



RESPONSE TO:

RFP 15-10 DOCKET NO R-32975
LOUISIANA PUBLIC SERVICE COMMISSION, EX PARTE.
EXAMINATION OF LONG-TERM NATURAL GAS
HEDGING PROPOSALS

SUBMITTED TO:

LOUISIANA PUBLIC SERVICE COMMISSION

SEPTEMBER 21, 2015

CONFIDENTIAL

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I. INTRODUCTION

Concentric Energy Advisors, Inc. (“Concentric”) appreciates the opportunity to provide this proposal to the Louisiana Public Service Commission (“LPSC” or “the Commission”) in regards to the examination of long-term natural gas hedging proposals for each LPSC-jurisdictional Electric IOU in accordance with the requirements of the LPSC’s General Order date November 10, 2014.

Concentric is a management consulting and financial advisory firm that is focused on the North American energy industry. Concentric’s workforce is comprised of energy industry experts who have held positions with utility companies, state and federal regulatory agencies, energy marketers, global energy companies and other management consulting firms. Concentric was founded in 2002, and many members of Concentric’s team have been working together for more than 25 years.

Concentric’s hedging advisory services provide valuable insight to utility leaders in trading, structuring, valuation, compliance and business operations. Concentric helps clients prepare for emerging issues, conduct due diligence, provide expert witness services, address issues related to hedging activity affecting purchased-gas adjustment classes (PGA), enhance hedging programs, analyze portfolio risk, assess enterprise risk exposures, improve risk management infrastructure, insure robust governance, and manage counterparty credit risk.

The qualifications that make Concentric uniquely different from other providers are as follows:

- **Direct Experience as Commissioners or Serving Commissions:** Unlike other firms, Concentric has developed a consulting services to address energy regulatory needs that sets us apart and will directly benefit the Commission. Concentric has intimate knowledge of how Commissions work and how electric IOUs present issues to Commissions. We understand the perspective of the Commission because members of our management are former Commissioners (Massachusetts and New York State) or have worked as staff to Commissions (New York State and Colorado). We understand how to interact with Commissions because we have assisted clients present or defend cases before Commissions in more than 500 cases in the U.S. and Canada.
- **Nationwide Understanding of Hedging Programs:** Concentric’s team has consulted for many municipal and investor-owned energy utility clients across North America. We understand the culture of regulated and Co-Op utilities. Our team has a sophisticated yet practical understanding of the risk management challenges that impact the business performance and customer rates of an energy utility.
- **Direct Risk Management Experience:** Unlike many consulting firms, members of Concentric’s team have significant direct work experience leading risk management operations within energy companies. Additionally, because of this expertise some of our clients have

outsourced their risk management functions to our consultants, or have asked us to lead their internal risk management operations on an interim basis. In several of these engagements, Concentric's staff also assisted these clients with the recruitment and training of full-time risk management leaders.

- **Understanding of Tenuous Relationship Between Agencies and its Stakeholders:** Concentric's consultants have relevant experience working with public agencies, municipalities, cooperatives and other public power entities; and they understand the governance considerations, the customer rate impact associated with energy supply costs, and the other risk management priorities of these organizations.
- **Balanced Knowledge of Technical and Practical Issues:** Concentric's team has successfully completed numerous risk management assignments that involved modeling our clients' energy supply portfolios and developing hedging plans appropriate for their organizations. We understand the theoretical background of risk and the practicality of its implementation.
- **Experienced Presenting, Defending and Testifying to Best Practices:** Through our client engagements and our evolving knowledge of best-practices from industry association guidelines and prudence reviews, we have accumulated significant expertise to share with PSEG and benchmark PSEG Long Island's hedging program. Our consultants understand the risk profiles of utilities throughout North America and our recommendations for "best practices" are tailored to our clients' respective energy portfolios and unique circumstances.
- **Our Services and Reports are performed with a Regulatory Perspective:** We provide consulting services that make sense from the business perspective because we understand the Electric IOUs, but are also able to communicate in a way that is accessible to outside stakeholders and Regulators. While we are not lawyers, our work product is drafted with a frame of mind of regulatory scrutiny

Please refer to Section IV, for specific examples of our firm's work.

II. SCOPE OF WORK

Concentric will assist in-house Staff counsel and outside counsel in reviewing plans submitted by Commission-jurisdictional IOUs consistent with the review of the Pilot Program established by the Commission General Order dated July 13, 2015 ("Hedging Order"). Concentric will assist in the preparation of discovery, draft a report for filing into the record of proceeding, participate in any status conferences and hearings convened as part of the certification filing, and assist in Staff's ultimate recommendations on the pilot plan and certifications submitted hereto.

There are at least four different items identified in the RFP as minimum requirements where Concentric has a competitive advantage to other firms.

We have reviewed the relevant documents associated with the Hedging Order and have some preliminary observations regarding some of the most relevant Commission orders in this General Order.

The Commission's Hedging General Order (07/13/15)

We are intimately familiar with the Hedging Order and the issues defined by the intervenors and the Staff. And have been following the Commission's proceeding since the August 21, 2013 Louisiana Public Service Commission Notice of Rule Making that examined whether it is in the public interest to accept long-term (five, seven, ten and even fifteen year), fixed price hedging proposals for natural gas contracts. In our experience, the concerns expressed by the intervenors tends to follow a lagged response to market prices as highlighted in Figure 1 and summarized as follows:

- **Upside.** From 2005 through the beginning of 2009 the hedging programs were focused on avoiding price increases (the "Upside" risk). In general, hedging in a market with an upside trend favored the hedging programs because it allowed for more competitive prices, price certainty and reduced volatility;
- **Downside.** By the middle of 2009 the perspective changed with the increased importance of non-conventional sources of natural gas ("Shale" gas) and the hedging programs that had been structured to avoid upside risk became uncompetitive and subject to regulatory scrutiny. Prices that were \$18.99/MMBtu in February 2003 plummeted to \$1.86/MMBtu in the Spot (next-day delivery) markets. Hedging programs started incorporating a focus on avoiding uncompetitive prices, opportunity costs and less concern on upside risk; and
- **Sideways.** Since the middle of 2012 we have now entered a timeframe where prices have either softened or traded within a ranged (moved "sideways"). The upside or downside risk considerations of the earlier periods are no longer that present and we have now entered a period where a balanced approach that weighs the upside and the downside risk driving the hedging programs and leading largely to fewer hedged positions.

The positions summarized in the Hedging Order reflect some of the focus of the hedging programs and the fact that all IOUs are able to recover natural gas costs through the Purchase Gas Adjustment Clauses ("PGA").

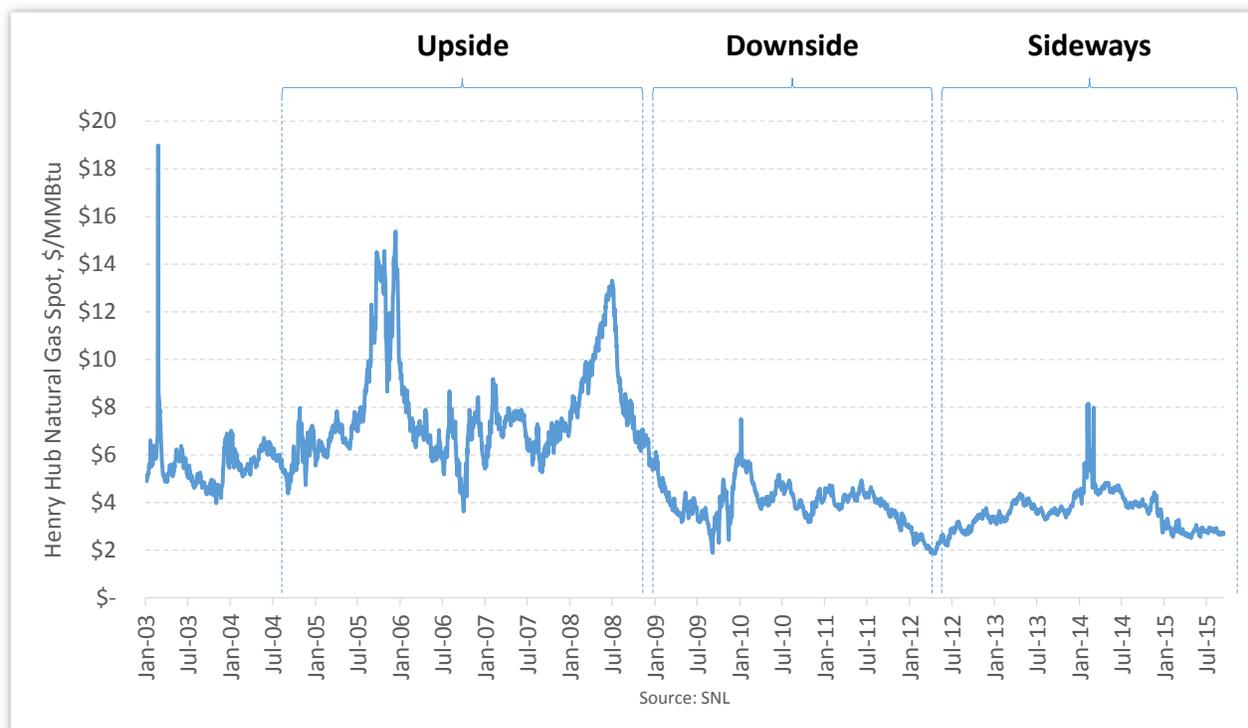


Figure 1: Hedging Program Focus Follow a Lagged Price Response

The Commission’s Purchase Gas Adjustment Order

We are also very familiar with the Purchase Gas Adjustment Order and the concerns expressed by the intervenors is largely based on the fact that the PGA provides cost recovery without exposing the financial position of the electric IOUs. There are nevertheless items in the definition of the PGA that allow room for the Commission to motivate the electric IOUs to hedge in pursuit of economic prices for electricity. Several jurisdictions in the U.S. and Canada are increasingly challenging automatic PGA charges under the proviso that the IOU didn’t act “in pursuit of economic prices” by ignoring opportunities to hedge the price.

The Commissions Fuel Adjustment Clause Order

We are also aware of the details surrounding the Fuel Adjustment Clause and have been following the proceedings and Orders as early as October 1, 1997¹ in the development of standards governing the treatment and allocation of fuel costs by electric utility companies. In conjunction with the Purchase Gas Adjustment Order, the Fuel Adjustment Clause clearly defines the fuel costs that are subject to be recovered (Fuel Adjustment Clause) and how they will be recovered (Purchase Gas Adjustment).

¹ Docket No. U-21497 as well as the April 23, 1975 General Order regarding the fuel and purchased power adjustment clauses.

Of relevance to the Hedging Pilot is how the elements accounted for in the Fuel Adjustment Clause include (or not) elements associated with long-term hedges. In our understanding of the Order, the costs for long-term hedges are within those expenses to include in the Fuel Adjustment Clause.

A General Understanding of Utility Hedging Practices

Concentric has been evaluating, enhancing, auditing and structuring utility hedging practices and we have developed a clear understanding and a database from public information of the different hedging programs. The team identified in this proposal has been involved in evaluating hedging programs for at least 50 different entities ranging from Investor Owned Utilities (IOUs) to Regulated Utilities to Industrials.

Our exposure to this variety of clients has allowed us to create a typology of approaches to hedging grouped by the defining “logic” illustrated in Figure . For instance, there are a number of companies that hedge based on a “time logic” that accumulates hedges as a function of time (e.g. every first of the month). This particular program is very easy to implement, but more than a hedging practice it is a procurement exercise because it lacks associating what risk is hedging trying to address. On the other hand, there are entities with hedging programs that are based on avoidance of risk (“Risk”) and they will hedge if the market risk is in excess of tolerance.

Our preliminary assessment is that all the electric IOU’s in the Commission’s territory are a combination of “Nothing” (i.e. not hedging) or short-term hedging during the winter (“Time”). These two approaches that dominate the Commission’s territory are not surprising because all utilities have a pass-through guarantee of costs as evidenced by the Purchase Gas Adjustment Order. This is clearly expressed in the Hedging Order².

For the electric IOUs to hedge under the current structure is a hard proposition to present because the PGA “hedges” their own profit-and-loss (“P&L”) exposure. If they hedge, the cost hedge may be challenged by the Commission and intervenors. This paradigm is not unique to Louisiana and there is evidence across the country of electric IOUs being denied recovery of natural gas costs if they imprudently used the PGA as a hedge mechanism.

² Hedging Order, Page 7/26.

Logic	Amounts and timing are set forth in a pre-specified schedule	Budget (\$) is prepared based on an initial schedule of hedge forecast of prices.	Hedges are scheduled at a pre-determined price level based on historical pattern.	Hedges are a function of risk measurement and risk avoidance	No hedging activity takes place
Common Name	Time Averaging (“TA”)	Dollar Cost Average (“DCA”)	Time Averaging (“Historical Percentile”)	Value at Risk (“VaR”)	Lagged Pricing
Pros	Easy to implement and execute	Easy to implement and execute	Easy to implement and execute	More involved to implement	Easy to implement and execute
Comments	Hedges take place regardless of market conditions or impact to business	Hedges take place as market conditions align with plan but leave exposed if not	Tend to increasingly hedge as markets drop and leave unhedged as markets rise	Hedges take place as risk exposure encroaches on tolerances. Tolerances are set in the context of objectives	Exposure to price run-ups and economic consequences. Lack of certainty of results and impact to objectives
					
	Time	Spend	Target	Risk	Nothing

Figure 2: Concentric’s Typology of Structured Hedging Programs

Regulatory Rulemaking Process

Concentric is one of North America’s top consulting firms in rate and regulatory services offering a complete suite of rate case support services, innovative regulatory approaches, and in-depth knowledge of regulatory issues and initiatives. Concentric has more than 20 individuals who have appeared as experts in regulatory proceedings throughout North America, supported by a team of consultants that are experienced in all aspects of developing financial, economic and technical studies and analysis for regulatory proceedings.

- **Hedging Prudence.** Expert witness testimony on behalf of NSPI before the Nova Scotia Utility and Review Board (“NSUARB”) under Docket M04972). An audit conducted on behalf of the NSUARB recommended the deferral of \$12.8 million due to NSPI’s alleged failure to hedge Northeast Market basis during the winter 2010- 2011. On December 21, 2012, the NSUARB published its decision on the case (2012 NSUARB 227) ruling that NSPI was able to recover the full \$12.8 million.
- **Revenue Requirements.** Concentric supported a large Midwestern gas distribution company’s recent rate filing, which included a rate plan based on a forecasted test year. Concentric provided guidance and support in interpreting the recently-passed legislation authorizing projected test year rate plans; developed models of the client’s actual and planned expenses and capital expenditures;

prepared the forecasted revenue requirement and associated filing requirements; and prepared testimony supporting the rate filing. At the conclusion of the rate case proceedings, the state regulators approved the company's requested rate plan rates.

- **Rate Design, Cost of Service Studies, Rate Consolidation.** Concentric prepared allocated and marginal cost studies designed the proposed rates and provided expert testimony for a rate case filed by a large Northeastern natural gas distribution company. Concentric also prepared studies to support consolidation of the rates and rate classes of the client's separate operating divisions. Concentric's rate consolidation proposal, revenue requirement allocation approach, and cost studies were approved as proposed and the proposed rate design was approved with minor revisions.
- **Decoupling Mechanism, Capital Cost Recovery Mechanism.** Concentric designed revenue decoupling mechanism and a targeted capital cost recovery mechanism for a rate case filed by a natural gas distribution company. The decoupling and capital recovery mechanisms that Concentric designed were approved as proposed.
- **FERC Natural Gas Pipeline Rate Proceeding.** Concentric provided written and oral expert testimony regarding cost allocation and rate design issues on behalf of a large electric utility in an interstate pipeline rate proceeding. Concentric was instrumental in developing a successful settlement that produced an annual transportation cost savings of \$1.8 million to our client.
- **Additional Regulatory Consulting Services:**
 - Revenue requirements
 - Rate base (including fair value determination)
 - Earnings attrition analysis
 - Lead-lag studies
 - Taxes
 - Allocated cost of service studies
 - Marginal cost studies and pricing
 - Incentive regulation
 - Rate design
 - Consolidation of rates and rate classes
 - Revenue and expense adjustment clauses
 - Capital tracker mechanisms
 - Stranded cost recovery
 - Prudence reviews
 - New services development
 - Rate settlement negotiations
 - Market-based rates
 - Development and interpretation of tariffs and terms and conditions of service

III. PROJECT TEAM

Ruben Moreno, Assistant Vice President, will serve as the key staff accountable to LPSC for Concentric's performance. Mr. Moreno will draw upon Michael Kagan, Julie Lieberman and Ahmed Malik for their respective areas of expertise. The team will also receive research and analysis support as needed from Concentric's pool of consulting staff. Biographies for the core project team are provided below. Please refer to Attachment A for full resumes.

Ruben Moreno, Assistant Vice President. Mr. Moreno is a recognized expert witness in energy risk management. He has been helping large consumers or producers of energy optimize expenditures, revenues and investments for the past 18 years. He is a specialist in risk management, quantitative methods and statistical analysis. He has advised on the exposures of a US\$10 billion portfolio and also has broad experience in management consulting and teaching. His experience includes a broad range of fuels (oil, natural gas, coal, wind, solar and hydro), differing generating technologies and extensive transactional experience supporting clients design and implement energy procurement practices to identify how much to purchase, when and why.

Michael P. Kagan, Senior Vice President, is a financial and economic consultant with more than 20 years of experience in the energy industry. He has provided advisory services in the areas of business development, corporate divestitures, strategy, asset valuation, risk management and rate making. Prior to joining Concentric Energy Advisors, Mr. Kagan served as the Chief Sales Officer for Constellation Energy where he was responsible for all revenues derived from the company's customer-facing businesses in retail power, natural gas, energy efficiency and on-site solar generation. In this role, Mr. Kagan oversaw the merging of front office capabilities across each business line and the introduction of bundled products. Prior to that role, he held various positions at Constellation including President of the retail power division which served customer load of 15,000 MWs, and Co-Chief Commercial Officer responsible for major accounts, retail pricing and product development. Earlier in his career, Mr. Kagan held positions including Vice President of wholesale supply and trading for AES NewEnergy where he built the firm's retail-focused power and gas supply and trading capability. Mr. Kagan is a graduate of Skidmore College and was awarded an M.A. in economics from the University of California, Santa Barbara.

Julie Lieberman, Project Manager, is a financial and economic consultant with over 25 years of experience in the energy industry. Her broad base of experience includes: financial and economic consulting in the energy sector, risk management, asset valuation and modeling, wholesale and retail energy trading and operations, energy procurement and scheduling, hedging strategies, regulatory policy and compliance, utility ratemaking, due diligence and litigation support and analysis. She has performed a variety of economic analyses, extensive regulatory research and assisted in the preparation of testimony and research reports in both regulatory and non-regulatory proceedings. Ms. Lieberman has performed focused regulatory research on Dodd Frank legislation and its implications for the energy sector, with a particular concentration on the regulated end-user segment. Ms. Lieberman is proficient in Microsoft Office applications, Crystal

Ball, and SPSS and has used option modeling, Monte Carlo simulations, and VAR analysis in a variety of risk applications. Prior to joining Concentric, Ms. Lieberman served in the financial and risk related fields in the unregulated energy trading and marketing sector. She holds a Masters in Finance from Boston College, a B.S. in Accounting from Indiana University, is a licensed CPA (Texas), and is a FINRA licensed securities professional (Series 7, 63, and 79).

Ahmed Malik, Assistant Consultant, joined Concentric in 2014. He has experience in energy and infrastructure economic consulting. He is academically trained in Accounting and Finance, with direct experience in risk analysis. Mr. Malik has provided consulting services to The World Bank and International Finance Corporation related to financial and regulatory aspects of energy infrastructure development. Since joining Concentric in 2014, he has provided research and analytics support pertaining to tax litigation and asset evaluation.

IV. RELEVANT QUALIFICATIONS

Concentric’s risk management advisory services provide valuable insight to utility leaders in trading, structuring, valuation, compliance and business operations. Concentric helps clients prepare for emerging issues, conduct due diligence, enhance hedging programs, analyze portfolio risk, assess enterprise risk exposures, improve risk management infrastructure, insure robust governance, and manage counterparty credit risk.

Below are relevant examples of the work from staff assigned to this opportunity.

- **Sample Hedging Consulting Qualifications**

Company Name	Description of Work
Nova Scotia Power Incorporated (NSPI)	<p>Concentric developed a hedging strategy in the context of the requirement to review the strategy every two years and to ensure that the strategy is in alignment with the short, medium and long term gas procurement strategies and needs. The scope of work focused on the natural gas financial elements of the strategy and its integration with physical natural gas procurement and wind resources.</p> <p>Additionally, Concentric provided regulatory support to Nova Scotia Power for its most recent rate proceeding before the Nova Scotia Utility and Review Board, which entailed filing expert testimony on numerous issues including the prudence and pricing of natural gas purchases to serve Atlantic Canadian markets and risk management issues including financial hedging related to natural gas procurement.</p>

Company Name	Description of Work
Guam Power Authority	<p>Concentric staff provided expert witness testimony on behalf of the Guam Power Authority (“GPA”) before the Guam Public Utilities Commission (Docket 10–03). Evaluated Guam Power Authority’s energy risk management program in light of unfavorable financial hedge settlements of \$64 million. The Commission adopted the recommendations, approved the suggested Policy and Procedures and recommended for Mr. Moreno to serve as a shadow risk manager to GPA’s hedging practices.</p> <p>Concentric is currently providing risk management support services to the Guam Power Authority. The services include: 1) Recommend a hedge position based on the risk exposure and tolerance to risk; 2) Engage GPA’s senior management and the Public Utility Commission to explain the performance of the program; and 3) Serve as an arms-length risk management resource for GPA. Part of the assignment included two on-site training sessions on how to structure a market risk management function.</p>
GazMétro	<p>Concentric assisted GazMétro in responding to the request from the Régie de l’énergie to review the existing natural gas hedging program, propose enhancements and compare it against industry best practices. The work expanded into the hands-on development of an alternative plan and the expert witness testimony of that plan before the regulator and interveners.</p>
Confidential Client	<p>Concentric is currently serving as expert witness for a confidential Joint Action Agency (“JAA”) in its litigation against a customer alleging improper hedging activities. The JAA has natural gas hedging activities that span financial, physical and rate-based reserves. This is a case that is being tried in a Federal Court and involves expert witness reports, depositions and testimony before a Federal judge. The work is being performed through a large Atlanta-based law firm that retained Concentric to support its case.</p>
Metropolitan Transportation Authority of New York and the New York Power Authority (NYPA)	<p>Concentric is assisting the Metropolitan Transportation Authority of New York (“MTA”) in understanding and managing all of energy-related expenses and investments affecting the MTA, primarily as it relates to negotiating with the New York Power Authority in the cost to serve the load from the MTA and other in-city customers. Concentric is providing periodic price forecasts for electricity and fuels to support the budget process and advisory services associated with market dynamics and market timing of decisions associated with NYPA’s cost-of-service and procurement of fuel. Concentric is managing the energy cost exposure for the MTA associated with NYPA and identifying fuel-related strategies to achieve significant (greater than 40 percent) savings to budget.</p>

Company Name	Description of Work
	<p>Since the MTA is co-owner of two generating assets in New York City, Concentric is assisting the MTA interact with NYPA to ensure that the assets are operated properly and that in developing and implementing a hedging strategy to ensure that the estimated (yearly) cost of service does not fluctuate beyond unreasonable levels. Concentric is auditing NYPA's estimates of energy adjustment clauses and recommended changes. Concentric will assist in negotiations with LIPA to resolve long-standing dispute on charges associated with a right-of-way.</p>
<p>New Hampshire Electric Cooperative ("NHEC")</p>	<p>Concentric developed and implemented an Enterprise Risk Management ("ERM") Program. The scope of work included educating selected NHEC personnel in the best practices of ERM, and making actionable recommendations for the development and implementation of an ERM Program customized to NHEC's unique needs.</p>
<p>Confidential Client</p>	<p>Concentric is currently preparing a Policies and Procedures to govern trading activities of natural gas for a confidential Atlantic Canada client. The Client plays a market-maker role and trades around transportation contracts and long-term supply from Sable Island. We are assisting in creating Policies and Procedures to govern trading activities after Sable Island is no longer producing.</p>
<p>City of Weatherford, Texas Utility Department</p>	<p>Concentric is currently providing risk management support services to the City of Weatherford, Texas. The services include: 1) Recommend a hedge position based on the risk exposure and tolerance to risk; 2) Engage City of Weatherford's ("City's") Senior Management and City Council to explain the performance of the program; and 3) Serve as an arms-length risk management resource for the City.</p>
<p>The Energy Authority</p>	<p>Ruben Moreno, serving as the Project Manager for this assignment, assisted The Energy Authority (a large aggregation of public power utilities) structure the risk management function for TEA and as a product offering to its customers/owners. The work involved understanding the needs or power procurement/disbursement and fuel procurement for each individual customer who in turn were also owners of The Energy Authority.</p>
<p>Colorado Springs Utilities</p>	<p>Ruben Moreno assisted the Colorado Springs Utilities in an evaluation the alignment and compliance of its ERM Function with specific corporate governance requirements. The assignment included interaction with senior management and concluded in a series of actionable recommendations of enhancements to the ERM program, and an assessment of the compliance of the current program to the governance guidelines.</p>

Company Name	Description of Work
CenterPoint Energy	Concentric was retained by CenterPoint Energy to review their historical hedging practices from the perspectives of fundamental market analysis and its decisional framework. Concentric’s analysis addressed questions relating to the company’s use of certain hedging instruments and the timing of the hedge execution. Concentric also reviewed the internal analysis developed and the decisional documentation employed.
Bryan Texas Utilities	Concentric is currently providing risk management support services to Bryan Texas Utilities. The services include: 1) Forecast Cash Flow needs for the next six months and the potential for these needs to grow beyond normal expectations if market conditions are not favorable (i.e. cash flow at risk, C@R); 2) Engage BTU's Senior Management and the Public Utility Commission to explain the performance of the program; and 3) Serve as an arms-length risk management resource for BTU.
Mitsui & Co. Power Development and Management Americas	Concentric assisted Mitsui evaluate a long-term natural gas capacity contract from several sourcing points in Southern Texas and its interconnection to Mexico. The work included hands-on research on the pricing dynamics, available intermediaries, liquidity constraint and pipeline issues that would ultimately assist Mitsui in accepting or rejecting proposed changes to the exiting long-term contract.
Great Lakes Utilities	Concentric assisted Great Lakes Utilities (GLU) develops a financial risk management Policy to support engaging credit rating agencies and manage the financial exposure of internal projects. To develop the Policy, Concentric reviewed GLU’s existing capabilities and financial risks; assessed GLU’s Risk tolerance and created the Policy and Procedure to support the management of the financial risk.

Sample Regulatory Proceeding Qualifications

Our ratemaking services range from high level rate case assistance (e.g., case management, regulatory strategy, witness training) to addressing specific technical rate case requirements (e.g., revenue requirements, cash working capital, cost of service studies, marginal cost studies and pricing, rate design, tariff design, cost of capital, attrition of earnings, and rate base (including the fair value of rate base assets). Our consultants have experience in alternative ratemaking proceedings, including: incentive ratemaking approaches, revenue decoupling, capital spending recovery mechanisms, and inflation adjustment mechanisms; the alternative ratemaking approaches that our team develops are designed to fit with each client’s business conditions. Our team also provides support for a broad range of policy, regulatory, and legislative initiatives on behalf of our clients.

Representative engagements include:

CONCENTRIC CLIENT	YEAR(S)	JURISDICTION(S)	SUBJECT	COMPANY TYPE
AMEREN CORP.	2007, 2008, 2010, 2012	Missouri Public Service Commission	Cash working capital	Natural gas and electric distribution
ATLANTIC POWER CORPORATION (ATLANTIC PATH 15, LLC)	2007, 2010, 2011	Federal Energy Regulatory Commission	Return on Equity	Electric transmission
ATMOS ENERGY CORP.	2013, 2014, 2015	Colorado Public Utilities Commission	Return on Equity	Natural gas distribution
CENTERPOINT ENERGY (ASSOCIATION OF ELECTRIC COMPANIES OF TEXAS)	2013	Texas State Legislature	Consolidated Tax Adjustment Clause Legislation	Electric distribution
ENBRIDGE GAS DISTRIBUTION	2014	Ontario Energy Board	Incentive Regulation Plan and Industry Productivity Study	Natural gas distribution
GAZ MÉTRO LIMITED PARTNERSHIP	2012	Régie de l'énergie du Québec	Return on Equity/Business Risk/ Capital Structure	Gas Distribution
HYDRO-QUÉBEC DISTRIBUTION AND HYDRO- QUÉBEC TRANSÉNERGIE	2013	Régie de l'énergie du Québec	Return on Equity/Business Risk	Electric distribution
KINDER MORGAN (TRANS MOUNTAIN PIPELINE LLC)	2012, 2013	National Energy Board of Canada	Toll Design	Oil pipeline
LIBERTY UTILITIES (NEW ENGLAND GAS CO)	2007, 2008, 2010	Massachusetts Department of Public Utilities	Test Year Billing Determinants; Other Revenues; Marginal Cost of Service Study; Rate Design and Proposed Tariffs	Natural gas distribution

CONCENTRIC CLIENT	YEAR(S)	JURISDICTION(S)	SUBJECT	COMPANY TYPE
MONTANA-DAKOTA UTILITIES CO.	2007, 2010, 2012, 2013, 2014, 2015	Montana Public Service Commission, North Dakota Public Service Commission, South Dakota Public Service Commission	Rate of Return	Natural gas and electric distribution
NATIONAL GRID	2010	Massachusetts Department of Public Utilities	Marginal Cost of Study; Rate Design, Support for Rate Consolidation	Natural gas distribution
TEXAS-NEW MEXICO POWER COMPANY	2008	Public Utility Commission of Texas	Revenue Requirement	Electric distribution
TRANSCANADA PIPELINES LTD	2011, 2012	National Energy Board of Canada	Business Services and Tolls Application	Natural gas pipeline
UNS ELECTRIC	2012, 2015	Arizona Corporation Commission	Return on Equity	Electric distribution
UPPER MIDWEST DISTRIBUTOR GROUP	2010	Federal Energy Regulatory Commission	Section 5 pipeline rate case intervention	Electric distribution
VIKING GAS TRANSMISSION CO.	2014	Federal Energy Regulatory Commission	Rate of Return	Natural gas pipeline
XCEL ENERGY (SOUTHWESTERN PUBLIC SERVICE COMPANY)	2014	Public Utility Commission of Texas	Return on Equity	Electric distribution

V. REFERENCES

Below are three references that can speak highly of services that we have provided in the past (or as still providing) and are very similar to those being proposed to LA PSC. We encourage you to reach out to these references and ask them detailed questions regarding our work ethic, quality of work and attention to detail. If for any reason these references are not available, please let us know and we will provide additional choices.

Client Reference	Description of Work
David Keller Senior Deputy Budget Director Metropolitan Transportation Authority 347 Madison Avenue New York, NY 10017-3780 212-878-7428 dkeller@mtahq.org	Comprehensive Energy Consulting Services for all the Agencies within the MTA. This also includes how we represent the MTA before the New York Power Authority in an effort to support cost containment strategies and prudence in the execution.
Confidential Client Edward P. Bonapfel Alston & Bird LLP 404 - 881 - 7166 ed.bonapfel@alston.com	Concentric is working with the law firm of Alston & Bird LLP to support a litigation regarding hedging prudence for a confidential client.
Angela Trenholm Gas/Oil Marketing Fuel, Energy and Risk Management Nova Scotia Power Inc. P.O. Box 848 Halifax, NS B3J 2V5 902-474-7852 Angela.Trenholm@nspower.ca	Concentric has been assisting Nova Scotia Power evaluate, enhance and execute a hedging program in the context of a very active Regulator. Concentric has also supported Nova Scotia Power with expert witness testimony associated with the hedging program.

VI. CONFLICT OF INTEREST

Concentric does not anticipate a conflict of interest with undertaking this work.

VII. BUDGET AND TERMS

Concentric understands that the Commission is requesting hourly billing rates for consultants and is not seeking an estimated total budget for the work to be performed. We have provided our hourly rates in Attachment B. In addition, Concentric plans to perform this work under the terms outlined in Attachment C.

Once the final scope of work is established, we are also open to propose specific deliverables under a fixed-price basis to ensure that the Commission has more control over the expenses associated with our services. When working on regulatory rulemaking process we may define a set of reports to be on a fixed price basis and then testimony or information requests on a time and material basis.

VIII. CONCLUSION

We sincerely appreciate the opportunity to provide this proposal and look forward to discussing its content at your convenience.



Ruben Moreno
Assistant Vice President
1130 Connecticut Ave., NW, Suite 850
Washington, DC 20036
(202) 587-4775
rmoreno@CEAdvisors.com

Ruben Moreno
Assistant Vice President

Ruben Moreno has been helping large consumers or producers of energy optimize expenditures, revenues and investments for the past 20 years. He is a specialist in risk management, quantitative methods and statistical analysis. He has advised on the exposures of a US\$10 billion portfolio and also has broad experience in management consulting and teaching. His experience includes a broad range of fuels (oil, natural gas, coal, wind, solar and hydro), differing generating technologies and extensive transactional experience supporting clients design and implement energy procurement practices to identify how much to purchase, when and why. He is a recognized expert in hedging and risk management

REPRESENTATIVE PROJECT EXPERIENCE

Expert Witness

- Wrote testimony, drafted information request, drafted responses to information requests and served as risk management expert witness on behalf of Nova Scotia Power Incorporated (NSPI) before the Nova Scotia Utility and Review Board (NSURB) on the Fuel Adjustment Mechanism of October 2012. The testimony was supportive of the prudence of NSPI's risk management program; and
- Wrote testimony, drafted information request, responded to information requests, conducted technical sessions with Regulator's staff and served as risk management expert witness on behalf of Gaz Metro Inc before The Regie de l'énergie in Canada. The testimony (2013-2014) was critical of Gaz Metro's historical hedging program and proposed adjustments to reflect best practices;
- Wrote testimony and presented recommended risk management strategy on behalf of Guam Power Authority (GPA) before the Guam Public Utilities Commission (2011) after GPA reportedly paid in excess of \$100 million more than market settlement.

Market Risk Management

- Designed, valued, supervised and implemented market transactions for more than 40 GW of generation/load and the associated fuels;
- Created a risk-based analytical framework to evaluate the value of a power plant and negotiated the value on behalf of the customer. Final result avoided 40% increase in the cost of operating the plant;
- Audited the risk management function of Powerex (wholesale energy trader in Canada) on behalf of its (regulated) owner BC Hydro. Involved the evaluation of VaR calculation and portfolio aggregation;
- Asset Valuation and Risk Management Strategy to enhance/protect the value of a power-generating asset in bankruptcy from the perspective of the holder of a long-term energy contract;
- Risk Profiling of Operational Risk Exposures for Industrials and Power Producers in Mexico, Canada, Europe and the U.S.; and
- Designed and implemented risk management and value-extraction derivative structures to meet corporate objectives within a manageable (i.e. acceptable) risk profile.

Compliance to Accounting Standards

- Designed, implemented and audited compliance to standards for regulated and unregulated energy companies;

- Conceptualized, systematized and implemented ad-hoc comprehensive risk management metrics for government clients in pursuit of compliance to constituent's expectations;
- Commercial assistance to customers to interpret and implement the newly adopted Federal Accounting Standard to determine Fair Value of derivative products (FAS-157);
- Commercial assistance to support hedge efficiency standards under the Federal Accounting Standards for the registry of derivative products (FAS-133(7)); and
- Audited entire risk management and compliance functions for regulated utilities.

Operational Risk Management

- Designed, implemented and audited policies, procedures and programs to avert non-compliance to standards or business goals;
- Created essential risk reporting position report to inform client on the risk exposure and its management;
- Trained 20+ project managers on risk management principals and how to apply them to project management and budget protection;
- Risk Management Strategy (structuring and implementation) to protect the Cost of Service expectation (i.e. Budget) for Energy for a \$623m portfolio;
- Lead expert and project manager in risk quantification, measurement and integration or a risk management function and compliance function on behalf of consulting companies (R.W. Beck, SAIC and Pace Global) and regulated utilities (e.g. NYPA, LIPA, Santee Cooper, CDWR);
- Responsible for risk management practice that supports a \$10 billion portfolio of different projects;
- Created and managed a business practice that has allowed my staff to achieve above average salary growth rates YOY;
- Supervised eight analytical staff and help them translate quantitative work into products that are sellable and valuable to the client; and
- Created, managed and presented weekly publication distributed to large industrials and power producer on Operational Risks affecting the Energy industry.

Enterprise Risk Management

- Designed, implemented and audited enterprise risk management functions and insurance structures;
- Designed and implemented the enterprise risk management for a large generation and transmission company in the Colorado Area. The assignment included creating a framework for understanding and measuring the risk, identifying a plan forward on how to implement and the design of a set of executive-level reporting structure;
- Evaluated the aggregate risk exposure for a large transmission, distribution and generation company in South California and identified all aspects that may generate a legal implication; and
- Evaluated the insurance adequacy associated with operational and market exposure. The analysis evaluated a tiered approach to the acquisition of insurance and a comparison with cost of money to determine self-insurance levels.

Transactional Experience

- Designed and implemented market-specific transactions;
- Assisted a purchaser of debt from distressed assets with an option for converting to equity (debtquity). The analysis identified generic market areas and identified opportunities to purchase distressed debt assets;
- Advised customer on \$75M pre-payment of natural gas and heating oil contracts and participation to softer energy prices on behalf of customer;

- Assisted energy producers and buyers to structure, formulate, bid, qualify and negotiate energy structures to satisfy a business requirement within a risk management context; and
- Evaluation and enhancement of the risk management function of a major utility in the Northeast from the point of view of the takers of 25% of the total output.

Environmental Security

- Subject Matter Expert supporting the U.S. Southern Command (“USSOUTHCOM”) Science, Technology and Experimentation Directorate (“J7”) to capitulate and transition services for implementation. The end result is a database with relevant documents, a final report describing how the DoD can positively affect environmental security;
- Project Manager to Create the Energy Assurance Plan for the Virginia Department of Mines, Minerals and Energy. This includes conducting an inventory and providing a vulnerability and risk assessment of energy infrastructure and distribution systems; revising the energy assurance plan; and conducting exercises that will educate public and private officials and test their knowledge of the revised energy assurance plan; and
- Subject Matter Expert on Risk and Vulnerability Assessment for Massachusetts, New York, Oregon, Missouri, Salt Lake City and Columbia MO.

Renewal Resources

- Designed and implemented the procurement of 38 million gallons of ultra-low sulfur diesel in the New York area. The process incorporated a staged approach to low-sulfur compliance and the mandate for a dedicated fleet transporting the fuel;
- Evaluated the pricing and procurement of white-tags in the context of environmental compliance;
- Designed and currently implementing a consulting approach to services associated with managing a CO2 account. The approach incorporates a quantitative rigor similar to traditional financial metrics;
- Assisted a large Spanish company looking to purchase between 500 and 1,000 MWs of renewable energy in the U.S. over the next five years; and
- Recently developed an approach to estimate the extrinsic value of a compressed-air energy storage facility either as a stand-alone unit or as it integrates with other resources.

County, State and Federal Government/Military

- Subject matter expert in how the confluence of energy, food, water, health and climate change affect security.
- Project Manager to Create the Energy Assurance Plan for the Virginia Department of Mines, Minerals and Energy. This includes conducting an inventory and providing a vulnerability and risk assessment of energy infrastructure and distribution systems; revising the energy assurance plan; and conducting exercises that will educate public and private officials and test their knowledge of the revised energy assurance plan.
- Subject Matter Expert on Risk and Vulnerability Assessment for Massachusetts, New York, Oregon, Missouri, Salt Lake City and Columbia MO.

Statistics and Load Growth

- Expert-level statistic practitioner with the ability to translate the impact of energy load growth and energy-specific risks to the demographics.
- Assisted multiple clients to statistically characterize their growth in energy use, design strategies to supply that growth typically in a long-term scenario (30-year strategic energy plans).
- Technical expert in productivity measurement and cross-industry comparisons.

- Assisted the City of Quincy Florida to understand the behavioral impact in the deployment of smart grid technology and how to best implement in the context of very specific demographic constraints.

Finance and Budget Analysis

- Technical expert in finance at the operational, academic and strategic level.
- Asset Valuation and Risk Management Strategy to enhance/protect the value of a power-generating asset in bankruptcy from the perspective of the holder of a long-term energy contract.
- Commercial assistance to support hedge efficiency standards under the Federal.
- Overall financial and creditworthiness analysis of firms to determine financial capability to undertake design-build infrastructure projects.

REPRESENTATIVE CLIENTS

End-Users

- Verso Paper (Pulp and Paper)
- Kellogg
- GE
- Pactiv
- Celanese

Cooperatives, Munis and Joint Action Agencies

- AMP Ohio
- Colorado Springs Utilities
- EnergySouth
- Great Lakes Utilities
- Garland Power and Light
- Iowa Stored Energy Park (ISEPA)
- North Carolina Municipal Power Agency
- New Hampshire Electric Cooperative
- City of Owensboro
- City of Weatherford
- City of Brian Texas
- TriState

Self-Regulated Utilities

- BC Hydro
- Gaz Metro
- Guam Power Authority
- New York Power Authority
- Long Island Power Authority
- Santee Cooper
- San Diego Gas and Electric
- Southstar Energy

Governmental Authorities

- Salt Lake City Energy Office
- Metropolitan Transportation Authority (New York)
- Massachusetts Operational Service Division
- Massachusetts Department of Environmental Services
- Virginia Department of Mines and Minerals
- New York State Energy Research and Development Authority
- New York Office of General Services
- Port Authority of New York and New Jersey

Independent Power Producers or Developers

- Brockton Power
- Caithness Energy
- Diamond Generating Corporation
- Granite Ridge
- Haddington Ventures
- Irving Oil
- Jefferies
- Nova Scotia Power Incorporated
- Tenaska
- Tudor Hedge Fund

PROFESSIONAL HISTORY

Concentric Energy Advisors, Inc. (2012 – Present)

Assistant Vice President

R.W. Beck (an SAIC Company) (2007 – 2011)

Senior Director, Risk Management

Science Applications International Corporation (2006 – 2007)

Director, Risk Management

Pace Global Energy Risk Management, LLC (1998 – 2005)

Executive Director, Risk Management

Center for Strategic Studies, ITESM (1991 – 1995, 1997 – 1998)

Consultant/Researcher

Department of Economics, ITESM (1992 – 1998)

Professor

Equifax de Mexico, S.I.C.S.A (1996 – 1997)

Financial Manager

EDUCATION

Leadership Acceleration Program, University of Notre Dame, July 2004

MS, Economics, University of Texas, 1995

MBA, Finance, ITESM (Mexico), 1992

BA, ITESM (Mexico), 1990

Technician – Accounting, ITM (Mexico), 1986

OTHER

Languages: English, Spanish (native speaker) and conversational German (mittelstufe)

Security: Top Secret security clearance granted in December 2011.

Michael P. Kagan
Senior Vice President

Mr. Kagan is a retail energy market executive with more than 20 years of experience in the industry. He is an energy industry leader, serving most recently as the Senior Vice President & Chief Sales Officer for Constellation Energy, one of the largest and most successful natural gas, electricity and energy-services retail firms in North America. Prior to the acquisition of Constellation by Exelon in 2012, Mr. Kagan was President, Retail Power at Constellation NewEnergy. Mr. Kagan leads strategy engagements for energy clients seeking to accelerate growth, market share and profitability in rapidly evolving retail and wholesale energy markets.

PROFESSIONAL HISTORY

Concentric Energy Advisors, Inc. (September 2013 – Present)

Senior Vice President

Constellation Energy, an Exelon Company (2010 – 2013)

Senior Vice President & Chief Sales Officer

- Leader of sales organization for largest U.S. commercial and industrial retail energy supplier. Responsible for \$8.5B in annual revenues from power, gas, energy efficiency, load response and on-site solar projects.
- Led the March 2012 Exelon-Constellation sales force merger initiative.
- Executed corporate reorganization, forming a unified sales team of 300 people capable of providing customers with multiple products through a single point of contact. New structure resulted in expanded market reach, greater sales effectiveness and higher customer satisfaction levels.
- Integrated existing energy efficiency business into overall retail platform and supplemented with two regional ESCO acquisitions, resulting in significantly expanding project pipeline and talent pool.
- Responsible for solar business which has installed 100+MWs of generation under various contract structures.
- Voting member of retail governance committees including: Commitments, Risk, Compliance and IT Steering.

Constellation NewEnergy (2003 – 2010)

President, Retail Power (2008 – 2010)

- Responsible for retail power division P&L representing 15,000 MW peak load and \$200M EBIT.
- Served customers through four business lines with designated go-to-market strategies and profitability goals.
- Created an inside sales team tasked with renewals which allowed field sales to increase new business activity.
- Implemented numerous operating initiatives focused on profitable growth including a comprehensive customer satisfaction evaluation process, bill accuracy metrics and a balanced-selling incentive compensation structure.

- Oversaw all aspects of a sales training program including curriculum design and implementation.
- Eliminated or restructured unprofitable customer agreements and products, increasing EBIT per unit by 20%.

Co-Chief Commercial Officer (2006 – 2008)

- Jointly responsible for P&L of retail power division with day-to-day leadership of structuring, product development and the major accounts segment which served the firm's 400 largest accounts.
- Core member of restructuring team tasked with architecture and transition from a purely regional organization to a vertically segmented national business with centralized functional operations.
- Acquired a customer book of business to supplement organic sales efforts.
- Grew major account gross margin by \$35M (30%) through creation of a dedicated public sector team.

Vice President, New England and Ontario Regions (2003 – 2006)

- Managed \$1B in revenues with team of 65 individuals in finance, operations, regulatory, sales and supply.
- Grew New England business EBIT at a 60% CAGR, increasing retail load served from 600 MWs to 4,000MWs.
- Achieved highest market share of any of the company's seven regional businesses, through a variety of strategies including affinity relationships and innovative structuring.
- First regional business to offer load response and a combined power and efficiency product.
- In 2005, took on responsibility for Constellation's retail power business in Ontario.

AES NewEnergy, acquired by Constellation in 2002 (1999-2003)

Vice President, Supply & Trading

- Co-managed 35-person electricity and gas wholesale trading group. Responsibilities included trading, supply origination, scheduling, market development and large-customer sales.
- Created and managed supply capabilities for the retail business and several AES power plants across various power pools including: NYISO, NEPOOL, CAISO, ERCOT and PJM.
- Member of divestiture team that managed sale of NewEnergy to Constellation for \$260M in Sept. 2002.

New Energy Ventures, acquired by AES Corp in 1999 (1998-1999)

Director, Pricing & Structuring

- Lead architect of company's electricity pricing methodology, production processes and product design.
- Worked with field sales and regulatory teams to open markets in several states including PA, NY, OH and MA.

PG&E Energy Services (1997-1998)

Manager, Risk Assessment

- Assessed and managed the electric commodity risk positions of the retail business.
- Designed and implemented system to aggregate individual customer positions and report company value-at-risk.

Barakat & Chamberlin, Inc., acquired by PG&E Energy Services in 1997 (1994-1997)

Senior Associate/Analyst/Intern

- Provided financial advisory and business strategy consulting to energy sector clients. Representative projects:
 - Served as financial advisor and provided purchase price valuation of \$1.4B in generation assets.
 - Developed new standby electric rate design methodology and supporting expert testimony.
 - Developed business plan, budget and market assessment for retail energy services start up.
 - Established option-based methodology used in utility client integrated resources planning.

Environmental Defense Fund (1992)

Analyst

- Published report projecting the impact of electric vehicle introduction on generation costs and air quality in CA.

Fujitsu America (1989-1991)

Sales Representative

- Managed territory, initiated equipment alliance with seller of complementary system and created affinity program.

EDUCATION

M.A. Economics, University of California, 1994

Completed Ph.D. course work requirements in industrial organization and natural resource economics; and core class requirements in optimization, econometrics, and microeconomics. As a researcher, performed a quantitative assessment of the impact of political risk on petroleum exploration in developing countries. Taught undergraduate courses in environmental science and economics.

B.A., Economic and Business, Skidmore College, 1988

Special Student in Economics – Undergraduate Junior Year Program, Massachusetts Institute of Technology, 1987

BOARD POSITIONS AND PROFESSIONAL AFFILIATIONS

Towson Global Business Incubator, Towson, MD. Advisory Board Member, 2011 and Chairman, Present.

Higher Achievement Baltimore, Baltimore, MD. Board Member, 2011 - Present.

Greater Boston Chamber of Commerce, Boston, MA. Board Member, 2008 - 2010.

USAAE: SF Bay Area Chapter, Past Chapter President; Past New England Chapter Secretary, 1997-2004

Global Association of Risk Professionals, San Francisco Chapter, Past Steering Committee Member, 1997

COURSES, PUBLICATIONS & MEDIA

George Washington University School of Business, Washington, DC.

Adjunct Professor, “Clean Tech and Energy Markets”. Fall 2011. Designed and taught MBA-level course.

ATTACHMENT A
RESUME OF MICHAEL P. KAGAN

“Risk Management Tools for Power Portfolio Development.” Workshop Instructor. Sponsored by Electric Utility Consultants, Inc., and Barakat & Chamberlin, Inc., Denver, Colorado: March 18, 1996.

Winning Retail Strategies: Beyond Innovative Rate Design. Contributing writer. Palo Alto, California: Electric Power Research Institute, EPRI TR-1055226, July 1995.

Commodity Contracting & Capacity Expansion Decisions in Unregulated Industries. Commissioned by Barakat & Chamberlin, Inc: September 1994.

Air Quality Impacts of Electric Vehicle Introduction into the SCAQMD, Oakland, California, Environmental Defense Fund: September 1992.

Corporate Governance: Agency Theory, Trust Theory, and The Modern Social Contract, American Business Law Association, Proceedings of Northeast Regional Conference. With Professor Steve Salbu. University of Texas at Austin: Spring 1988.

Interviews with numerous industry and business publications on energy-related topics including: *Megawatt Daily*, *Restructuring Today*, *The Boston Globe* and *Boston Business Journal*. Television appearances addressing energy industry on Rhode Island ABC affiliate’s *Morning News* and New England Cable’s *This Week in Business*.

Julie Lieberman
Project Manager

Ms. Lieberman is a financial and economic consultant with over 25 years of experience in the energy industry. Her broad base of experience includes: financial and economic consulting in the energy sector, utility ratemaking, regulatory policy and compliance, due diligence and litigation support and analysis, risk management, asset valuation and modeling, wholesale and retail energy trading and operations, energy procurement and scheduling, and utility hedging strategies. She has performed a variety of economic analyses, extensive regulatory research and assisted in the preparation of testimony and research reports in both regulatory and non-regulatory proceedings. Ms. Lieberman has performed focused regulatory research on issues pertaining to cost of capital, consolidated tax savings adjustments, risk-mitigating rate mechanisms, and Dodd Frank legislation and its implications for the end-use energy sector. Ms. Lieberman is proficient in Microsoft Office applications, Crystal Ball, and SPSS. Prior to joining Concentric, Ms. Lieberman served in the financial and risk related fields in the unregulated energy trading and marketing sector. She holds a Masters in Finance from Boston College, a B.S. in Accounting from Indiana University, is a licensed CPA (Texas), and is a FINRA licensed securities professional (Series 7, 63, and 79).

REPRESENTATIVE PROJECT EXPERIENCE

Ratemaking and Utility Regulation

Ms. Lieberman has assisted in the development of expert testimonies and analyses in a number of utility regulatory proceedings before state and provincial regulatory commissions, and the FERC in the areas of: cost of capital, regulatory assets and deferral accounts, utility asset dispositions, consolidated tax savings, alternative regulation, prudence and regulatory policy. Ms. Lieberman has conducted in depth studies on disparities between rates of return in the U.S. and Canada for Canadian regulators and their constituents; and has assisted in developing a recommended framework for establishing rates of return in Canada. Ms. Lieberman has performed extensive analyses of specific business risks as they relate to cost of capital, including risk mitigation measures embedded in utility rates; and has conducted in-depth research and analyses of jurisdictional regulatory environments and applicable precedents as they relate to cost of service and utility rate making.

Representative engagements have included:

- Assisted in the development of testimony to address stakeholders' request for rate relief for recovery of perceived overearnings by the utility. Our testimony focused on fundamental regulatory principles such as: the prohibition against retroactive ratemaking, the requirement to set rates prospectively, single issue ratemaking and the implied incentives in cost of service ratemaking. (2014)
- Assisted the Alberta Utilities in developing testimony on regulatory policy and financial matters relating to the Alberta Utilities Commission's Asset Disposition Proceeding. (2013-2014)
- Performed a detailed inclining block rate study which included a detailed estimation of the conservation impact of inclining block rates versus existing seasonal rates for SPS New Mexico. (2012)
- Provided in-depth research and drafted testimony on FERC policy towards rate of return for new transmission investment for the owners of a newly-constructed regulated transmission line. (2011, 2007)
- Performed research and analyses and assisted in development of testimony on jurisdictional treatment of consolidated tax savings in Texas for CenterPoint Houston. (2010)

- Assisted Climate Change Central of Alberta with extensive research regarding pertinent Alberta legislation and DSM funding mechanisms in other jurisdictions that may support rate-base funding for DSM and renewable programs in the Province, and documented findings in a Report. (2010)
- Provided written comments and analyses on behalf of Enbridge and participated in an expert panel before the OEB in the Board's consultative process to determine whether its cost of capital formula was generating reasonable returns in the context of the prevalent economic downturn. (2009)
- Assisted in the development of written testimony and analyses for Oncor regarding the return of and on capital, consolidated tax savings adjustments, merger effects, and changing business environments. (2008)
- Assisted with the preparation of comments on behalf of a consortium of Massachusetts electric and gas utilities in response to MA DPU inquiry on a generic decoupling measure. (2008)
- Performed regulatory policy research for Southwestern Public Service Co. on the precedent for consolidated tax savings adjustments in the U.S. and its implications on regulatory principles for determining fairness and utility cost of service. (2007)
- Assisted in the development of an automatic adjustment formula for Green Mountain Power's return on equity to be used in its Alternative Regulation Rate Plan. (2006)
- Performed extensive research and assisted in the development of testimony related to the prudence of OG&E's acquisition of the McClain generating facility and developed an accompanying white paper on competitive bidding practices in the U.S. (2005)

Risk Management

Ms. Lieberman has performed extensive research on emerging regulatory policy and legislation impacting the energy sector, specifically Dodd-Frank and the emergence of carbon markets in the U.S. In her regulatory and ratemaking assignments, she has advised clients on the mechanics of risk-mitigating rate mechanisms pertaining to decoupling and cost recovery. Ms. Lieberman has been engaged to assess the adequacy of system processes and controls from a risk perspective and has conducted a variety of analyses that include an assessment and quantification of risk. Ms. Lieberman served in the risk management and commodity procurement areas in the unregulated natural gas energy trading and marketing sector. In addition, while with Ernst & Young in Houston, Ms. Lieberman specialized in the audit of wholesale energy trading entities, marking trading books to market, and performing detailed internal control assessments for a number of large energy exploration, production, trading, and marketing concerns.

Representative engagements have included:

- Assisted in an evaluation of a utility hedging program relative to best practices for a Canadian distribution utility and assisted in developing recommendations for enhancements to the program. (2013)
- Assisted in an assessment of enterprise risk for a New England electric cooperative. (2013)
- Assisted a confidential utility client in supporting a regulatory challenge to their hedging activity by commission staff (DOC, Minnesota). The staff asked the Company to explain how they approached hedging with particular focus on the role of implied volatility in making hedging determinations. (2011)
- Assessed the likely dispatch and overall spark spread opportunity of a proposed generation facility in Connecticut; developed a solicitation for a power off-take agreement for a 10-15 year term and performed a quantitative evaluation of bid responses. (2008)
- Developed a model and rigorous analyses to assess the value of the optional take provisions of certain power purchase agreements and their associated swap contract hedges in support of expert testimony on the issues of damages in connection with a failed transaction for the sale of a portfolio of power contracts. (2005)

- Assisted in the modeling and valuation of a portfolio of power purchase agreements held by National Grid, using independent Monte Carlo simulation models and forecast assumptions for a range of variables and scenarios. (2004)
- Assisted in the development of a model to estimate gas market price effects and damages attributable to the trading activity of a market participant suspected of gas market manipulation in the Western energy markets in the period from 2000-2001. (2004)

Litigation Support

Supported development of expert testimony in various energy related arbitrations. Issues addressed include, standards of conduct, and energy economics. Services provided also included, economic modeling, collaborating with counsel, business and technical staff to develop litigation strategies, preparing and reviewing discovery and briefing materials, and assisting in the preparation of written testimony.

- Performed research and analyses around the valuation impact of "Round Trip Trades" on a trading entity's IPO price in connection with a shareholder initiated litigation. Research involved extensive fact discovery in the proceeding, prevalence of wash trading in the industry, and exploration of prevailing valuation methodologies used by investment banks connected with the IPO. (2005)
- Performed extensive fact discovery, research and analyses in support of Shearman & Sterling/Merrill Lynch in a litigation against Allegheny Energy Supply, which led to the development of expert testimony on behalf of Merrill Lynch, relating to liability and damages for due diligence disclosures. (2004-2005)

Management and Operations Consulting

Ms. Lieberman possesses direct financial and operational experience in the natural gas and energy trading industries enabling the delivery of significant value to clients. Ms. Lieberman has conducted detailed internal control reviews for a variety of clients primarily in the energy production, marketing, distribution and mining sectors, focusing on understanding business processes and value drivers to help clients obtain objectives.

Representative engagements have included:

- Performed an assessment of a large gas LDC's gas operating system to identify where control deficiencies were present and provided recommendations to address deficiencies. (2010-2011)
- Directed a review of the accounting, risk, and reporting processes associated with a gas distribution utility's unregulated natural gas transactions; identified weaknesses and proposed solutions. (2008)

Transaction Related Financial Advisory Services

Ms. Lieberman has assisted several clients across North America with analytically based strategic planning, due diligence and financial advisory services.

Representative engagements have included:

- Performed regulatory due diligence for the potential acquisition of a Louisiana electric utility focusing primarily on the treatment of regulatory assets and rate riders for financial modeling purposes. (2014)
- Performed regulatory due diligence in helping our client understand the regulatory environment of its large North American transmission target and the regulatory challenges it faced. (2014)
- Assisted in the development of a valuation of desalination facilities in California for corporate accounting purposes. (2008)
- Validated valuation models for a portfolio of power purchase agreements against fuel supply and transportation contracts and steam sales agreements to assist in due diligence in an acquisition of generating projects. (2007 – 2008)

- Assisted in auction for the sale of the Palisades nuclear power plant and also the Masspower gas plant. (2005-2006)
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PROFESSIONAL HISTORY

Concentric Energy Advisors, Inc. (2004 – Present)

Project Manager
Senior Consultant

Green Pasture Software, Inc. (2001 – 2004)

Controller

AllEnergy Marketing Co., LLC (1997 – 2001)

Energy Analyst

Global Petroleum Corp. (1992 – 1997)

Director of Transportation Operations

Ernst & Young (1989 – 1992)

Audit Manager

Pennzoil Company (1984 – 1989)

Internal Auditor

EDUCATION AND CERTIFICATIONS

M.S., Finance, Boston College, with Honors, 2003

B.S., Accounting, Indiana University, 1984

Licensed Securities Professional: NASD Series 7, 63, and 79 Licenses

Certified Public Accountant, Houston, TX, 1986

DESIGNATIONS AND PROFESSIONAL AFFILIATIONS

Treasurer, New England Women in Energy and Environment

PUBLICATIONS/PRESENTATIONS

- “Study of Residential Inclining Block Rates – New Mexico Retail Service Area,” (with Ron Amen) Report prepared for: Southwestern Public Service Company, November 30, 2012
 - “Hedging Under Scrutiny, Planning ahead in a low-cost gas market.” (with Julie Ryan), Public Utilities Fortnightly, February 2012
 - “Rates of Return for New Transmission Build in the US and Canada.” Presentation to the Canadian Electricity Associations Transmission Workshop, February 2009.
 - “A Comparative Analysis of Return on Equity of Natural Gas Utilities” (with James Coyne and Dan Dane), prepared for the Ontario Energy Board, June, 2007.
-

AVAILABLE UPON REQUEST

Extensive client and project listings, and specific references.

Bickey Rimal
Senior Consultant

Mr. Rimal joined Concentric after completing his Masters in International Public Affairs with a focus on Energy Policy from the University of Wisconsin in Madison. Mr. Rimal has contributed to projects involving cost of service, rate design, expert testimony preparation, energy market assessments, nuclear strategy, and utility performance benchmarking. His work often involves financial modeling, statistical analysis, and regulatory research. Prior to enrolling in the graduate program, Mr. Rimal worked at ICF International, a global energy and environmental consulting firm, for three years. At ICF, Mr. Rimal was extensively involved in projects dealing with policy design and implementation, economic impact analysis, regulatory evaluation, and environmental risk assessment.

REPRESENTATIVE PROJECT EXPERIENCE

While at Concentric, Mr. Rimal assisted in updating Concentric's excel-based macro driven Class Cost-of-Service Allocation model for a major utility. He assisted in the creation of revenue requirement model to comply with a new performance based formula ratemaking process. He conducted benchmarking study to compare a combination utility's performance with its peers and prepared draft testimony responding to concerns raised by a state public service commission staff. He also analyzed load and locational marginal price data for a major utility to assist in the exploration of alternate rate structures.

While at ICF, Mr. Rimal was part of a team that assisted the EPA's Clean Air Market Division (CAMD) in analyzing the effect of environmental policies on power generation sector. As a part of this effort, he was significantly involved in executing as well as maintaining and updating the Technology Retrofit and Updating Model (TRUM). The TRUM model simulates the action of the electric utilities industry under a multi-pollutant emissions trading program. He also assisted in the creation of an excel model that assessed the impacts of GHG mitigation policies on the competitiveness of the US manufacturing industries. He provided support to the Hours of Service regulation by analyzing different crash related data to identify main causes of fatigue among drivers by utilizing logistic regression models.

PROFESSIONAL

Concentric Energy Advisors, Inc. (2011 – present)

Senior Consultant
Consultant
Assistant Consultant
Associate

ICF International (2006 - 2009)

Associate
Analyst
Research Assistant

EDUCATION

M.A., International Public Affairs, University of Wisconsin-Madison, 2011
B.A., Chemistry, Colgate University, 2006

AVAILABLE UPON REQUEST

Extensive client and project listings, and specific references.

CONCENTRIC ENERGY ADVISORS, INC.
HOURLY RATE SCHEDULE
CONFIDENTIAL

TITLE	HOURLY RATE
CHAIRMAN AND CHIEF EXECUTIVE OFFICER	\$750
SENIOR VICE PRESIDENT	\$550
VICE PRESIDENT	\$500
ASSISTANT VICE PRESIDENT	\$400
SENIOR PROJECT MANAGER	\$365
PROJECT MANAGER	\$340
SENIOR CONSULTANT	\$315
CONSULTANT	\$290
ASSISTANT CONSULTANT	\$265
ANALYST	\$225
ASSOCIATE	\$150
PROJECT ASSISTANT	\$65

**CONCENTRIC ENERGY ADVISORS, INC.
STANDARD TERMS AND CONDITIONS**

1. *Scope* – Concentric Energy Advisors, Inc. (“Concentric”) will perform the services set forth in the Letter or Proposal of which these Terms and Conditions (Terms) are a part. The provisions of these Terms shall control in the case of conflict with any provisions of the Letter or Proposal.
2. *Fees and Expenses* – Unless otherwise stated, fees for services by Concentric shall be based upon the rates, at the time the work is performed, of the personnel actually involved in the assignment. Report production and printing, reproduction, and telephone charges will be billed to you at Concentric’s standard charges for such materials for services. Expenses of consultants while on assignment or any other charge incurred or expenditure made on your behalf will be charged at our cost.
3. *Payment* – Concentric will submit monthly invoices reflecting actual work performed and expenses incurred. Payment shall be due in U.S. funds 30 days after the date of an invoice. Amounts past due more than 30 days shall bear interest at an annual rate of 12% from the due date until payment is received.
4. *Sales Tax* – You are responsible for paying any local, state, or federal sales, use, or ad valorem tax that might be assessed on our services.
5. *Independent Contractor* – It is understood and agreed that Concentric shall for all purposes be an independent contractor, shall not hold itself out as representing or acting in any manner for you, and shall have no authority to bind you to any contract or in any other manner.
6. *Termination* – These terms shall be subject to the right of either party to terminate at any time upon not less than ten (10) days prior written notice to the other party. Upon termination, you shall pay the full amount due for services rendered and costs and expenses incurred and not paid for up to that time, and the costs of returning consultant personnel to home base and other reasonable costs and expenses incurred in effecting termination and returning documents.
7. *Responsibility Statement* – Concentric agrees that the services provided for herein will be performed in accordance with recognized professional consulting standards for similar services and that adequate personnel will be assigned for that purpose. If, during the performance of these services or within six months following completion of the assignment, such services shall prove to be faulty or defective by reason of a failure to meet such standards, Concentric agrees that upon prompt written notification from you prior to the expiration of the six month period following the completion of the assignment containing any such fault or defect, such faulty portion of the services shall be redone at no cost to you up to a maximum amount equivalent to the cost of the services rendered under this assignment. The foregoing shall constitute Concentric’s sole liability with respect to the accuracy or completeness of the work and the activities involved in its preparation. In no event shall Concentric, its agents, employees, or others providing materials or performing services in connection with work on this assignment be liable for any direct, consequential or special loss or damage, whether attributable to breach of contract, tort, including

ATTACHMENT C
CONCENTRIC'S STANDARD TERMS AND CONDITIONS
CONFIDENTIAL

negligence, or otherwise; and except as herein provided, you release, indemnify, and hold Concentric, its agents, employees, or others providing materials or performing services in connection with work on this assignment harmless from any and all liability including costs of defense, settlement and reasonable attorney's fees.

8. *Work Product* – Any report or other document prepared pursuant to these Terms shall be for your use only. Concentric's prior written consent is required for the use of (or reference to) its report or any other document prepared pursuant to these Terms in connection with a public offering of securities or in connection with any other financing. Concentric hereby agrees, however, to the Client's reference to the work product in connection with any proxy relating to a combination between two parties. It is understood and agreed that Concentric's use of its proprietary computer software, methodology, procedures, or other proprietary information in connection with an assignment shall not give you any rights with respect to such proprietary computer software, methodology, procedures or other proprietary information. Concentric may retain and further use the technical content of its work hereunder.
9. *Excused Performance* – Concentric shall not be deemed in default of any provision hereof or be liable for any delay, failure in performance, or interruption of service resulting directly or indirectly from acts of God, civil or military authority, civil disturbance, war, strikes or other labor disputes, fires, other catastrophes, or other forces beyond its reasonable control, whether or not such event may be deemed foreseeable.
10. *Related Litigation* – In the event that Concentric employees (current or former), subcontractors or agents are compelled to provide testimony, produce documents, or otherwise incur costs or expend time in any legal proceeding related to Concentric's work for you, you agree to reimburse Concentric at its regular billing rate per hour for its time expended, and for any expenses incurred (at Concentric's direct cost).
11. *Notices* – All notices given under or pursuant to the Terms shall be sent by Certified or Registered Mail, Return Receipt Requested, and shall be deemed to have been delivered when physically delivered if to Concentric Energy Advisors, Inc., 293 Boston Post Road West, Suite 500, Marlborough, MA 01752, Attention Mr. John J. Reed, Chairman and Chief Executive Officer, and if to you at the address shown on the Letter or Proposal of which these Terms are a part or such other address as you may designate by written notice to us.
12. *Complete Agreement* – It is understood and agreed that these Terms and the Letter or Proposal of which they are a part embody the complete understanding of the parties and that any and all provisions, negotiations and representations not included herein are hereby abrogated and that these terms cannot be changed, modified or varied except by written instrument signed by both parties. In the event you issue a purchase order or memorandum or other instrument covering the services herein provided, it is hereby specifically agreed and understood that such purchase order, memorandum, or instrument is for your internal purposes only, and any and all terms and conditions contained therein, whether printed or written, shall be of no force or effect unless agreed to in writing by Concentric. No waiver by either parties of a breach hereof or default hereunder shall be deemed a waiver by such party of a subsequent breach or default of like or similar nature.
13. *Governing Law* – This Agreement (consisting of the Letter or Proposal and these terms) shall be construed and otherwise governed pursuant to the laws of the Commonwealth of Massachusetts. The attached Proposal, of which these General terms and Conditions (terms) form a part, constitutes an agreement of

the parties hereto, and supersedes any previous agreement or understanding. It may not be modified except in writing, and only if executed by both parties.

AGREED AND ACCEPTED:

CLIENT SIGNATURE

TITLE: _____

COMPANY: _____

DATE: _____