

**BEFORE THE
PUBLIC SERVICE COMMISSION OF
SOUTH CAROLINA
DOCKET NO. 2013-1-E**

In the Matter of)	
Annual Review of Base Rates)	DIRECT TESTIMONY OF
for Fuel Costs for)	SASHA J. WEINTRAUB FOR
Duke Energy Progress, Inc.)	DUKE ENERGY PROGRESS, INC.

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. My name is Alexander (“Sasha”) J. Weintraub. My business address is 526 South
3 Church Street, Charlotte, North Carolina 28202.

4 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

5 A. I am Vice President, Fuels & Systems Optimization for Duke Energy Corporation
6 (“Duke Energy”). In that capacity I am responsible for the procurement of fossil
7 fuels and environmental reagents for the Duke Energy Progress, Inc. (“DEP” or the
8 “Company”) and Duke Energy Carolinas, LLC (“DEC”) (collectively, the
9 “Companies”) generation fleet, as well as for the generation fleets of the other Duke
10 Energy regulated utilities. I am also responsible for portfolio management and short
11 term power trading for Duke Energy, and am responsible for the fossil fuel price
12 forecasts used for fuel filings and resource planning purposes for all of Duke
13 Energy’s regulated utility subsidiaries, including DEP.

14 **Q. PLEASE BRIEFLY SUMMARIZE YOUR EDUCATIONAL AND**
15 **PROFESSIONAL EXPERIENCE.**

16 A. I have a Bachelor of Science degree in Engineering from Rensselaer Polytechnic
17 Institute, a Master’s in Mechanical Engineering from Columbia University, and a
18 Ph.D. in Industrial Engineering from North Carolina State University. From
19 February 2003 until June 2005, I was Director of Coal Marketing and Trading for
20 Progress Fuel Corporation, a former subsidiary of Progress Energy, Inc. (“Progress
21 Energy”). Subsequently, I was Director of Coal for DEP and Duke Energy Florida,
22 Inc. (“DEF”), and before assuming my current position, I was Vice President - Fuels
23 and Power Optimization for DEP and DEF.

1 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS**
2 **PROCEEDING?**

3 A. The purpose of my testimony is to describe DEP's fossil fuel purchasing practices,
4 provide fossil fuel costs for the period March 1, 2012 through February 28, 2013
5 ("review period"), and describe changes forthcoming for the period July 1, 2013
6 through June 30, 2014 ("billing period"). I also provide an update from a
7 procurement and operations perspective on the Joint Dispatch Agreement ("JDA")
8 that – pursuant to the merger agreement between Duke Energy and Progress Energy
9 ("Merger") – Duke Energy is using to deliver savings to its North and South
10 Carolina customers, as well as fuel savings that DEP has realized to date on behalf
11 of its customers as a result of the Merger.

12 **Q. PLEASE PROVIDE A DESCRIPTION OF THE EXHIBITS TO YOUR**
13 **TESTIMONY.**

14 A. Weintraub Exhibit 1 summarizes the Company's Fossil Fuel Procurement Practices,
15 and Weintraub Exhibit 2 summarizes monthly contract and spot coal purchases
16 during the review period and the period of March 1, 2011 through February 29, 2012
17 ("prior review period").

18 **Q. WERE THESE EXHIBITS PREPARED BY YOU OR AT YOUR**
19 **DIRECTION?**

20 A. Yes, they were prepared at my direction.

21 **Q. PLEASE PROVIDE A SUMMARY OF DEP'S FOSSIL FUEL**
22 **PROCUREMENT PRACTICES.**

1 A. A summary of the Company's fossil fuel procurement practices is set out in
2 Weintraub Exhibit 1. The practices of both Duke Energy and Progress Energy are
3 under review and will be modified to adopt the best practices for the combined
4 company going forward.

5 **Q. PLEASE DESCRIBE THE COMPANY'S DELIVERED COST OF COAL**
6 **DURING THE REVIEW PERIOD.**

7 A. The Company's average delivered coal cost per ton decreased less than 1.0% from
8 \$91.11 per ton from the prior review period to \$90.74 per ton in the review period.
9 The average transportation costs decreased approximately 2.5%, from \$28.08 per ton
10 in the prior review period to \$27.38 per ton in the review period.

11 **Q. PLEASE DESCRIBE THE LATEST TRENDS IN COAL MARKET**
12 **CONDITIONS.**

13 A. Coal markets continue to be in a state of flux due to a number of factors, including
14 (1) recent U.S. Environmental Protection Agency ("EPA") regulations for power
15 plants that result in utilities retiring or modifying plants, which lower total domestic
16 steam coal demand, and can result in some plants shifting coal sources to different
17 basins; (2) continuing growth in global demand for both steam and metallurgical
18 coal, which makes coal exports increasingly attractive to U.S. coal producers; (3)
19 continued low gas prices combined with installation of new combined cycle
20 generation by utilities, especially in the Southeast, which also lowers overall coal
21 demand; and (4) increasingly stringent safety regulations for mining operations,
22 which result in higher costs and lower productivity

23 **Q. HOW DO YOU EXPECT THESE TRENDS TO AFFECT DEP'S COAL**

1 **BURN AND INVENTORY LEVELS?**

2 A. Due to increasingly lower power prices, the retirement of DEP coal stations, and the
3 addition of natural gas-fueled combined cycles, coal burn projections for 2013 and
4 forward are forecasted to be lower than historical volumes. As an example of the
5 impact, the actual coal burn for DEP's stations in 2012 was just over 9,700,000 tons,
6 approximately 30% less than the average coal burn over the prior five-year period of
7 over 12,400,000 tons. Based on the low coal burns in 2012, as well as the
8 downward projection for coal burns in 2013 as compared to the amount of coal
9 under contract for delivery in 2013, the Company expects coal inventories to be
10 above target levels during 2013. If the Company experiences mild weather and
11 continued low purchased power prices, there likely will be further upward pressure
12 on coal inventories.

13 **Q. WHAT IS THE PROJECTED AVERAGE DELIVERED COAL COST FOR**
14 **THE BILLING PERIOD?**

15 A. Combining coal and transportation costs, the Company projects average delivered
16 coal costs of approximately \$92.60 per ton for the billing period. This represents a
17 2.0% increase compared to the review period actual cost. This cost, however, is
18 subject to change based on (1) changes in oil prices, which impact transportation
19 rates; (2) potential additional costs associated with suppliers' compliance with legal
20 and statutory changes, the effects of which can be passed on through coal contracts;
21 (3) performance of contract deliveries by suppliers and railroads which may not
22 occur despite the Company's strong contract compliance monitoring process; (4)
23 cost of potential contract volume deferrals in light of declining coal burn projections

1 and high coal inventories; and (5) the amount of non-Central Appalachian coal the
2 Company is able to consume.

3 **Q. WHAT STEPS IS DEP TAKING TO CONTROL COAL COSTS?**

4 A. The Company continues to maintain a comprehensive coal procurement strategy that
5 has proven successful over many years in limiting average annual coal price
6 increases and maintaining average coal costs at or well below those seen in the
7 marketplace. Aspects of this procurement strategy include having the appropriate
8 mix of contract and spot purchases, staggering contract expirations which thereby
9 limit exposure to market price changes, diversifying coal sourcing as economics
10 warrant, and pursuing contract extension options that provide flexibility to extend
11 terms within a particular price band.

12 The Company expects to address forward year coal requirements later this
13 year with any potential competitively bid purchases, if made, taking into account
14 projected coal burns, as well as coal inventory levels. The Company currently is
15 considering alternatives to help mitigate inventory levels including negotiating
16 contract shipment deferrals/buy-outs, and evaluating coal resell market
17 opportunities. Due to lower coal demand for most of the U.S., however, either of
18 these options would likely be difficult to achieve without paying additional costs to
19 the supplier or incurring sales at potential losses.

20 **Q. PLEASE DESCRIBE DEP'S PROCUREMENT PRACTICES FOR**
21 **NATURAL GAS.**

22 A. The Company's in-house personnel are responsible for natural gas contracting,
23 competitive procurement, scheduling, and balancing efforts for the gas generation

1 fleet. The Company has implemented gas procurement practices that include
2 periodic Request for Proposals (“RFPs”) and short-term market engagement
3 activities to procure a reliable, flexible, diverse, and competitively priced natural gas
4 supply that supports the Company’s combustion turbine (“CT”) facilities and the
5 combined cycle (“CC”) facilities.

6 Lastly, in December 2012 the Company received approval for the Asset
7 Management and Delivered Supply Agreement (“AMA”) between DEP and DEC,
8 which was implemented on January 1, 2013. In the AMA, DEC is the designated
9 Asset Manager that procures and manages the combined gas supply needs for DEC
10 and DEP, and performs the necessary scheduling and balancing on the pipelines.

11 **Q. HOW IS NATURAL GAS DELIVERED TO DEP’S GENERATING**
12 **FACILITIES?**

13 A. The Company procures long-term firm transportation that provides natural gas to its
14 generating facilities. In addition, as needed, DEP may procure shorter-term firm
15 pipeline capacity through the capacity release market and market supply options that
16 provide the needed natural gas supply to its generating facilities.

17 **Q. DOES DEP MAINTAIN AN INVENTORY OF NATURAL GAS?**

18 A. The Company has a storage agreement as part of the AMA. As the Asset Manager,
19 DEC will procure all the needed supply for the combined Carolinas gas needs and as
20 part of that agreement, will have access to the released storage agreement. On any
21 given day, DEC may utilize the storage to balance and support the Carolinas gas
22 needs.

1 **Q. WHAT CHANGES IN VOLUME DOES THE COMPANY ANTICIPATE**
2 **WITH NATURAL GAS CONSUMPTION?**

3 A. The Company's natural gas consumption is expected to continue to increase. The
4 Company consumed approximately 89 billion cubic feet ("Bcf") of natural gas in the
5 review period, compared to approximately 69 Bcf in the prior review period. This
6 increase was driven by the downward trend in the natural gas prices as well as the
7 operation of the second CC power block at the Richmond facilities. For the billing
8 period, DEP's current forecasted natural gas consumption is approximately 152 Bcf.
9 This forecast is based on current natural gas prices which are forecasted to remain
10 low.

11 **Q. PLEASE DESCRIBE THE CURRENT STATE OF THE NATURAL GAS**
12 **MARKET, INCLUDING THE NATURAL GAS PRICES EXPERIENCED**
13 **DURING THE REVIEW PERIOD.**

14 A. The development of shale gas has created a fundamental shift in the nation's natural
15 gas market. Shale gas is natural gas that is trapped within shale formations, and
16 which can provide an abundant source of petroleum and natural gas. Within recent
17 years, improvements in production technologies have allowed greater access to the
18 natural gas trapped in these formations, and has resulted in increased reserves that
19 can produce natural gas supply more quickly and economically. Given continued
20 production increases, natural gas prices continue to remain at lower levels. The
21 Company's average price of gas purchased for the review period was \$5.03 per
22 Million British Thermal Units ("MMBtu"), compared to \$5.62 per MMBtu during
23 the prior review period.

1 **Q. PLEASE DESCRIBE THE OUTLOOK FOR THE NATURAL GAS**
2 **MARKET, INCLUDING THE EXPECTED NATURAL GAS PRICE TREND**
3 **FOR THE BILLING PERIOD.**

4 A. New production from shale gas has contributed to substantial increases in the supply
5 of U.S. marketed natural gas. This increase has outstripped demand growth. The
6 Company expects the shale gas production percentage of total natural gas domestic
7 production to continue to increase over time. The current forward prices for natural
8 gas reflect this continued increase in competitively priced supply with an average
9 delivered price of \$4.45 per MMBtu through the billing period.

10 **Q. IN LIGHT OF DEP'S INCREASED USAGE OF NATURAL GAS, WHAT IS**
11 **DEP DOING TO MITIGATE THE EFFECTS THAT INCREASING**
12 **NATURAL GAS PRICES COULD HAVE ON FUEL COSTS?**

13 A. The Company has been executing a natural gas hedging strategy for the last several
14 years in order to mitigate the price volatility of natural gas. The strategy
15 incorporates a "dollar-cost averaging" approach of hedging that financially "locks-
16 in" natural gas prices at a fixed price.

17 **Q. PLEASE EXPLAIN THE JDA BETWEEN DEC AND DEP.**

18 A. As explained in my Merger Testimony filed on September 14, 2011, in Docket No.
19 2011-158-E, the JDA is an agreement between DEP and DEC where DEC acts as
20 the Joint Dispatcher for DEP's and DEC's power supply resources. The JDA has
21 allowed DEP's and DEC's generation resources to be dispatched as a single system
22 to meet the two utilities' retail and firm wholesale customers' requirements at the
23 lowest possible cost. As a result, the joint dispatch process allows DEP and DEC to

1 serve their retail and wholesale native load customers more efficiently and
2 economically than they can on a stand-alone basis. The JDA also provides a
3 methodology for calculating the savings generated by the joint dispatch process and
4 for equitably allocating the savings between DEP and DEC.

5 **Q. HOW DO THE COMPANY'S CUSTOMERS RECEIVE THEIR SAVINGS**
6 **FROM THE JDA?**

7 A. As I described in my Merger Testimony, the joint dispatch savings will
8 automatically flow through to the Companies' retail customers through their fuel
9 clauses. For native load wholesale customers, the joint dispatch savings are passed
10 through as permitted by the applicable wholesale contracts. Under the joint dispatch
11 process, the energy cost attributable to each utility's native load are the costs actually
12 incurred by the utility for energy allocated to native load service, adjusted by the
13 cost allocation payments calculated by the Joint Dispatcher, which are treated as
14 purchases and sales between the Companies. As a result, the energy cost ultimately
15 incurred by DEP and DEC to serve their respective native loads will be equal to the
16 stand-alone costs they would have incurred but for the joint dispatch arrangement,
17 less each utility's share of the joint dispatch savings.

18 **Q. THE COMPANY HAS GUARANTEED A CERTAIN AMOUNT OF**
19 **MERGER-RELATED SAVINGS TO ITS RETAIL CUSTOMERS. HOW**
20 **MUCH SAVINGS HAS DEP ACHIEVED THUS FAR, AND HOW MUCH**
21 **WILL GO TO SOUTH CAROLINA RETAIL CUSTOMERS?**

22 A. Through March 2013, the combined merger savings from the JDA and the
23 Companies' fuel procurement activities are \$89 million. The Company's and DEC's

1 customers are then allocated their share of the combined savings based upon the
2 resource ratios of the combined company. This resource ratio is 61.7% for DEC and
3 38.3% for DEP through March 2013.

4 **Q. DID ALL OF THE MERGER SAVINGS IN 2012 OCCUR AFTER THE**
5 **MERGER CLOSE DATE IN JULY 2012?**

6 A. No. The Company and DEC procured coal and reagents in 2011 utilizing joint RFPs
7 assuming a January 2012 Merger close date. The delay in the Merger close in
8 December 2011 occurred after many of the contracts were signed assuming a
9 delivery schedule beginning in January 2012. These contracts were delivered to the
10 Companies' coal stations and either stockpiled or utilized in limited testing plans.
11 After the Merger close, the savings from these same contracts were shared between
12 DEP and DEC as specified in the merger stipulation agreement. The Companies
13 propose that the pre-merger savings be shared with DEC utilizing the sharing ratio
14 for savings that occurred from July to December 2012.

15 **Q. HOW DOES THE COMPANY OPERATE ITS PORTFOLIO OF**
16 **GENERATION ASSETS TO RELIABLY AND ECONOMICALLY SERVE**
17 **ITS CUSTOMERS?**

18 A. Both DEP and DEC utilize the same process to ensure that the assets of the
19 Companies are reliably and economically available to serve their respective
20 customers. To that end, both companies consider the latest forecasted fuel prices,
21 outages at the generating units based on planned maintenance and refueling
22 schedules, forced outages at generating units based on historical trends, generating
23 unit performance parameters, and expected market conditions associated with power

1 purchases and off-system sales opportunities in order to determine the most
2 economic and reliable means of serving their customers.

3 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

4 **A.** Yes, it does.

Duke Energy Progress, Inc. Fossil Fuel Procurement Practices

Coal

- Near and long-term consumption forecasts are computed based on factors such as: load projections, fleet maintenance and availability schedules, coal quality and cost, environmental permit and emissions considerations, wholesale energy imports and exports.
- Station and system inventory targets are determined and designed to provide: reliability, insulation from short-term market volatility, and sensitivity to evolving coal production and transportation conditions. Inventories are monitored continuously.
- On a continuous basis, existing purchase commitments are compared with consumption and inventory requirements to ascertain additional needs.
- All qualified suppliers are invited to make proposals to satisfy any additional or future contract needs.
- Contracts are awarded based on the lowest evaluated offer, considering factors such as price, quality, transportation, reliability and flexibility.
- Spot market solicitations are conducted on an on-going basis to supplement contract purchases.
- Delivered coal volume and quality are monitored against contract commitments. Coal and freight payments are calculated based on certified scale weights and coal quality analysis meeting ASTM standards. During the test period the Company utilized both destination and/or origin weights and analysis.

Gas

- Near and long-term consumption forecasts are computed based on factors such as load projections, commodity and emission prices, and fleet maintenance and availability schedules.
- Short-term and Long term Periodic Request for Proposal (RFP's) and informal market solicitations will be conducted to potential qualified suppliers to procure a cost competitive, secure and reliable natural gas supply over time to meet forecasted gas usage.
- Short-term and spot purchases are conducted on an on-going basis to supplement term natural gas supply.
- On a continuous basis, existing purchases are compared to forecasted gas usage to ascertain any additional needs.

Fuel Oil

- No. 2 diesel is burned for initiation of coal combustion (light-off at steam plants) and in combustion turbines (peaking assets).
- All diesel fuel is moved via pipeline to terminals where it is then loaded on trucks for delivery into the Company's storage tanks. Because oil usage is highly variable, Duke relies on a combination of inventory and reliable suppliers who are responsive and can access multiple terminals. Diesel is replaced on an "as needed basis" as called for by station personnel with guidance from fuel procurement staff.

WEINTRAUB EXHIBIT 1

- Formal solicitation for supply is conducted periodically, with an emphasis on maintaining a network of reliable suppliers in the region of our generating assets. Contracts are awarded based on the lowest evaluated offer with special value on suppliers' demonstrated ability to move large volumes of fuel with minimal notice.

DUKE ENERGY PROGRESS
Summary of Coal Purchases
Twelve Months Ended February 2013 & 2012
Tons

<u>Line</u> <u>No.</u>	<u>Month</u>	<u>Contract</u> <u>(Tons)</u>	<u>Spot</u> <u>(Tons)</u>	<u>Total</u> <u>(Tons)</u>
1	March 2012	780,531	12,809	793,340
2	April	595,721	0	595,721
3	May	688,255	0	688,255
4	June	957,296	206	957,502
5	July	759,349	0	759,349
6	August	878,974	2,277	881,250
7	September	826,079	0	826,079
8	October	864,605	0	864,605
9	November	725,227	0	725,227
10	December	890,910	1,217	892,127
11	January 2013	471,048	2,448	473,497
12	February	498,700	491	499,191
13	Total (Sum L1:L12)	8,936,695	19,448	8,956,143

<u>Line</u> <u>No.</u>	<u>Month</u>	<u>Contract</u> <u>(Tons)</u>	<u>Spot</u> <u>(Tons)</u>	<u>Total</u> <u>(Tons)</u>
14	March 2011	986,404	75,643	1,062,046
15	April	965,609	45,849	1,011,458
16	May	962,673	38,844	1,001,517
17	June	852,395	11,099	863,494
18	July	815,307	25,975	841,282
19	August	990,968	39,719	1,030,687
20	September	869,247	24,325	893,572
21	October	850,661	25,515	876,175
22	November	524,281	0	524,281
23	December	610,368	25,423	635,792
24	January 2012	697,030	0	697,030
25	February	753,909	0	753,909
26	Total (Sum L14:L25)	9,878,852	312,392	10,191,243