BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In Re: Petition for Determination of Need for Levy Units 1 and 2 Nuclear Power Plants.	))))	Docket No: 080148-EI Submitted for Filing: March 11, 2008

TESTIMONY OF SASHA WEINTRAUB ON BEHALF OF PROGRESS ENERGY FLORIDA

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IN RE: PETITION FOR DETERMINATION OF NEED FOR LEVY UNITS 1 AND 2 NUCLEAR POWER PLANTS

FPSC DOCKET NO. _____

DIRECT TESTIMONY OF SASHA WEINTRAUB

I. INTRODUCTION AND QUALIFICATIONS

Q. Please state your name and business address.

A. My name is Sasha A. J. Weintraub. My business address is 410 South Wilmington Street, Raleigh, North Carolina, 27601.

Q. By whom are you employed and in what capacity?

A. I am employed by Progress Energy Carolinas, Inc. ("PEC") as the Executive Director of Regulated Fuels Department.

Q. What are your duties and responsibilities in that position?

A. I am responsible for the procurement of coal, natural gas, and fuel oil for the Progress Energy Florida, Inc. ("PEF" or the "Company") and PEC generation fleet. This includes fossil fuel steam, natural gas combined cycle ("CC"), and natural gas and oil combustion turbine ("CT") generation units. I am also responsible for the Company's coal, natural gas, and fuel oil price forecasts used for resource planning purposes and in connection with the Company's Ten Year Site Plan filing each year.

Q. Please describe your educational background and professional experience.

A. I have a Bachelor of Science ("BS") degree in Engineering from Rensselaer Polytechnic Institute, I have a Master's in Mechanical Engineering from Columbia University, and I have a Ph.D. in Industrial Engineering from North Carolina State University. From February of 2003 until June of 2005 I was the Director of Coal Marketing and Trading for Progress Fuels Corporation, a former subsidiary of Progress Energy. Before assuming my current position as the Executive Director of the Regulated Fuels Department, I was the Director of Coal Procurement for PEF and PEC.

II. PURPOSE AND SUMMARY OF DIRECT TESTIMONY

Q. What is the purpose of your testimony in this proceeding?

A. The purpose of my testimony is to present and explain: 1) the Company's current fuel forecast for each fuel resource type; 2) the cost differences between the fuel resources the Company uses and explain why price differences between fuel resources are expected in the future when Levy Units 1 and 2 begin commercial operation; 3) the Company's mid-level, low, and high fuel forecasts, explain how they were developed, and discuss the expected behavior in natural gas and fuel oil prices; and 4) the natural gas related supply and demand trends that will face the United States and the State of Florida as their dependence continues to grow on natural gas to meet power generation growth. This testimony will illustrate the fuel cost and fuel diversity benefits that the addition of nuclear generation will provide to PEF, the State of Florida, and its customers over the long term.

Q. Are you sponsoring any sections of the Company's Need Study, Exhibit No. ___ (JBC-1)?

A. Yes, I am sponsoring Section IV. C.3, which deals with the Company's fuel forecasts and explains how they were developed for use in the Company's integrated resource planning process.

Q. Are you sponsoring any exhibits to your testimony?

A. Yes, I am sponsoring the following exhibits to my testimony:

- Exhibit No. ____ (SAW-1), PEF's current energy produced from generation and PEF's estimated energy produced from generation with and without Levy Units 1 and 2 in 2018;
- Exhibit No. ___ (SAW-2), a comparison of fuel variability and weighted average fuel costs;
- Exhibit No. ____ (SAW-3), PEF's forecast for all primary fuel sources (nuclear fuel, natural gas, fuel oil, and coal);
- Exhibit No. ___ (SAW-4), PEF's mid-level, low, and high natural gas fuel forecasts;
- Exhibit No. ___ (SAW-5), PEF's historic natural gas prices from 1998 to November 2007;
- Exhibit No. ___ (SAW-6), PEF's and Florida Power & Light Company's ("FPL") historic natural gas prices from 1990 to 2007 and 1998 to 2008, respectively;

- Exhibit No. ___ (SAW-7), United States Natural Gas Rig Count Versus Natural Gas Well Production since 2002 from the U.S. Energy Information Agency ("EIA");
- Exhibit No. ____ (SAW-8), U.S. Natural Gas Supply Challenge, 2005 to 2030, chart from Department of Energy ("DOE") 2007 Annual Energy Outlook information; and
- Exhibit No. ___ (SAW-9), a chart of the world natural gas reserves by geographic region as of January 1, 2007 from the "Worldwide Look at Reserves and Production" in the Oil & Gas Journal.

Each of these exhibits, except Exhibit No. ____ (SAW-7), Exhibit No. ___ (SAW-8), and Exhibit No. ___ (SAW-9), was prepared under my direction, and each exhibit is correct to the best of my knowledge. Exhibit Nos. ____ (SAW-7), ___ (SAW-8), ____ (SAW-9) were drawn from recognized industry resources that are used by me and the Company in the normal course of business.

Q. Please summarize your testimony.

A. The Company's long-term mid-level spot fuel price forecasts that are used for long-term resource planning are based on a structured approach utilizing information from recognized industry experts and our internal expertise and experience. In addition, because fuel prices are inherently difficult to predict over the short and long-term due to the number of factors that can influence prices, the Company in its low and high fuel price forecasts has established statistical ranges of possible price outcomes to illustrate the potential behavior in fuel prices, with an emphasis on natural gas. The

Company currently has a diverse generation mix and proposes to maintain a significant amount of diversity in the future with the addition of Levy Units 1 and 2. The Company believes that natural gas generation is an important part of the generation mix but that the continued dependence on natural gas generation to support demand growth exposes the customers of the State of Florida to greater fuel price fluctuations and uncertainty, as well as the possibility of severe price swings caused by weather related events. The Company believes the addition of Levy Units 1 and 2 is a critical step to diversify the generation and fuel portfolio for its customers and the State of Florida. Lastly, the addition of Levy Units 1 and 2 will provide environmental benefits, fuel diversification benefits, and long-term fuel savings to customers.

III. PEF'S CURRENT FUEL MIX

Q. What is PEF's current and projected fuel mix for the generation of energy for customers when the commercial operation of Levy Units 1 and 2 begins?

A. PEF's current and proposed future fuel and generation mix offers a significant amount of diversity that includes nuclear fuel (processed, enriched uranium), natural gas, fuel oil, coal, and renewable fuel resources. Nuclear fuel currently represents approximately 14 percent of PEF's current energy generation. Natural gas, fuel oil, coal, and renewable energy account for approximately 30 percent, 10 percent, 43 percent, and 3 percent, respectively. This is demonstrated by the first chart in Exhibit No. ___ (SAW-1). Based on projections assuming Levy Units 1 and 2 begin commercial operation in the summers of 2016 and 2017, respectively, natural gas is

expected to contribute approximately 36 percent of the total energy produced from PEF's generation facilities by 2018. This information is summarized in the second chart in Exhibit No. ____ (SAW-1), which shows the estimated energy produced from generation in 2018 with Levy Units 1 and 2.

Q. What would PEF's projected fuel mix be assuming Levy Units 1 and 2 are not added and the Units are replaced with natural gas?

A. Assuming Levy Units 1 and 2 are replaced with natural gas combined cycle units in the summer of 2016 and 2017, respectively, natural gas will contribute approximately 56 percent of the total energy produced from PEF's generation facilities in 2018. This information is summarized in the third chart in Exhibit No. _____ (SAW-1), which shows the estimated energy produced from generation without Levy Units 1 and 2 in 2018. As is clearly evident, without the addition of Levy Units 1 and 2, PEF, its customers, and the State of Florida will be more susceptible to natural gas price fluctuation and uncertainty, and will have a less diverse fuel mix.

Q. What is diversity and why is it important?

A. Diversity can be defined simply as a generation fleet that is comprised of multiple fuel types and is not overly dependent on any one fuel type. Diversity is important because it improves overall system reliability and reduces the exposure the customer has to the price behavior of any one fuel type. In reviewing the current generation mix and the projected generation mix for the State of Florida in 2016, the state is becoming extremely dependent on natural gas to meet its growing needs. This in diversity terms

means the customers in the State of Florida are becoming less fuel diverse and by virtue of becoming more dependent on a particular fuel type, which in this case is natural gas, are more susceptible to the price uncertainty and volatility associated with natural gas for a larger and growing portion of their electric needs. As the exposure to any one fuel type increases, the reliability of the overall electric system can be impacted.

Q. Are all fuels subject to price volatility?

A. Yes. Various factors, including but not limited to, global demand growth, supply and demand balances, and world-wide market conditions, can impact one or both of the cost components of the fuel, leading to volatility in the total fuel cost to the customer. Historically, the costs of certain fuels have been more volatile than others. Fuel oil and natural gas have been more volatile than coal. Nuclear fuel has historically been the most stable and lowest cost fuel to the customer. As a result, the cost to produce the same amount of electrical energy with nuclear fuel is far less than the cost of other competing and available fuel sources. This is one of the reasons nuclear fuel generation is an attractive option for providing customers low cost energy production relative to other competing fuels.

Q. Is this relationship between nuclear fuel and other fuels in terms of the cost to produce energy expected to continue in the future?

A. Yes. Both on a short-term and long-term basis, nuclear fuel will be the lowest cost fuel source available to PEF to produce energy for its customers. Based on the

Company's fuel forecasts, nuclear fuel is an attractive and viable future option for the generation of energy to meet future customer energy demands.

Q. Is there some way to quantify the value of fuel diversity and, in particular, the value of a diverse fuel portfolio that includes more of the less volatile fuel resources?

A. One way to measure the potential variability of a portfolio's fuel costs is by calculating the standard deviation of the costs of the fuel portfolio. The standard deviation is a measurement of how far away from the expected costs that the actual costs are likely to deviate. In simple terms, the greater the standard deviation of a portfolio, the more potential variability there could be in the actual, future fuel costs.

As an illustration of the potential volatility of different fuel portfolios, Exhibit No. ___ (SAW-2) visually demonstrates the impact of this potential variability in actual costs from expected costs between the individual fuel resources that make up potential utility fuel portfolios and between two fuel portfolios of individual fuel resources. Portfolio 1 in Exhibit No. ___ (SAW-2) is illustrative of PEF's estimated fuel mix with the addition of the planned nuclear generation units in Levy County and Portfolio 2 is illustrative of PEF's estimated fuel mix assuming additional gas generation is added instead of the planned nuclear generation in Levy County.

As you can see from the first chart, uranium which is the source for nuclear fuel has the lowest average fuel cost on a $/MWh basis and also the lowest uncertainty surrounding the future deviation of nuclear fuel costs from that average fuel cost. The individual fuels then progress in order of lowest average fuel cost and the least

uncertainty surrounding the deviation of future costs from the average fuel cost from uranium to coal, gas, and then oil. Gas and oil have higher relative average fuel costs and greater uncertainty surrounding their future costs and, thus, the greatest potential deviation of future fuel costs from their weighted average fuel cost.

A portfolio of utility fuel resources is impacted by the relationship between the weighted average fuel costs and the uncertainty of future fuel costs as the individual fuels may fluctuate together. Both Portfolio 1 and Portfolio 2 represent generation fleets with multiple fuel sources; however, Portfolio 1 would be considered more diverse and better balanced because Portfolio 1 has a higher percentage of the lower weighted average cost and more stable fuel cost fuels in the Portfolio than Portfolio 2. As a result, Portfolio 1 will likely experience less overall cost volatility under any range of future outcomes. Portfolio 2 is more heavily weighted to one fuel and, thus, is not as diverse or well balanced as Portfolio 1. Portfolio 2 carries greater risk and will experience more overall fuel cost volatility than Portfolio 1. In addition, Portfolio 1 will yield a lower expected fuel cost than Portfolio 2. These potential portfolio cost impacts are visually demonstrated in the second chart of Exhibit No. ___ (SAW-2) where Portfolio 1 starts with an expected weighted average fuel cost of just above $40/MWh and is expected to deviate from a low of around $25/MWh to a high of just over $60/MWh, a range of about $35/MWh. Conversely, Portfolio 2 starts at a higher expected weighted average fuel cost of about $60/MWh and ranges from a low of under $40/MWh to a high of almost $90/MWh, or a range of about $50/MWh.

Although it may be obvious, an important step to reducing the risk in fuel cost deviations is to diversify the generation fleet. Diversification is akin to "not putting all

your eggs in one basket" and becoming, as a result, overly dependent on one fuel for energy generation. This diversification is similar to a balanced retirement portfolio that has a varied mix of funds with further mixes of stocks and bonds compared to one that relies solely on a single stock or a few individual stocks. The former is more stable and less risky than the latter. Adding additional nuclear generation to PEF's generation system provides PEF with more fuel resources that are more stable in cost and, thus, provides PEF with a more balanced future fuel portfolio for PEF and its customers.

IV. PEF'S FUEL FORECASTS

Q. What is the Company's fuel forecast for its primary fuel sources?

A. The Company's current fuel forecast is included in Exhibit No. ___ (SAW-3). This shows the forecasted total fuel cost per MMBtu to PEF's customers for nuclear fuel, natural gas, fuel oil, and coal. As you can see, the relative forecasted fuel cost of nuclear fuel is well below the forecasted fuel costs for natural gas, fuel oil, and coal.

Q. How is the Company's fuel forecast developed?

A. As explained in our Ten Year Site Plan filing, the mid-level fuel price forecast is developed using short-term and long-term spot market price projections from industry-recognized sources. For example, in the short term, the mid-level cost for coal is based on existing contracts and spot market coal prices and transportation arrangements between PEF and its various suppliers. For the longer term, the prices are based on spot market forecasts reflective of expected market conditions. Fuel oil

and natural gas price forecasts are estimated based on current and expected contracts and spot purchase arrangements as well as near-term and long-term commodity price spot forecasts. Fuel oil and natural gas commodity prices are driven primarily by open market forces of supply and demand. Natural gas firm transportation costs used in the forecast were determined primarily by pipeline tariff rates, negotiated term contracts and estimated rates for future pipeline capacity that will be needed to meet generation growth.

Based on the Company's fuel forecast, nuclear fuel and coal prices are expected to be less volatile and more stable month to month. Fuel oil and natural gas prices are expected to be more volatile on a day-to-day, month-to-month, and year-to-year basis.

Q. With respect to the fuel forecast in the Ten Year Site Plan, what is a short and long term forecast?

A. The Company's Ten Year Site Plan looks at a ten year period of time for resource planning and fuel forecast purposes. A short term forecast is typically developed for a three year period, and a long term forecast is developed for periods beyond three years. For purposes of the resource plan in PEF's current Ten Year Site Plan, the next projected generation unit that is fueled by nuclear fuel is planned in the summer of 2016, which is at the end of the resource planning process in the Company's last Ten Year Site Plan filed in April 2007. To evaluate the addition of Levy Unit 1 and 2 in the summer of 2016 and the summer of 2017, respectively, the Company evaluated Levy Units 1 and 2 against other resource options over a much longer period of time,

which extended more than forty years beyond the current Ten Year Site Plan. This required the use of fuel price forecasts over this extended period of time.

Q. How did the Company develop the long-term fuel forecasts used to evaluate Levy Units 1 and 2 as generation resource options in 2016 and 2017?

A. For these extended fuel forecasts PEF relied on long-term spot fuel forecast analyses from two separate, independent experts in the field of fuel and energy market evaluations. These independent experts are PIRA Energy Group ("PIRA") and Global Insight, Inc. Both PIRA and Global Insight are industry-recognized experts in fuel forecasts and the analysis of energy markets.

PIRA is an international energy consulting firm specializing in global energy market analysis and intelligence. PIRA provides evaluations of key United States and international energy fundamentals and issues that impact the behavior and performance of the energy industry and its various markets and sectors. This evaluation includes long-term global energy market analyses. PIRA is retained by nearly 500 companies in 51 countries, including 22 out of the top 25 largest oil and gas companies in the United States, clients representing 87 percent of the worldwide natural gas production, and 19 of the top 25 gas and electric utilities.

Global Insight employs over 325 professional analysts, researchers, and economists to provide comprehensive economic forecasting and other financial and economic services to over 3,800 clients worldwide. This includes analyzing forces that shape global demand, supply, and prices for oil, natural gas, coal, and electricity,

including providing fuel price forecasting services for clients including power utilities, energy policy makers, and regulatory bodies.

The spot price forecasts from these experts are rooted in fundamental supply and demand analysis. These experts consider various factors including, but not limited to, supply drivers such as the new sources of natural gas and oil supply, rates of decline of existing sources, costs associated with finding new natural gas and oil, the costs of new technologies, relationships between commodity prices, world wide natural gas demand growth in developing economies, and liquidified natural gas ("LNG") assumptions for both world wide liquefaction and regasification capabilities. On the demand side, these experts look at all of the consumption trends including industrial demand, residential/commercial demand, electric generation demand and Gross Domestic Product ("GDP") growth rates. Lastly, the experts consider geopolitical trends, environmental policies, and generation resources that are expected to be added in the future.

PEF's mid-level spot fuel oil and natural gas forecast is the average of the forecasts provided by PIRA and Global Insights. PEF employs individuals experienced in the natural gas markets who worked with the PIRA and Global Insight information to prepare the Company's long term spot price forecasts. These forecasts are included in Exhibit No. ___ (SAW-3), and in the mid-level natural gas forecast in Exhibit No. ___ (SAW-4), to my testimony. The Company uses the mid-level natural gas forecast to prepare the low and high natural gas forecasts in Exhibit No. ___ (SAW-4).

Q. How does the Company determine its low and high natural gas forecasts?

A. The Company's mid-level natural gas price forecast is considered the most likely scenario based on the Company's view and the independent expertise of the outside companies who provided the information used by PEF in preparing the mid-level fuel forecast. The Company's high and low natural gas price forecasts are developed based on a statistical analysis of the mid-level forecast, whereby the high forecast represents the 90th percentile and the low forecast represents the 10th percentile on a price distribution curve. In other words, prices are expected to be lower than the high forecast and higher than the low forecast with 90 percent statistical certainty. As a result, the low, mid-level, and high natural gas cases in Exhibit No. __ (SAW-4) represent, in the Company's view, the reasonable range of potential future spot fuel costs.

Q. Why have you emphasized the natural gas fuel forecast in your exhibits to your testimony?

A. As explained in the April 2007 Ten Year Site Plan, the differential between natural gas and nuclear fuel prices is a key driver in the selection of the Company's future generation options. For illustrative purposes, if it is assumed price is the only factor considered in making alternative generation choices, as the differential between the expected natural gas and nuclear fuel prices becomes smaller, the economics would favor natural gas-fired combined cycle generation versus nuclear generation. The higher the price differential, the more cost-effective nuclear generation is relative to other generation alternatives. Thus, the price of natural gas can have a significant

impact on the economics of future supply-side generation alternatives. In evaluating natural gas, PEF believes natural gas is a viable, economic fuel source for its diverse generation mix now and in the future. However, PEF believes natural gas will continue to be a volatile commodity in the future, and continue to experience a high degree of price fluctuation, because continued growth will expose the Company and its customers to greater commodity price risk as the gas component of its fuel portfolio continues to grow to meet the needs of its customers and the United States becomes more dependent on foreign sources of natural gas supply. As outlined earlier in my testimony, without the addition of Levy Units 1 and 2, PEF's expected energy generated from natural gas would grow at an even faster rate and become an even larger component of its generation output.

V. FUEL DIVERSITY AND SUPPLY RELIABILITY

Q. Can you explain what you mean when you say that gas will continue to be volatile and experience a high degree of price fluctuation?

A. Yes. As you can see from Exhibit No. ___ (SAW-4), the range of forecasted natural gas prices from 2016, when Levy Unit 1 is expected to commence operation, is from a low of around $6/mmBtu at the lowest point of the low forecast, to a high of around $13/mmBtu in the high natural gas forecast. From there, the low, mid-level, and high gas forecasted prices gradually increase over time, reflecting future fluctuating natural gas prices from 2016 and beyond around a mid-point somewhere between $8/mmBtu and $12/mmBtu.

This is a different range of fluctuation from PEF's past natural gas projections, as demonstrated in Exhibit No. ___ (SAW-5), which plots PEF's reported natural gas prices from 1998 to the end of 2007. As can be seen there, natural gas prices have gradually escalated and are now expected to fluctuate around a higher level, as the costs associated with finding and producing gas have shifted higher. This experience is not unique to PEF's natural gas forecasts and in fact, historical experience shows this is occurring with other Florida utilities. Exhibit No. ___ (SAW-6) tracks the historical delivered natural gas prices for FPL and PEF from January 1990 through July 2007, and 1998 through 2007, respectively. There, you can see that natural gas price fluctuations have moved from a range of around $2/mmBtu to $4/mmBtu in the 1990's to a much higher range of price fluctuations in the 2000's.

PEF (and other Florida utilities) must accept that natural gas prices in the future will likely never return to the beneficial prices of the 1990's that contributed to a rapid increase in the development and commercial operation of advanced, natural gas-fired combined cycle generation plants across the country and in Florida. While this shift in natural gas prices does not eliminate natural gas as a current and future fuel source for electrical energy generation, it does suggest that another generation alternative in the future, like nuclear generation, is a necessary and attractive long-term economic generation alternative to ensure fuel diversity and security.

Q. What are the reasons for this shift in the natural gas prices to a higher range of price fluctuations in the future?

A. There are several key reasons for this and the impacts can be expected to be varied. This is exactly the kind of economic analysis that we look at internally in preparing our fuel forecasts, and that we rely on independent economic and fuel experts like PIRA and Global Insights to provide. One factor, of course, is the proliferation of natural gas as a source of electrical energy generation over the past decade. There simply is a much greater demand for natural gas today, and that demand will continue to grow in the future from electrical energy generation and other uses. While the natural gas supply has increased in response to demand growth, it has generally lagged behind which has put upward pressure on prices. Further, incremental natural gas supply production from the lower 48 states in the future is expected to come primarily from higher-cost onshore, non-conventional sources (e.g. shale, tight sands, coal-bed methane) and deep water offshore projects as shallow-water natural gas production continues to decline and a large portion of the onshore lower 48 conventional natural gas has been discovered. This domestic production likely will not add significantly to the supply of natural gas available for electric generation. As shown by Exhibit No. ___ (SAW-7), even though the number of wells and thus drilling in the United States has more than doubled since 2002, the overall production of natural gas for use has remained relatively flat.

In addition, LNG and other potential Frontier Gas (i.e. Alaskan production) are expected to play an increasing role in balancing the U.S. natural gas portfolio in the future. The overall ability of the United States to import these new sources will depend on the availability of import infrastructure such as port facilities and terminals for LNG and the development of long-haul pipeline projects for Frontier Gas such as

the Alaskan Gas Pipeline Project. In addition, additional pipeline delivery capabilities will be needed in the United States consuming markets to be able to access these potential new supply sources and compete with the global market. The overall supply and demand for LNG as a natural gas supply will also be impacted by changes in the exports and imports of natural gas by United States' neighbors, Canada and Mexico, which can influence the amount of gas supply available to the United States. Natural gas exports from Canada to the United States are expected to continue to decline due to growth in natural gas needs in Canada itself. Similarly, the demand of other countries, in particular developing countries like China and India, may have a significant impact on future LNG supply and prices. This is graphically demonstrated by Exhibit No. ___ (SAW-8), a chart drawn from information in the DOE 2007 Annual Energy Outlook, which shows that LNG will grow as a source of natural gas for the United States over the next twenty-five (25) years. By 2030, LNG is expected to constitute a significant portion of the natural gas needed to balance supply and demand for the United States. At the same time, there will be much greater worldwide demand for LNG and the United States will have to compete via price to attract the LNG to the United States from other countries, such as those in Asia who are very dependent on LNG and are willing to sign longer term contracts at higher prices that are in parity with oil prices.

Significantly too, 70 percent of the world's oil and gas is held by national (state-owned) oil and gas companies such as Russia, Qatar, and Iran who control a majority of the world's natural gas reserves. This is graphically demonstrated by Exhibit No. ____ (SAW-9), which is a chart of the world natural gas reserves by

geographic region that shows that the largest reserves of natural gas in the world are located in the Middle East and Eurasia. Instability in the future in these regions and the on-going speculation that certain countries may have an interest in forming a future "Gas Cartel" could arguably have an adverse impact on the supply of and price of LNG. As outlined earlier, given higher natural gas prices and the reality of continued growth in the world wide demand for natural gas, these new international players could potentially have larger influences on global natural gas prices. At a minimum the United States and other countries are becoming more dependent on non-traditional sources of natural gas supply that are not produced and controlled by them.

All of these economic and socio-economic factors, and many others, have an impact on the forecast for future natural gas prices. All of these existing and potential factors were considered and evaluated by the independent experts PEF retained for its fuel forecasts and by PEF in preparing PEF's mid-level natural gas fuel forecast. These factors also play a part in the Company's evaluation of nuclear generation as a future alternative generation resource in the time period 2016 to 2017 and beyond.

Q. Are there other reasons to consider an alternative to natural gas-fired generation in the time period Levy Units 1 and 2 are planned for commercial operation?

A. Yes. The expected relative price differential is not the only reason to evaluate other generation alternatives to diversify PEF's fuel generation resources. Without Levy Units 1 and 2, PEF will likely be forced to continue to rely on natural gas-fired combined cycle generation, which will only serve to adversely impact PEF's fuel diversity by increasing the percentage of energy generation that relies on natural gas.

This outcome can further subject PEF and its customers to even more volatility from natural gas prices in the future due to transportation constraints, supply availability and adverse weather impacts, especially in Florida. Florida is a peninsula that, in effect, operates as a bottle-neck at certain times when it comes to supplying Florida utilities with natural gas. The existing pipelines that serve the natural gas needs in the State of Florida are expected to be fully subscribed by 2009. Expansions of existing pipelines will be needed to meet future planned gas generation demand. Expansions will become increasingly more expensive and could lag behind demand. As a result, during peak time periods, such as during the summer in Florida, the supply of natural gas to Florida utilities could be more restricted, leading to greater risk of a price basis increase to Florida over the Henry Hub price.

Additionally, significant natural gas supplies for Florida utilities are located near, on, or in the Gulf of Mexico. The Gulf of Mexico and the State of Florida are subject to extreme weather conditions, such as hurricanes. This risk is always present during hurricane season and was certainly the case during the hurricane seasons of 2004 and 2005. During and following these extreme weather conditions, natural gas production was shut down, facilities were damaged and production was limited until conditions improved which lead to extreme price levels and volatility. When these events occur, they have an upward effect on the natural gas price as the availability of supply can be significantly reduced. If extended curtailments occur, such price increases cannot be mitigated by storage as baseload on-site or underground natural gas storage is not considered economic and is not available. As a result, these events

are expected to continue to have an impact on the price of natural gas and in turn energy generation for PEF and its customers in the future.

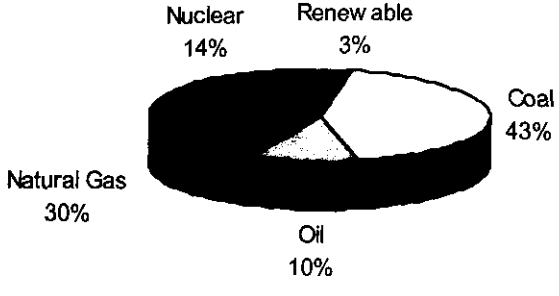
Alternative fuel generation, like that offered by Levy Units 1 and 2, will provide greater fuel diversity and fuel supply reliability, thus mitigating these economic impacts from restrictions on natural gas supply when demand is high. Nuclear fuel re-fueling outages occur relatively infrequently, about every eighteen (18) to twenty-four (24) months, and even then they can be delayed somewhat if nuclear generation is necessary. This ability to continue to supply power provides price mitigation capabilities that simply do not economically exist with natural gas-fired generation.

Q. Does this conclude your testimony?

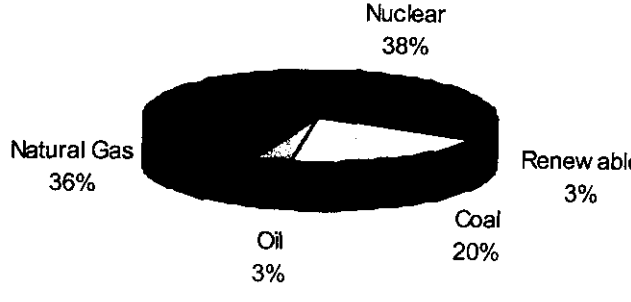
A. Yes.

Chart 2-1 Analysis of PEF's Energy Mix

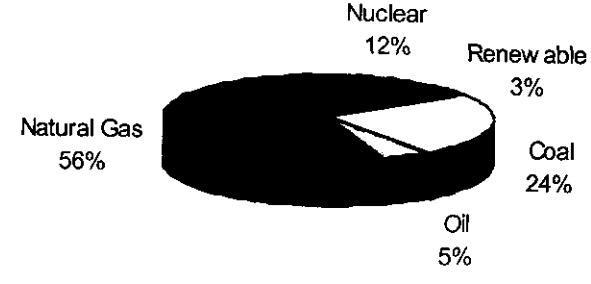
PEF ENERGY MIX
2006 Reported Actual Energy Sources

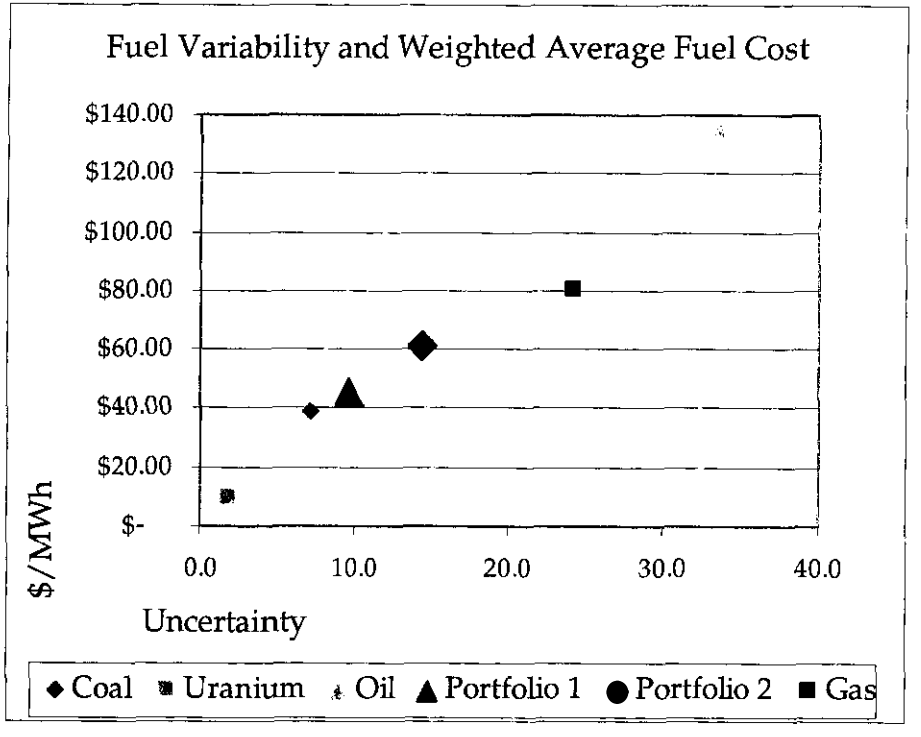


PEF ENERGY MIX
2018 Projected Energy Sources



PEF ENERGY MIX
2018 Projected Energy Sources
Without New Nuclear Generation




Fuel Variability and Weighted Average Fuel Cost
$140.00
$120.00
$100.00
$80.00
$60.00
$40.00
$20.00
$-
$/MWh
0.0
10.0
20.0
30.0
40.0
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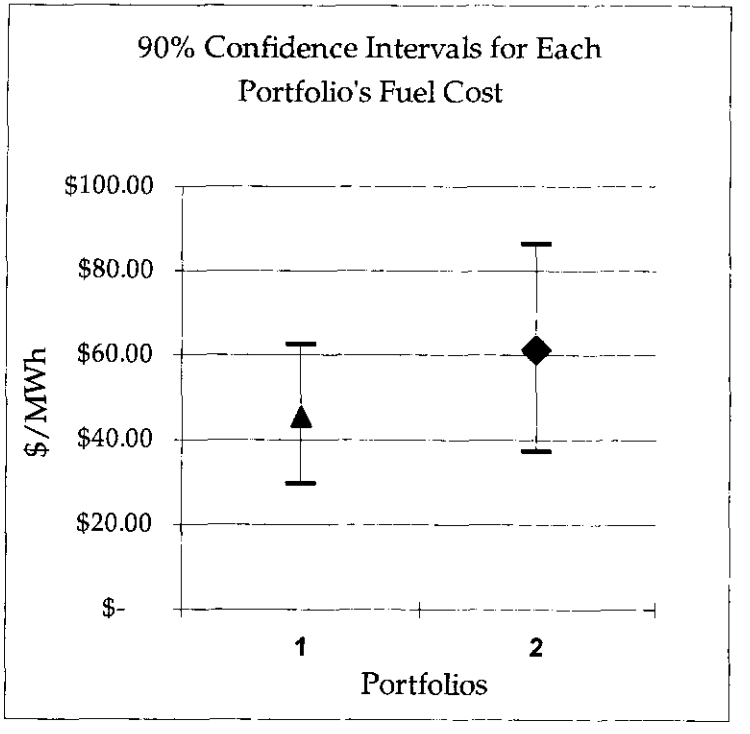
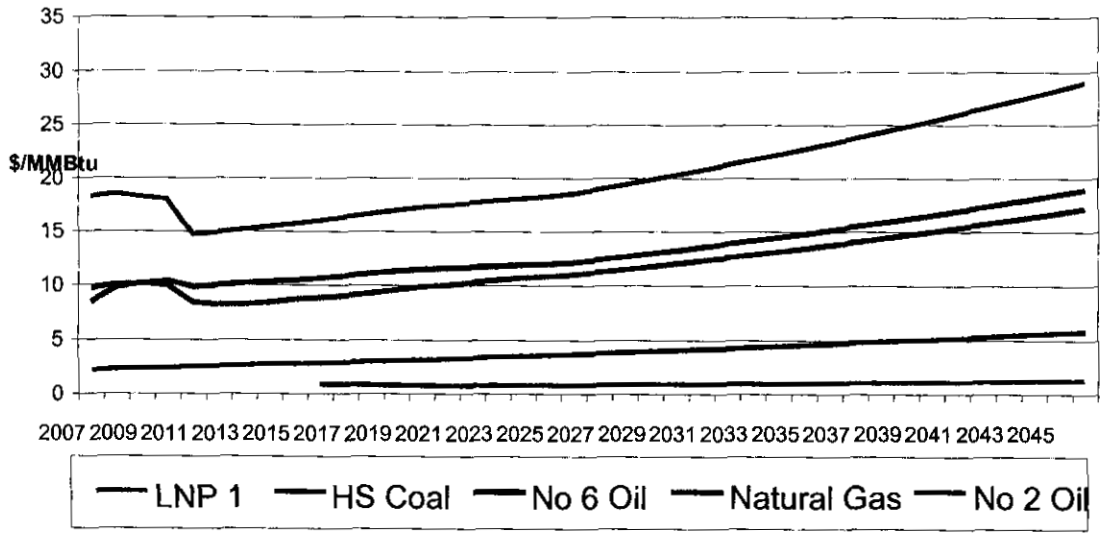
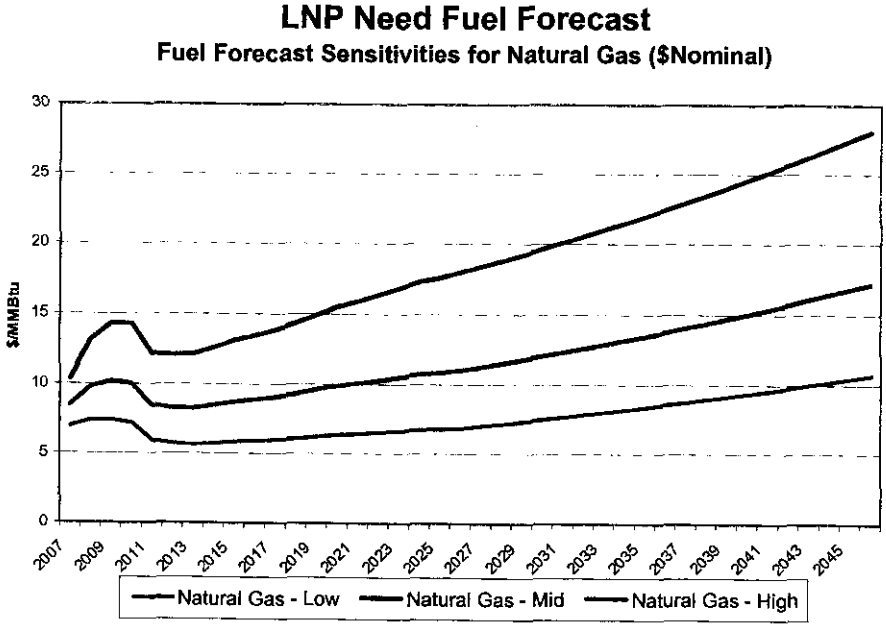
Coal
Uranium
Oil
Portfolio 1
Portfolio 2
Gas


90% Confidence Intervals for Each Portfolio's Fuel Cost
$100.00
$80.00
$60.00
$40.00
$20.00
$-
$/MWh
1
2
Portfolios

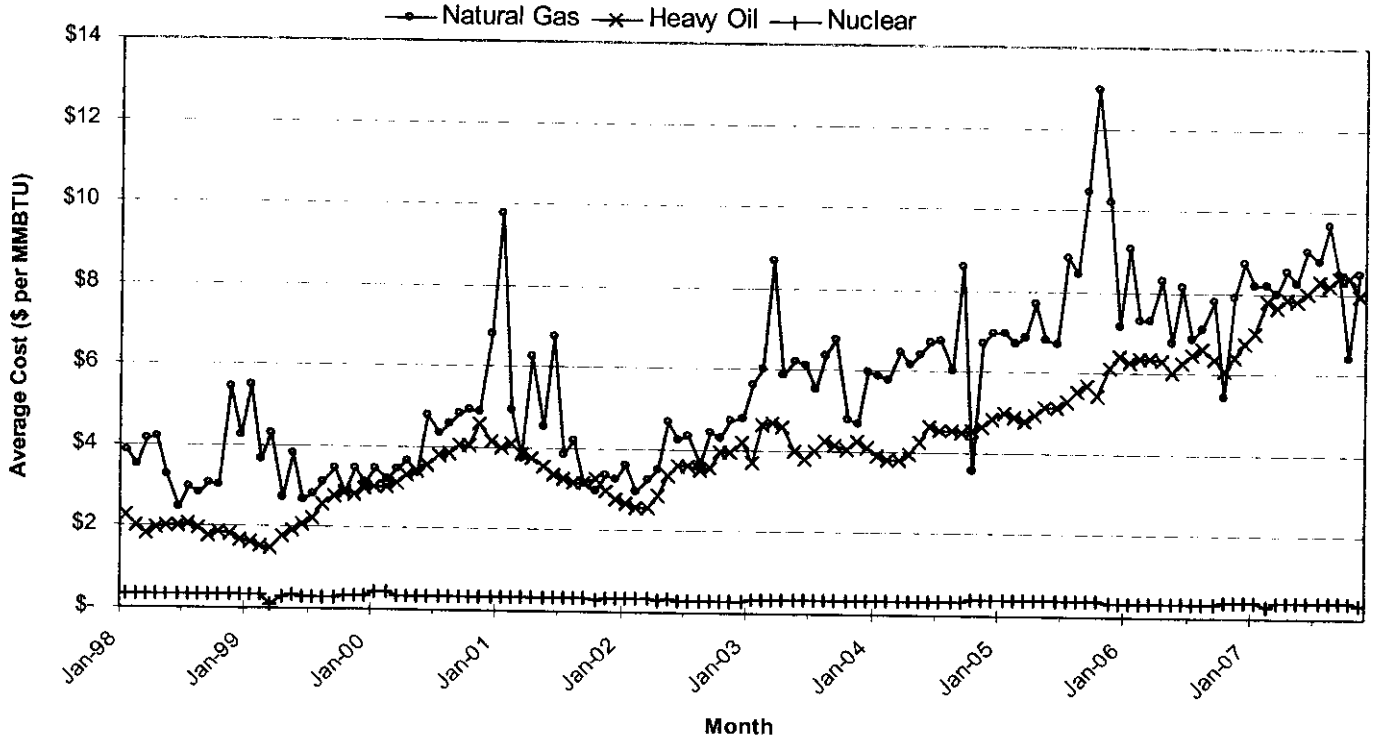
LNP Need Fuel Forecast
Reference Mid Level Forecast

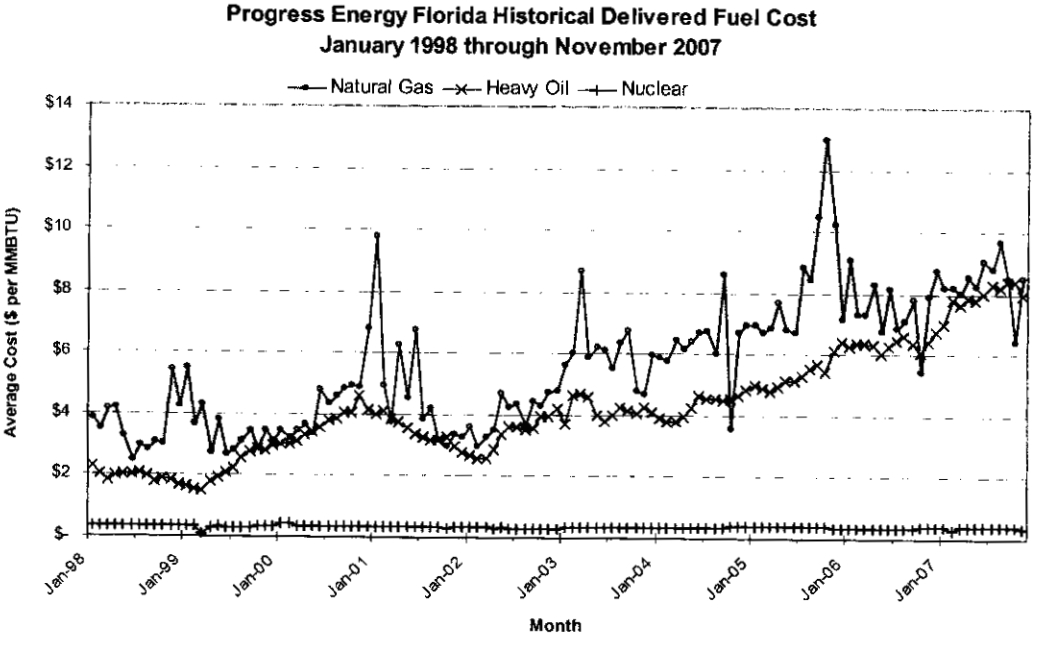


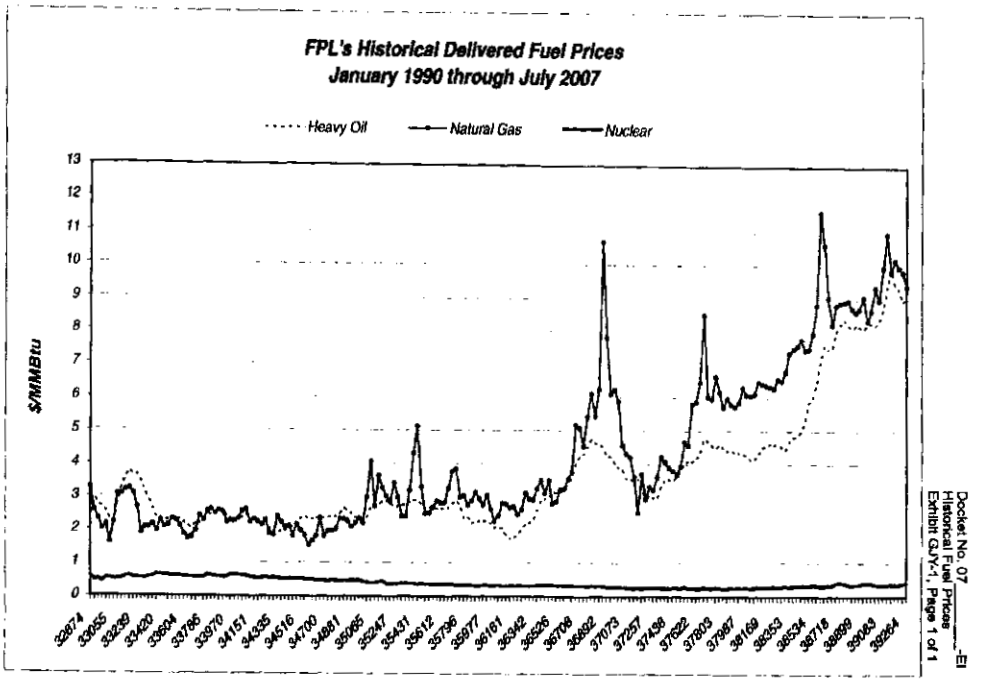
Mid-Level, High, and Low Gas Fuel Price Forecasts



Progress Energy Florida Historical Delivered Fuel Cost
January 1998 through November 2007




Progress Energy Florida Historical Delivered Fuel Cost
January 1998 through November 2007
Natural Gas
Heavy Oil
Nuclear
Average Cost ($ per MMBTU)
$14
$12
$10
$8
$6
$4
$2
$-
Jan-98
Jan-99
Jan-00
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Month


FPL's Historical Delivered Fuel Prices
January 1990 through July 2007
Heavy Oil
Natural Gas
Nuclear
$/MMBtu
13
12
11
10
9
8
7
6
5
4
3
2
1
0
32874
33055
33239
33420
33604
33786
33970
34151
34335
34516
34700
34881
35065
35247
35431
35612
35796
35977
36161
36342
36526
36708
36892
37073
37257
37438
37622
37803
37987
38169
38353
38534
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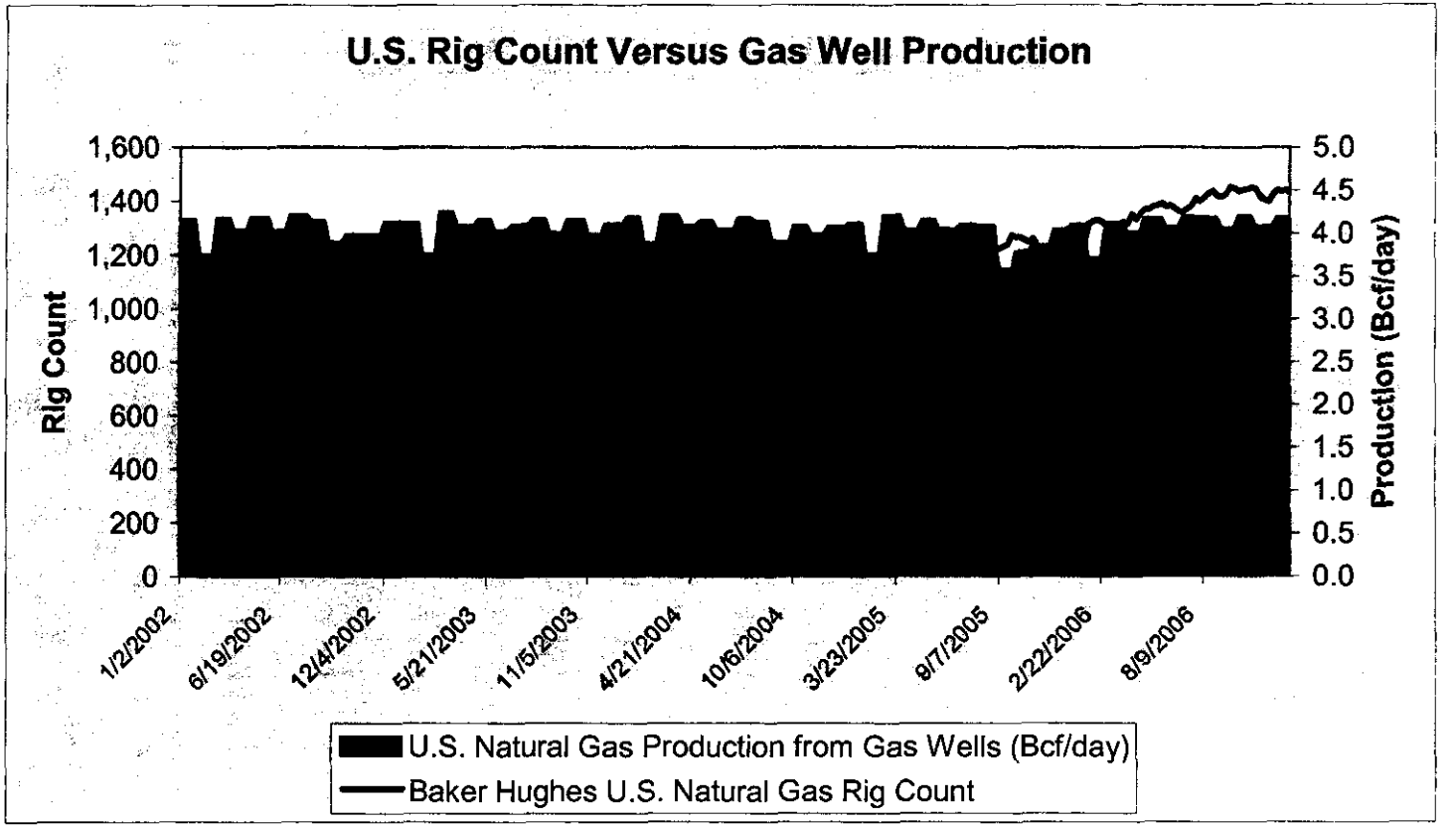
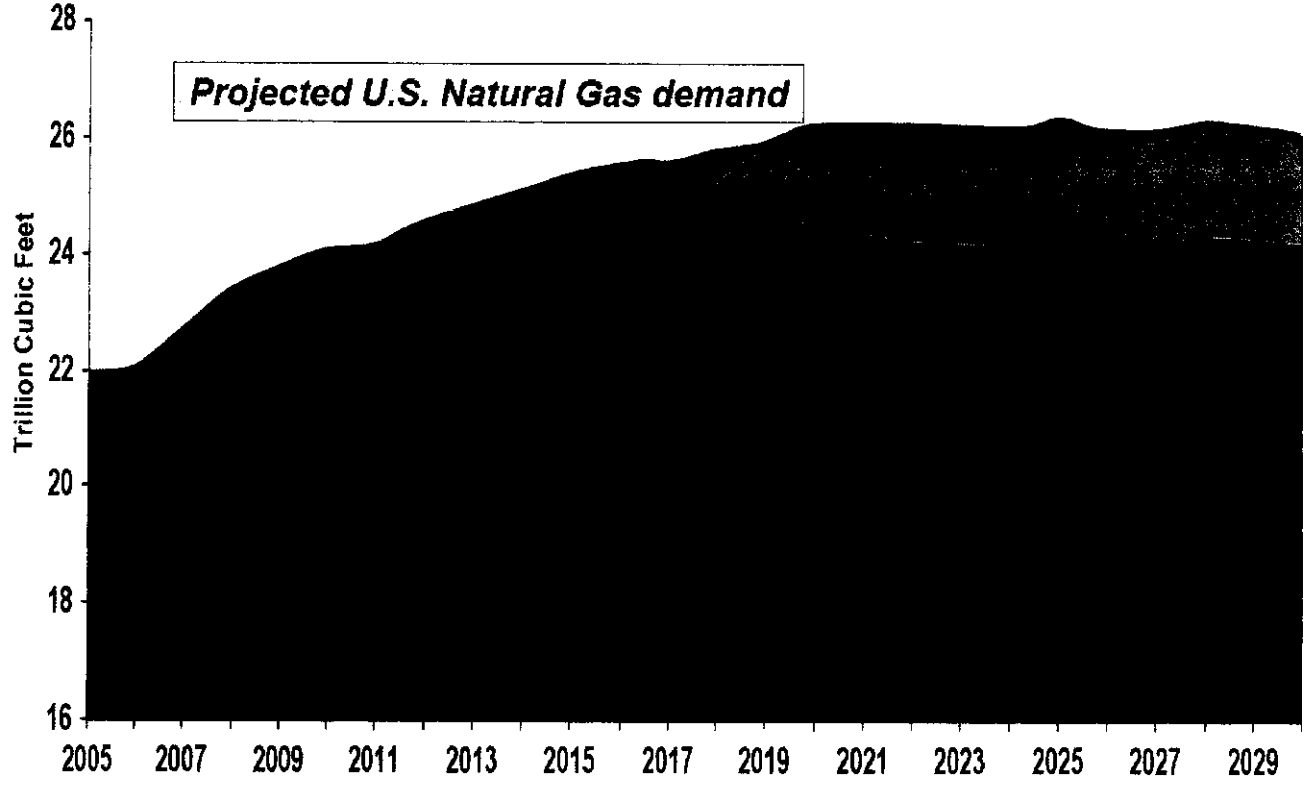
38899
39083
39264
Docket No. 07_____-EI
Historical Fuel Prices
Exhibit GJY-1, Page 1 of 1



Source: Rig Count - Baker Hughes, Withdrawals - U.S. Energy Information Agency (EIA)

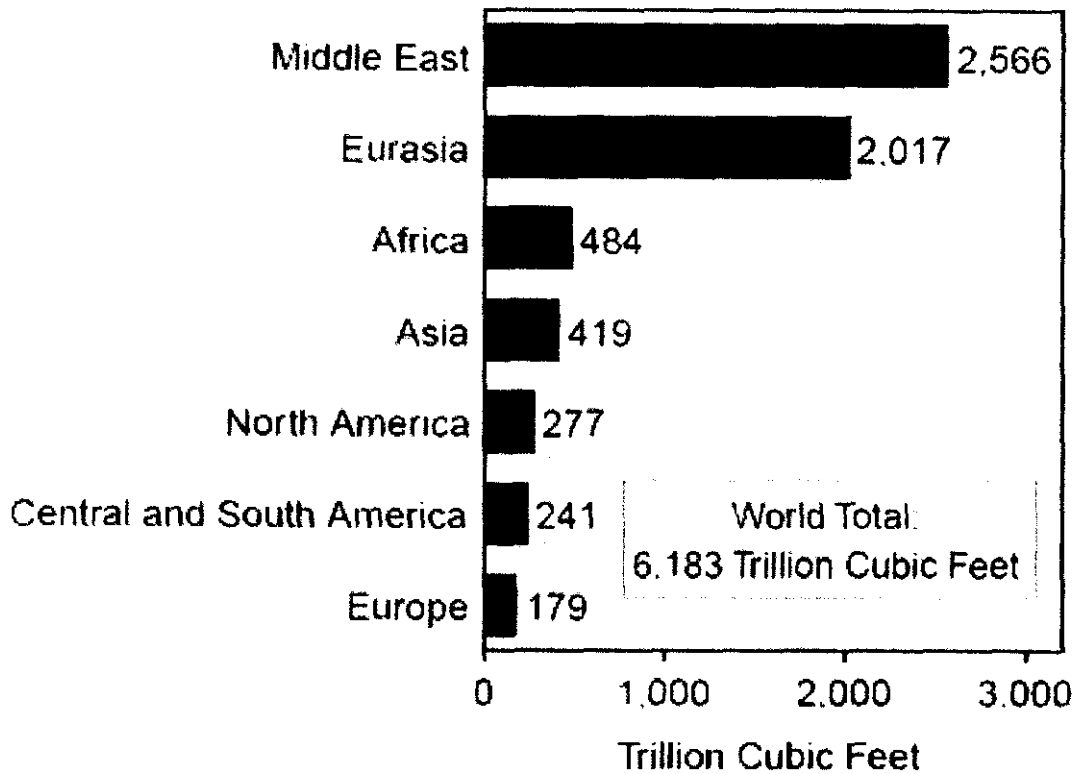
U.S. Natural Gas Supply Challenge



Source: U.S. Department of Energy, 2007 Annual Energy Outlook

ConocoPhillips

Figure 43. World Natural Gas Reserves by Geographic Region as of January 1, 2007



Source: "Worldwide Look at Reserves and Production," *Oil & Gas Journal*, Vol. 104, No. 47 (December 18, 2006), pp. 22-23.