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Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
2300 Yonge Street, Suite 2700
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On January 1, 2012, Macleod Dixon joined
Norton Rose OR to create Norton Rose Canada.

Your reference
EB-2012-0337

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Dear Ms. Walli:

EB-2012-0337 – Union Gas Limited – 2013-2014 Large Volume DSM Plan Application

As previously advised, due to a scheduling conflict, Todd Williams is not available to attend the upcoming hearing dates on behalf of Navigant. As a result, Mr. Ralph Zarumba, (Director, Energy at Navigant Consulting) will be attending as a witness for APPrO.

Mr. Zarumba worked with Mr. Williams and was involved in several aspects of the preparation and review of the Navigant report filed with Board as part of APPrO's pre-filed evidence. He was involved in the review of regulatory jurisdictions, participated in the design of the survey documents, and provided background information on the policies of the U.S. Federal Energy Regulatory Commission as well as the regulatory mechanisms used to recover program costs from various customer groups.

Attached is a copy of Mr. Zarumba's CV along with an attachment detailing his testimony experience.

Yours very truly,

Original signed by

John Beauchamp

JB/mnm

cc: All Interested parties

DOCSTOR: 2618770\1

Ralph Zarumba

Ralph Zarumba
Director

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Professional History

- Director, Navigant Consulting
- Director, Science Applications International Corporation
- President, Zarumba Consulting
- Management Consultant, Sargent & Lundy Consulting Group
- President, Analytical Support Network, Inc.
- Manager, Pricing Practice, Synergic Resources Corporation

Education

- MA, Economics, DePaul University, Chicago, IL
- BS, Economics, Illinois State University, Normal, IL

Ralph Zarumba is a Director in the Energy Practice's Power Systems, Markets and Pricing group in Navigant's Chicago office. With 28 years of experience performing economic, regulatory and financial analysis, Mr. Zarumba specializes in theoretical and applied techniques of electricity cost and pricing analysis, market analysis, and regulatory policy. Mr. Zarumba has performed a variety of due diligence analyses for asset transactions, trained regulatory commission staff, and has testified as an expert witness in multiple legal jurisdictions on regulated and deregulated activities.

Mr. Zarumba has appeared as an expert witness in a number of regulatory and legal proceedings addressing the topics of pricing, cost of service, allocation of energy efficiency costs, functional separation or regulated and unregulated operations of utility holding companies, asset valuation and regulatory treatment of Smart Grid investments. He has also assisted clients in other matters including Depreciation Studies, Transfer Pricing Mechanisms and evaluation of the results of competitive bidding for electric generation services.

For the past several years, Mr. Zarumba's assignments have included advising on strategic energy matters, state and federal electric regulatory issues, requests for proposals for long-term electric capacity reviews of annual cost of service, transmission and distribution rate requests, and developing strategies for providing electric and thermal services.

Mr. Zarumba has testified as an expert witness before the Federal Energy Regulatory Commission ("FERC"), the Massachusetts Department of Public Utilities, the Rhode Island Public Utilities Commission, the Illinois Commerce Commission, the Wisconsin Public Service Commission, the Ontario Energy Board, the New York Public Service Commission and a number of other venues. Mr. Zarumba has provided a number of papers and presentations on various regulatory and market analysis issues.

Mr. Zarumba's expertise includes:

- » Electric Marginal Costs Analysis;
- » Electric Embedded Cost of Service Analysis;
- » Regulated Electric Utility Pricing;
- » Recovery of lost revenues including Decoupling Mechanisms;

- » Depreciation Studies;
- » Utility Resource Planning;
- » Electric Transmission Policy and Planning;
- » Market Design;
- » Regulatory Policy;
- » Electric Market Price Analysis and Long-Term Wholesale Price Forecasts;
- » Valuation of Merchant Electric Generation Assets;
- » Valuation of Regulated Utility Assets; and
- » Training of Regulatory Commission Staff.

Recent Publications

American Gas “Modernization: The Quest for 21st Century Utilities” Ralph Zarumba and Peter Haapaniemi, November 2012

Public Utilities Fortnightly “Pre-Funding to Mitigate Rate Shock” Sherman Elliot and Ralph Zarumba, September 2012

Recent Whitepapers

White Paper Prepared for the Ontario Energy Board on Approaches to Rate Mitigation for Transmitters and Distributors

http://www.ontarioenergyboard.ca/OEB/Documents/EB-2010-0378/EB-2010-0378_Navigant_Report.pdf

White Paper Prepared for the Ontario Energy Board Cost addressing Cost Assessment Models for Regulators

<http://www.rds.ontarioenergyboard.ca/webdrawer/webdrawer.dll/webdrawer/rec/319593/view/Cost%20Assessment%20Model%20Report%20Jan%202013%202011%2020116pdf.PDF>

Selected Professional Experience

Ontario Experience:

- » Prepared a white paper on rate mitigation mechanisms for the Ontario Energy Board.
- » Prepared a white paper for the Ontario Energy Board on apportion of regulatory commission costs to various stakeholders.
- » Prepared a number of working capital studies for various distributors and transmitters in the Province of Ontario.
- » Prepare a functional cost separation study for a regulated electric utility in Ontario.

Regulatory and Pricing

- » For a confidential client prepared a benchmarking analysis of the costs of regulatory proceedings associated with the introduction of new electric generation.
- » Prepared a white paper on rate mitigation mechanisms for the Ontario Energy Board.
- » Prepared a white paper for the Ontario Energy Board on apportion of regulatory commission costs to various stakeholders.
- » Prepared and sponsored before the FERC a cost-of-service filing supporting a Reliability Must-Run filing on the Cayuga Operating Company.
- » Prepared an analysis of the pricing of voluntary renewable energy products for a Midwestern public power association.
- » Prepared a number of working capital studies for various distributors and transmitters in the Province of Ontario.
- » Managed a project team which completed a Remaining Life Study for the Western Minnesota Municipal Power Agency.
- » Led a team that prepared a cost of service, rate design, legal evaluation and financial analysis for the Puerto Rico Electric Power Authority.
- » Performed a Pricing Strategy for the South Carolina Public Service Company (Santee Cooper).
- » Prepared a financial plan, electric rate design and phase-in plan for a new electric generation plan for Fayetteville (North Carolina) Public Works Commission.

- » Assisted Commonwealth Edison Company in their Electric Rate Request (Illinois Commerce Commission Docket No. 10-467).
- » Prepared proposals for Retail Conjunctive Billing Pricing filed in Illinois and Wisconsin which were filed before the Illinois Commerce Commission and the Wisconsin Public Service Commission.
- » Developed the Wisconsin Electric Power Company's first Curtailable Electric Tariff available to commercial customers.
- » Negotiated complex service contracts with thermal energy customers which led to a major expansion of the Wisconsin Electric Steam System.
- » Assisted Indianapolis Power & Light in preparing a cost recovery plan for Energy Efficiency and Demand Side Management Expenditures.
- » Trained regulatory staffs in the Republic of Macedonia, Bosnia and Herzegovina, Croatia and Albania.
- » Prepared proposals for ancillary services pricing based upon market-based mechanisms for San Diego Gas and Electric Company.
- » Completed the development of wholesale and retail rate designs for a southeastern G&T, an analysis of stranded cost exposure for a northeastern utility, and prepared a strategic plan for a large municipal utility.
- » Developed a proposal for electric generation transfer pricing that would be used as a transition mechanism between the existing vertically integrated utility and a deregulated environment.
- » Filed testimony in Wisconsin proposing that state's first Demand Response Program.

Demand Response

- » Currently assisting the Building Owners and Managers of Chicago (BOMA/Chicago) develop a program where they can bid demand response based ancillary services into the PJM market.
- » Prepared a presentation for the Public Utilities Commission of Ohio on Commercial and Industrial Dynamic Pricing and Demand Response in an unregulated regulatory environment.

Electric Transmission

- » Assisted the Long Island Power Authority to purchase distribution, transmission and regulatory assets and prepared its non-jurisdictional open-access transmission tariff.
- » For the Manitowoc Public Utilities prepared an analysis that evaluated the divestiture of its transmission assets to the American Transmission Company.
- » Prepared the pricing portion of a FERC open access tariff (Docket No. ER96-96-43.000) for San Diego Gas and Electric Company; testified on revenue requirements and pricing including opportunity costs.

Generation Market Analysis

- » For a major public power generation owner prepared a strategy of internal coal versus natural gas generation dispatch protocols including the treatment of liquidated damages.
- » Co-authored a report for Nalcor on the feasibility and economics of the proposed development of the Lower Churchill Hydroelectric project.
- » Prepared a number of electric market price forecasts for many regions of the United States and Central America.
- » Supported the electric pricing and infrastructure analysis for a Least-Cost Resource Plan for San Diego County.
- » Prepared an analysis of the saturation of coal-fired electric generation technology in the Western Electric Coordinating Council.
- » Developed a long-run electric expansion plan for the Railbelt System in Alaska.
- » Managed a team that prepared a long-term capacity and energy forecast for a medium-sized municipal utility.
- » For Manitowoc Public Utilities prepared a resource plan evaluating various generation expansion options.

International

- » Currently assisting the electric regulator in the Republic of Macedonia with various regulatory issues including pricing design, revenue requirements and privatization issues.
- » As a team member working for USAID, prepared a tariff review and constructed a tariff model for the Republic of Macedonia.
- » Co-authored a report on electric market design for the Republic of Macedonia.

Ralph Zarumba

Listing of Testimonies Presented

Date	Client or Firm Represented	Subject of Testimony	Jurisdiction	Docket Number
May 1988	Eastern Edison Company	Conservation Service Charge	Massachusetts Department of Public Utilities	
November 1988	Eastern Edison Company	Fuel Cost Adjustment Calculation	Massachusetts Department of Public Utilities	88-4D
November 1988	Eastern Edison Company	Oil Conservation Adjustment Calculation	Massachusetts Department of Public Utilities	89-4D
February 1989	Eastern Edison Company	Fuel Cost Adjustment Calculation	Massachusetts Department of Public Utilities	89-4A
February 1989	Eastern Edison Company	Oil Conservation Adjustment Calculation	Massachusetts Department of Public Utilities	89-9A
February 1989, June 1989 & February 1990	Blackstone Valley Electric Company	Fuel Adjustment Clause Calculation	Rhode Island Public Utilities Commission	1541
February 1989, June 1989 & February 1990	Blackstone Valley Electric Company	Purchased Power Cost Adjustment Calculation	Rhode Island Public Utilities Commission	1856
February 1989, June 1989 & February 1990	Blackstone Valley Electric Company	Oil Conservation Adjustment Calculation	Rhode Island Public Utilities Commission	1694
May 1989	Eastern Edison Company	Fuel Cost Adjustment Calculation	Massachusetts Department of Public Utilities	89-4B
May 1989	Eastern Edison Company	Oil Conservation Adjustment Calculation	Massachusetts Department of Public Utilities	89-9B
May 1989	Eastern Edison Company	Conservation Surcharge Adjustment	Massachusetts Department of Public Utilities	
August 1989	Eastern Edison Company	Fuel Cost Adjustment Calculation	Massachusetts Department of Public Utilities	89-9B
August 1989	Eastern Edison Company	Oil Conservation Adjustment Calculation	Massachusetts Department of Public Utilities	89-9C
November 1989	Eastern Edison Company	Fuel Cost Adjustment Calculation	Massachusetts Department of Public Utilities	89-4D
November 1989	Eastern Edison Company	Oil Conservation Adjustment Calculation	Massachusetts Department of Public Utilities	89-9D
December 1989	Eastern Edison Company	Purchased Power Cost Adjustment Calculation	Massachusetts Department of Public Utilities	89-240
February 1990	Eastern Edison Company	Fuel Cost Adjustment Calculation	Massachusetts Department of Public Utilities	90-4A

Date	Client or Firm Represented	Subject of Testimony	Jurisdiction	Docket Number
February 1990	Eastern Edison Company	Oil Conservation Adjustment Calculation	Massachusetts Department of Public Utilities	90-9A
April 1990	Eastern Edison Company	Purchased Power Cost Adjustment Calculation	Massachusetts Department of Public Utilities	
September 1995	San Diego Gas and Electric Company	Open-Access Transmission Tariff Filing – Calculation of Transmission Charges	Federal Energy Regulatory Commission	ER96-43
Date	Client or Firm Represented	Subject of Testimony	Jurisdiction	Docket Number
February 1997	The Building Owners and Managers Association of Chicago	Complaint Against Commonwealth Edison Company's Conjunctive Billing Tariff	Illinois Commerce Commission	96-0485
January 1998	Johnson Controls, Inc., Harley-Davidson and WICOR Energy	Application of Wisconsin Electric Power Company for a Rate Increase for Electric, Gas and Steam Service	Wisconsin Public Service Commission	6630-UR-110
May 1998	Long Island Power Authority	Non-Jurisdictional Open-Access Transmission Tariff	Public Hearings Held on Long Island	
July 1998	The Building Owners and Managers of Chicago, Johnson Controls, Inc., and Blackhawk Energy Services	Application of Commonwealth Edison to Approve Rate HEP – a Real Time Pricing Tariff	Illinois Commerce Commission	98-0362
November 1998	The Building Owners and Managers Association of Chicago	Customer Selection Proceeding – Lottery Rules	Illinois Commerce Commission	98-0650
February 1999	The National Association of Energy Service Companies and Blackhawk Energy Services	Functional Separation of Electric Utility Functions	Illinois Commerce Commission	98-0147 & 98-0148
March 1999	Indeck Pleasant Valley, L.L.C.	Need for a combustion turbine facility	McHenry County, IL Zoning Board of Appeals	99-04
January 2000	Indeck Libertyville, L.L.C.	Need for a combustion turbine facility	Libertyville, IL Zoning Board	
September 2002	Indeck Pleasant Valley, L.L.C.	Deposition	Lake County, IL.	
November 2007	The Building Owners and Managers Association of Chicago	Evaluation of an Energy Efficiency Plan for Commonwealth Edison Company	Illinois Commerce Commission	07-0540

Date	Client or Firm Represented	Subject of Testimony	Jurisdiction	Docket Number
February 2008	The Building Owners and Managers Association of Chicago	Commonwealth Edison Company General Rate Case	Illinois Commerce Commission	07-0566
November 2011	Ontario Energy Board		Principal Author of Rate Mitigation White Paper	EB-2010-0378
January 2012	Ontario Energy Board		Review of the Ontario Energy Board Cost Assessment Model	EB-2012-0018
July 2012	Ontario Energy Board	Great Lakes Power Transmission	Corporate Shared Services Study	EB-2012-0300
	Ontario Energy Board	London Hydro	Determination of Working Capital Requirements	EB-2012-146
	Ontario Energy Board	London Hydro	Cost Allocation of Revenue Cycle Services	EB-2012-146
November 2012	Cayuga Generating Company	Reliability Must-Run Tariff Cost of Service Support	New York Public Service Commission	12-E-0400
November 2012	Cayuga Generating Company	Reliability Must-Run Tariff Cost of Service Support	Federal Energy Regulatory Commission	ER-13-405-000

- » Completed a tariff implementation plan proposal for the privatization of the distribution companies of the Bulgarian Electric Utility.
- » Led a team to implement regulatory procedures and methodology for the electric power industry in Bosnia and Herzegovina.
- » Conducted a study of the electric power market in El Salvador including a quantification of the level of generation market power using the Lerner Index.