029.in
%4 C:\PM_86030\PROMAPD.exe C:\PROMOD\RISK\BASE05A1_030.in
```

Statement to Execute PROMOD

Name and Location of Each PROMOD Input File to Run

Sample Batch File Text to Process Multiple PROMOD Output Files through Report Agent

(Note: Batch File Name Must Have File Extension of *.RAB)

```
/*RAF file list
N:\002614\035567\Final\Output\BASE05A1_000.RAF
N:\002614\035567\Final\Output\BASE05A1_001.RAF
N:\002614\035567\Final\Output\BASE05A1_002.RAF
N:\002614\035567\Final\Output\BASE05A1_003.RAF
N:\002614\035567\Final\Output\BASE05A1_004.RAF
N:\002614\035567\Final\Output\BASE05A1_005.RAF
N:\002614\035567\Final\Output\BASE05A1_006.RAF
N:\002614\035567\Final\Output\BASE05A1_007.RAF
N:\002614\035567\Final\Output\BASE05A1_008.RAF
N:\002614\035567\Final\Output\BASE05A1_009.RAF
N:\002614\035567\Final\Output\BASE05A1_010.RAF
N:\002614\035567\Final\Output\BASE05A1_011.RAF
N:\002614\035567\Final\Output\BASE05A1_012.RAF
N:\002614\035567\Final\Output\BASE05A1_013.RAF
N:\002614\035567\Final\Output\BASE05A1_014.RAF
N:\002614\035567\Final\Output\BASE05A1_015.RAF
N:\002614\035567\Final\Output\BASE05A1_016.RAF
N:\002614\035567\Final\Output\BASE05A1_017.RAF
N:\002614\035567\Final\Output\BASE05A1_018.RAF
N:\002614\035567\Final\Output\BASE05A1_019.RAF
N:\002614\035567\Final\Output\BASE05A1_020.RAF
N:\002614\035567\Final\Output\BASE05A1_021.RAF
N:\002614\035567\Final\Output\BASE05A1_022.RAF
N:\002614\035567\Final\Output\BASE05A1_023.RAF
N:\002614\035567\Final\Output\BASE05A1_024.RAF
N:\002614\035567\Final\Output\BASE05A1_025.RAF
N:\002614\035567\Final\Output\BASE05A1_026.RAF
N:\002614\035567\Final\Output\BASE05A1_027.RAF
N:\002614\035567\Final\Output\BASE05A1_028.RAF
N:\002614\035567\Final\Output\BASE05A1_029.RAF
N:\002614\035567\Final\Output\BASE05A1_030.RAF
```

Directory Containing the PROMOD Results Files

Name of Each PROMOD Results File to Batch Process in Report Agent

GLOSSARY OF TERMS

Assumption: An estimated value or input to an analysis or model.

Confidence Interval: An interval that is expected to bracket the true value of a forecast value with some specified odds. This interval is called the confidence interval, and the specified odds are known as confidence coefficient. Thus a 90% confidence interval for a given forecast value implies that in the long run the computed limits of the interval will include the true value of the forecast value 90 times in 100.

Correlation: A statistical measure of the relationship between the behaviors of two price processes. Perfect positive correlation implies that the percentage change in the two prices is always the same. Perfect negative correlation implies that the percentage change in one of the prices is exactly equal to the negative percentage change in the other price. Zero correlation, or no correlation, results in the two price processes being entirely independent of each other.

Deterministic: Will happen with 100% certainty; carries no risk. Opposite of stochastic.

Distribution: The range of possible outcomes with associated probabilities. Useful distributions include normal and lognormal.

Energy Portfolio: The total collection of energy-related physical and contractual assets and obligations held by an energy market participant that impacts its financial performance and risk exposures. Such assets and obligations may include, but are not limited to, generating plants, power and fuel contracts, transmission and transportation contracts, wholesale and retail sales obligations, etc.

Forecast Value: A value calculated by the forecast formula during an iteration of a Monte Carlo simulation.

Forward Price: The price that market participants are willing to commit to today for future delivery of a commodity over a specific time period. The price assumes that payment is made at time of delivery.

Forward Price Curve: A continuous series of Forward Prices for a commodity over multiple future delivery periods.

Future: A standardized forward contract offered by a central trading exchange (such as the New York Mercantile Exchange, or NYMEX). Characterized by typically greater liquidity and counterparty risk only with respect to the Exchange.

Hedge (or Hedge Contract): The financial product or asset used to offset risk.

Hedging: The process of entering into Hedge Contracts in order to minimize risks.

Implied Volatility: The volatility implied from the market option price.

Latin Hypercube Sampling: A sampling method that divides an assumption's probability distribution into intervals of equal probability.

Lognormal Distribution: A type of distribution often used in financial modeling. Lognormal prices are always positive.

Mean: The familiar arithmetic average of a set of numerical observations.

Mean-Reversion: The price behavior in which spot and forward prices revert to an equilibrium or "mean" level, typically a price in energy markets or a yield in other markets.

Mean-Reversion Rate: The "spot' price mean reverts to the long-term level of prices at a speed given by the mean-reversion rate.

Monte Carlo Simulation: The use of random number statistical sampling to approximate the shape of a forecast distribution. Within each trail of a Monte Carlo simulation, a value from each assumption's probability distribution is randomly selected. Using Monte Carlo sampling to approximate the shape of a forecast distribution requires a large number of trails.

New York Mercantile Exchange (NYMEX): An exchange offering energy futures and options contracts for the U.S. market.

Normal Distribution: A type of distribution used often in financial markets, and the most basic statistical distribution. Normally distributed variables are symmetrically distributed around the mean.

Normally Distributed Random Variable: A random variable which – when observed many times – "creates" a normal distribution.

Off-Peak: All the hours of the week not covered by the On-peak hours. *See* On-Peak.

On-Peak: Used in electricity to refer to the hours of the day corresponding to high-demand period. These hours are standardized for use in contracts for delivery of electricity and vary across regions of the United States.

Optionality: The economic value of being able to choose. Can be financially expressed in an option contract.

Peak: A period of time during the day corresponding to greatest demand and highest prices.

Portfolio: A collection of assets and financial positions based on such assets.

Price Forecast: An estimate of the expected spot price of a commodity at some future point in time.

Price Risk: The uncertainty of an entity's financial performance due to uncertain future price levels.

Probabilistic Model: A system or model whose output is a distribution of possible values.

Probability: The likelihood of an event.

Probability Distribution: A set of all possible events and their associated probabilities.

Random: *See* Stochastic.

Random Variable: *See* Normally Distributed Random Variable.

Random Walk: A "walk" in which each step taken is purely random and independent of the steps previously taken.

Risk: The potential impact of unexpected change.

Spot Price: The commodity's price for immediate or next day's delivery.

Standard Deviation (STD): Used in distribution analysis, describes the width of a distribution. Indicates probability of a variable or price failing within a certain width or band around the man. (A price will fall roughly within one standard deviation 66% of the time; two STD 95% of the time; and three 99% of the time. These approximations are exact in the case of a normally distributed variable.

Stochastic: Random, unpredictable. "Opposite" of deterministic.

Stochastic Term: The term in a mathematical equation or model for a random variable which carries all the randomness. "Opposite" of the deterministic or drift term.

Triangular Distribution: A type of distribution used often when you have limited data. In a triangular distribution, the minimum value, the maximum value and the most likely value are specified. The most likely value, which is within the range of the minimum and maximum values, forms a triangle with the minimum and maximum values.

Term Structure: The structure of variable or model parameter across time. Most common term structures are for forward price and volatilities.

Underlying Price: Depending on context, either the price on which a contract is contingent, or the price stripped of seasonality effects.

Variable: A term for a value that exhibits stochastic behavior. A variable changes over time with uncertainty and risk.

Variance: A statistical measure of how data within a distribution are dispersed around the mean. The square root of variance is the *standard deviation.*

Volatility: Measures the magnitude of percentage changes in prices over time, in annualized terms. Volatility equals the price return's standard deviation over time.

Volatility Term Structure: The volatility values across time.

Wholesale Market: A market defined by the sale of energy in bulk amounts primarily between producers, marketers and large end-users. In the case of the U.S. electricity market, represents the non-retail portion of sales and has experienced the first effects of deregulation.

APPENDIX L
SEMINOLE MEMBERS'
CONSERVATION AND DSM OFFERINGS

	Consumer Awareness & Recommendation	Interruptible Rate	Lighting Conversion	Energy Loans	Energy Surveys	Energy Audits	Load Management		
							Direct Load Control	Voltage Control	Generators
Central	X					X	X	X	X
Clay	X		X	X	X			X	X
Glades	X	X				X			X
Lee	X			X	X	X	X	X	X
Peace River	X					X			X
Sumter	X	X			X	X	X	X	X
Suwannee							X		X
Talquin	X					X			X
Tri-County						X			
Withlacoochee	X		X			X		X	X