

**PROPOSAL TO PERFORM AN  
AUDIT OF FUEL ADJUSTMENT CLAUSE  
FILINGS of  
Southwestern Electric Power Company  
(January 2016 - December 2018)**

**Response to RFP No. 19-09**

**June 4, 2019**



**Vantage Energy Consulting, LLC**

**Management Consulting and Energy Services**

June 4, 2019

Kim Trosclair  
Louisiana Public Service Commission  
602 North Fifth Street  
Galvez Building, Floor 12  
Baton Rouge, Louisiana 70802

Dear Ms. Trosclair:

Vantage Energy Consulting LLC, (Vantage) is pleased to respond to your request for a proposal to perform an Audit of Fuel Adjustment Clause Filings for Southwestern Electric Power Company for the period of January 2016 through December 2018. Vantage has extensive and recent experience in fuel related reviews. This proposal will demonstrate those skills, provide a work plan for all aspects of the project and a budget that is based on the specific requirements of this project.

In preparing our Proposal, we wish to emphasize our willingness to work with the Louisiana Public Service Commission and Staff to reach the required results in an efficient, cost effective and non-intrusive manner. Our firm is staffed by professional consultants who have conducted similar assignments with great success. Our contact information is:

Vantage Energy Consulting LLC  
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Cudjoe Key, FL 33042  
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Web Site: [www.vantageenergyconsulting.com](http://www.vantageenergyconsulting.com)

All the information in this proposal is accurate. Further, Vantage is committed and able to perform all the work contained in the proposal. Vantage is in compliance with all RFP requirements.

**Please note, Vantage is self-certified by the Federal Government as a Woman Owned Small Business (WOSB) and certified by the State of Florida as a Woman Business Enterprise (WBE).**

Sincerely,

*Walter P. Drabinski*

Walter P. Drabinski,  
President and Primary Contact

*Jean A. Gormley*

Jean A. Gormley, CEO



**Vantage Energy Consulting, LLC**

**Management Consulting and Energy Services**

**Table of Contents**

I. Proposal Summary .....1  
    A. Vantage Introduction.....1  
    B. The Vantage Team .....2  
    C. Project Organization and Staffing .....4  
    D. Firm Description .....4  
    E. Related Experience .....5  
    F. List of Past Vantage Projects .....8

II. Approach and Work Plan .....10  
    A. Background.....10  
    B. Project Management Techniques.....15  
    C. Preliminary Work Plan .....18  
    D. Work Plan Development and Approach.....19  
        Task I - Organization and Procurement Procedures.....19  
        Task II - Fuel Procurement and Consumption Analysis .....21  
        Task III - Coal Related - Enterprise Risk Management.....23  
        Task IV - Power Purchases and Sales.....24  
        Task V - Coal Related Power Plant Operations .....25

III. Firm Experience and References.....27  
    A. Vantage Description and Background .....27  
    B. Recent References .....27

IV. Budget.....30  
    A. Hours, Fees And Expenses .....30  
    B. Invoicing.....30  
    C. Insurance Coverage .....31

V. Resumes .....32  
    Resume of Mr. Walter P. Drabinski.....34  
    Resume of Mr. Mark D. Fowler .....47  
    Resume of Mr. Michael C. Boismenu PE.....54  
    Resume of Mr. Chuck Buechel .....57  
    Resume of Dr. Jean Gormley .....64



**Vantage Energy Consulting, LLC**

**Management Consulting and Energy Services**



## **I. PROPOSAL SUMMARY**

### **A. VANTAGE INTRODUCTION**

Vantage Energy Consulting LLC, (Vantage) is pleased to respond to the Louisiana Public Service Commission ("Commission" or "LPSC"), request for a proposal to perform an Audit of Fuel Adjustment Clause Filings for Southwestern Electric Power Company for the period of January 2016 through December 2018. This proposal will show Vantage's understanding of the project, the work required, our methodology, the experience and qualifications of our team, a breakdown of costs and timing, and details of the final report.

Vantage shall perform its review and investigation as an independent contractor. Any conclusions, results, or recommendations formulated by the consultant may be examined by any participant to this proceeding.

Vantage has served utilities, regulatory agencies and other energy-related organizations for over twenty-five years. In preparing this proposal, we will attempt to be complete and well organized in order that the LPSC Staff can readily understand our approach, related experience, and most importantly, the qualifications of our proposed project team.

The focus of Vantage has been the utility industry including companies and regulators. Vantage has performed over one hundred and fifty separate assignments. A summary of the number of different assignments performed by key Vantage consultants is included in the list below.

- 31 comprehensive and focused management audits;
- 29 focused fuel audits;
- 6 specific assignments associated with procuring or reviewing or implementing plans for solar power.
- 12 attestation reviews of utility program expenditures;
- 8 prudence reviews of large capital projects;
- 27 affiliate audits;
- 9 environmental compliance plans;
- monitored POLR auctions 32 times;
- testified before regulatory bodies approximately 150 times; and
- provided direct consulting advice to approximately 35 utilities or large utility related companies.

Our proposal, in meeting the minimum requirements of the RFP and based on our extensive experience, will provide the following:



- Detailed proposal and work plan for audit of fiscal year periods 2016 – 18.
- Fixed price quote for all work required in the assignment.
- Details on the qualifications of Vantage and its Consultants that demonstrate, unequivocally, that our team possesses all qualifications and experience needed for this assignment.
- Project controls that ensure a well-disciplined and coordinated project.
- A Work Plan that provides a detailed framework for conducting the audit and assuring that we can accurately assess both practices and results.
- Details on regular communication, reports, draft and final reports, and other work products that are required for this to be a successful assignment.
- A promise of a work relationship that is effective, efficient and that meets the highest professional standards.
- A schedule that complies with the requirements stated in the RFP.
- Adherence to all regulatory, audit and legal standards.

## B. THE VANTAGE TEAM

In presenting our proposal, we first introduce our team and then our relevant experience for this assignment. We do this because, it is ultimately the team and experience it has that helps predict a successful engagement.

Our broad level of experience demonstrates the fair and balanced approach we have delivered in regulatory matters. We can bring to projects individuals with extensive experience as regulators; individuals with extensive experience as utility managers; and individuals with extensive experience in the restructuring of electric markets. Equally important, we bring a strong team approach in which we work closely with regulatory staff personnel. We stress team communication, no surprises and a healthy respect for the opinions of all parties. The table below introduces our team. Detailed resumes are provided in Chapter V of this proposal.

Consultant Name	Project Role
Walter P. Drabinski, BSEE, MBA	<b>Project Director</b> (Vantage) – Ten years’ experience with a utility, over 25 years as a management consultant in the utility industry. Specializes in affiliate, financial, fuel, and management audits, M&A support, prudence reviews, and regulatory strategy. Has managed over 25 fuel related audits.
Mark Fowler BS, MBA	<b>Senior Consultant</b> – His experience includes work directly for utilities and 30 years as a management consultant. This includes over 100 consulting assignments, including numerous



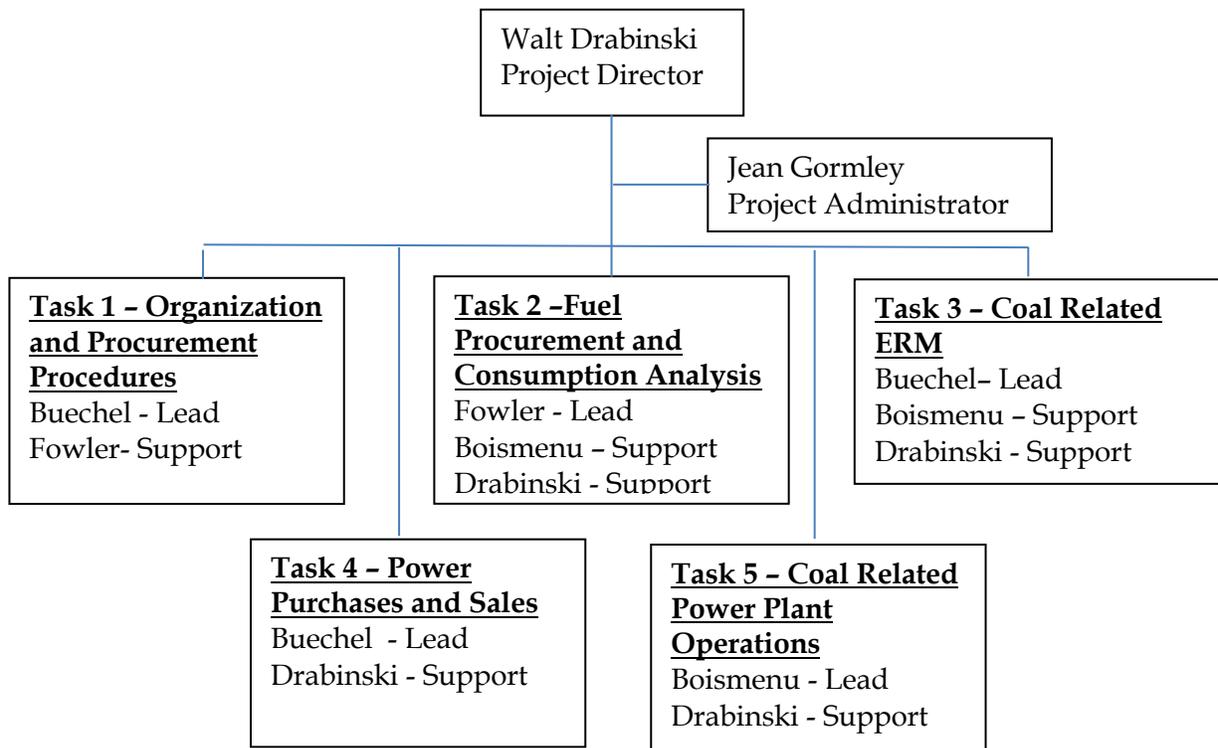
	<p>fuel related assignments. His direct experience in fuel activities includes work for a gas and oil pipeline company, gas liquids and refined products procurement and trading, and a southwest electric utility. He began his career with Buckeye Gas Products with whom he worked in various areas, including procurement, trading, storage and distribution of gas liquids via pipeline, rail and truck transport, strategic and tactical acquisitions and divestitures and field operations. He worked in gas and petroleum pipeline operations with Williams Pipeline which at the time was an affiliate of Buckeye. He also worked as a financial analyst for Plains Electric Generation and Transmission during the construction of the Plains Escalante Generating Station and its associated coal handling and rail facilities. This included the analysis of costs associated with coal transportation options, coal handling and coal inventory. He has performed dozens of audits where he examined gas and coal related topics.</p>
<p>Michael Boismenu, PE (NYS)</p>	<p><b>Senior Engineer</b> - Almost thirty years with large utilities in Generation Operations, Generation and T&amp;D Engineering, and System Standards. Thirteen years with Vantage. As Plant Manager of a large coal fired power plant and Regional Director of Operation with NRG Energy he coordinated the coal, oil and natural gas procurement process to assure that the fuel products met the physical requirements as required to efficiently fire a broad spectrum of boilers and combustion turbines to maintain operation within the permitted environmental regulations. Coordinated and provided oversight of the fuel delivery process including rail, boat and truck deliveries. Integrated the fuel procurement and delivery processes to ensure that the associated fuel costs were within the region's financial budgets. Mike also had responsibility for engineering and outage support at Nine Mile Point 1 &amp; 2 and Fitzpatrick Nuclear Stations. This included assistance during fuel outages.</p>



<p>Chuck Buechel, BA, MA</p>	<p><b>Senior Consultant</b> – Twenty years as a consultant with Vantage, after leaving the Kentucky PSC as an Economist and Deputy Executive Director. During his tenure at the KPSC, he managed hearings and prepared orders related to fuel cost recovery for all electric utilities. He has broad experience in all aspects of utility rates, capital and operating budget analysis, and corporate strategy.</p>
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### C. PROJECT ORGANIZATION AND STAFFING

The selection of a team that has the breadth of experience on the topics involved as well as experience as a cohesive unit is key to projects of this complexity. We have proposed a team of experienced consultants who will work under the direction of Walt Drabinski.



### D. FIRM DESCRIPTION

This section describes Vantage Energy Consulting, LLC, the firm, project organization, and the experience and qualifications of the team proposed to assist the Louisiana Public Service Commission on this assignment.

Vantage is a Florida State Certified Woman Business Enterprise (WBE) and is self-certified with the Federal Government as a Woman Owned Small Business (WOSB).

### **VANTAGE ENERGY CONSULTING, LLC (VANTAGE)**

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Cudjoe Key, FL 33042  
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Federal Tax ID #: 27-2585037

Vantage is a management consulting firm headquartered in Cudjoe Key, Florida with consultant offices located in Fort Thomas, KY, Ennis, MT, Dunkirk, NY and Atlanta, GA. Vantage consultants possess a broad background in all business aspects of electric, gas, and water utilities, but retain particular expertise in utility operating functions.

The Vantage team consists of highly experienced, trained consultants, covering virtually all functional work areas within a utility company. Vantage is staffed by a total of 12 full-time and contract consultants and administrative staff. These consultants have a diverse set of backgrounds, including engineering, accounting, economics, finance, chemistry, and psychology.

Vantage provides a broad range of consulting services to investor-owned utilities, independent power producers, regulatory agencies, state planning and environmental agencies, and law firms. While the majority of our assignments are tailored to the specific needs of the client, there are specific products and services which we offer.

### **E. RELATED EXPERIENCE**

Over the years, government agencies have turned to Vantage when they needed the best firm for critical projects such as this. The following summarizes fuel related audits performed by Vantage or its key consultants. This is followed by a list of all our assignments.

- **Mississippi Power Company Fuel Audit** - In March 2019, Vantage completed a two-year audit cycle of Mississippi Power Company for the Mississippi PSC. This audit addressed all aspects of fuel procurement by this large multi-utility organization, addressing the intricacies of a centralized purchasing organization, a broad range of generation assets and multiple regulatory agencies.
- **Ohio Power PPA and Fuel Procurement Audit** - In December 2018 Vantage completed an audit of AEP Ohio Power's Purchased Power Adjustment (PPA). The audit included a review of numerous Orders and filings relating to the history, development, current status and requirements of the PPA Rider. The audit addressed prudence of bidding in PJM markets, accuracy of invoicing, independence of fuel procurement and compliance with policies, procedures and



Commission orders.

- **Fuel Adjustment Clause (FAC) Audit of Entergy Mississippi** - Vantage initially prepared testimony on the current status of FAC use in the U.S. electric industry and then performed an audit of Entergy Mississippi that addressed procurement of fuel, energy purchases, nuclear plant fuel procurement, dispatch of six regulated utilities and non-utility sales. We addressed models used for dispatch and cost accounting as well as FAC design and gas hedging practices. We also addressed issues associated with western coal cost and transportation.
- **East Kentucky Power Fuel Procurement Audit** - Performed for the Board of Directors, this audit reviewed all procurement activities, generation efficiency, fuel quality and long-term strategies. Visited numerous mines and tippie facilities in the Kentucky, West Virginia and Ohio region.
- **Ohio Electric Fuel Clause Audits** - During the 1990's Vantage audited both electric and gas companies for the Public Utility Commission of Ohio (PUCO). On each assignment our audit included a comprehensive evaluation of FAC related activities followed by testimony. In addition to reviewing FAC calculations, Vantage visited over thirty power plants where coal handling, measuring, testing, unit efficiency, and capacity factor were reviewed. Vantage also visited numerous open pit and underground mines, addressing cost efficiency of company-owned mines and the use of long-wall mining techniques. Some of these audits also included analysis of nuclear fuel procurement. These audits included:
  - AEP's Ohio Power,
  - Columbus Southern subsidiaries,
  - Dayton Power & Light,
  - Monongahela Power Company,
  - Cleveland Electric Illuminating Company,
  - Toledo Edison Company, and
  - West Ohio Gas Company.
- **Energy Auction Monitoring for Pennsylvania, Maryland, Delaware and Virginia** - Vantage has acted as the SOS Procurement monitor in these four states for 22 different procurement cycles since 2006.
- **Fuel Procurement Reviews as Part of Comprehensive Management Audits** - Vantage and its consultants have performed dozens of comprehensive management audits during which fuel procurement and power plant operations are evaluated. These assignments include:
  - Virgin Island Water & Power
  - Kentucky Utilities
  - Louisville Gas & Electric
  - Pennsylvania Power & Light



- Duquesne Light Company
  - West Texas Utilities
  - SEMPRA
  - Pacific Gas and Electric
  - Potomac Electric Power
  - Choptank Electric Cooperative
- 
- **Kentucky Environmental Cost Recovery Hearings** - Vantage has provided a broad range of audit and regulatory support related to electric utility generating resource Environmental Cost Recovery (ECR) mechanism for the Kentucky PSC. Vantage reviewed testimony and assisted in rate cases related Environmental Cost Recovery (ECR) mechanism for the Kentucky PSC. On this assignment, Vantage consultants acted as an extension of staff in four separate cases. The ECR permits recovery of environmental costs through a separate surcharge after a formal proceeding. Vantage reviewed applications, submitted and reviewed interrogatories, prepared summaries for and briefed the Commissioners and Staff, assisted in hearings and helped draft the final orders. In total almost \$5 billion in ECR projects were awarded. Upon completion of the proceedings, Vantage was retained for five years to monitor construction and cost expenditures on all Kentucky Utilities and Louisville Gas & Electric Projects.
  
  - **New Jersey Gas Hedging and Risk Management Audit** - Vantage performed an audit of the four natural gas distribution utilities in New Jersey in which we examined gas hedging practices and risk management. This assignment required a thorough knowledge of the U.S. natural gas infrastructure and macro-economic drivers in the U.S. and world energy industry, as well as detailed analytical tools related to risk management practices.
  
  - **Roseville Electric Risk Management Audit**- Performed an extensive review of risk management techniques used for procuring energy, fuel and other supply activities.
  
  - **Southern California Edison's Reliability Investment Incentive Mechanism (RIIM) Program** - this audit evaluated the prudence of almost \$2 billion in distribution system expenditures dedicated to reliability and increases in utility maintenance staffing. This was a unique project because it approached reliability from an investment standpoint rather than performance measures only. Activities included in the audit included reviews of capital projects for T&D, determination of projects that were reliability related, a review of SAIDI and SAIFI statistics and impacts due to improvement program and assessment of agreed to staffing requirements. Our analysis determined whether the project complied with regulatory orders and statewide standards.



**F. LIST OF PAST VANTAGE PROJECTS**

<b>Company</b>	<b>Project</b>
Allegheny Power Systems	Fuel Procurement Review
Alstom Development	Cogeneration Development
Ameritech	Review of merger savings
Ameren Illinois	Emergency response planning and development
American Water-New Jersey	Operations Audit
Aqualectra	Management Audit
Belize Electric Limited	Process Improvement
Bell Atlantic - New Jersey	Developed a cost activity analysis
BellSouth Services	Reviewed marketing opportunities for technical services
BellSouth	Review of customer service and financial systems
Central Hudson Electric and Gas	Management Audit
Choptank Electric Cooperative	Organizational Review
City of Colorado Springs Utilities	Operations Improvement Project
City of Corpus Christi	Process Reengineering
Cleveland Electric Illuminating	Fuel Procurement Review
Columbia Gas of Maryland	Fuel Procurement Review
Columbia Gas of Ohio	Credit and Collections Review
Columbus Southern Company	Fuel Procurement Review
Commonwealth Edison	Outage and Reliability
Consolidated Edison	Audit of emergency response
Contel California (Verizon)	Attestation Examination
Contel Service Corporation	Mgmt. and financial information systems rollouts.
Curtil	Management Audit
Dayton Power & Light Company	Fuel Procurement Review
Dominion East Ohio	Credit and Collections Audit
Duke Energy Ohio	Credit and Collections Review
Duquesne Light Company	Comprehensive Operations Review
Entergy Corporation	Fuel Procurement Audit
Edmonton Power	Power plant work management system implementation
Entergy Corporation	Affiliate Transactions Review
East Kentucky Power Cooperative	Fuel Procurement Review
El Paso Natural Gas Company	Business Unit Reorganization, Reengineering
FERC	California Energy Crisis - Audit of ISO
General Waterworks Company	Comprehensive Operations Review
GTE of California	Attestation Examination
Hampton Roads, Va. Planning Com.	Emissions Credits Banking Strategy
Houston Light and Power	Nuclear Prudence Review
Indianapolis Power & Light	Review of storm response
Kansas City Power and Light	Construction Review and Prudency Testimony
Kentucky American Water Company	Comprehensive Operations Review
Kentucky Utilities Company	Merger Regulatory Support
Kentucky Utilities Company	Governmental Affairs Benchmarking
Kentucky Utilities Company	Comprehensive Operations Review
Louisville Gas & Electric Company	Merger Regulatory Support
Louisville Gas & Electric Company	Comprehensive Operations Review
Montana Power	Power Plant Outage Process Improvement
National Grid	Outage Response
National Grid	Construction Program Audit



*Louisiana Public Service Commission, Response to LPSC RFP 19-09*

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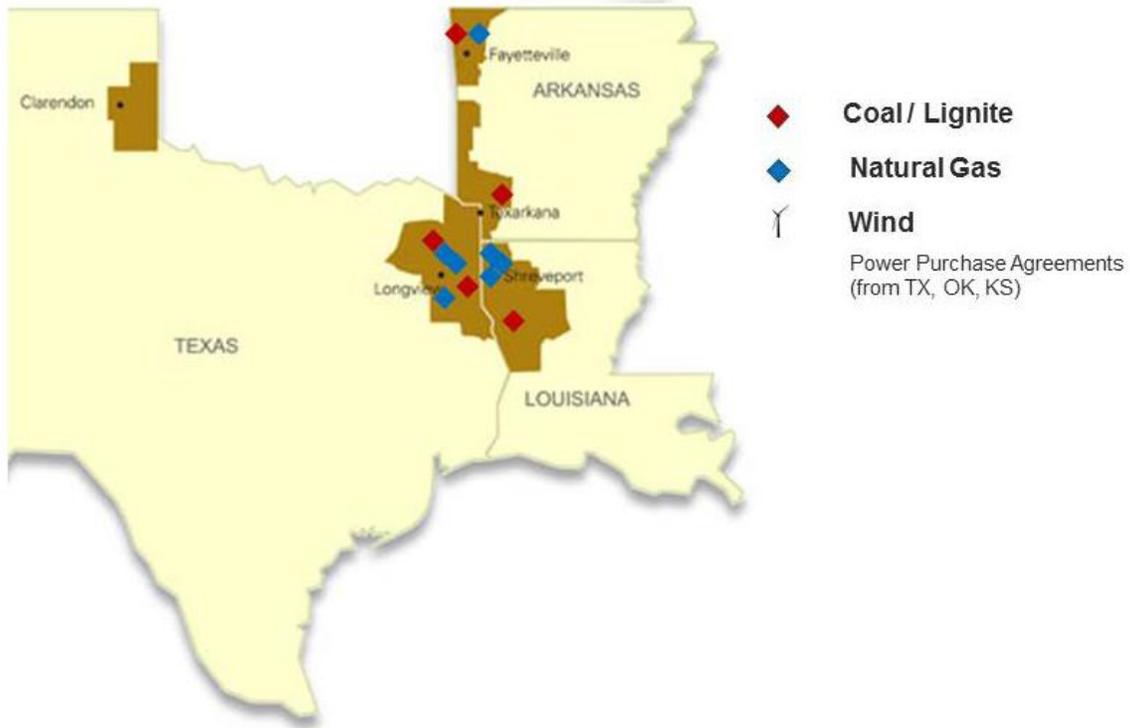
New Hampshire Electric Cooperative	Emergency Response
NorthWestern Energy	Construction Review and Prudency Testimony
NYTEL	Affiliate Transactions Review
NRG Big Cajun 2 Coal Fired Power Plant	Operational Assessment
NRG Dunkirk Coal fired Power Plant	Plant Management
NRG Huntley Coal Fired Power Plant	Plant Management
NRG Indian River Coal Fire Power Plant	Organizational Design Assessment and Analysis
NRG Oswego Oil Fired Power Plant	Plant Management
NRG Texas Purchase	Purchase and Integration of Assets into the NRG System
PacifiCorp	Power Plant Maintenance
PacBell	Attestation
Pacific Gas & Electric Company	DSM Analysis
PECO Energy	Nuclear Prudence Review
Pennsylvania Power & Light Company	Staffing Review
PEPCO	Power plant fuel procurement and management
Philadelphia Gas Works	Operations Review, Capital Project Analysis
Philadelphia Suburban Water Company	Comprehensive Operations Review
Philadelphia Suburban Water Company	Reengineering of Operating Departments
PowerSouth	Organizational Design Assessment and Analysis
Plains Electric Generation and Transmission	Power Plant Construction
Public Service Co. - New Hampshire	Power Plant Outage Management
Public Service Co. - New Hampshire	Management audit of T&D operations
Public Service Co. - New Hampshire	Review of Emergency Response
Public Service Electric & Gas Company	Restructuring Plan Review
Public Service Electric & Gas Company	Nuclear Prudence Review
Public Service Electric & Gas Company	Generation and Environmental Planning
Public Service Electric & Gas Company	Fossil Generation Rate Case
Public Service Electric & Gas Company	Clean Air Act Compliance
San Diego Gas & Electric Company	Performance Based Ratemaking
San Diego Gas & Electric Company	DSM Analysis
Scranton Steam Heat	Plant Management
Seattle City Light	Comprehensive Operations Review
SEMPRA	Affiliate Transactions
Southern California Edison	DSM Analysis
Southern California Gas Company	DSM Analysis
Southern California Gas Company	Management audit of gas operations
Southern California Gas Company	Affiliate Transactions Audit
Southern Connecticut Gas	Management Audit
South Jersey Gas	Process Reengineering
Southern New England Telephone	Technical re. long-run cost modeling docket
Southwestern Bell Telephone	Call Center Work Management
St. Vincent	Management Audit
Toledo Edison Company	Fuel Procurement Review
Unitil	Emergency Response
Union Light Heat & Power	Operations Review
United Telephone of Pennsylvania	Comprehensive Operations Review
United Telephone of Texas	Comprehensive Operations Review
Vectren Energy	Credit and Collections Audit
Washington Gas Light	Fuel Procurement Review
West Ohio Gas Company	Gas Procurement Analysis
West Texas Utilities	Comprehensive Operations Review
Western Kentucky Gas	Comprehensive Operations Review



## II. APPROACH AND WORK PLAN

### A. BACKGROUND

SWEPCO owns or has agreements for supply from power plants in Louisiana, Texas and Arkansas as illustrated in the map below. <sup>i</sup>



<sup>i</sup> 2018 SWEPCO IRP

## Current Supply-Side Resources, as of July 1, 2018<sup>ii</sup>

Unit Name	Primary Fuel Type	C.O.D. <sup>1</sup>	Rating (MW) <sup>2</sup>	
Arsenal Hill 5	Gas Steam	1960	110	
Knox Lee 2	Gas Steam	1950	30	
Knox Lee 3	Gas Steam	1952	26	
Knox Lee 4	Gas Steam	1956	71	
Knox Lee 5	Gas Steam	1974	342	
Lieberman 2	Gas Steam	1949	25	
Lieberman 3	Gas Steam	1957	109	
Lieberman 4	Gas Steam	1959	108	
Lonestar 1	Gas Steam	1954	50	
Wilkes 1	Gas Steam	1964	164	
Wilkes 2	Gas Steam	1970	360	
Wilkes 3	Gas Steam	1971	353	
Mattison 1	Gas (CT)	2007	71	
Mattison 2	Gas (CT)	2007	71	
Mattison 3	Gas (CT)	2007	71	
Mattison 4	Gas (CT)	2007	71	
J.L. Stall 6	Gas (CC)	2010	511	
Dolet Hills 1	Lignite	1986	257	
Flint Creek 1	Coal	1978	258	
Pirkey 1	Lignite	1985	580	
Turk 1	Coal	2012	477	
Welsh 1	Coal	1977	525	
Welsh 3	Coal	1982	528	
Majestic	Wind	2009	80	(A)
High Majestic II	Wind	2012	80	(A)
Flat Ridge 2	Wind	2013	109	(A)
Canadian Hills	Wind	2012	201	(A)
			5,638	

(1) Commercial operation date.  
(2) Peak net dependable capability (Summer) as of filing.  
(A) Represents capacity from Power Purchase Agreements (PPAs)

<sup>ii</sup> 2018 SWEPCO IRP

## PLANTS LOCATED IN LOUISIANA

**Robert Welsh Power Plant** is a 1-gigawatt (1,056 MW), coal power plant located northwest of Pittsburg, Texas in Titus County, Texas. Welsh Power Plant had three units constructed: Unit 1 began operations in 1977, Unit 2 began operations in 1980, and Unit 3 began operations in 1982. All three units were installed with boilers from Babcock & Wilcox and turbines from Westinghouse. Combined, the three units had an operating capacity of 1,674 MW.

In 2012, AEP announced they were reducing output at Unit 2 to coincide with the commencement of commercial operations at John W. Turk Jr. Coal Plant in Arkansas. Unit 2 was officially decommissioned in April 2016 as a part of a major retrofitting project to comply with the Environmental Protection Agency's (EPA) Mercury and Air Toxics Standards (MATS) for Units 1 and 3.

The John W. Turk, Jr. Power Plant is one of the cleanest, most efficient coal-fueled plants in the United States. The 600-megawatt facility began operation in December 2012 as the first "ultra-supercritical" unit in operation in the United States. Its advanced coal combustion technology uses less coal and produces fewer emissions, including carbon dioxide, than traditional pulverized coal plants.

State-of-the art emission control technologies and the use of low-sulfur coal enable the Turk Plant to meet emission limits that are among the most stringent ever required for a pulverized coal unit.

The remaining two units use sub-bituminous coal mined from the Powder River Basin and shipped via rail.

SWEPSCO's J. Lamar Stall Unit at Arsenal Hill, a 508-megawatt (MW) combined-cycle natural gas unit, began commercial operation in June 2010. The Stall Unit was strategically placed at the Arsenal Hill Power Plant location in Shreveport, La., to serve SWEPSCO's customers in three states and to access existing natural gas pipelines and electric transmission lines.

SWEPSCO announced the Stall Unit as part of its new generation plans in May 2006. The plans also included 300 MW of natural gas peaking generation from the Harry D. Mattison Power Plant in Northwest Arkansas, which came on line in 2007, and 440 MW (SWEPSCO's ownership share) of coal-fueled base load generation from the 600-MW John W. Turk, Jr. Power Plant, which began commercial operation in December 2012. As an intermediate load facility, the Stall Unit provides power that is quickly available as customers' usage increases or decreases between base load (24/7 power available to meet basic system needs) and peak load (the highest demand on the electric system, such as summer afternoon).



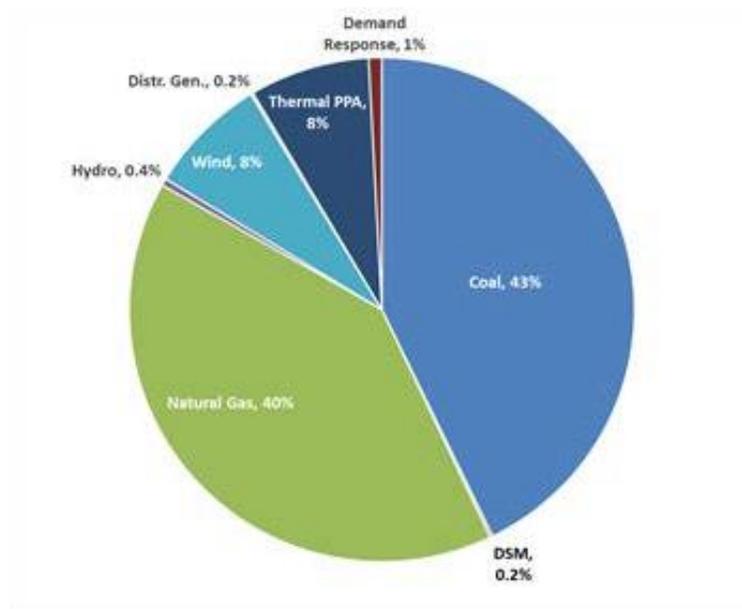
## SWEPCO 2019 LOUISIANA IRP

Southwestern Electric Power Company (SWEPCO) has initiated its Integrated Resource Planning process, and plans to issue its final Integrated Resource Plan (IRP) report to the Louisiana Public Service Commission (LPSC) in July 2019. The IRP is a 20-year plan that outlines the energy resources that SWEPCO plans to secure to serve its existing and future customers. The IRP serves to inform the Commission and interested parties about the anticipated costs and other considerations of various resource options, as well as SWEPCO's preferred plan. The plan does not commit to any specific investment decision, nor is it a commitment to a specific course of action. It is simply a snapshot of the future at a given point in time.

To determine the appropriate level and mix of incremental supply and demand-side resources required to offset such going-in capacity deficiencies, SWEPCO utilized the Plexos® Linear Program (LP) optimization model to develop a "least-cost" resource plan.

SWEPCO used the modeling results to develop a Preferred Plan or "Plan". To arrive at the Preferred Plan, using Plexos®, SWEPCO developed optimal portfolios based on four long-term commodity price forecasts and two load sensitivities. The Preferred Plan balances cost and other factors such as risk and environmental regulatory considerations, to cost effectively meet SWEPCO's demand and energy obligations. <sup>iii</sup>

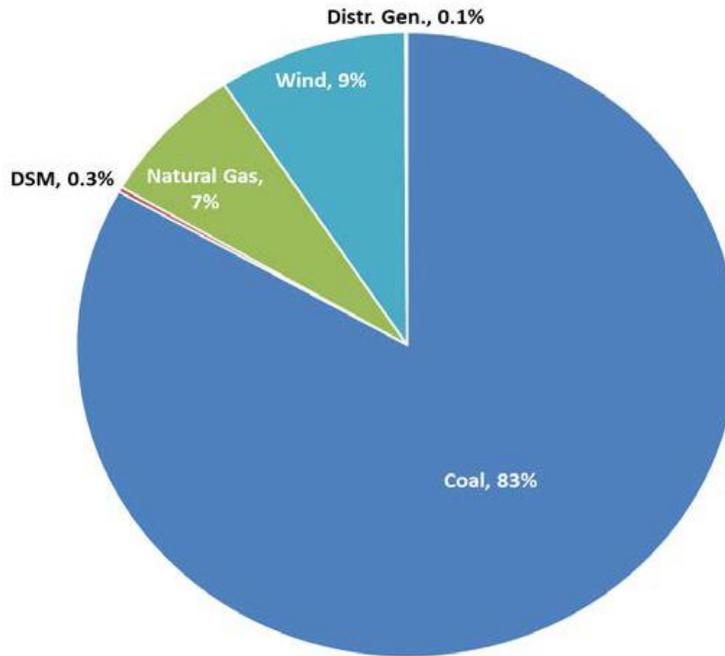
## 2019 SWEPCO Nameplate Capacity Mix



<sup>iii</sup> 2019 SWEPCO IRP



## 2019 SWEPCO Energy Mix



In summary, the Preferred Plan selected by SWEPCO:

- Adds utility-scale solar resources in 2025 through 2032, for a total of 1,300MW (nameplate) of utility-scale solar by the end of the planning period
- Adds 600MW (nameplate) of wind resources in 2022 and 2023 and 200MW (nameplate) in 2024, with additional wind resources added through 2029, for a total of 2,000MW (nameplate) by the end of the planning period.
- Implements customer and grid energy efficiency programs, including VVO, reducing energy requirements by 202GWh and capacity requirements by 49MW by 2038.
- Fills long-term needs through the addition of a total of 1,119MW of natural gas combined cycle generation in 2037 and 2038 to replace planned unit retirements.
- Recognizes additional distributed solar capacity will be added by SWEPCO's customers, beginning with 10MW (nameplate) in 2019 and ramping up to 24MW (nameplate) by 2038.

## B. PROJECT MANAGEMENT TECHNIQUES

Vantage uses several proven project management techniques that will enable us to manage this project while enhancing communications among the project team members, the Department and Company management while ensuring confidentiality of key data.

### COMMUNICATION AND PROJECT MANAGEMENT

**Project Director - Walter P. Drabinski** will serve as the Project Director on this project and will have day-to-day responsibility for on-site activities, scheduling of interviews, field trips, submittal, review and distribution of data responses and any day to day problems that arise. He will provide direct coordination of report drafts and assure that all work steps are fully addressed. In addition to having extensive responsibility for audit activities and authorship of the report, he will be responsible for overall quality control, schedule compliance and budget adherence. He will be the primary contact for contractual communications with the PSC. He will also be responsible for facilitating resolution of any issues as they arise.

**Project Administrator - Jean Gormley** will handle paperwork administration, billing, transmission of data, assembling and editing of the draft report. She will also assure consistent formatting of exhibits and organization charts.

### QUALITY REVIEW

A quality work product is a team effort. The process begins with the consultants - the individuals performing the day-to-day work. They must clearly understand the requirements of their assignments, have a well-considered plan of attack, and execute their assignments effectively. While it is the Project Director's responsibility to impart initial direction and focus, direct responsibility resides with the consultant for meeting detailed objectives and deadlines.

The Project Director and team members will meet reporting standards to ensure that the written report communicates the results of the audit in a complete, accurate, objective, convincing, clear, concise, and timely manner. Reports will include:

- a statement of the audit objectives and description of the scope and methodology
- a statement of professional standards adhered to in the analysis and the report
- a listing of significant issues and questions, if any, needing further study and consideration
- a listing of findings that are prioritized, relevant and practical
- a statement as to whether any pertinent information was omitted because it was deemed privileged or confidential and a description of the nature of such information and the basis under which it was withheld



These fieldwork and reporting standards are the foundation of our Quality Assurance Program. The quality review process involves the application of these standards at several points along the critical path.

## **CONFIDENTIALITY AND INTERNET SECURITY**

Vantage recognizes that all information collected from the work processed under this contract must be treated with care to preserve any issues of confidentiality. Vantage and all employees involved on this assignment will sign the Non-disclosure and Use of Information Agreement upon award of the project. Further, Vantage will utilize its internal controls to ensure all materials are handled in a manner that prevents inappropriate dissemination. Internal controls consist of:

The Vantage Energy Consulting network is protected by a Nord Virtual Private Network (VPN). All data traveling from our network is transferred via an encrypted connection through a VPN tunnel. That means all the traffic coming from our network is no longer visible to our Internet Service Provider (ISP). NordVPN uses **AES** (Advanced Encryption Standard) with **256 bit-keys**. Nord VPN supports both the **IKEv2/IPsec** and **OpenVPN** security protocols.

**IKEv2/IPsec** encrypts and secures our traffic by employing high-level cryptographic algorithms and keys. In addition to this, NordVPN utilizes NGE (Next Generation Encryption) in IKEv2/IPsec. IKEv2/IPsec security protocol provides military-grade encryption standards, stability, and high-performance speed.

**OpenVPN** supports a high number of strong encryption algorithms and ciphers, to guarantee the protection of our sensitive data, we use AES-256-CBC with a 2048-bit DH key.

Where required, we can enable Dedicated IP servers, Double VPN configurations, Obfuscated Servers or Point-to-Point VPN connections.

## **INFORMATION REQUEST MANAGEMENT SYSTEM**

Throughout the course of the review, the team will submit a number of information requests. Efficiently managing outstanding information requests and those documents received are crucial to the success of the project. We use a cloud-based system designed to increase the efficiency of handling of all information requests.

After the initial submittal, information requests will be batch submitted and e-mailed to the Staff and Company Project Manager. Questions regarding definition of the requests by the Company will be facilitated by telephone discussions. In order to facilitate the timely completion of this fixed-price project, we anticipate receiving a response to most information requests within 10 working days.

## **AUDITING STANDARDS**

- Vantage utilizes all auditing standards that are appropriate on each assignment we address
- This assignment is a Performance Audit in accordance with the Generally Accepted Government Auditing Standards (GAGAS) (also known as the Yellow Book)
- Vantage also utilizes the American Institute of Certified Public Accountants' (AICPA) Code of Professional Conduct when needed
- The National Association of Regulatory Commissioners' Consultant Standards and Ethics for the Performance of Management Analysis

## **DEVELOPMENT OF RECOMMENDATIONS**

The development of concise, useful and cost effective recommendations is the ultimate objective of a management audit. Vantage approaches the development of recommendations from two directions. First, many recommendations become obvious as field work is progressing. Our consultants become aware of problems and can develop recommendations as the project progresses. These are then part of initial task reports and the first draft of a final report. More global, comprehensive recommendations are developed after the draft report is assembled and the Project Director and Lead Consultants assimilate the entirety of the analysis. These can encompass earlier proposed recommendations or be prepared as more global in nature.

## **DEVELOPMENT OF COST/BENEFIT ANALYSES**

Good recommendations must be sensible. The cost/benefit must be well developed and favorable. Recommendations should be reasonably achievable. They must define the responsible party and schedule for implementation. The Vantage final report will provide, not only good, sensible recommendations, but an indication of cost and benefit, where possible and details on responsibility and schedule.

## **REPORT DOCUMENTATION**

We have extensive procedures and PC-based software systems that permit us to:

- footnote, annotate, and cross-reference the task, draft, and final testimony to our working papers and the detailed work plan, resulting in a complete documentation trail,
- schedule and track interviews through a PC-based database system,
- track the request and receipt of information requests through a PC-based database. Numerous summary and detailed reports permit project management and allow the client to assess company response rates.

Footnotes serve as the basis for annotating our reports, which we use to identify the source of information that supports a statement of fact, finding, conclusion, or



recommendation. As policy, we require that every fact, quote, result of analysis, or other statement that can be challenged be footnoted.

### **C. PRELIMINARY WORK PLAN**

Our first step in developing a preliminary work plan is to set out a logical set of work steps, the assignment of personnel and the development of task level budgets for the project. As stated in the RFP, our consultants will participate in each stage of the RFP process, including technical and bidders' conferences, review of and comment on draft documents, informal meetings, preparation of a report of the RFP process, and any other steps necessary to ensure a fair and reasonable RFP process.

The preliminary work plan below provides an outline of how we will accomplish each element of this project. Once the project is awarded, we will work with Staff to modify it and expect that further changes may be required as the project progresses. The work steps and budget below are based on our current understanding of the project and our experience on similar projects.

### **PROJECT REGULATORY AND DATA REQUIREMENTS**

Vantage utilizes the Government Auditing Standards, prepared by the GAO and last revised in 2018. This document, often referred to as the Yellow Book, provides guidelines for Financial, Attestation and Performance Audits and provides useful guidance in all regulatory proceedings. Our consultants will also adhere to Generally Accepted Accounting Principles (GAAP) and Federal Energy Regulatory Commission (FERC) Uniform System of Accounts.

The requirements for this audit are clearly spelled out in the RFP, and include

- detailed review FAC filings,
- development of draft data requests and review responses,
- comprehensive review of accompanying work papers and financial data,
- review historical data involving prior audits,
- participation in formal status conferences, pre-trial conferences, depositions, and hearings,
- preparation for filing audit memoranda and/or pre-filed testimony in support of Staffs ultimate recommendations, together with exhibits supporting the memoranda and/or pre-filed testimony,
- assistance in the drafting of applicable motions, exceptions, briefing sheets and orders of the Commission.
- availability to participate in informal conference calls, meetings and conferences with the Commission and its staff as well as attending any Business and Executive Sessions that the Staff deems necessary.



- a review and analysis of the utility's monthly comprehensive fuel adjustment reporting requirements filed with the Louisiana Public Service Commission, and
- After a review of all relevant documentation the preparation of a report that contains specific findings and recommendations concerning whether the utility met its burden of proving that all costs passed through the FAC were reasonable and prudent, and that the costs were appropriate for recovery in the FAC consistent with the FAC Order.
- assist the Commission Staff in reporting Staffs findings in writing to the Commission, identifying any irregularities detected in the monthly fuel adjustment calculations that were incorrectly assessed and applied to Louisiana consumer billing statements or which allowed for the recovery of these unauthorized expenses by the utility.
- include a written or executive summary which identifies any cost included in the audit found to be in violation and a recommendation as to the appropriate methodology to be utilized by the Commission to provide for recovery of these funds.
- upon completion of the Commission's review, the Staffs audit report shall be filed in the Commission's Official Bulletin and made available for public inspection at the Commission's offices.
- if designated by the utility, specific information related to the purchase of fuel and/or purchase power cost which was filed with the Commission under proprietary cover shall treated as such pursuant to the Commission's rules.

#### **D. WORK PLAN DEVELOPMENT AND APPROACH**

The following Work Plan provides a preliminary communication of our approach to this audit. This is followed by the schedule, project organization and budget and staffing for each task. We have organized the work into five tasks, as described below:

- Task I - Organization and Procurement Procedures
- Task II - Fuel Procurement and Consumption Analysis
- Task III - Coal Related - Enterprise Risk Management
- Task IV - Power Purchases and Sales
- Task V - Coal Related Power Plant Operations

The overall objective of this work plan is to develop a process that will enable us to determine whether EMI is using prudent practices in its fuel procurement and related operational activities.

#### **TASK I - ORGANIZATION AND PROCUREMENT PROCEDURES**

The first task we will undertake is to gain a general understanding of the procurement process at SWEPCO, so that we can ensure that optimum organization, well qualified

personnel and high quality procedures are being used to drive the fuel procurement process. Further, we will assess and address the relevant contract terms and conditions and any variations that deviate from contract terms. To properly assess these criteria, an auditor must thoroughly understand how the utility procures reliable and economical energy purchases, as well as appropriate contract terms and conditions.

### Work Steps

- Review each of the organization charts related to fuel procurement at each power plant, and at SWEPCO headquarters. Determine if they provide an efficient interface with clear lines of responsibility. Compare to other large, integrated utilities, to determine if the organization can be refined to provide more effective communications, decision making and productivity.
- Visit each major plant and interview key fuel procurement personnel. Questions should address:
  - Responsibilities of each group and individual.
  - Communications process - review e-mails, memos, phone logs, etc. related to regular communications.
  - Review all reports produced at each location, determine if content is adequate and distribution is appropriate.
- Determine and communicate in the report any significant changes since the last audit.
- Provide recommendations on ways to streamline the organizations, improve communications, and decision making.

### Staffing

Develop detailed analysis on staffing.

### Work Steps

- Determine which organizations within Entergy, EMI, EMS, SERI and other related groups have a role in fuel procurement.
- Request job descriptions for each management employee in the above referenced organizations.
- Interview at last two levels of personnel at each organization.
- Develop a flow chart that illustrates relationships and responsibilities.
- Determine if there is any overlap in responsibilities.
- Determine if each position is in the correct organization.
- Identify deficiencies in the organizations compared to other, best in class, utilities.
- Review the Performance Management Plan for each key employee and assess whether the results are used to make changes in the organization as needed.
- Review training activities related to fuel procurement at each organizational entity. Assess whether they are both adequate and are made available for all employees.

## PROCEDURES

SWEPCO uses extensive policies and procedures to guide their operations. Our audit will examine each policy and procedure in detail and provide feedback on effectiveness, relevance and applicability.

### Work Steps

- Request details on every procedure used by all corporate groups that are associated with fuel procurement, off system sales, and intra utility sales.
- Analyze each procedure as follows:
  - Summarize purpose of procedure,
  - Determine whether it is current,
  - Identify potential duplication of effort,
  - Identify potential conflicts,
  - Determine if there are parts of any procedure that are no longer needed,
  - Offer recommendation on a streamlined, coherent set of policies and procedures.
- Develop a process flow chart of each fuel related group that delineates responsibilities, interaction and compliance requirements.
- Compare this process flow chart of the current relationships, policies and procedures to determine if all requirements meet best practice levels.
- Provide a gap analysis that indicates deviations in the current set of policies and procedures from what should be expected.

## TASK II - FUEL PROCUREMENT AND CONSUMPTION ANALYSIS

SWEPCO has either full or partial interest in many generating stations, as detailed in the tables provided earlier in this proposal.

### Work Steps

- Verify that coal quantity and quality operations undergo daily monitoring and control.
- Verify specific documented processes, which provide information to EMI management, and which undergo discussion with procurement and management personnel.
- Perform an in-depth analysis of inventory policy and results, and determine prudence of the process and results.
  - Review policy for establishing inventory policies for coal and oil at each station.
  - Review any models used for inventory development.
  - Review process and timing of all inventory measurements.
  - Interview corporate personnel who are responsible for inventory decision.
  - Review historical inventories at each plant and compare to actual levels.

- Review daily station coal inventory sheets to assure they reflect year-to-date deliveries from suppliers.
- Correlate inventory, consumption, generation and heat rates to develop a balanced look at energy conversion from fuel procurement to energy production.
- Summarize details on any periods in which inventory either was too low or too high and assess actions taken by EMI.
- Interview plant staff to discuss methods for measuring coal inventory. Assess accuracy of techniques.
- Assess what the cost of carrying charges is for excess inventory.
- Compare deliveries to the contracted volumes over the displayed time.
- Verify that coal quality gets monitored within 24 hours of coal loading at the supply source through the as-loaded quality analysis.
- Verify that reviews of deliveries are examined for contract compliance.
- Verify that fuel suppliers send governing coal samples to Central Fuels Laboratory for analysis of all coal samples.
- Verify that any deliveries that indicate out of specification quality produce an automatically generated notification e-mail to the Inventory Analyst, who must then consult with Fuels Management to take appropriate actions under the applicable contract.
- Verify that power procurement management and control include the following specific steps:
  - All transaction data (including quantity, price, location and term) are entered into a deal capture system by the Energy Trader for each individual purchase.
  - A confirmation is generated and distributed to the counterparty for day-ahead or longer transactions; Verify it includes key terms, such as quantity, price, location, and term.
  - Transmission Service reservations and required tags are submitted and approval is required to ensure the transaction is physically delivered.
  - The Transmission Service is monitored over the course of the delivery time to ensure that no interruptions occurred. Adjustments to the record in the Deal Capture system are made in the event any such interruptions do occur.
  - Daily check-outs are performed to ensure no discrepancies exist. Monthly check-outs are performed with the counterparty to ensure no discrepancies exist.
- Review all coal contracts and analyze any new ones for cost, quality and reliability.
- Compare coal prices to industry averages from similar mines and regions.
- Review all coal transportation contracts.

## **TASK III - COAL RELATED - ENTERPRISE RISK MANAGEMENT**

### **Coal Procurement Plan Compliance**

Review the Coal Procurement Plan which describes the specific objectives for coal procurement for its units. Review plan components including:

- Volume Risk and Strategy
- Pricing Risk and Strategy
- Diversity of Supply Risk and Strategy
- Reliability Risk and Strategy
- Environmental Risk and Strategy

Assess the components of the natural gas plan, including:

- Long-Term Gas Contracts
- Daily Gas Operations
- Fuel Hedging
- Project controls

### **Work Steps**

- Review all plans and determine if they include all components expected and whether there is adequate definition.
- Through interviews and reviews of documents, determine if each power plant and associated fuel procurement group is following all applicable plans.
- Determine whether all plans are updated as needed to reflect changes in fuel type.

### **Enterprise Risk Management ("ERM") Practices**

We will review any policy that applies to energy related procurement, trading and hedging activities. We will interview those individuals authorized for decision-making and detail the specific limits of their authority. The stated purpose of this Policy is to:

- Provide collective limits and preset guidelines for each employee authorized to legally bind the Company to transactions covered by its policies.
- Establish sound guidelines to follow in managing and controlling risks.
- Define the responsibilities for managing, monitoring, and reporting risks.
- Determine if the risk management program has a suitably comprehensive scope.
- Verify that it requires acknowledgement and acceptance by employees whose activities its breadth encompasses.
- Identify and review any other reports that delineate risk.
- Review the weekly gas market update and hedge status report to determine if it provides budgeted volume, hedge limit, hedged amount, hedged percent and average hedge price.

- Review quarterly hedge transactions reports as part of EMI's internal control structure.
- Review past audit recommendations to assure they were properly addressed.

## **TASK IV - POWER PURCHASES AND SALES**

### **Work Steps**

- Review operation of the system agreement with specific reference to any changes during the audit period.
- Interview at least one member of the Operating Committee.
- Collect all data associated with intercompany sales and develop charts and graphs that illustrate Generation by Plant Type, contributions to pool by company and unit, and any off-system sales and purchases.
- Summarize all capacity and energy transactions by month of the audit period.
- Review operation of the energy system. Summarize all transactions.
- Review Pool Interchange pricing methodologies and prices by month of audit.
- Review energy billing and pricing management which performs after-the-fact power pool billing processes to identify and then assign or allocate the costs and revenues of pool operations. Verify that the billing process, which generates monthly invoices to the operating companies and to outside entities with whom the pool transacts, are accurate.
- With respect to energy billing and pricing management, review billing re-dispatch process. Including:
  - the resource stack for the total system,
  - the resource stack for each operating company
  - an evaluation of a sample of each transaction in the sales stack, and
  - a calculation of the net pool interchange energy for each operation.
- Perform an analysis of invoices that addresses key elements of the transactions.
- Review external purchases made to determine if the cost is less expensive than the pool alternatives.
- Review external sales to verify that they are made at prices exceeding production costs.
- Review all financial deals, including broker fees on purchases and sales.
- Develop a test program to provide a valid statistical analysis of transactions. Methodology, as a minimum must:
  - Verify that they are consistent with operating the fleet and trading operations on an economic dispatch basis
  - Verify that SWEPCO retains the low-cost energy produced by its own generation
  - Verify SWEPCO receipt of associated interchange energy at prices that are lower than the cost of its higher-priced generation.
  - Verify that deliveries to the power pool of SWEPCO surplus generation are higher in cost than that retained for its own load.



- Verify that external purchases are consistently made at prices below the system lambda.
- Verify that external strip purchases are consistently profitable when compared with the system lambda alternative (considering all hours of the transaction strip).
- Verify that external sales are consistently made at prices above their marginal cost.
- Verify that external strip sales are consistently profitable (considering all hours of the transaction strip).
- Verify that SWEPCO receives an appropriate share of economically beneficial external purchases and sales.
- Review past audit recommendations to assure they were properly addressed.

## **TASK V - COAL RELATED POWER PLANT OPERATIONS**

Vantage will review and report on significant plant outages or other declines in the operating availability, equivalent availability, or capacity factors of major generating plants. We will determine if the changes impact ratepayers in the form of higher fuel or purchased power costs, and either make a recommendation to the Commission that further review is necessary or undertake our own review to determine the reasonableness of the company's action.

In addition, we will conduct an on-site investigation of at least two of the company's generating stations and report the resultant findings, conclusions, and recommendations. Items to be covered during the station visitation include, but are not limited to, the following: fuel handling and quality control (i.e., weighing, sampling, scale calibrations, etc.); inventory surveying methodologies and results; performance monitoring (i.e., heat rate); and maintenance.

### **Preliminary Work Steps**

- Meet with Power Plant Management, including personnel responsible for collecting performance data and preparing reports.
- Review all operating reports for the audit period that address plant performance.
- Review five years of the following data to get a baseline of typical performance for each major base load power plant. Evaluate operating availability, equivalent availability, NERC GADS reports, major availability detractors, equivalent forced outage rates or capacity factors.
- Review major outages for each base load plant and assess whether root cause was evaluated and addressed.
- Determine the impact on higher fuel costs and purchased power costs due to major plant outages.
- Make recommendations where appropriate on whether further review is needed or provide a conclusion as to reasonableness where possible.
- Visit two or more of the major coal fired power plants and investigate and report on the following:

- Overall organization and staffing;
- General plant condition;
- Awareness of key issues and problems at the plant as identified in previous performance analysis;
- Fuel handling;
- Quality control (i.e., weighing, sampling, scale calibrations, etc.);
- Inventory surveying methodologies and results;
- Performance monitoring (i.e., heat rate); and
- Overall maintenance.



### **III. FIRM EXPERIENCE AND REFERENCES**

#### **A. VANTAGE DESCRIPTION AND BACKGROUND**

##### **VANTAGE ENERGY CONSULTING LLC, (VANTAGE)**

20844 4<sup>th</sup> Ave West  
Cudjoe Key, FL 33042  
Tel. (305) 744-3440/Fax (305) 744-3450  
Web Site: [www.vantageenergyconsulting.com](http://www.vantageenergyconsulting.com)  
Email: [wdrabinski@vantageenergyconsulting.com](mailto:wdrabinski@vantageenergyconsulting.com)  
Federal Tax ID #: 27-2585037

Vantage Energy Consulting LLC, (Vantage) is a management consulting firm headquartered in Cudjoe Key, Florida, with clients throughout North America. Vantage consultants possess a broad background in all business aspects of electric, gas, and water utilities, but retain particular expertise in utility operating functions. Vantage Energy Consulting LLC and its predecessor company, Vantage Consulting Inc., has been in existence for over 25 years. During that time, the firm has focused on conducting utility related management consulting assignments. As the details on specific assignments described below attests, Vantage has been one of the most successful companies in this venue.

The Vantage team consists of highly experienced, trained consultants, covering virtually all functional work areas within the utility industry. Vantage is staffed by a total of 12 full-time and contract consultants and administrative staff. Consultants have a diverse set of backgrounds, including engineering, accounting, economics, finance, and psychology.

#### **B. RECENT REFERENCES**

##### **KANSAS CORPORATION COMMISSION**

###### **Reference Contact**

Jeff McClanahan, Executive Director  
Kansas Corporation Commission  
785-271-3212  
[j.mcclanahan@kcc.ks.gov](mailto:j.mcclanahan@kcc.ks.gov)

This reference supports both Vantage and its consultants.

###### **System Analysis and Expert Witness re. Westar/KCP&L Merger**

Vantage performed an assessment of the Westar and KCP&L generation plans, system reliability, customer service and merger savings related to the proposed merger of Westar and KCP&L. Walt Drabinski testified in February 2017 on the above topics.

## **Kansas City Power & Light Iatan 1&2 (2008-2012)**

At the request of the Kansas Corporation Commission (KCC) Staff, provided oversight of the \$500 million installation of an Air Quality Control System (AQCS) on the existing (KCP&L) Iatan Unit 1 and monitored construction of the \$2 billion Iatan Unit 2 coal fired, supercritical power plant. Reviewed organization, cost, schedule, project controls, contractor performance, contract monitoring, site conditions, and other key attributes associated with a mega-project. Provided regular assessments to the KCC on progress and risks, monitored startup and acceptance testing, and provided testimony in rate cases for both Iatan 1 and 2, with recommendations for almost \$240 million in prudence disallowances.

## **KENTUCKY PSC**

### **Reference Contact**

Contact Person: Daryl Newby, Audit Manager  
Tel./E-mail Address: (502) 564-7248: daryl.newby@ky.gov  
Address: 211 Sower Boulevard; P. O. Box 615; Frankfort, KY 40602

This reference supports both Vantage and its consultants.

Vantage reviewed testimony and assisted in rate cases related Environmental Cost Recovery (ECR) mechanism for the Kentucky PSC. On this assignment, Vantage consultants acted as an extension of staff in four separate cases. The ECR permits recovery of environmental costs through a separate surcharge after a formal proceeding. Vantage reviewed applications, submitted and reviewed interrogatories, prepared summaries for and briefed the Commissioners and Staff, assisted in hearings and helped draft the final orders. In total almost \$5 billion in ECR projects were awarded. In addition to this assignment, Vantage has also performed management audits on Kentucky Utilities, Louisville Gas & Electric, Western Kentucky Gas, Kentucky Suburban Water Company, East Kentucky Cooperative; and Bell South.

## **AUDIT OF AEP-OHIO POWER'S PPAS**

### **Reference Contact**

Timothy Benedict, Senior Utility Specialist  
The Public Utilities Commission of Ohio 3<sup>rd</sup> Floor,  
180 East Broad Street Columbus, OH 43215  
Phone: 614-644-8384  
email: timothy.benedict@puco.ohio.gov

Vantage performed an audit of the power purchase agreements entered into by AEP Ohio. This prudence and performance audit addressed all OVEC related costs associated with its PPAs.



## **PUBLIC STAFF - NORTH CAROLINA UTILITIES**

### **Reference Contact**

Contact Person: Kathy Fernald, Manager

Address: 4326 Mail Service Center; Raleigh, NC 27699-4326

Tel.#/E-mail Address: 919-733-0944; katherine.fernald@psncuc.nc.gov

Audit of Merger Condition and Affiliate Compliance of Duke Energy and Progress Energy for the North Carolina PSC. Vantage was selected to perform a review of how well Duke Energy Carolina complied with the extensive list of merger conditions they agreed to in their merger with Progress Energy of Florida, and to conduct an affiliate compliance audit. This merger, one of the largest in history, was complex and required extensive operating, accounting and affiliate compliance changes. Our team, all of whom were on this assignment, did a comprehensive audit and made a number of recommendations to improve communications, compliance and savings. A significant amount of work was related to cost allocation of R&D, storm hardening, system upgrades, etc.



## IV. BUDGET

### A. HOURS, FEES AND EXPENSES

The following is the budget for our work based on the requirement for the project. The detailed work plan and budget, once completed, along with input from Staff will provide a basis for our final budget cost distribution. The rates provided below are standard hourly rates, based on an eight-hour day. Any testimony that follows the project will be billed at the same rates. Meal and hotel use will follow state policy.

The following table provides a summary of our fees.

<b>Southwestern Electric Power Company - Fuel Audit</b>							
<b>Hour and Fee Estimate</b>							
	Project	Senior	Senior	Senior	Project	Total	Total
	Director	Consultant	Consultant	Economist	Analyst	Hours	Fees
	Drabinski	Fowler	Boismenu	Buechel	Gormley		
	\$240	\$225	\$225	\$225	\$125		
Project Planning	16	8	8	8	24	64	\$12,240
Task 1 – Organization and Procurement Procedures	32	32	16	40	16	136	\$29,480
Task II - Fuel Procurement and Consumption Analysis	24	40	24		16	104	\$22,160
Task III – Coal Related - Enterprise Risk Management	16		32	32	16	96	\$20,240
Task IV – Power Purchases and Sales	24			40	16	80	\$16,760
Task V – Coal Related Power Plant Operations	40	24	56		16	136	\$29,600
Report Writing	40	16	16		16	88	\$18,800
<b>Project Total Hours</b>	<b>192</b>	<b>120</b>	<b>152</b>	<b>120</b>	<b>120</b>	<b>552</b>	
<b>Project Total Fees</b>	<b>\$46,080</b>	<b>\$27,000</b>	<b>\$34,200</b>	<b>\$27,000</b>	<b>\$15,000</b>		<b>\$149,280</b>
<b>Estimated Travel Expenses</b>							
Onsite Percentage	40%						
Hours per trip	40						
Hotel cost per trip	\$400						
Airfare per trip	\$700						
Ground Trans. per trip	\$200						
Per diem per trip	\$200						
Cost per trip	\$1,500						
Number of consultant trips	8						
<b>Travel Expenses</b>	<b>\$12,000</b>						
<b>Total Project Cost</b>							
	<b>\$161,280</b>						

### B. INVOICING

Invoices will be submitted monthly. Invoice backup will include:

- a breakdown of charges by consultant and expense category;
- time reports for each consultant and staff person.



### **C. INSURANCE COVERAGE**

Vantage carries extensive insurance coverage for assignments of this type. While we currently carry the levels shown below, we have the ability to increase our coverage to the required level and will commit to do so prior to starting work. A certificate of Insurance demonstrating coverage will be submitted upon award of the contract.

- Personal and General Liability coverage of \$1,000,000 per occurrence and \$2,000,000 per year.
- Automobile coverage of \$1,000,000 per occurrence with \$2,000,000 aggregate.
- Appropriate workers' compensation and disability insurance for all employees.



## V. RESUMES

- Walter P. Drabinski
- Mark Fowler
- Mike Boismenu
- Chuck Buechel
- Jean Gormley





## RESUME OF MR. WALTER P. DRABINSKI

### AREAS OF SPECIALIZATION

Mr. Drabinski is President of Vantage Energy Consulting LLC. He has almost 40 years of experience in the utility industry as both a utility company manager and a management consultant. His functional expertise includes all aspects of utility strategy, organization, executive and financial management, operations practices, productivity improvement, operations and maintenance, and engineering, environmental and construction management. As a utility manager, Mr. Drabinski held the positions of System Training Director, Fossil Generation; Supervisor, Electrical Maintenance; and Operations Project Engineer for Niagara Mohawk Power Corporation. As a management consulting principal, he has worked for national firms and has been President of Vantage for over 22 years. During that time, he has managed more than 125 consulting engagements, including over 75 state regulatory commissioned audits. A summary of his assignments includes:

- performed 23 comprehensive and focused management audits;
- performed 19 affiliate audits;
- performed 22 fuel audits;
- reviewed 9 environmental compliance plans;
- monitored POLAR auctions 32 times;
- performed 11 prudence reviews;
- testified before regulatory bodies approximately 90 times; and
- provided direct consulting advice to approximately 22 utilities or large utility related companies.

### SELECTED CONSULTING EXPERIENCE

**PSE&G** – Project Manager and Lead Witness for an audit of the Company’s Unbundling, Stranded Cost, and Restructuring plans and testimony. On this assignment, under the auspices of the New Jersey Board of Public Utilities, Vantage was the lead firm for a consortium of five consulting firms that addressed numerous critical and cutting edge issues. These included areas such as reconciliation of the regulatory and FERC books, development of cost of service studies, assessment of capital additions proposed for stranded cost recovery, calculation of market prices for energy and capacity, calculation of stranded costs associated with nuclear, fossil and non-utility generation, assessment of securitization as a mitigation option, and development of a comprehensive model that determined the possible rate reduction that could be achieved.

**Duke Energy North Carolina** – Project Director for a review of affiliated transactions associated with the Duke Energy, North merger with Progress Energy Carolina of Florida. The project addressed implementation of merger conditions, an audit of affiliate compliance rules. Affiliated transactions were audited, the Cost Allocation Manual was reviewed, and services provided by the Duke Service Company were addressed Duke Energy NC – North Carolina Utilities Commission (2014-2015)

**Resume of Mr. Walter P. Drabinski**

**Duke Energy Ohio** – Project Director for a review of affiliated transactions between DEO and its affiliates, parent and other regulated subsidiaries. All aspects of compliance with the merger between Cinergy and Duke Energy were reviewed. Affiliated transactions were audited, the Cost Allocation Manual was reviewed, and services provided by the Duke Service Company were addressed.

**Philadelphia Electric Company** – Lead Consultant on a retrospective investigation of the Limerick Nuclear Power Plant. Analyzed the Company's financial condition during the construction program and reviewed construction management practices on the project. Prepared testimony for prudence hearings on construction management and financial performance.

**Public Service Electric & Gas Co.** – Project Manager for a retrospective investigation of the Hope Creek Nuclear Plant. Prepared cost reconciliation that identified reasons for cost overruns. Reviewed construction control tools, productivity results, and analyzed productivity programs for effectiveness. Wrote testimony, answered interrogatories, and assisted in cross-examination of witnesses. Made recommendations on cost tracking systems for future construction projects.

**Duke Energy Kentucky** – Project Director for a review of affiliated transactions between DEO and its affiliates, parent and other regulated subsidiaries. All aspects of compliance with the merger between Cinergy and Duke Energy were reviewed. Affiliated transactions were audited, the Cost Allocation Manual was reviewed, and services provided by the Duke Service Company were addressed.

**Duke Energy Indiana** – Project Director for a review of affiliated transactions between DEO and its affiliates, parent and other regulated subsidiaries. All aspects of compliance with the merger between Cinergy and Duke Energy were reviewed. Affiliated transactions were audited, the Cost Allocation Manual was reviewed, and services provided by the Duke Service Company were addressed.

**Louisville Gas & Electric** – Project Manager for a comprehensive management and operations review for the Kentucky Public Service Commission. A key element of this audit was the analysis of the Energy Services Company of LG&E Energy, a holding company which was the organizational entity responsible for all regulated generation and non-regulated generation, power marketing, and natural gas transmission activities. This included a special review of affiliated transactions. Acted as Lead Consultant in the areas of power production, fuel procurement, Affiliated Review, Clean Air Act compliance, Energy Policy Act response, and T&D engineering and construction. Assisted in review of strategic planning and power marketing activities. In conjunction with this audit, Mr. Drabinski met with the Commissioners a number of times to discuss issues of industry restructuring and the role the Commission should play.

**Indiana Power & Light** – Vantage acted as the evaluator, at the request of the Indiana Utility Regulatory Commission, for a three-year program in which customer service and



## Resume of Mr. Walter P. Drabinski

distribution system reliability are being monitored with penalties for missing targets. A major element of this program was enhanced vegetation control.

**Dayton Power & Light** - Performed a comprehensive review of all fuel procurement and fuel utilization activities for the PUCO. Visited power plants, coal lab, and other fuel and operations related departments. Recommendations addressed a broad range of strategic and operational issues.

**Centerior Companies (Cleveland Electric Illuminating Company and Toledo Edison)** - Project Manager on audit of electric fuel procurement practices and procedures for the Public Utilities Commission of Ohio in 1991. Responsibilities included the review of fuel procurement planning, long-term contracts, and spot procurement. Made recommendations regarding coal contracts, interstate wheeling arrangements, and coal transportation costs. Testified twice regarding results of audit report.

**National Gas and Oil Company of Ohio** - Lead Consultant on audit of fuel procurement practices for the Ohio PUC in 1986. Reviewed purchasing practices, storage activities, sales practices and policies and procedures. Made recommendations on strategic planning, purchasing policies, and marketing programs.

**Monongahela Power (Allegheny Power Systems)** - Performed a comprehensive review of all fuel procurement and fuel utilization activities for the PUCO. Visited power plants, coal lab, and other fuel and operations related departments. Recommendations addressed a broad range of strategic and operational issues.

**American Electric Power Company** - Project Manager on audit of electric fuel procurement practices and procedures of two AEP subsidiary companies, Ohio Power Company and Columbus Southern Power Company in 1989 and 1990 for the Public Utilities Commission of Ohio. Responsibilities included the review of affiliated mines (surface and deep mines) and fuel procurement planning, long-term contracts, and spot procurement. Made recommendations on strategic planning, purchasing policies, contract analysis, and marketing programs. Testified on four occasions regarding results of audits.

**Union Light, Heat and Power** - Lead Consultant on a management and operations review for the Kentucky Public Service Commission. Responsibilities included all aspects of customer service and electric operations including CIS; customer accounting; transmission & distribution; system planning; engineering; and construction. Also assisted in the review of the financial reporting relationship of the company to its parent, Cincinnati Gas & Electric, with an emphasis on allocation of costs.

**Ohio Electric Co./Ohio PUC** - Lead Consultant on a prudence review of the Beaver Valley Power Station. Areas reviewed included CAPCO organization and financing, construction management, project accounting, compatibility of prudence standards, and compliance with Yellow Book standards.

**Virgin Islands Power & Water Authority (2014-17)** - Diagnostic audit of this electric and water utility that was facing serious financial, operational and infrastructure problems.



**Resume of Mr. Walter P. Drabinski**

Vantage conducted a diagnostic audit which then focused on staffing, infrastructure, strategic planning, and other key issues. A broad range of recommendations were developed to reverse the decline of the utility.

**Southern California Edison (2013 - 2015)** - Audit of Southern California Edison's Reliability Investment Incentive Mechanism (RIIM) program that addressed almost \$2 billion in expenditures dedicated to reliability and increases in utility maintenance staffing. This was a unique project because it approaches reliability from an investment standpoint rather than performance measures only. Activities included in the audit consisted of reviews of capital projects for T&D, determination of projects that were reliability related, a review of SAIDI and SAIFI statistics and impacts due to improvement program and assessment of agreed to staffing requirements. Our analysis determined whether the project complied with regulatory orders and statewide standards.

**California Independent System Operator** - Project Director on an Independent Operational Audit of the CAISO for the period of 10/01 to 10/02. This assignment was performed at the request of the FERC and led to a series of five global recommendations. Shortly after the completion of the audit, Mr. Drabinski testified before the House of Representatives, Subcommittee on Subcommittee on Energy Policy, Natural Resources & Regulatory Affairs.

**Pennsylvania Power & Light** - Lead Consultant for a comprehensive management and operations review for the Pennsylvania Public Utility Commission. Reviewed all aspects of customer service activities, including CIS and office operations. Also, reviewed system power & engineering, including fuel supply, T&D engineering, environmental, power plant staffing, and plant operations. Reviewed EMF issues and Clean Air Act Amendments compliance planning.

**Kentucky Public Service Commission (2010-2017)** - Project Director and witness associated with regulatory support related to electric utility generating resource Environmental Cost Recovery (ECR) mechanism for the Kentucky PSC. On this assignment, Vantage consultants reviewed filings from four utilities and then acted as an extension of staff in four separate cases. In total over \$5 billion was requested through a separate surcharge after a formal proceeding. Vantage reviewed applications, submitted and reviewed interrogatories, prepared summaries for and briefed the Commissioners and Staff, assisted in hearings and helped draft the final orders.

**Consolidated Edison Company** - Performed an audit of emergency restoration and outage planning capabilities for the New York PSC. Audit followed a number of large and highly public outages. Major recommendations were made to develop new strategies and programs for addressing reliability and outage response.

**Kansas City Power & Light Iatan 1&2 (2008-11)** - At the request of the Kansas Corporation Commission (KCC) Staff, provided oversight of the \$500 million installation of the Air Quality Control System (AQCS) on the existing (KCP&L) Iatan Unit 1 and monitored construction of the \$2 billion Iatan Unit 2 coal fired, supercritical power plant. Reviewed



## Resume of Mr. Walter P. Drabinski

organization, cost, schedule, project controls, contractor performance, contract monitoring, site conditions, and other key attributes associated with a mega-project. Provided regular assessments to the KCC on progress and risks, monitored startup and acceptance testing, and provided testimony in rate cases for both Iatan 1 and 2, with recommendations for almost \$240 million in prudence disallowances.

**Entergy Corporation** – Project Manager for a review of affiliated transactions between Entergy Corporation, Entergy Services, Inc., and a myriad of regulated and non-regulated subsidiaries. This engagement, performed for five regulatory agencies, is in response to the 1991 Settlement Agreement with the SEC, at which time the holding company was formed. The results of this audit included reallocation of almost \$5 million and a reconfiguration of reporting requirements.

**Sempra Energy (SDG&E and SoCalGas)** – Project Director for affiliated audit for 1998 and 1999 calendar years to verify compliance with California PUC restructuring requirements. Assignment included assessment of company plan and audit of affiliate transactions. Acted as the lead consultant on areas that addressed Nondiscrimination Standards, Disclosure and Information Standards, and Competitive Services. Recommendations from these reports addressed means of improving compliance.

**SDG&E, PG&E, SCE, and SCG** – Project Manager on an audit of DSM administrative costs. Conducted for the CPUC CACD, this assignment took place during the period where working groups were assessing issues such as access to utility information and the future of DSM. Vantage provided feedback to a number of working groups on the needs of energy service companies.

**Maryland Public Service Commission** – Provided technical support in hearings and development of a final order relative to developing a formal procedure for addressing Standard Offer Service (SOS) supplies for its four electric utilities.

**North West Energy – Mill Creek Station (2010-2012)** - Provided input to the Company and PSC on the use and implementation of this three-unit 150 MW combustion turbine power plant. Monitored construction, startup and initial operation. Visited construction site on a regular basis and provided input to the construction team as well as the Montana PSC. Reviewed quarterly reports and testified before the Commission after each report. Provided insight on in-service criteria testing and other key design and operational elements.

**Pacific Gas & Electric Co.**– Project Director for affiliated audit for 2001, 2002, 2003, 2004 and 2005 calendar years to verify compliance with California PUC restructuring requirements. Assignment included assessment of company plan and audit of affiliate transactions. Acted as the lead consultant on areas that addressed Nondiscrimination Standards, Disclosure and Information Standards, and Competitive Services. Recommendations from these reports addressed means of improving compliance.

**Louisville Gas and Electric/Kentucky Utilities Merger** – Assisted with broad range of issues including regulatory strategy, synergy quantification, testimony development,

**Resume of Mr. Walter P. Drabinski**

witness preparation, interrogatory development and responses. System reliability and monitoring was a key element of this complex project.

**Public Service Electric & Gas Company** – Retained by the New Jersey Board of Public Utilities to assess compliance with all Affiliate Compliance and Code of Conduct Rules enacted as a result of restructuring.

**San Diego Gas & Electric** – Project Manager on an assignment for the California PUC and SDG&E to review the implementation of Performance Based Ratemaking. This assignment included an assessment of financial, operational, performance and culture changes that were impacted by the two-year experimental program. While involved in this project, Mr. Drabinski developed an understanding of the SDG&E holding company formation and its interaction with the proposed industry restructuring.

**New Jersey Board of Public Utilities** – Director on major project to review hedging practices of the four gas distribution utilities in New Jersey. Working with Pace Energy as a sub-contractor, alternate hedging strategies were developed and proposed using more advanced techniques, including options.

**FERC** – Interfaced with Commission and its staff on issues such as Transco structures, restructuring, and ISOs. Prepared a whitepaper that addressed a Transmission PBR as a mechanism for incenting utilities.

**Maryland Public Service Commission** – Monitored all RFP solicitations for 2007 and 2008 bid years. This amounted to nine solicitations for all four utilities in Maryland. Provided oversight on bid day, reviewed applications, provided confidential analysis and briefings to the Commissioners and testified on results.

**Cumberland Valley Electric Cooperative** – Performed a focused management audit of this small, rural cooperative. Worked with management to develop transition to new management team.

**Alleghany Power Virginia** – Monitored RFP solicitations for 2007 and 2008 bid years. Provided oversight on bid day, reviewed applications, provided a final report on results for the Virginia regulatory agencies.

**Delaware Public Service Commission** – Monitored all RFP solicitations for 2006 bid year. Provided oversight on bid day, reviewed applications, provided confidential analysis and briefings to the Commissioners and testified on results.

**California Public Utilities Commission Telco Division (Attestation Exams)** – Mr. Drabinski was the Project Director on seven separate assignments for the CPUC during the period of 2000 to 2002. These included:

## Resume of Mr. Walter P. Drabinski

- examinations of surcharge collections of “high cost fund” and “teleconnect fund” amounts for AT&T, Verizon, Sprint, and PacBell. In each project significant accounting, interpretational and transmittal errors were discovered, leading to the recovery of amounts well in excess of project costs;
- examinations of claims requests of “high cost fund” and “teleconnect fund” for Verizon, PacBell, and Roseville.

**Commonwealth Edison Company** – Retained by the Illinois Commerce Commission to investigate outages suffered in downtown Chicago during the summer of 1999. The assessment provided a comprehensive analysis of eight separate outages, with details of causes and recommendations for improvement.

**PJM Power Plant Arbitration** – Provided testimony and technical assistance on arbitration for an independent power plant built in the PJM region. Issues involved interpretation of PJM rules and contractual issues such as commercial operation date and performance guarantees.

**St. Vincent Energy Services Ltd.** - At the request of the Board of Directors and Prime Minister, Vantage conducted a review of system reliability and fuel procurement. Significant findings resulted in a new strategic plan, a reorganization of management and a legal investigation into procurement practices.

**Maryland Public Service Commission** – Provided analysis and related testimony on restructuring-related cases in 2007 and 2008. Testimony involved wholesale market issues, portfolio options and rebuttal relative to utility witnesses.

**Massachusetts Municipal Wholesale Electric Utility** – Performed analysis on options for equipment upgrades at major facility and performed limited life extension analysis.

**Seattle City Light** – Conducted a controversial audit of Seattle City Light’s financial, risk management and governance structure. Serious issues regarding debt, O&M and Capital expenditures were raised. Major recommendations on risk management were developed.

**New Hampshire Public Service Commission** – Provided technical and strategic assistance under a long-term contract on transmissions and distribution issues. These included ISO strategies, local distribution reliability, asset decisions and general regional concerns.

**Arizona Corporation Commission** – Provided assistance to the Commission Staff and Commissioners on all restructuring issues under consideration. This includes development of an ISO. The reorganization of cooperatives and G&Ts for deregulation. Development of solutions regarding high costs resulting from California related issues. Reassessment of deregulation orders based on appellate decisions.

**Public Service Electric & Gas** – Engagement Manager during a long-term engagement with PSE&G. Specific assignments he directed are listed below.



**Resume of Mr. Walter P. Drabinski**

- Developed a 30-year environmental plan, addressing power generation and environmental strategy.
- Assisted in development of innovative rate strategy for Bergen combined cycle unit.
- Worked on a team of utility employees, lobbyists, legislative staff members and the DOE to develop a program for voluntary reduction of CO<sub>2</sub> and global warming initiatives.
- Reviewed gas procurement strategy for 1300 MW of combine cycle generation.
- Conducted a tactical and strategic alternatives study of the Company's fleet of 158 combustion turbine generation plants.
- Developed a plan for complying with the 1990 Clean Air Act Amendments.
- Assisted in a study of the 1992 Energy Policy Act and prepared a report that illustrated how it would impact company operations.
- Wrote and supported testimony in the area of fossil generation on behalf of the Company in a major rate case.
- Developed protocols for NO<sub>x</sub> emission trading within NESCAUM.

**Kentucky Utilities Company** – Project Manager for a comprehensive management and operations review for the Kentucky Public Service Commission. Acted as Lead Consultant in the areas of power production, fuel procurement, transmission operations, and engineering and construction. Provided numerous recommendations to improve competitiveness of this already low-cost utility. Met with the leadership of the State House of Representatives and Senate to discuss utility competition and industry restructuring.

**BellSouth Telecommunications, Inc.** – Project Manager on a review of BellSouth performance under an alternative regulation plan for the state of Kentucky. This is the first of nine states in which the Price Regulation Plan was up for renewal and, as such, was of great interest to the Company and regulators.

**GTE of California and Contel of California (now Verizon)** – Audited collection procedures and practices for various surcharge activities. Provided a CPA Opinion Letter, (through a subcontractor.)

**US West** – Provided assistance with quality control and final reviews of work product while an officer with the lead firm. This project reviewed affiliate transactions between parent and its subsidiaries. Assisted in development of model for cost allocation analysis.

**Pennsylvania Governor Task Force** – Provided input to Governor's office, legislature and PUC on restructuring issues in the State. Issues included handling of stranded costs, securitization, the development of competition, and the education of consumers.

**Clean Air Action Corporation** – Assisted in development of strategy regarding purchase and sale of emission credits throughout the Ozone Transport Region.

## **Resume of Mr. Walter P. Drabinski**

**Honeywell/Allied Signal** – Provided strategic assistance and research in development of commercial fuel cell. Conducted market research and facilitated meetings with utilities interested in commercial development.

**Colonial Chemical Company** – Assisted Company in identifying candidates for Selective Non-Catalytic Reduction systems to reduce nitrous oxide emissions from power plants.

**Public Service Electric & Gas Company** – Retained by the New Jersey Board of Public Utilities to assess compliance with all Affiliate Compliance and Code of Conduct Rules enacted as a result of restructuring.

**Duquesne Light Company** – Project Manager for a comprehensive management and operations review for the Pennsylvania Public Utility Commission. Mr. Drabinski was also the Lead Consultant in the review of executive management, strategic planning, affiliated relations, and financial management.

**Choptank Electric Cooperative** – Lead Consultant on a management and operations review for this REA in the State of Maryland. Reviewed all aspects of operations including executive management, organization, construction management, electric operations, system planning, materials handling, purchasing, and customer service.

**East Kentucky Power Cooperative** – Performed a comprehensive review of all fuel procurement and fuel utilization activities for the Board of Directors. Visited all power plants, coal tipples, and a sampling of mines. Recommendations addressed a broad range of strategic and operational issues.

**West Texas Utilities** – Project Manager for a comprehensive management and operations review for the Texas Public Service Commission. Acted as a Lead Consultant in the areas of power production, fuel procurement, and customer services.

**Philadelphia Gas Works** – Project Manager for a management and operations audit for the Philadelphia Gas Commission. Lead consultant for the review of corporate organization and staffing, customer services, operations, and support functions. Addressed major gas supply planning issues. Managed a series of three follow-up reviews including development of Management Audit Actions Plans, an Audit Compliance Review, and a Review of the 1993 O&M Budget. Testified at numerous Commission hearings on capital budget planning, automatic meter reading, office aggregation, and theft of service.

**Maryland Public Service Commission** – Consultant for an assignment to review long-term gas purchasing practices of Columbia Gas of Maryland, Baltimore Gas & Electric, and Washington Gas Light. Responsibilities included review of the 1988 plans, recommendations on requirements for future plans, and the training of commission staff personnel relative to conducting similar reviews of future plans.

**Kentucky-American Water Company** – Project Manager and Lead Consultant for a management and operations review for the Kentucky Public Service Commission. A key element of this audit was the holding company relationship with the many subsidiaries of

**Resume of Mr. Walter P. Drabinski**

American Water Works. Investigated the areas of customer service and marketing and engineering/construction.

**El Paso Natural Gas Company** - Lead Consultant on a productivity improvement project. Performed an in-depth review of all positions in operating divisions and reorganized operating divisions into profit centers. Developed procedures for in-house vs. outside construction decisions, construction scheduling, and cost data collection. Developed a manpower planning model for restructuring responsibilities and staffing levels. Implemented a workforce management program at gas processing plants, compressor stations, and throughout the gathering system.

**Western Kentucky Gas Company** - Lead Consultant for a management and operations audit of the customer services function for the Kentucky Public Service Commission. Developed plan for consolidating offices, resulting in significant changes in providing customer service.

**Philadelphia Suburban Water Company** - Lead Consultant/Project Manager on a comprehensive management audit for the Pennsylvania Public Utility Commission. Reviewed all aspects of field operations and water production.

**East Kentucky Power Cooperative, Inc.** - Performed as a subcontractor on a review of the bidding process for a series of combustion turbines. Analysis included reviews of individual proposals and the bidding process.

**General Waterworks Company - Pennsylvania Operations** - Lead Consultant in a management and operations review. Reviewed compensation, benefits and staffing, executive management, organizational structure, and corporate policies and procedures.

**General Waterworks Company - Pine Bluff Arkansas Operations** - Project Manager on a management and operations review. Reviewed finance and accounting, staffing, system operations, organizational structure, and corporate policies and procedures.

**General Electric Field Engineering group** - Lead Consultant for the implementation of a Job Management Program that included seminars, teaching concepts on work breakdown structures, budgeting, performance measurement, and critical path scheduling techniques. Overall program was aimed at improving construction management skills of field personnel.

**Houston Light & Power** - Consultant on South Texas Nuclear Project retrospective analysis. Reviewed construction management procedures and developed testimony for rate case.

**Public Service Electric & Gas Co.** - Project Manager for a review of the Engineering & Construction Department budgeting and approval process for capital projects at PSE&G. Developed flowcharts and improved methods for processing capital budgeting requests.

## **OTHER BUSINESS AND PROFESSIONAL EXPERIENCE**

**System Training Director** for Niagara Mohawk Power Corporation. Managed a staff of eleven supervisors and instructors, as well as numerous contractors and part-time training personnel. Developed and implemented a productivity program to improve operating and employee productivity at all fossil power plants. Developed a performance-based progression program for craft personnel and assisted in negotiating contract changes with the International Brotherhood of Electrical Workers. Member of Electric Power Research Institute committee on power plant staffing and training. Chaired Electric Utility Technical Education Council. Developed and taught a seminar on power plant efficiency improvement to operating, management, and regulatory personnel.

**Electrical Maintenance Supervisor** for Niagara Mohawk Power Corporation. Managed two supervisors and thirty electricians performing electrical construction, maintenance, and repair. Developed and implemented a preventive maintenance program for a six-unit/2000 megawatt power plant. Managed roving maintenance crew, providing personnel, equipment, and expertise to nuclear power plants during outages. Responsibilities included all plant, fuel handling, and pollution control electrical equipment, switchyards, 345 kV overhead and 115 kV underground transmission lines, relay systems, telemetering, and telecommunication systems.

**Operation Project Engineer** for Niagara Mohawk Power Corporation. Participated in conceptual system design, construction management, and plant start-up of power plants, transmission lines, switchyards and plant electrical equipment. Represented utility during acceptance testing, start-up, and turnover of all electrical power systems, auxiliary equipment, and turbine and boiler instrumentation and control systems.

## **TESTIMONY**

Testimony was provided in the following cases.

- Cases 09-246 and 10-1025 for the Kansas Corporation Commission. Provided direct testimony on prudence of construction for Iatan 1 and Iatan 2 coal fired power plants.
- Montana PSC - Testify quarterly in results of monitoring Mill Creek power plant construction project.
- Case 99-434 Bell South of Kentucky. Audit and modification of Price Regulation Plan.
- Maryland PSC - Testified approximately 20 times on Provider of Last Resort (POLR) rules, regulation and energy solicitation results.
- Duquesne Light Company - Testified six times regarding POLR solicitations.
- CPUC Telco cases - Testified on eight occasions regarding results of attestation exams of Verizon, PacBell, Sprint, AT&T, and Roseville.

### **Resume of Mr. Walter P. Drabinski**

- Testified after acting as independent monitor during energy solicitations in Delaware (2 occasions)
- Commonwealth Edison – Testified before Illinois PSC on outages of 1999.
- PSE&G Restructuring hearing - Lead witness on all aspects of unbundling, restructuring, stranded costs, and deregulation issues.
- Case No. 97-105-EL-EFC Management Performance Audit of Fuel Related Policies and Practices of Dayton Light Company for the PUC of Ohio.
- Case No. 95-106-EL-EFC Management Performance Audit of Fuel Related Policies and Practices of Monongahela Power Company for the PUC of Ohio.
- Case No. 96-106-EL-EFC Management Performance Audit of Fuel Related Policies and Practices of Monongahela Power Company for the PUC of Ohio.
- Case 93-02-041 Financial Audit of the Demand-Side Management Pilot Bidding Program Administrative Services of Pacific Gas & Electric Company, San Diego Gas & Electric Company, Southern California Edison Company, and Southern California Gas Company for the California PUC.
- Case D94-08-023 Mid-Point Evaluation of SDG&E's Base Rates Performance Based Ratemaking Mechanism for the California PUC.
- Case No. 94-219-GA-GCR Management Performance Audit of West Ohio Gas Company for the PUC of Ohio.
- Case No. 91-103-EL-EFC Management Performance Audit of Fuel Related Policies and Practices of Toledo Edison for the PUC of Ohio.
- Case No. 91-104-EL-EFC Management Performance Audit of Fuel Related Policies and Practices of Cleveland Electric Illuminating Company for the PUC of Ohio.
- Case No. 89-100-EL-EFC Management Performance Audit of Fuel Related Policies and Practices of Ohio Power Company for the PUC of Ohio.
- Case No. 89-101-EL-EFC Management Performance Audit of Fuel Related Policies and Practices of Columbus Southern Company for the PUC of Ohio.
- Case No. 90-100-EL-EFC Management Performance Audit of Fuel Related Policies and Practices of Ohio Power Company for the PUC of Ohio.
- Case No. 90-101-EL-EFC Management Performance Audit of Fuel Related Policies and Practices of Columbus Southern Company for the PUC of Ohio.

### **EDUCATION**

- BSEE from SUNY Buffalo with a concentration in power engineering, including transmission line and large equipment analysis;
- MBA in Finance and Entrepreneurial Management from the Wharton School;
- Approximately 40 seminars on power plants, transmission and distribution system design and maintenance.

## Resume of Mr. Walter P. Drabinski

### **PUBLICATIONS**

Primary contributing author of five textbooks developed for the Electric Power Research Institute (EPRI) and the Center for Occupational Research and Development (CORD).

- Introduction to Instrumentation and Control.
- Electronic and Pneumatic Control Devices.



## RESUME OF MR. MARK D. FOWLER

### SUMMARY OF QUALIFICATIONS

**Mr. Mark D. Fowler** has over thirty years of management and consulting experience. He has participated in over 100 consulting assignments fulfilling roles from technical advisor to project management. His education includes a BS and MBA from the University of Tulsa with an emphasis in operations research. He began his career with Buckeye Gas Products with whom he worked in various areas. These areas included supply, storage and distribution of gas liquids via pipeline, rail and truck transport, strategic and tactical acquisitions and divestitures and field operations. He trained in pipeline operations with Williams Pipeline which at the time was an affiliate of Buckeye. He also worked as a financial analyst for Plains Electric Generation and Transmission during the planning and construction of the Plains Escalante Generating Station and associated coal handling and rail facilities. His responsibilities included financial modeling, interfacing with lenders and investment bankers and conducting financial and economic analysis.

Mr. Fowler has worked with large, international consulting firms and smaller niche firms. He has worked on scores of projects with Vantage since 1998. His work has been for utilities and telecommunications providers as well as for regulators. The diverse areas of his utility assignments include generation planning, Power Purchase Agreement analysis and negotiation, management audits, fuel audits, environmental planning, market analysis, customer service evaluations, affiliate compliance audits and emergency restoration management. His client base geographic coverage includes the US, Canada, Australia, Central America, the Caribbean and the Pacific Rim. He has testified before numerous State agencies. He is a student of the evolving utility environment and has both studied and worked on projects related to renewable energy, distributed generation, reliability, micro-grids, service restoration, and state of the art environmental technologies. He maintains offices in Montana and Ann Arbor, MI.

### SELECTED CONSULTING EXPERIENCE

#### Utilities

- Assisted a utility in developing an RFP for capacity and energy, evaluating proposals for same and monitoring billing under the winning proposal.
- Currently assisting a utility in evaluating the opportunities to expand their solar generation. Mr. Fowler is currently evaluating opportunities to expand the future solar generation of a large municipal utility in Florida. This is in addition to work performed for the same utility to model and evaluate existing solar generations and construction commitments. The assignment involves modeling hourly load for the utility, hourly output of the proposed solar under various installation scenarios with associated costs.
- Lead Consultant on two audits of Central Hudson Gas and Electric. Mr. Fowler's audit responsibility included gas pipeline construction, maintenance and State and Federal regulatory safety compliance, Customer Service operations, work management and emergency restoration.



**Resume of Mr. Mark Fowler**

- Lead consultant on a diagnostic audit of the utility operations of the United States Virgin Islands Water and Power Authority (WAPA). The audit looked at all phases of electric and water utility operations on all three islands on which WAPA operates. The utility was then, and continues to face significant challenges from numerous angles including government accounts receivable, commercial customer defection to self-generation, solar generation by the wealthiest residential customers, rate structure and the inherent challenges of a multi island utility with no interconnection.
- Lead consultant on reviews of the Curacao island utilities of Aqualectra and Curoil. The utilities provide electric, water and fuel services to the islands of Curacao and Bonaire. The Curoil operations face uncertainty over the future of their major supplier, the Isla refinery owned by Petr6leos de Venezuela S.A. (PDVSA) as well a significant rise in world oil prices on top of already high island prices.
- Lead Consultant for gas system operations in two management audits of Southern Connecticut Gas for the Connecticut Department of Public Utility Control. The audits scope included gas system planning, performance work management, and pipeline safety regulations compliance programs.
- Lead Consultant for gas system operations in a management audit of Connecticut Natural Gas for the Connecticut Department of Public Utility Control. The audit scope included gas system safety performance and pipeline safety regulations compliance programs.
- Lead Consultant for gas system operations in a management audit of Yankee Gas for the Connecticut Department of Public Utility Control. The audit scope included gas system replacement programs, safety performance and pipeline safety regulations compliance programs in light of severe financial duress on the company.
- Team Leader in the areas of distribution operations and management in the California Public Utility Commission's ordered management audit of Southern California Gas. The audit scope included gas system safety performance and pipeline safety regulations compliance programs.
- Lead Consultant and engagement director in several reviews and analysis of Pacific Gas & Electric's gas supply portfolio and trading in conjunction with the California Public Utility Commission's mandated study of affiliate transactions. Examined the gas supply portfolio, trades, pipeline activities and related storage in order to confirm compliance with California PUC affiliate transactions rules. The studies also examined PG&E's gas hedging activities. These reviews covered six calendar years.
- Lead consultant on an audit of Public Service Electric and Gas compliance with New Jersey affiliate transaction requirements. These requirements which mirror those implemented earlier in California were new to the New Jersey utilities. The audit placed considerable emphasis on the new processes designed to stay in compliance with the new regulations.



### Resume of Mr. Mark Fowler

- Lead Consultant in the review and analysis of SEMPRA Energy's gas supply portfolio and trading in conjunction with the California Public Utility Commission's mandated study of affiliate transactions. Examined the gas supply portfolio, trades, pipeline activities and related storage in order to confirm compliance with California PUC affiliate transactions rules. Included a review of San Diego Gas and Electric and Southern California Gas activities as well as affiliates. Vantage performed these audits for two calendar years.
- Lead Consultant on a series of operations improvement projects for The Gas Company of New Mexico. Areas of examination included the gas construction, maintenance, service, meter reading and customer service.
- Directed a process improvement project for a northeastern US gas distribution company which was reexamining their organization, staffing and locations in an effort to become more competitive. The review included all field distribution operations as well as customer service and logistics.
- Lead consultant for a review of the emergency service restoration efforts of four New Hampshire electric utilities to a major ice storm. These included; National Grid, Hew Hampshire Electric Cooperative, Unutil and Public Service of New Hampshire. The review included emergency planning, tree trimming and other storm hardening efforts, emergency response plans and organizations, chronologies of the response efforts, customer service, communications, and intrastate and broader comparisons. The study produced recommendations for each company and for the state as a whole.
- Lead consultant for a review of the emergency service restoration efforts of the Long Island Power Authority and their system operator National Grid to Hurricane Irene. Mr. Fowler led the review of the emergency planning, implementation and results. Mr. Fowler also investigated the customer service organizations response. The study produced recommendations for both LIPA and National Grid (or future operator PSE&G). The resulting report was issued by the NY Department of Public Service using the study results.
- Lead consultant on a long-term process improvement project for Belize Electric Limited (BEL). BEL because of location and the extent of the country lying at low elevation is especially vulnerable to hurricanes and tropical storms. BEL at the time also relied heavily on one primary transmission feed from Comisión Federal de Electricidad (CFE), in the Mexican Yucatan. The improvement process focused on all areas of T&D with emphasis on staffing changes, work management and risk remediation.
- Project Manager on a project to totally revise the emergency response organization and processes of a large Midwestern utility. The project included implementation of the Incident Command System across the organization, standardization of practices in all divisions, improving communications, development of a new Emergency Response Plan and staffing of the organization.
- Lead Consultant on an audit of the Consolidated Edison response to a wind and rainstorm which caused significant outages in the Manhattan network as well as the Westchester overhead system. Mr. Fowler's focus was on the T&D response

**Resume of Mr. Mark Fowler**

and organization in the Westchester area as well as the customer service organization for the entire company.

- Lead consultant on an investigation into a series of outages that occurred throughout the system in a relatively short period of time. Mr. Fowler focused on two of the suburban outages, one of which was substation focused and the other involved underground facilities. The investigation produced a number of recommendations dealing with infrastructure replacement, maintenance intervals and emergency response.
- Lead consultant in extension-of-staff assignments on two dockets for the Connecticut Public Utility Regulatory Authority. The dockets involved emergency preparation and response as well as refinement of regulations pertaining to obligations and penalties.
- Consultant on a rate study for the City of Marshall Michigan municipal utility, which was undergoing restructuring of its energy supply portfolio. Provided technical assistance in the area of electric generation, transmission and distribution as it pertained to development of electric rates.
- Conducted a review of the actions of the California ISO following the energy crisis of 2000.
- Developed a complex financial model for a water and wastewater utility which has undergone significant customer reductions due to the economic downturn of the late 2000s after a period of major new construction. The model helped investigate multiple alternatives to survive the downturn with minimal disruption to existing rates and remaining within debt covenants. The utility has since recovered.
- Conducted a series of process improvement projects for Colorado Springs Utilities in electric generation, distribution, gas distribution and customer service. The projects included customer service as well as opportunities for consolidations of redundant services being provided by the different utility groups.
- Lead consultant in a comprehensive management review of the infrastructure construction and maintenance Utility Directorate for Sandia National Laboratory.
- Lead consultant on a long-term assignment to oversee a steam generation and distribution system which was developing a cogeneration facility. During the assignment the utility also expanded operations into very large scale hot and chilled water services.
- Conducted a utility and municipal services review for the City of Corpus Christi, Texas. The review included opportunities for consolidations of redundant services being provided by the different groups as well as improving processes in all areas of utilities, police, fire and street.
- Lead Consultant on numerous assignments involving process improvement, generation mix and work management at power plants throughout North and Central America. Companies involved include Alberta Power, Edmonton Power, Bonneville Power, Plains Electric Generation and Transmission, Belize Electric



### **Resume of Mr. Mark Fowler**

Limited, Marshall Michigan Electric Utility, PEPCO, Kentucky Power, Aqualectra and Alstrom Development.

- Lead consultant for a review of the emergency service restoration efforts of four New Hampshire electric utilities to a major ice storm. These included; National Grid, Hew Hampshire Electric Cooperative, Unutil and Public Service of New Hampshire. The review included emergency planning, tree trimming and other storm hardening efforts, emergency response plans and organizations, chronologies of the response efforts, customer service, communications, and intrastate and broader comparisons. The study produced recommendations for each company and for the state as a whole.
- Lead consultant for a review of the emergency service restoration efforts of the Long Island Power Authority and their system operator National Grid to Hurricane Irene. Mr. Fowler led the review of the emergency planning, implementation and results. Mr. Fowler also investigated the customer service organizations response. The study produced recommendations for both LIPA and National Grid (or future operator PSE&G). The resulting report was issued by the NY Department of Public Service using the study results.
- Project Manager on a project to totally revise the emergency response organization and processes of a large Midwestern utility. The project included implementation of the Incident Command System across the organization, standardization of practices in all divisions, improving communications, development of a new Emergency Response Plan and staffing of the organization.
- Lead Consultant on an audit of the Consolidated Edison response to a wind and rainstorm which caused significant outages in the Manhattan network as well as the Westchester overhead system. Mr. Fowler's focus was on the T&D response and organization in the Westchester area as well as the customer service organization for the entire company.
- Lead consultant on an investigation into a series of outages that occurred throughout the system in a relatively short period of time. Mr. Fowler focused on two of the suburban outages, one of which was substation focused and the other involved underground facilities. The investigation produced a number of recommendations dealing with infrastructure replacement, maintenance intervals and emergency response.

### **Other Utility Experience**

- Lead consultant on a diagnostic audit of the utility operations of the United States Virgin Islands Water and Power Authority (WAPA). The audit looked at all phases of electric and water utility operations on all three islands on which WAPA operates. The utility was then, and continues to face significant challenges from numerous angles including government accounts receivable, commercial customer defection to self-generation, and solar generation by the wealthiest residential customers, rate structure and the inherent challenges of a multi island utility with no interconnection.



**Resume of Mr. Mark Fowler**

- Lead consultant on reviews of the Curacao island utilities of Aqualectra and Curoil. The utilities provide electric, water and fuel services to the islands of Curacao and Bonaire. The Curoil operations face uncertainty over the future of their major supplier, the Isla refinery owned by Petróleos de Venezuela S.A. (PDVSA) as well a significant rise in world oil prices on top of already high island prices.
- Lead consultant on a long-term process improvement project for Belize Electric Limited (BEL). BEL because of location and the extent of the country lying at low elevation is especially vulnerable to hurricanes and tropical storms. BEL at the time also relied heavily on one primary transmission feed from Comisión Federal de Electricidad (CFE), in the Mexican Yucatan. The improvement process focused on all areas of T&D with emphasis on staffing changes, work management and risk remediation.
- Consultant on a rate study for the City of Marshall Michigan municipal utility, which was undergoing restructuring of its energy supply portfolio. Provided technical assistance in the area of electric generation, transmission and distribution as it pertained to development of electric rates.
- Conducted a review of the actions of the California ISO following the energy crisis of 2000.
- Developed a complex finance model for a water and wastewater utility which has undergone significant customer reductions due to the economic downturn of the late 2000s after a period of major new construction. The model helped investigate multiple alternatives to survive the downturn with minimal disruption to existing rates and remaining within debt covenants. The utility has since recovered.
- Conducted a series of process improvement projects for Colorado Springs Utilities in electric generation, distribution, gas distribution and customer service. The projects included customer service as well as opportunities for consolidations of redundant services being provided by the different utility groups.
- Lead consultant in a comprehensive management review of the infrastructure construction and maintenance Utility Directorate for Sandia National Laboratory.
- Lead consultant on a long-term assignment to oversee a steam generation and distribution system which was developing a cogeneration facility. During the assignment the utility also expanded operations into very large scale hot and chilled water services.
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- Lead Consultant on numerous assignments involving process improvement, generation mix and work management at power plants throughout North and Central America. Companies involved include Alberta Power, Edmonton Power, Bonneville Power, Plains Electric Generation and Transmission, Belize Electric Limited, Marshall Michigan Electric Utility, PEPCO, Kentucky Power, Aqualectra



**Resume of Mr. Mark Fowler**

and Alstrom Development.

**EMPLOYMENT EXPERIENCE**

- Director Business Development-North America-Hansen Industries, Melbourne, Australia (2000-2001)
- Senior Financial Manager- Plains Electric Generation and Transmission (1985-1986)
- Director Gas Supply and Distribution- Western US- Buckeye Gas Products (1979-1985)

**EDUCATION**

- Bachelor of Science, Business Administration, University of Tulsa
- Master of Business Administration, University of Tulsa



## RESUME OF MR. MICHAEL C. BOISMENU PE

### RELEVANT CREDENTIALS

Through the past four decades Mike has been actively involved with all phases of the electric power industry. He has successfully completed major design engineering projects, managed multi-disciplined construction projects, managed a large coal fired power plant, managed regional generation assets, and most recently provided consulting services to a variety of power industry clients. His specific power industry related experience includes the following and is further detailed below.

### SELECTED CONSULTING EXPERIENCE

**Virgin Islands Power & Water Authority (2014-15)** - Diagnostic audit of this electric and water utility that was facing serious financial, operational and infrastructure problems. Vantage conducted a diagnostic audit which then focused on staffing, infrastructure, strategic planning, and other key issues. A broad range of recommendations were developed including changes to the electric power supply, staffing, and transmission and distribution enhancements.

**EPRI Plant Maintenance Planning (2014)** - Performed research throughout fossil industry and prepared a report on the status of non-outage power plant planning practices. Included analysis of software systems currently utilized.

**Louisville Gas & Electric (2010 - Present)** - Provided the independent monitoring of \$1 Billion air emission projects at impacted power plants to enable the Company to meet current EPA regulations.

**Kentucky Utilities (2010 - Present)** - Provided the independent monitoring of \$1 Billion air emission projects at impacted power plants to enable the Company to meet current EPA regulations.

**Northwest Energy - Mill Creek Station (2010-12)** - Monitored the construction of this three-unit 150 MW combustion turbine power plants for the Montana Public Service Commission. Visited construction site on a regular basis and provided input to the construction team as well as the Montana PSC. Reviewed quarterly reports and testified before the Commission after each report. Provided insight on the In-service criteria and testing and other key design and operational elements.

**Lower Colorado River Authority Audit of Affiliate Relations (2010)** - Project Manager for review of power plant cost allocations, development of cost allocation manual, and assessment of compliance with agreements with Austin Energy.

**Kansas City Power & Light Iatan 1&2 - (2008-11)** At the request of the Kansas Corporation Commission (KCC) Staff, provided oversight of the \$500 million installation of an Air Quality Control System (AQCS) on the existing (KCP&L) Iatan Unit 1 and monitored construction of the \$2 billion Iatan Unit 2 coal fired, supercritical power plant. Reviewed organization, cost, schedule, project controls, contractor performance, contract monitoring, site conditions, and



other key attributes associated with a mega-project. Supported the regular assessments to the KCC on progress and risks, monitored startup and acceptance testing, and provided testimony in rate cases for both Iatan 1 and 2, with recommendations for almost \$240 million in prudence disallowances.

## **OTHER BUSINESS AND PROFESSIONAL EXPERIENCE**

### **T & D System Optimization:**

- As the Engineering Standards Director developed materials and methods to optimize the safety, reliability and efficiency of the Niagara Mohawk T&D System. Included the automation of the T&D Engineering Standards development process and integrated the standards with the Work Management System.

### **Plant Management and Operations:**

- Provided total asset management and leadership for the Station in the evolving electric supply business;
- Instrumental in the successful negotiation and settlement of the long-standing real estate tax litigation case with the City of Dunkirk. Resulted in savings of \$80 million through the term of the agreement;
- Improved the overall image of the Company through participation in Chautauqua County Reengineering Initiative and the associated Implementation Steering Committee. The initiative resulted in a significant reduction in the size of the County government's Executive Staff;
- Provided the leadership to successfully transition the workforce of the power plant from the regulated electric generation business to a non-regulated electric generation environment;
- Through targeted attrition and position abolishment's reduced the staffing level of the power plant from 208 to 125 employees. This coupled with innovative partnering agreements with vendors resulted in a reduction of the Station's Operation and Maintenance budget by 45% from the previous year's level;
- Provided the organizational design to complete the safe and effective complete of the NRG Dunkirk Power Plant from eastern coal to PRB coal.

### **Asset Management:**

- Provided an assessment of the NRG Big Cajun II operation and maintenance process. Resulted in a significant improvement in availability and a more functional and responsive organization design;
- As the Regional Director of Operations in the NRG Mid-Atlantic Region. Completed an assessment of the operation and maintenance practices and made recommendation and implemented a combination of Station physical, organizational and employee



development and improvement programs all of which contributed to the significant reduction in the NRG Indian River Station's forced outage rate;

- As the Regional Director of Operations for the NRG New York Region, developed the Regional plan for emergence from bankruptcy, redirected the Region to assure appropriate input from each generating facility.

## **EDUCATION**

- Associates Degree in Applied Science - Erie County Technical Institute;
- Lemoyne College - MBA in progress;
- New York State Professional Engineer - 1987;
- Significant in-service professional training



## RESUME OF MR. CHUCK BUECHEL

### AREAS OF SPECIALIZATION

Mr. Buechel has worked on numerous consulting assignments for electric, gas, water, and telephone utilities. The primary focus of many of these assignments has been regulatory matters, however, he has consulted on other matters, including corporate and strategic planning, incentive regulation, least-cost planning, workforce management, and competitive bidding.

Prior to consulting, Mr. Buechel spent over nine years on the Staff of the Kentucky Public Service Commission. During his tenure at the Commission, he was public utility economist, Director of Research Division, and Deputy Executive Director. His assignments at the Commission included:

- the preparation of an integrated resource planning regulation;
- coordinating a statewide load management committee to investigate time-of-day rates and other load management issues;
- reviewed and verified the Staff's calculations of fuel clause rates for presentation and approval by the Commission;
- directed staff in rate cases and special investigations;
- writing orders as directed by the Commission;
- establishing a management audit program; and
- testifying in selected cases.

### SELECTED CONSULTING EXPERIENCE

*East Kentucky Power Cooperative, Inc.* – Performed as a subcontractor on a review of the bidding process for a series of combustion turbines. Analysis included reviews of individual proposals and the bidding process.

*Kentucky Public Service Commission (2011–2016)* – Advisor to KPSC in an extended Staff role to assist with the evaluation of the environmental compliance plans submitted by the following: Big Rivers Electric Corporation, Kentucky Power Company, Louisville Gas and Electric Company and Kentucky Utilities Company. The development of the environmental compliance plans was based on integrated resource plans. The oversight of the construction of the environmental facilities of Kentucky Utilities and Louisville Gas and Electric continues with quarterly reports, inspections and meetings with KPSC staff and company personnel.

*Big Rivers Electric Corporation* - Engagement Director for an assignment to implement a comprehensive planning process. The process is centered on an annual planning cycle, which incorporates the corporate and strategic plans with the divisional plans and budgets.

*Duke Energy Ohio* – Lead consultant for a review of affiliated transactions between DEO and its affiliates, parent and other regulated subsidiaries. All aspects of compliance with the merger between Cinergy and Duke Energy were reviewed. Affiliated transactions were



audited, the Cost Allocation Manual was reviewed, and services provided by the Duke Service Company were addressed.

***Pacific Gas & Electric Co.*** – Senior Consultant for affiliated audit for 2001 and 2002 calendar years to verify compliance with California PUC restructuring requirements. Assignment included assessment of company plan and audit of affiliate transactions. Acted as the Lead Consultant on areas that addresses Nondiscrimination Standards, Disclosure and Information Standards, and Competitive Services. Recommendations from these reports addressed means of improving compliance.

***Public Service Electric & Gas Company*** – Retained by the New Jersey Board of Public Utilities to assess compliance with all Affiliate Compliance and Code of Conduct Rules enacted as a result of restructuring.

***Seattle City Light*** – Retained by the City Council to perform an audit of the municipally-owned Seattle City Light electric utility. Assigned issue was governance of the municipal utility. The audit yielded recommendations for training the council members to better understand the issues and to add additional resources for oversight of the utility.

***Federal Energy Regulatory Commission*** – Senior Consultant for an operational audit of the California Independent System Operator. The audit was performed for FERC. Assigned issues of primary focus were market design, the relationships among the parties and governance of the ISO.

***Arizona Corporation Commission*** – Senior Consultant to provide advice and assistance to the Commission regarding the on-going implementation of its industry restructuring initiative.

***Louisville Electric & Gas and Kentucky Utilities*** – Actively participated in the development of a comprehensive performance-based regulation mechanism and provided support for development of tariff, preparation of testimony, and witness preparation and worked with attorneys to prepare briefs.

***Public Service Electric & Gas*** – Senior Consultant in the evaluation of cost of service studies and unbundling plan for the Restructuring Plan submitted to the New Jersey Board of Public Utilities.

***Entergy*** – Consultant in this financial audit of affiliated transactions between Entergy Corporation, Entergy Services, Inc., and subsidiaries responsible for the review of affiliated transactions, allocation, accounting procedures and control, improper disclosure, and insulation and segregation of regulated and non-regulated affiliates.

***California Public Utilities Commission*** – Regulatory Lead Consultant for an assignment to assist with the evaluation of a two-year experiment to implement performance-based ratemaking for San Diego Electric and Gas Company's gas procurement and generation and dispatch functions.

***San Diego Gas & Electric Company*** - Consultant responsible for this mid-term evaluation of the Company's Base Rates Performance-Based Ratemaking mechanism which included analysis and assessment in the areas of price and corporate performance.

***Big Rivers Electric Corporation*** - Provided support and assisted with the preparation of the Company's regulatory filings before the Kentucky PSC for approval to implement a proposed lease of its generating assets to a subsidiary of LG&E Energy.

***Delta Natural Gas*** - Assisted with the preparation of an application to increase rates and modify rate design. Testified on rate design changes for larger commercial and industrial customers as well as other specific charges.

***East Kentucky Power Cooperative, Inc.*** - Senior Consultant for a project to audit the fuel procurement function at East Kentucky Power Cooperative. The assignment is being performed for the Fuel and Environmental Committee of the Board of Directors.

***Louisville Gas and Electric Company/Kentucky Utilities Company*** - Provided strategic, regulatory and operational advice regarding merger between these two utilities. Assisted with preparation of merger application and provided regulatory strategy regarding synergy savings.

***Kentucky Public Service Commission*** - Engagement Director for a project to prepare a joint response for a consortium of four utilities in Kentucky. The response is to the Kentucky Public Service Commission Administrative Case No. 341, An Investigation into the Feasibility of Implementing Demand-Side Management Cost Recovery and Incentive Mechanisms. The response discusses the advantages and disadvantages of various regulatory incentives with regard to DSM and conservation.

***Louisville Gas and Electric Company*** - Lead Consultant in the preparation of its application to establish a holding company. The application included proposed guidelines to be used in financial dealings between the subsidiary companies, as well as the allocation of costs between the companies.

***New England Telephone Company*** - Consultant for the management audit of its affiliated interests. The audit was performed for the Department of Public Utilities of Massachusetts. Primary responsibilities included providing regulatory advice and consultation to the audit team.

***Kentucky Utilities Company*** - Engagement Director for a project to provide advice and consultation with regard to the preparation of an application for a certificate of convenience and necessity to construct additional peaking capacity. The filing was prepared to comply with a comprehensive regulation on integrated resource plan adopted by the Kentucky Public Service Commission. Areas of responsibility included preparing the responses for the sections of the IRP regulation, which were concerned with demand-side management.

***Columbia Gas of Ohio, Inc.*** - Consultant for its management and operations audit. The audit was for the Public Utility Commission of Ohio. Areas of responsibility include requirements forecasting and flexible transportation program.

***Pennsylvania Gas & Water Company*** - Consultant for a comprehensive management audit. The audit is being performed for the Pennsylvania Public Utilities Commission. Areas of responsibility include requirements forecasting, rates and regulatory relations, and financial management and planning.

***West Texas Utilities Company*** - Consultant for a management and operations audit. The audit was performed for the Public Utility Commission of Texas. Areas of responsibility included financial planning and economic analysis, and system planning.

***East Kentucky Power Cooperative, Inc.*** - Engagement Director for the performance of an audit of evaluation of competitive bids it received for providing generating capacity to meet its needs. The purpose of the audit was to provide assurance to EKPC's management that each of the proposals is provided fair and consistent treatment. The audit was needed because the company had also provided a bid.

***Big Rivers Electric Corporation*** - Engagement Director for an assignment to implement a comprehensive planning process. The process is centered on an annual planning cycle, which incorporates the corporate and strategic plans with the divisional plans and budgets.

***Kentucky Public Service Commission*** - Witness testifying on behalf of GTE Products Corporation in Kentucky Public Service Commission Case No. 10498, a request by Columbia Gas of Kentucky, Inc. to raise its rates. The testimony supported the continuation of a flexible rate for the transportation of natural gas to industrial customers with alternative fuel capability.

***Henderson County Water District*** - Lead Consultant for a comprehensive operations review. The study was sponsored by the district's Board of Directors. Areas of responsibilities included operations planning, organization and staffing, system management, and customer service.

***Lexington Fayette Urban County Government*** - Principal Investigator for a report regarding the feasibility of regulating landfill operations at the Kentucky Public Service Commission.

***Kentucky-American Water Company*** - Lead Consultant for a project to review and comment on drafts of testimony and a consultant's report on the need to expand its water treatment capacity. The testimony and report were the subject of a mock hearing.

***Kentucky Public Service Commission*** - Witness testifying on behalf of AT&T Communications in Kentucky Public Service Commission Administrative Case No. 323, an investigation into permitting intraLATA toll competition. The testimony related to the validity of a customer survey submitted by AT&T in the proceeding.

*East Kentucky Power Cooperative, Inc.* - Engagement Director for a project which reviewed its load research program, made conclusions regarding the statistical validity of its previous efforts, and provided recommendations for future studies.

## **TESTIMONY**

Testimony was provided in the following cases.

- Federal Energy Regulatory Commission on behalf of the Kentucky Public Service Commission regarding AEP's membership in PJM and the KPSC's role in approving the membership.
- Case No. 2003-00434, Kentucky Utilities' rate case, before the Kentucky Public Service Commission on behalf of North American Stainless regarding a proposed non-conforming load tariff.
- New Jersey Board of Public Utilities on behalf of the Staff of the NJBPU regarding Public Service Electric & Gas' cost of service studies and unbundling proposals in support of its Restructuring Plan.
- Case Nos. 2009-00548 and 00549, Kentucky Utilities and Louisville Gas & Electric rate cases, before the Kentucky Public Service Commission on behalf of the Kentucky School Board Association.
- Case No. 2010-00204, transfer of Kentucky Utilities and Louisville Gas & Electric to PP&L, before the Kentucky Public Service Commission on behalf of the Kentucky School Board Association.

## **OTHER BUSINESS AND PROFESSIONAL EXPERIENCE**

*President, Utility and Economic Consulting, Inc.*, February 1989-Present. The company provides utility, regulatory, management, and economic consulting services. The consulting engagements described above were performed since the formation of UEC.

*Deputy Executive Director* for the Public Service Commission of Kentucky, 1986-January 1989. Primary responsibilities included:

- Managing staff, through their directors, to ensure that cases were processed according to operating procedures and in a timely fashion.
- Working directly with the staff to develop regulatory policy positions for presentation to the Commissioners. One of the key policies developed involved a revised regulatory scheme to promote a more competitive environment for the delivery of natural gas.
- Preparation of a proposed comprehensive planning regulation for the Commission. The regulation, which is applicable to the state's electric utilities, specified filing requirements for the reporting of load forecasts and resource information including demand-side management and supply-side options.



*Director, Division of Research, for the Public Service Commission of Kentucky, 1983-1986.*  
Primary responsibilities included:

- Managing and providing direction for the economic research staff. The staff provided economic advice to the Commission concerning regulatory issues arising in the electric, telephone, gas, and water industries. This included making case assignments, reviewing the economists' work, preparing budgets, as well as other administrative duties.
- Participating in cases before the Commission. This involved working with other staff personnel, reviewing utility filings, preparing data requests and cross-examination of witnesses, advising the Commission, and preparing orders as instructed by the Commission.
- Load Management Coordinator. This position required coordinating, leading discussions, and making presentations to two statewide load management committees - a steering and a technical committee. The committees were composed of Commission staff, utility executives, and consumer representatives. The committees met quarterly to discuss and review the implementation of time-of-day rates for large commercial and industrial customers. Various other load management techniques were also reviewed and considered.
- Project Coordinator, Case No. 8666 - An Investigation Into Alternative Load Forecasting Methods and Planning Considerations for the Efficient Provision of Electric Generation and Transmission Facilities. In this docket, the Commission hired the services of a consultant to perform the following tasks: review the forecasting methods of the state's electric utilities; provide alternative forecasts; examine the potential benefits of conservation; evaluate alternative construction scenarios assuming the formation of a statewide power pool; and estimate the financial impact of the alternative scenarios. Primary duties were to be the intermediary between the consultants, Commission, the utilities, and other parties; to conduct review sessions on the consultant's work; and to evaluate the draft and final reports produced by the consultant.
- Project Officer for comprehensive management audits of Kentucky Utilities Company and South Central Bell Telephone Company. The Commission instituted a management audit program, which involved hiring consultants to review the management practices of all the state's major utility companies. The role of the project officer was to ensure satisfactory and timely performance of the proposed work; to attend selected interviews; and to critically review and evaluate analytical results.



- *Public Utility Economist* for the Public Service Commission of Kentucky, 1979-1983. Primary responsibilities included:
- Assisting the Commission in implementing procedures and policies to meet the federal mandates of the Public Utility Regulatory Policies Act (PURPA). This involved performing cost-of-service studies, developing alternative rate design proposals, and testifying on the ratemaking standards in Section 111 of PURPA.
- Developing the Commission's regulations pertaining to cogeneration.

*Assistant Professor*, Department of Economics, for Morehead State University, 1976-1979. Primary teaching responsibilities were investments, introduction to economics, and intermediate macroeconomics. Other teaching responsibilities included managerial economics and computer programming in BASIC. Committee work included membership on the Southern Association Self-Study and the Committee on Student Life.

## **EDUCATION**

B.S. in Economics with Honors, University of Kentucky  
M.A. in Economics, University of Kentucky  
Ph.D. Candidate, University of Kentucky



## RESUME OF DR. JEAN GORMLEY

### BACKGROUND

Dr. Gormley joined Vantage Energy Consulting LLC in April 2013, as Chief Operating Officer (CEO) and owner. Jean has over 25 years' experience as a business owner and manager with a broad range of technical and administrative talents. Her education lends itself to analytical and meticulous care in coordination of projects, large and small. Jean has a Bachelor's Degree in Professional Studies and a Master's Degree in Science. She has a diverse background which includes work in the consulting, medical and fitness industry. Her education and related experience have given her the skill set for business and financial management, project management, extensive research capabilities, critical thinking, coordination and scheduling, as well as the ability to meet deadlines in an appropriate fashion.

### SELECTED WORK EXPERIENCE

- Project Administrator – on eight past Vantage assignments. Duties included report editing, coordination and scheduling of interviews and data requests.
  - Virgin Islands Water & Power Authority management audit
  - Talen Energy project oversight
  - Westar-KCPL merger
  - Lake Worth energy procurement
  - Mississippi Power fuel audit
  - Connecticut Natural Gas pipeline investigation
  - AEP Ohio power purchase agreement audit
  - Ohio Power Distribution Investment Resources audit
- Marketing - Performed research on business opportunities in Vantage's core areas.
- Proposal Development – Lead on development of proposals. Utilized her analytical experience to prepare proposals in all Vantage business areas.
- Technology Administrator – Assumed responsibility for telecommunications and IT activities, social networking media as used in a customer service realm.

### EDUCATION

- Temple University, Pennsylvania, Associate Degree 1979
- Pennsylvania College of Chiropractic, Doctor of Chiropractic Degree 1983
- Tri-State College, New York, Bachelor's Degree 2002
- Tri-State College, New York, Master's Degree 2004

