

<b>INDEX</b>				<b>original filing date = 2012 May 10</b>
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				<b>/U = update to original filing</b>
				<b>/C = correction to original filing</b>
<b>Tab</b>	<b>Schedule</b>	<b>Appendix</b>	<b>Content</b>	
<b>1 - Application</b>				
1	1		Application	
1	2		Witness Panel	/N
			<b>CVs</b>	
1	3-1		Arthur Berdichevsky	/N
1	3-2		Robert Ota	/N
1	3-3		Sam Sadeghi	/N
1	3-4		Michael Walker	/N
1	3-5		Charlie Floriano	/N
1	3-6		Paul Nardozzi	/N
1	3-7		Owen Nash	/N
1	3-8		Mary P. Byrne	/N
1	3-9		Christopher Kerr	/N
1	3-10		Guillaume Paradis	/N
1	3-11		Steven A. Fenrick, PSE	/N
1	3-12		Erik A. Sonju, PSE	/N
1	3-13		Eugene Shlatz, Navigant	/N
1	3-14		Tom Odell	/N
1	3-15		Jack Simpson	/N
1	3-16		Wendy Cheah	/N
1	3-17		Colin J. McLorg	/N
1	3-18		Darryl Seal	/N
1	3-19		Todd S. Williams, Navigant	/N
1	3-20		Barry Parker	/N
<b>2 - Manager's Summary</b>				
2			Addendum to Manager's Summary	
2		A	Revision Summary Narrative	
2		B	Revision Summary Listing	
2			Manager's Summary	
2		1	Unfunded CAPEX	
2		2	ICM Threshold Calculation	
2		3	Derivation of Foregone Deadband Revenue Requirement	
2		4	THESL's Feeder Investment Model and its use in Developing ICM Projects	
<b>3 - IRM Schedules and Models</b>				
3	A		Current Tariff of Rates and Charges	
3	B1		Proposed Tariff of Rates and Charges - 2012	
3	B2		Proposed Tariff of Rates and Charges - 2013	
3	B3		Proposed Tariff of Rates and Charges - 2014	
3	C1.1		OEB IRM3 Rate Generator - 2012 Model	
3	C1.2		OEB IRM3 Rate Generator - 2012 Bill Impacts with Deadband	
3	C2.1		OEB IRM3 Rate Generator - 2013 Model	
3	C2.2		OEB IRM3 Rate Generator - 2013 Bill Impacts with Deadband	



Tab	Schedule	Appendix	Content
3	C3.1		OEB IRM3 Rate Generator - 2014 Model
3	C3.2		OEB IRM3 Rate Generator - 2014 Bill Impacts with Deadband
3	D		OEB RTSR Adjustment Workform
3	E1		OEB IRM3 Shared Tax Savings Workform - 2012 Workform
3	E2		OEB IRM3 Shared Tax Savings Workform - Days of Service
3	F		2012 Lost Revenue Rate Rider
<b>4 - Incremental Capital Module</b>			
4			Incremental Capital Module
4	A		Summary of Capital Program
			<b>ICM Business Cases</b>
4	B1		Underground Infrastructure and Cable - Underground Infrastructure
4	B2		Underground Infrastructure and Cable - PILC
4	B3		Underground Infrastructure and Cable - Handwell Replacement
4	B4		Overhead Instructure and Equipment - Overhead Infrastructure
4	B5		Overhead Instructure and Equipment - Box Construction
4	B6		Overhead Instructure and Equipment - Rear Lot Construction
4	B7		Overhead Instructure and Equipment - Polymer SMD-20 Switches
4	B8		Overhead Instructure and Equipment - SCADAMate R1 Switches
4	B9		Network Infrastructure and Equipment - Network Vault and Roofs
4	B10		Network Infrastructure and Equipment - Fibertop Network Units
4	B11		Network Infrastructure and Equipment - Automatic Transfer Switches and Reverse Power Breakers
4	B12		Station Infrastructure and Equipment - Station Power Transformers
4	B13.1		Station Infrastructure and Equipment - Municipal Substation Switchgear
4	B13.2		Station Infrastructure and Equipment - Transformer Station Switchgear
4	B14		Station Infrastructure and Equipment - Station Circuit Breakers
4	B15		Station Infrastructure and Equipment - Station Control and Communications
4	B16		Station Infrastructure and Equipment - Downtown Station Load Transfer
4	B17		Bremner TS
4	B18		Hydro One Contributions
4	B19		Feeder Automation
4	B20		Metering
4	B21		Externally-Initiated Plant Relocations and Expansions
			<b>ICM Business Cases for Projects Within Materiality Threshold</b>
4	C1		Operations
4	C2		Information Technology
4	C3		Fleet
4	C4		Buildings and Facilities
			<b>Consultant Reports</b>
4	D1		Toronto Hydro-Electric System Limited 2012 Asset Condition Assessment Audit, by Kinectrics Inc.
4	D2		Review of Aging Infrastructure Practices, by BIS Consulting
4	D3		THESL Distribution Design Standards: Independent Survey and Review, by Navigant Consulting Ltd.
4	D4		Rider to ICM Business Cases - Summary Report, by Power System Engineering, Inc.
4	D4		ICM Business Cases - Summary Report, by Power System Engineering, Inc.



Tab	Schedule	Appendix	Content
4	D5		Rider to Independent Assessment of Toronto Hydro Busines Cases: High Level Review of Proposed Programs to be filed before the Ontario Energy Board under
4	D5		Independent Assessment of Toronto Hydro Busines Cases: High Level Review of Proposed Programs to be filed before the Ontario Energy Board under its
4	D6		Project Specific Designated Substances and Hazardous Materials Survey: 14 Carlton Street Toronto, by Genivar Inc.
4	E1.1		Incremental Capital Workform - 2012
4	E1.2		Threshold - 2012
4	E1.3		Days of Service - 2012
4	E1.4		ICM Lost Revenue Rate Adder
4	E2.1		Incremental Capital Workform - 2013
4	E2.2		Threshold - 2013
4	E2.3		Days of Service - 2013
4	E3.1		Incremental Capital Workform - 2014
4	E3.2		Threshold - 2014
4	E3.3		Days of Service - 2014
4			<b>ICM Project Worksheets</b>
4	F1.1		Underground Infrastructure and Cable - 2012 Underground Infrastructure
4	F1.2		Underground Infrastructure and Cable - 2013 Underground Infrastructure
4	F1.3		Underground Infrastructure and Cable - 2014 Underground Infrastructure
4	F2.1		Underground Infrastructure and Cable - 2012 PILC
4	F2.2		Underground Infrastructure and Cable - 2013 PILC
4	F2.3		Underground Infrastructure and Cable - 2014 PILC
4	F3.1		Underground Infrastructure and Cable - 2012 Handwell Replacement
4	F3.2		Underground Infrastructure and Cable - 2013 Handwell Replacement
4	F3.3		Underground Infrastructure and Cable - 2014 Handwell Replacement
4	F4.1		Overhead Instructure and Equipment - 2012 Overhead Infrastructure
4	F4.2		Overhead Instructure and Equipment - 2013 Overhead Infrastructure
4	F4.3		Overhead Instructure and Equipment - 2014 Overhead Infrastructure
4	F5.1		Overhead Instructure and Equipment - 2012 Box Construction
4	F5.2		Overhead Instructure and Equipment - 2013 Box Construction
4	F5.3		Overhead Instructure and Equipment - 2014 Box Construction
4	F6.1		Overhead Instructure and Equipment - 2012 Rear Lot Construction
4	F6.2		Overhead Instructure and Equipment - 2013 Rear Lot Construction
4	F6.3		Overhead Instructure and Equipment - 2014 Rear Lot Construction
4	F7.1		Overhead Instructure and Equipment - 2012 Polymer SMD-20 Switches
4	F7.2		Overhead Instructure and Equipment - 2013 Polymer SMD-20 Switches
4	F7.3		Overhead Instructure and Equipment - 2014 Polymer SMD-20 Switches
4	F8.1		Overhead Instructure and Equipment - 2012 SCADAMate R1 Switches
4	F8.2		Overhead Instructure and Equipment - 2013 SCADAMate R1 Switches
4	F8.3		Overhead Instructure and Equipment - 2014 SCADAMate R1 Switches
4	F9.1		Network Infrastructure and Equipment - 2012 Network Vault and Roofs
4	F9.2		Network Infrastructure and Equipment - 2013 Network Vault and Roofs
4	F9.3		Network Infrastructure and Equipment - 2014 Network Vault and Roofs
4	F10.1		Network Infrastructure and Equipment - 2012 Fibertop Network Units
4	F10.2		Network Infrastructure and Equipment - 2013 Fibertop Network Units



Tab	Schedule	Appendix	Content
4	F10.3		Network Infrastructure and Equipment - 2014 Fibertop Network Units
4	F11.1		Network Infrastructure and Equipment - 2012 Automatic Transfer Switches and Reverse Power Breakers
4	F11.2		Network Infrastructure and Equipment - 2013 Automatic Transfer Switches and Reverse Power Breakers
4	F11.3		Network Infrastructure and Equipment - 2014 Automatic Transfer Switches and Reverse Power Breakers
4	F12.1		Station Infrastructure and Equipment - 2012 Station Power Transformers
4	F12.2		Station Infrastructure and Equipment - 2013 Station Power Transformers
4	F12.3		Station Infrastructure and Equipment - 2014 Station Power Transformers
4	F13.1		Station Infrastructure and Equipment - 2012 Stations Switchgear Replacement
4	F13.2		Station Infrastructure and Equipment - 2013 Stations Switchgear Replacement
4	F13.3		Station Infrastructure and Equipment - 2014 Stations Switchgear Replacement
4	F14.1		Station Infrastructure and Equipment - 2012 Station Circuit Breakers
4	F14.2		Station Infrastructure and Equipment - 2013 Station Circuit Breakers
4	F14.3		Station Infrastructure and Equipment - 2014 Station Circuit Breakers
4	F15.1		Station Infrastructure and Equipment - 2012 Station Control and Communications
4	F15.2		Station Infrastructure and Equipment - 2013 Station Control and Communications
4	F15.3		Station Infrastructure and Equipment - 2014 Station Control and Communications
4	F16.1		Station Infrastructure and Equipment - 2012 Downtown Station Load Transfer
4	F16.2		Station Infrastructure and Equipment - 2013 Downtown Station Load Transfer
4	F16.3		Station Infrastructure and Equipment - 2014 Downtown Station Load Transfer
4	F17.1		Bremner TS - 2012
4	F17.2		Bremner TS - 2013
4	F17.3		Bremner TS - 2014
4	F18.1		Hydro One Contributions - 2012
4	F18.2		Hydro One Contributions - 2013
4	F18.3		Hydro One Contributions - 2014
4	F19.1		Feeder Automation - 2012
4	F19.2		Feeder Automation - 2013
4	F19.3		Feeder Automation - 2014
4	F20.1		Metering - 2012
4	F20.2		Metering - 2013
4	F20.3		Metering - 2014
4	F21.1		Externally-Initiated Plant Relocations and Expansions - 2012
4	F21.2		Externally-Initiated Plant Relocations and Expansions - 2013
4	F21.3		Externally-Initiated Plant Relocations and Expansions - 2014
<b>5 - Final Disposition of the PILs Deferral Accounts 1562 and 1563</b>			
5			Final Disposition of the PILs Deferral Accounts 1562 and 1563
5	A		Summary Continuity Schedules for Account 1562
5	B		Detailed Continuity Schedules for Account 1562
5	C		2001 SIMPIL Model
5	D		2002 SIMPIL Model
5	E		2003 SIMPIL Model
5	F		2004 SIMPIL Model
5	G		2005 SIMPIL Model



Tab	Schedule	Appendix	Content
			<b>Tax Information</b>
5	H1		2001 Board-Approved PILs proxy model
5	H2		2001 T2 Tax Return
5	H3		2001 CT23 Tax Return
5	H4		2001 Amended T2 and CT23 Schedules
5	H5		2001 Notice of Assessment
5	H6		2001 Statement of Adjustments
5	H7		2001 Financial Statements submitted with tax return
5	I1		2002 Board-Approved PILs proxy model
5	I2		2002 RAM model
5	I3		2002 T2 Tax Return
5	I4		2002 CT23 Tax Return
5	I5		2002 Notice of Assessment
5	I6		2002 Notice of Reassessment
5	I7		2002 Statement of Adjustments
5	I8		2002 Financial Statements submitted with tax return
5	I9		2002 Manager's Summary
5	J1		2003 T2 Tax Return
5	J2		2003 CT23 Tax Return
5	J3		2003 Notice of Assessment
5	J4		2003 Notice of Reassessment
5	J5		2003 Statement of Adjustments
5	J6		2003 Financial Statements submitted with tax return
5	K1		2004 RAM model
5	K2		2004 T2 Tax Return
5	K3		2004 CT23 Tax Return
5	K4		2004 Notice of Assessment
5	K5		2004 Notice of Reassessment
5	K6		2004 Statement of Adjustments
5	K7		2004 Financial Statements submitted with tax return
5	L1		2005 Board-Approved PILs proxy model
5	L2		2005 RAM Model
5	L3		2005 T2 Tax Return
5	L4		2005 CT23 Tax Return
5	L5		2005 Notice of Assessment
5	L6		2005 Notice of Reassessment
5	L7		2005 Statement of Adjustments
5	L8		2005 Financial Statements submitted with tax return
5	M		PILs Recoveries from 2002 to 2006 showing PILs rate slivers from RAM multiplied by billing
5	N1		2002 Signed Board Decision
5	N2		2004 Signed Board Decision
5	N3		2005 Signed Board Decision



1 **WITNESS PANELS**

<b>PANEL NUMBER</b>	<b>SUBJECT MATTER</b>	<b>WITNESSES</b>
1A	Capital Planning Processes A	Arthur Berdichevsky Robert Otal Sam Sadeghi Michael Walker
1B	Capital Planning Processes B	Charlie Floriano Paul Nardozzi Owen Nash
2	Capital Projects A	Mary Byrne Christopher Kerr Guillaume Paradis Steve Fenrick (PSE) Erick Sonju (PSE) Eugene Shlatz (Navigant)
3	Capital Projects B	Tom Odell Jack Simpson Eugene Shlatz (Navigant) Steve Fenrick (PSE) Erick Sonju (PSE)
4	Rates and Revenue Requirement	Wendy Cheah Colin McLorg Darryl Seal Todd Williams (Navigant) Barry Parker



**CURRICULUM VITAE OF**  
**Arthur Berdichevsky P.Eng., MBA**

**EDUCATION:**

- Asper School of Business, University of Manitoba, Master of Business Administration, 2009
- University of Manitoba, Bachelor of Science in Electrical Engineering, 2007

**PROFESSIONAL REGISTRATIONS:**

- Professional Engineers Ontario

**BUSINESS EXPERIENCE:**

- Toronto Hydro-Electric System Limited
  - System Reliability Planning (June 2011 to present)
- Hydro One Networks Inc.
  - Corporate Standards (January 2011 to May 2011)
- Manitoba Hydro
  - Power Sales and Operations (June 2009 to December 2010)
  - Resource Planning and Market Analysis (June 2007 to May 2009)
  - Distribution Engineering Services (January 2007 to May 2007)
  - Electrical Engineering Services (May 2005 to December 2006)

**INDUSTRY ASSOCIATIONS AND COMMITTEES:**

- Ontario Energy Board, System Reliability Data Working Group



**CURRICULUM VITAE OF**

**Robert Ota, P.Eng.**

**EDUCATION:**

- Ryerson University, Bachelor in Electrical Engineering, 2005

**PROFESSIONAL REGISTRATIONS:**

- Professional Engineers Ontario (PEO)

**BUSINESS EXPERIENCE:**

- Toronto Hydro-Electric System Limited
  - Supervisor, Systems, Risk & Reliability (January 2012 to Present)
  - Risk & Analytics Engineering Lead (May 2010-December 2011)
  - Long-Term Planning Engineer (March 2008-May 2010)
- Horizon Utilities Corporation
  - Engineer-in-Training (May 2006-March 2008)

**REGULATORY APPEARANCES:**

- None

**INDUSTRY ASSOCIATIONS AND COMMITTEES:**

- Institute of Electrical and Electronics Engineers



**CURRICULUM VITAE OF**  
**Sam Sadeghi, P. Eng, M. Eng, PMP, MBA**

**EDUCATION:**

- Wilfrid Laurier University, School of Business and Economics, Masters in Business Administration (MBA), 2011
- Ryerson University, Masters of Engineering (M. Eng), Power Electronics, 2008
- Ryerson University, Bachelor of Engineering, Electrical Engineering, 2004

**PROFESSIONAL REGISTRATIONS:**

- Professional Engineer (P. Eng)
- Project Management Professional (PMP)

**BUSINESS EXPERIENCE:**

- Toronto Hydro-Electric System Limited
  - Supervisor, Asset Management (2011 to present)
- Atomic Energy of Canada Ltd.
  - Project Leader (2008-2011)
  - Instrumentation and Control Design Engineer (2006-2008)
- Ontario Power Generation, Inc.
  - Project Engineer, Pickering Nuclear

**REGULATORY APPEARANCES:**

- none



1     **INDUSTRY ASSOCIATIONS AND COMMITTEES:**

- 2             •   Professional Engineers of Ontario (PEO)
- 3             •   Project Management Institute (PMI)
- 4             •   Institute of Electrical and Electronics Engineers (IEEE)



**CURRICULUM VITAE OF**

**Michael Walker**

**EDUCATION:**

- Bachelor of Applied Science, Electrical Engineering, University of Toronto, 1987

**BUSINESS EXPERIENCE:**

- Toronto Hydro-Electric System Limited (1998 to present)
  - Manager, Program Management, Distribution Services, 2007 to present
  - Business Unit Leader, GEAR Geographic Information System Project, Distribution Services, 2005 to 2007
  - Supervisor, Maintenance Program Development, Asset Management, 2002 to 2005
  - Project Leader, Information Technology, 1998 to 2002
- North York Hydro (1987 to 1997)
  - Planning Project Engineer, Planning Department, 1993 to 1997
  - C&M Project Engineer, Construction and Maintenance, 1990 to 1993
  - Standards Project P&C Engineer, Standards Department, 1988 to 1990
  - Junior Engineer, 1987 to 1988

**PROFESSIONAL REGISTRATIONS:**

- Professional Engineers of Ontario, 1992



**CURRICULUM VITAE OF**  
**Charlie Floriano**

**EDUCATION:**

- Ryerson University, IT Management Certification, May 2005
- Centennial College, AS400 Administration Certification, June 1997
- Centennial College, Business Administration Diploma, June 1989

**PROFESSIONAL REGISTRATIONS:**

- Microsoft – Microsoft Certified Professional (MCP), Microsoft Certified Systems Administrator MCSA
- Comptia – A+ Desktop Certification, Network+ Network Certification
- ITIL – ITIL Foundations Certification

**BUSINESS EXPERIENCE:**

- Toronto Hydro-Electric System Limited
  - Manager – IT Application and Service Support (March 2010 – Present)
- AGF Management Limited
  - Director – IT Infrastructure and Support Services (April 2009 – March 2010)
  - Director – IT Support Services (November 2006 – April 2009)
  - Manager, Help Desk and Desktop Services (February 2003 – November 2006)
- Famous Players Inc.
  - Manager, Desktop Services (March 1998 – 2002-February 2003)



**CURRICULUM VITAE OF**

**Paul Nardozzi, P.Eng.**

**EDUCATION:**

- York University Schulich School of Business, Prince2 Project Management Practitioner, 2009
- University of Toronto , Bachelor of Applied Science, Engineering , 1986

**PROFESSIONAL REGISTRATIONS:**

- Association of Professional Engineers Ontario, Professional Engineer

**BUSINESS EXPERIENCE:**

- Toronto Hydro-Electric System Limited
  - Manager, Facilities and Asset Management (February 2012 – present)
  - Manager, Program Support Office (August 2009 – present)
  - Manager, Customer Connections and Maintenance (March 2007 – August 2009)
- Ford Motor Company of Canada Ltd, Oakville Assembly Complex, Ontario
  - Manager, Final Assembly (2005- 2006)
  - Manager, Off -Shift Production (1994-1996, 2002-2003)
  - Manager, Plant Engineering (2001-2002)
  - Manager, Manufacturing Engineering (1996-2001)
  - Manager, Vehicle Assembly (1991-1994)
  - Engineer, Automation (1989-1991)
  - Supervisor Maintenance and Technical Construction (1987-1989)
- Ford Motor Company , Kansas City Assembly Plant, Missouri, U.S.A
  - Manager, SUV Body Area (2004-2005)



- 1       • Ford Motor Company , Ontario Truck Plant, Ontario
- 2             ○ Manager, Body Area (2003-2004)
- 3       • General Motors of Canada Ltd, Scarborough Van Plant, Ontario
- 4             ○ Engineer, Paint Process (1986-1987)
- 5

6       **REGULATORY APPEARANCES:**

- 7       • None
- 8

9       **INDUSTRY ASSOCIATIONS AND COMMITTEES:**

- 10       • Society of Professional Engineers, Ontario



**CURRICULUM VITAE OF**  
**Owen Nash**

**EDUCATION:**

- Seneca College of Applied Arts and Technology, Marketing Administration, May 1993

**BUSINESS EXPERIENCE:**

- Toronto Hydro-Electric System Limited
  - Manager, Supply Chain and Equipment Services (March 2008 to present)
- Bombardier Aerospace
  - Director Material Logistics (May 2007-March 2008)
  - Operations Unit Manager, Material Logistics and Planning (March 2004-May 2007)
  - Supervisor, Work and Material Planning (May 1997-March 2004)



**CURRICULUM VITAE OF**

**Mary P. Byrne, P.Eng.**

**EDUCATION:**

- 1993, McMaster University, Bachelor of Engineering and Management

**BUSINESS EXPERIENCE:**

- Toronto Hydro-Electric System Limited
  - Current Position – Director, Standards & Policy Planning (April 2009 to present)
- Enbridge Gas Distribution
  - Manager, Engineering Materials and Construction (December 2006 to April 2009)
  - Program Manager, Risk Assessment, Integrity Management (September 2006 to November 2006)
  - Manager, Accelerated Cast Iron Mains Replacement (April 2005 to August 2006)
  - Project Manager, Portlands Energy Centre Pipeline Reinforcement (March 2003 to April 2004)
  - Manager, Capital Projects, Distribution Planning Central Region (February 2001 to April 2002)
  - Construction Project Manager, Enbridge Gas New Brunswick (June 2000 to October 2000)
  - Project Manager, Engineering Maintenance (April 1999 to January 2001)
  - Project Manager, Oro-Medonte Shoreline Project (September 1998 to March 1999)
  - Operations Engineer (January 1997 to August 1998)



- 1       • Ford Electronics Manufacturing Corporation – Markham Plant
- 2             ○ Project Manager, For Total Productive Maintenance (July 1996 to
- 3             December 1996)
- 4             ○ Quality Engineer, Climate Control Products (March 1995 to June 1996)
- 5             ○ Production Supervisor, Speedometer Products (January 1994 to February
- 6             1995)
- 7       • Hershey Canada – LifeSavers Plant, Hamilton
- 8             ○ Production Supervisor
- 9

#### 10   **PROFESSIONAL REGISTRATIONS:**

- 11       • Member – Professional Engineers Ontario (PEO)
- 12       • Member – Association of Professional Engineering and Geoscientists of New
- 13       Brunswick (APEGNB), 2000-2009
- 14

#### 15   **CURRENT PROFESSIONAL ACTIVITIES:**

- 16       • Member – Canadian Society for Civil Engineering (CSCE)
- 17       • Member – Ontario Society of Professional Engineers (OSPE)
- 18

#### 19   **INDUSTRY ASSOCIATIONS & COMMITTEES:**

- 20       • Member – Canadian Electric Association (CEA) Standards Management Council
- 21       • Member – Canadian Electric Association (CEA) Joint Use Task Force
- 22       • Member – Canadian Standards Association (CSA) C22.3 No. 1 Overhead
- 23       Systems
- 24       • Member – Canadian Standards Association (CSA) C22.3 No. 7 Underground
- 25       Systems
- 26       • Member – Electrical Safety Authority (ESA) Utility Advisory Council
- 27       • Chair – Toronto Public Utilities Coordinating Committee (TPUCC)



1    **REGULATORY APPEARANCES:**

- 2           •   EB-2011-0120, CANDAS Application on access to power poles of electricity  
3           distributors for purposes of wireless telecommunications  
4           •   RP-2001-0002, EB-2001-0002, Enbridge Gas – 9th Line Relocation York Region



**CURRICULUM VITAE OF**  
**Christopher Kerr, B.E.Sc**

**EDUCATION:**

- University of Western Ontario, Bachelor of Engineering Science (Electrical Engineering), June 2007

**BUSINESS EXPERIENCE:**

- Toronto Hydro-Electric System Limited
  - Supervisor (October 2011 to present)
  - Interim Supervisor (July-September 2011)
  - Engineer in Training (June 2009 to June 2011)
- Process Systems Integration
  - Engineer in Training (May 2008 to December 2008)
- CAMI Automotive
  - Engineer in Training (May 2007 to April 2008)

**INDUSTRY ASSOCIATIONS AND COMMITTEES:**

- Centre for Energy Advancement through Technological Innovation (CEATI)
  - Power Quality Interest Group - Delegate on behalf of THESL (2010 to present)



**CURRICULUM VITAE OF**  
**Guillaume Paradis**

**EDUCATION:**

- University of British Columbia, Bachelor of Applied Sciences in Electric Engineering, April 2007

**BUSINESS EXPERIENCE:**

- Toronto Hydro-Electric System Limited
  - Supervisor – Project Planning Center & Distribution Maintenance (October 2010 to Present)
- CEATI International Inc. Program Manager – Transmission & Distribution (September 2007 to September 2010)
  - Power Quality
  - Distribution Assets Life Cycle Management
  - Station Assets Life Cycle Management
  - Power System Planning



## **STEVEN A. FENRICK**

### **Leader, Economics and Market Research**

#### **SUMMARY OF EXPERIENCE AND EXPERTISE**

- Leader of PSE's Economics and Market Research group which conducts research in the fields of DSM, performance benchmarking, incentive regulation, load research and forecasting, and survey design and implementation
- Manages PSE's cost, productivity, and reliability performance benchmarking practice
- Directs research on value-based reliability planning efforts for electric utilities
- Expert in performance-based ratemaking and incentive regulation
- Directs economic research on investigating the impacts and costs/benefits of DSM programs and designing statistically robust pilot designs

#### **PROFESSIONAL EXPERIENCE**

##### **Power System Engineering, Inc. – Madison, WI (2009 to present)**

###### **Leader, Economics and Market Research**

Responsible for providing consulting services to utilities and regulators in the areas of reliability and cost benchmarking, incentive regulation, value-based reliability planning, demand-side management, load research, load forecasting, end-use surveys, and market research.

- Leads research, on an annual basis, with over a dozen electric utilities in evaluating cost, productivity, and reliability performance and uncovering methods to improve their operations
- Benchmarking consultant to the Ontario Energy Board regarding their 3<sup>rd</sup> Generation Incentive Regulation Plan for the last two years
- In the process of designing and analyzing DSM pilot projects at over 25 electric utilities across the country
- Testimony experience regarding performance benchmarking and productivity analysis
- Has given several presentations on performance benchmarking and productivity analysis, costs and benefits of DSM programs, and measurement and verification (M&V) techniques.
- Key speaker at the upcoming EUCI conference in Denver regarding cost and reliability performance evaluation and productivity analysis of distribution utilities



## Pacific Economics Group – Madison, WI (2001 - 2009)

### Senior Economist

Co-authored research reports submitted as testimony in numerous proceedings in several states and in international jurisdictions. Research topics included statistical benchmarking, alternative regulation, and revenue decoupling.

- Instructor at 2009 EUCI “Electric Utility Cost and Service Quality Benchmarking” conference.
- Developed a reliability benchmarking model for power distribution comparing utility performance.
- Managed and supervised PEG support staff in research and marketing efforts.

## EDUCATION

University of Wisconsin - Madison, WI

Bachelor of Science, Economics (Mathematical Emphasis)

University of Wisconsin - Madison, WI

Master of Science, Agriculture and Applied Economics

## Publications & Papers

- “Cost and Reliability Comparisons of Underground and Overhead Power Lines”, *Utilities Policy*, March 2012. (With Lullit Getachew).
- “Formulating Appropriate Electric Reliability Targets and Performance Evaluations”, *Electricity Journal*, March 2012. (With Lullit Getachew)
- “Estimation of the Effects of Price and Billing Frequency on Household Water Demand Using a Panel of Wisconsin Municipalities”, *Applied Economics Letters*, 2012, 19:14, 1373-1380.
- “Altreg Rate Designs Address Declining Average Gas Use”, *Natural Gas & Electricity*. April 2008. (With Mark Lowry, Lullit Getachew, and David Hovde).
- “Regulation of Gas Distributors with Declining Use per Customer”, *Dialogue*. August 2006. (With Mark Lowry and Lullit Getachew).
- “Balancing Reliability with Investment Costs: Assessing the Costs and Benefits of Reliability-Driven Power Transmission Projects.” April 2011. *RE Magazine*.
- “Ex-Post Cost, Productivity, and Reliability Performance Assessment Techniques for Power Distribution Utilities”. Thesis.

## Recent Presentations

- Conference chair for EUCI conference in 2012 titled, “Balancing, Measuring, and Improving the Cost and Reliability Performance of Electric Distribution Utilities”. St. Louis.



- Conference chair for EUCI conference in 2012 titled, “Demand Response: The Economic and Technology Considerations from Pilot to Deployment”. St. Louis.
- 2012 Presentation in the Missouri PSC Smart Grid conference entitled, “Maximizing the Value of DSM Deployments”. Jefferson City.
- 2011 conference chair on a nationwide benchmarking conference for rural electrical cooperatives. Madison.
- 2011 presentation on optimizing demand response program at the CRN Summit. Cleveland.
- Conference chair for EUCI conference in 2011 titled, “Balancing, Measuring, and Improving the Cost and Reliability Performance of Electric Distribution Utilities”. Denver.
- 2010 presentation on cost benchmarking techniques for REMC. Wisconsin Dells.

### History of Major Research Projects

1. Evaluation and review of business cases for reliability-driven projects, Toronto Hydro, 2012.
2. Energy efficiency rebate optimization, Corn Belt, 2012.
3. Energy efficiency and demand response customer baseline load algorithm development for an MDM system vendor, 2012.
4. Incentive Regulation Productivity and Benchmarking, Enbridge Gas Distribution, 2011
5. Reliability Benchmarking and Target Setting, Vectren 2011/2012
6. DSM potential analysis, South Central Indiana, 2011/2012
7. Annual benchmarking updates of Ontario’s 77 power distribution utilities, OEB 2011
8. Cost and reliability benchmarking research involving a group of 20 electric utilities, 2011
9. Energy Efficiency program design and cost effectiveness, Corn Belt 2011
10. Cost/Benefit model of direct load control, Corn Belt 2011
11. Peak time rebate demand response program design and cost effectiveness, Heartland 2011
12. Value Based Reliability Planning project at New Hampshire Electric Cooperative, 2010
13. DSM research on pilots at 25 electric utilities, 2010-2014
14. Benchmarking research involving a group of 14 electric utilities, 2010
15. M&V research of OPower energy efficiency program, 2010.
16. M&V research of Smart Thermostat demand response program, 2010.



17. Benchmarking research regarding Union Electric, 2010
18. Benchmarking research regarding the three Ameren Illinois Utilities, 2009
19. Benchmarking research for Central Vermont Public Service, 2009
20. Benchmarking research on Oklahoma Gas & Electric, 2009
21. Research North American power industry revenue forecast precedents, HECO, 2008.
22. Revenue Adjustment Mechanism for CVPS Revenue Decoupling Proposal, CVPS, 2008.
23. Productivity Research for Bundled Power Service, HECO, 2008.
24. A&G Power Benchmarking Research. 2008.
25. Productivity Research of Ontario's Power Distribution Utilities, OEB, 2008.
26. Productivity Research of U.S. Power Generation and Distribution, APS, 2007.
27. Productivity Research of Northeast Power Distribution, CMP, 2007.
28. Productivity Research of Ontario's Gas Distribution Utilities, OEB, 2007.
29. Benchmarking Research of Ontario's Power Distribution Utilities, OEB, 2007.
30. Benchmarking Research of Electric A&G Expenses, Michigan PSC, 2006.
31. Productivity Research for Gas Distribution, Sempra, 2006.
32. Productivity Research for Power Distribution, Sempra, 2006.
33. Benchmarking Research for Gas Distribution, Nstar Gas, 2006.
34. Benchmarking Research for Power Distribution, Central Vermont PSC, 2005.
35. Benchmarking Research of Nuclear Power Generation, Sempra, 2005.
36. Research on Rate Trends for Electric Power, EEI, 2005.
37. Benchmarking Research of Bundled Power Service, Florida Power, 2005.
38. Benchmarking Research of Canadian Electric Distribution, Hydro One, 2005.
39. Benchmarking Research of Gas Distribution, Bay State, 2005.
40. Benchmarking Research of Electric Distribution, Aquaelectra, 2004.
41. Benchmarking Research for the Caribbean Water Distribution Industry, Aquaelectra, 2004.
42. Compensatory Rate Trend for the U.S. Gas Industry, 2004.
43. Productivity Research for the U.S. Electrical industry, TXU, 2004.



44. Research on Productivity and Benchmarking for Queensland, Australia Electrical Companies, 2004.
45. Research on Productivity and Benchmarking for Gas and Electric Industries for Sempra, 2004.
46. Research on Productivity and Benchmarking for Jamaican Power Company. JPS, 2003-4.
47. Cost analysis research and benchmarking for the Bolivian Power regulator, 2003.
48. Research on Productivity and Benchmarking for a Canadian Power Transmission Company, 2002.
49. Research on Productivity and Benchmarking for a Natural Gas Distributor. Boston Gas, 2002-3.
50. Research on Benchmarking for Bundled Power Service. AmerenUE, 2002
51. Statistical Benchmarking for Electric Power Transmission. Transcend, 2002.
52. Statistical Benchmarking for three Australian Gas Utilities, 2001.
53. Power Distribution TFP trends for Bangor Hydro, 2001.



## **ERIK S. SONJU, P.E.**

### **VICE PRESIDENT – POWER DELIVERY PLANNING AND DESIGN**

#### **SUMMARY OF EXPERIENCE AND EXPERTISE**

- Experienced Professional Engineer in areas of electric transmission and distribution system capital investment planning strategic operations planning, design, and reliability assessment.
- Other areas of expertise include system protection and coordination, power quality investigations, system loss analysis, distributed generation interconnections, system operations, and overall utility management.
- Instructor for professional development courses in power delivery planning, system protection, and line design.
- Licensed Professional Engineer in 15 states.

#### **PROFESSIONAL EXPERIENCE**

##### **Power System Engineering, Inc. –Madison, WI (2006-present)**

###### **Vice President – Power Delivery Planning and Design (2010 - Present)**

Responsible for PSE's involvement in electric transmission and distribution capital investment planning, system protection and coordination, system operations and maintenance support, distributed generation interconnection studies, and specialty studies. Other responsibilities included substation design, transmission line design, and distribution line design.

###### **Leader of System Planning and Line Design (2008 – 2010)**

Senior engineer and leader of system planning and line design within the Resource and System Planning Division. Emphasis included short range and long system planning studies, distributed generation system impact studies, system protection studies, and expert testimony in regulatory proceedings associated with engineering analysis used for State Commission and FERC filed tariffs. Other responsibilities included distribution and transmission line design.

###### **Leader of System Planning (2006 – 2008)**

Senior engineer and leader of system planning within the Resource and System Planning Division.

##### **Great Lakes Energy –Boyne City, MI (2001-2006)**

###### **System Engineer and Manager of Engineering**

Chief engineer and engineering department manager for a newly formed 120,000 meter electric distribution cooperative following the merger of three cooperatives in Michigan.





- Activities included the establishment of an engineering department responsible for system planning, system protection, daily engineering support to operations, mapping, line design, metering, and distribution system technology applications.
- Other activities included representation for the Michigan Electric Cooperative Association in the development of joint utility distributed generation interconnection standards for the State of Michigan, Public Service Commission presentations on behalf of the cooperative regarding reliability initiatives, and interconnection agreements with large industrial customers.

### **Heartland Engineering Services – Rockford, MN (1999-2001)**

#### **System Engineer**

Co-founder of an engineering consulting firm for utilities owning transmission and distribution facilities.

- Responsible for a wide range of engineering projects and client relation functions.
- Emphasis in long range and short range system plans, system protection and coordination, power quality investigations, programming of electric system controls, line design, power factor correction studies, substation construction coordination, post construction inspections, cost of service studies, and capital credit allocation studies for electric cooperatives.

### **United Services Group – Elk River, MN (1997-1999)**

#### **Planning Engineer**

Consulting engineer within a department of United Power Association (currently Great River Energy) for its distribution cooperative members and non-member utilities.

- Performed short and long-range distribution planning studies, reliability studies, system protection plans, and distribution design projects.
- Other responsibilities included transmission line design, power quality investigations, field inspections, and motor starting analysis.

## **EDUCATION**

North Dakota State University, Fargo, ND

Bachelor of Science in Electrical Engineering with Emphasis in Power Systems, 1997

University of Nebraska, Lincoln, NE

NRECA Management Internship Program, 2006

Numerous technical and business continuing education courses focusing on issues and topics within the power industry.

## **PROFESSIONAL MEMBERSHIPS**

NRECA T&D Engineering Committee – Power Quality Subcommittee Member

Institute of Electrical and Electronic Engineers







**Eugene Shlatz**  
Director

**Navigant Consulting**  
Burlington, VT 05401  
Tele: 802.985.5216

eshlatz@navigantconsulting.com

#### **Education and Professional**

- M.S. Electric Power Engineering, Rensselaer Polytechnic Institute
- B.S. Electric Power Engineering, Rensselaer Polytechnic Institute

#### **Employment**

- Navigant Consulting (1999 – present)  
Director
- Stone & Webster Management Consultants (1994-1999) Executive Consultant
- Green Mountain Power Corp (1985-1994)
  - Assistant Vice President, Energy Planning
  - Director of Engineering and Operations
- Ernst & Whinney (1984-1985)  
Supervisor
- Gilbert/Commonwealth (1980-1984)  
Senior Consulting Engineer
- Westinghouse Electric Corporation (1978-1979)  
Systems Analysis Engineer
- Boston Edison Company (1976-1977)  
Student Engineer, Cooperative Education Program

#### **Professional Associations**

- Professional Engineer - State of Vermont
- Institute of Electrical and Electronic Engineers, Section Chairman

## **Eugene L. Shlatz**

**Mr. Shlatz** is a Director in Navigant Consulting Inc.'s Energy Practice. He has over 25 years of management consulting and supervisory experience in energy delivery, electric power generation and distributed resources. Engagements he has directed include smart grid, renewable technology, asset management, reliability, benchmarking, energy efficiency, electric pricing, distributed resources, due diligence and system adequacy studies for US, Canadian, and South American utilities, equipment suppliers and government agencies. Mr. Shlatz is an expert on electric power delivery systems, and has testified before FERC and State regulatory commissions on open access, transmission expansion, DG integration, retail rates, regulatory compliance, and least-cost planning. He is a professional engineer and section chairman of IEEE. Mr. Shlatz has published numerous articles on smart grid, distributed resources, electric reliability, asset management, demand-side management, and electric pricing.

### **Summary of Professional Experience**

**Energy Practice.** Responsible for consulting engagements for electric utility, government and energy supply clients. Responsible for evaluation and assessment of key energy delivery and power production and issues including:

- Emerging Technologies – renewable technology and smart grid integration, energy efficiency and technical/economic assessment of distributed resources
- Asset Management – implementation strategy, project prioritization, performance measurement, utilization and cost optimization, electric delivery system planning
- Reliability & Planning – transmission and distribution performance evaluation; target setting, remediation analysis
- Benchmarking – industry best practices, service quality standards and business process improvement



## Representative Client List and Engagements

### Smart Grid, Distributed Generation & Renewable Technologies

- » **NV Energy.** Project manager of DG and large PV integration studies for southern and northern Nevada. Responsible for technical and economic evaluation of power system impacts and integration costs, including intermittency. Testified before Nevada Commission on study results.
- » **PowerStream.** Conducted capital prioritization studies for energy delivery investments, including Smart Grid integration and automated systems. Included quantification of reliability and performance benefits associate with renewal replacement and automation.
- » **Toronto Hydro.** Project manager of comprehensive evaluation of distributed energy resources versus traditional T&D alternatives for a major urban center. Includes the technical assessment of DG systems impacts, technology integration and forecast of cost-effective alternatives.
- » **Pennsylvania Power & Light.** Lead investigator of a DOE Smart Grid Investment Grant (SGIG) project. Assessed SGIG metrics reporting and compliance as required for distributed automation systems, focusing on reliability and efficiency benefits.
- » **Exelon.** Conducted an analysis of Commonwealth Edison's Smart Grid reliability and distribution automation program. Developed predictive models to value reliability and performance benefits.
- » **Smart Grid, Multi-Client.** Project manager of a comprehensive assessment of the integration of smart grid technologies to enhance the value of distributed and central solar photovoltaic systems. The consortium included major electric utilities, suppliers and industry stakeholders.
- » **U.S. Department of Energy (DOE).** Project manager and lead investigator of numerous advanced technology and system integration (RDSI) studies, including smart grid, energy storage, DG valuation and power system integration.
- » **Consolidated Edison.** Project manager of a process and impact evaluation of CECONY's Targeted DSM program. Conducted a technical and economic assessment of DSM/DG measures designed to defer capital investments in load pockets experiencing T&D constraints.
- » **Arizona Public Service** – Lead investigator of long-term electric vehicle options analysis and system integration study. Identified barriers to stationary and mobile EV systems.
- » **Southern California Edison.** Project manager of a technical and economic study to assess the value of Distributed Energy Resources (DER) as an alternative to traditional utility investments.
- » **Massachusetts Technology Collaborative.** Provided independent technical support to a Collaborative on Distributed Generation, with key industry stakeholders and electric utilities.



## Asset Management

- » **Horizon Utilities.** Technical and advisory support for asset management framework initiatives. Includes gap analysis and implementation of asset management strategies and evaluation methods. Addressed infrastructure alternatives of upgrades using AM-based approaches.
- » **First Energy.** Responsible for implementing asset management processes and capital prioritization models for 6 operating companies in three jurisdictions. Project leader for model development and applications, technical review and overall quality assurance.
- » **Seattle City Light.** Responsible for conducting a benchmarking and gap analysis of the power supply and energy delivery business units. It included a business case analysis to support implementation of asset management methods and new AM organization.
- » **Pepco/Conectiv (PHI).** Responsible for an asset management and prioritization assessment of capital improvement and O&M programs for three states and the District of Columbia. It included developing asset prioritization methods for transmission, distribution and IT programs.
- » **Entergy.** Responsible for an asset management and prioritization assessment of Entergy's capital improvement programs for six jurisdictional utilities in 5 states. It included developing asset-specific prioritization methods for transmission and distribution programs.
- » **PacifiCorp.** Responsible for an asset management and prioritization assessment of PacifiCorp's capital improvement programs for six jurisdictional utilities in 6 states. It included developing asset-specific prioritization methods for transmission and distribution and IT programs.

## Reliability, Benchmarking and Electric System Planning

- » **Toronto Hydro Electric System, Limited (THESL).** Performed a long-range planning study for THESL's radial and network downtown distribution system. Evaluated capital expansion versus CDM needed to serve downtown Toronto for 20 years.
- » **Sulphur Springs Valley Electric Cooperative (SSVEC).** Project manager of an independent Feasibility Study of delivery alternatives, including new transmission, distributed generation, energy efficiency, energy storage and renewables. Expert witness support before AZ commission.
- » **Austin Energy.** Performed a benchmarking and gap analysis of performance measures of AE's energy delivery organization.
- » **Ameren Services.** Conducted a review and predictive assessment of distribution reliability. A methodology was developed to apply fact-based methods to allocate reliability expenditures.
- » **American Electric Power.** Conducted a review and predictive assessment of distribution reliability. Applied fact-based methods to prioritize investment decisions and to quantify risk.



- » **National Grid.** Conducted a system review and predictive assessment of distribution reliability. A strategic methodology was developed to predict system outage performance based on system attributes, equipment performance and historical reliability.
- » **Potomac Electric Power Company (PHI).** Conducted an investigation and benchmarking of PEPCO's T&D system, including transmission and distribution infrastructure. Prepared recommendations to enhance performance and reduce outage risk.
- » **Dominion – Virginia Power.** Project manager and lead investigator of a comprehensive technical review and risk assessment of secondary networks. Reviewed and analyzed engineering standards, planning criteria, operations and maintenance, and construction methods.

## Regulatory and Pricing

- » **Canadian Utility (Confidential) –** Confidential study to assess the value and strategic benefits of the acquisition of electric utility energy delivery assets. Included a technical and economic assessment of key regulatory and acquisition risk factors to support a recommendation.
- » **Progress Energy.** Project manager of a best practices and compliance review of fixed asset charging practices. Reviewed methods, systems and practices used to record fixed assets for Florida and the Carolinas to support proposed changes filed with state commissions and the SEC.
- » **Citizens Utilities/Vermont Electric Cooperative.** Supported numerous Certificate of Public Good (CPG) applications before the Vermont Public Service Board (VPSB). Expert witness for technical, environmental, and costing studies.
- » **Vermont Department of Public Service (VDPS).** Conducted research and prepared sections of the Twenty-Year Electric Plan, including the impact of the independent system operator (ISO) and regional transmission organization (RTO) initiatives on Vermont's transmission providers.
- » **Potomac Electric Power Company (PHI).** Project manager of a benchmarking study of storm hardening measures. Assessed the impact of hardening options on reliability and performance. Also assessed service quality (SQI) measures and performance-based rate (PBR) mechanisms.
- » **Citizens Utilities (Vermont Electric Division).** Project manager for a T&D Audit mandated by the Vermont Public Service Board. Reviewed T&D plant accounting systems and processes, and provided recommendations for improvement.
- » **Massachusetts Department of Telecommunications and Energy (MDTE).** Project manager of a stray voltage assessment of jurisdictional utilities. Identified causes of stray voltage and provided recommendations to mitigate future events, including action and improvement plans.



***Previous consulting experience and responsibilities while employed at Stone & Webster, Ernst & Whinney, Gilbert/Commonwealth and Westinghouse include:***

- » **Entergy (Gulf States Utilities).** Lead investigator of a Commission-mandated Service Quality Assessment. Developed and applied state-of-the-art methods to identify cost-effective performance improvements using predictive reliability and cost optimization methods.
- » **Ontario Hydro (Hydro One).** Project Manager of a comprehensive post-event assessment of the January 1998 Ice Storm that impacted northeastern U.S and Canadian utilities. Analyzed and provided recommendations for emergency preparedness and storm hardening.
- » **New Brunswick Power.** Project manager of a technical audit and benchmarking of NB Power's T&D business unit. Conducted benchmark survey; analyzed the T&D organization, cost of services, efficiency, O&M practices, design and planning criteria, IT and system operations.
- » **Commonwealth Edison.** Project manager of a T&D technical audit in response to a complaint initiated by the Illinois Attorneys' General office. Reviewed T&D operations, resource allocation and methods, reliability and performance, T&D planning and design standards.
- » **BC Hydro.** Project manager of a benchmarking study and assessment of BC Hydro's T&D business unit. Examined candidate organization structures and business unit service offerings.
- » **Pennsylvania Public Utility Commission.** Principal investigator of a comprehensive audit of a major utility (Pennsylvania Power & Light). Investigated power supply planning, construction, fossil operations, customer services, marketing and energy services, and economic development.
- » **Consolidated Edison.** Project manager of a locational generation capacity requirements study. Conducted reliability studies using multi-area simulation models. Represented the company as an expert witness on its Competitive Opportunities, Transition Planning and Support filing.
- » **Privatization and Independent Reviews – South America.** Conducted independent technical and economic reviews for 4 privatized electric utilities (Luz del Sur, Edenor, ESPA, Edelnor). Developed tariff and pricing framework and service quality standards mandated by national law.
- » **Transmission Open Access.** Project manager or principal investigator for open access tariff development. Included rates and ancillary services, tariff development, and expert witness support for Tampa Electric, NISource, GMP, Dairyland Power, and Velco.
- » **Holyoke Gas & Electric.** Project manager of a cost of service study designed to produce unbundled rates for production, transmission, and distribution services. The study included a technical analysis of production expansion/reinforcement options.



- » **Northern Indiana Public Service Company.** Provided ongoing assistance in a wide range of cost of service and related technical support. Responsibilities include development and training of retail and wholesale COS models, unbundled costs, ancillary services, and regulatory support.
- » **Barbados Power and Light.** Project manager of a short and long-term Transmission and Distribution Planning Study. Prepared load forecast and system expansion plans.
- » **Plains Electric & Generation Cooperative.** Project manager of a Power Cost Study. Evaluated generation additions, joint participation units, and purchase power options.
- » **Northern States Power.** Conducted a technical and economic feasibility study of a cogeneration project. Responsible for developing risk-adjusted pricing strategies.

*Responsibilities while employed at Green Mountain Power include:*

- » **Engineering and Construction.** Directed the ongoing review and evaluation of major engineering and construction requirements. Implemented comprehensive improvements to the power delivery system, and improved system reliability and performance by 35 percent.
- » **Capital Improvements.** Responsible for implementing multi-year programs to improve system reliability, performance, and efficiency. It included transmission and distribution lines, new and rebuilt substations, new control and monitoring systems, and protection systems.
- » **Preventative Maintenance.** Instituted programs to improve the performance of transmission, distribution, and generating equipment, maintenance practices and procedures. Managed an extensive maintenance program that included generation, substations and protective relaying.
- » **Integrated Resource Planning.** Integrated Resource Planning (IRP). Responsible for developing long-term resource plans, including demand side management. Testimony before state agencies resulted in a finding that the plan was consistent with state least cost planning criteria.
- » **Demand Side Management.** DSM Program Management - Directed the planning and implementation of residential, commercial and industrial DSM programs. Responsibilities included program administration, design, marketing, evaluation, and regulatory support.
- » **Storm Procedures.** As the Company Storm Officer, directed the development and implementation of Storm Procedures. Revised plans, conducted comprehensive drills with state agencies, and expanded internal and external resources available to restore service.
- » **Hydroelectric Relicensing and Compliance.** Directed programs to improve the performance and condition of hydroelectric plants. It included audits to identify cost-effective efficiency improvements. Implemented safety programs for federally licensed projects. Served as chief negotiator on minimum flow issues, water quality, aesthetics, archeology and impoundment.



## Testimony and Appearances as an Expert Witness

<u>Case Description</u>	<u>Company</u>	<u>Year</u>	<u>Docket</u>	<u>Jurisdiction</u>
<b>Certificates of Public Good</b>				
Transmission Line Construction Authorization	SSVEC	2010	E-01575A	Arizona
Northern Loop Transmission Upgrades	Velco/CUC	2004	6792	Vermont
Substation Reconstruction – Richford	CUC	2003	6682	Vermont
Island Pond to Bloomfield Line	CUC	2001	6044	Vermont
HK Webster Substation	CUC	1999	6045	Vermont
Burton Hill Substation	CUC	1999	6046	Vermont
Border to Richford 120/46kV Line	CUC	1998	5331A	Vermont
New Transmission Lines and Substation	IBM	1991	5549	Vermont
New Substation – Northern Vermont	GMP	1990	5459	Vermont
Gas Turbine Interconnection Facilities	IBM	1989	5347	Vermont
Dover Substation Expansion	GMP	1987	5226	Vermont
<b>Rate Cases &amp; Integrated Resource Planning (Retail and Wholesale)</b>				
Distributed Generation Integration	NV Energy	2011	10-04008	Nevada
Distributed Utility Planning	CUC	2003	6290	Vermont
Power Purchase Contracts – IURC Complaint	Jay REMC	1998	9704-CP-069	Indiana
Section 205 Filing – Wholesale Rates	NISource	1997	ER96-35-000	FERC
Open Access Transmission Tariff Filing	NISource	1996	ER96-399-000	FERC
Request for Increase in Wholesale Rates	NISource	1996	ER92-330-000	FERC
Request for Increase in Retail Rates	GMP	1991	5532	Vermont
Least-Cost Planning Integrated Resource Plan	GMP	1991	5270	Vermont
Request for Increase in Retail Rates	GMP	1990	5428	Vermont
Request for Increase in Retail Rates	GMP	1989	5370	Vermont
Request for Increase in Retail Rates	GMP	1988	5282	Vermont
Request for Increase in Retail Rates	GMP	1986	5125	Vermont
<b>Industry Restructuring &amp; Asset Transactions</b>				
Purchase of Electric Assets	VEC	2004	6853	Vermont
Certificate of Consent, Sale of Distribution Assets	CUC	2004	6850	Vermont
Certificate of Consent, Sale of Transmission Assets	Velco/CUC	2004	6825	Vermont
Prudency Review and Audit Support	CUC	2003	5841/5859	Vermont
Competitive Opportunities Filing	ConEdison	1997	96-E-0897	New York



## Articles and Publications

- *"Grid Integration of Renewable, Intermittent Resources"* 2011 PowerGen International Conference, December 2011, Las Vegas, NV, with Vladimir Chadliev (paper approved).
- *"Reducing T&D Investments Through Energy Efficiency"* IEPEC, August 2011, with Kathryn Parlin & Walter Poor, (paper approved).
- *"Value of Distributed Generation and Smart Grid Applications,"* DistribuTECH, San Diego, February, 2011.
- *"Prioritization Methods for Smart Grid Investments,"* EEI Perspectives, April-May, 2010.
- *"Evaluation of Targeted Demand-Side Management at ConEd (CECONY),"* ACEEE Energy Efficiency Conference, September, 2009, with Craig McDonald.
- *"DER Operational & Grid Benefits"* Electric Light & Power, February, 2009.
- *"Benefits of Smart Grid Integration with Distributed Energy Storage Systems,"* Infocast Power Storage Conference, July, 2008.
- *"The Rise of Distributed Energy Resources,"* Public Utilities Fortnightly, Feb, 2007, with S. Tobias.
- *"Risk Planning & Project Prioritization: Bringing Energy Delivery to the Next Level in Asset Management,"* InfoCast T&D Asset Management Conference, St. Louis, MI, May 2004.
- *"Valuation Methods: Estimating the Value of Avoiding the Risks Associated with T&D Reliability Failures,"* EEI Spring 2004 T&D Conference, Charlotte, NC, April 2004.
- *"Reliability Tradeoffs,"* EEI Perspectives, January-February, 2004, with Daniel O'Neill.
- *"What's the Outlook for Distributed Generation Interconnection Standards?"* 2003 PowerGen International Conference, Las Vegas, Nevada, December 2003.
- *"Federal Interconnection Standards: Putting DG in a Box,"* Public Utilities Fortnightly, April 2003, with Stan Blazewicz.
- *"An Innovative Approach to Fact-Based Distribution Reliability Cost Optimization,"* Distribution 2000, Brisbane, Australia, November 1999, with Cheryl Warren.
- *"System Reliability: Competitive Issues,"* Rethinking Electric Reliability Conference, Chicago Illinois, September 1997.
- *"Reliability: Competition & Keeping the Lights On,"* EUCL, Denver, Colorado, October 1998.
- *"System Reliability in a Restructured Environment,"* Electric System Reliability in a Competitive Environment Workshop, Denver, Colorado, October 1997.
- *"Privatization Efforts in South America"* EUCL Workshop, Denver, Colorado, January 1997.
- *"Open Access Pricing Issues,"* Transmission Pricing Conference, Vail, Colorado, Sept. 1996.



**CURRICULUM VITAE OF**

**Tom Odell, P.Eng.**

**EDUCATION:**

- Electric Vehicle Technology Certificate, Durham College, 1995
- B.Sc. (Honours, First Class) Electrical Engineering, Queen's University at Kingston, 1984

**BUSINESS EXPERIENCE:**

- Toronto Hydro-Electric System Limited (2010-present)
  - Manager, Capital Projects and Electric Vehicles , Asset Management Division
- General Motors of Canada (1984-2010)
  - Product Manager, Chevrolet Volt, Canadian Programs, 2009-2010
  - Technology Planning Manager, Strategy and Portfolio, Canadian Programs, 2001-2010
  - Technology Planner, Technology Planning, Research and Development, Canadian Programs, 1997-2001
  - Senior Electrical Engineer, Worldwide Facilities Group, General Motors of Canada 1989-1997
  - Maintenance Supervisor, Central Maintenance, General Motors of Canada 1987-1989

**COMMITTEES AND PROFESSIONAL REGISTRATIONS:**

- Licensed Professional Engineer for the Province of Ontario
- Member Society of Automotive Engineers



- 1       • EV 2011 Canadian Electric Vehicle Conference Organizing Committee,  
2       Technical Program Subcommittee
- 3       • NRCAN Electric Vehicle Technology Roadmap Steering Committee  
4       (Implementation Committee, Codes and Standards Subcommittee, Energy  
5       Subcommittee).
- 6       • British Columbia Electric Vehicle Charging Infrastructure Guideline Working  
7       Group
- 8       • CSA Committee on Canadian Electrical Code Part 1, Chair Section 86, Electric  
9       Vehicle Charging Installations, past Chair Section 50, Photovoltaic Installations
- 10      • Advisory Committee NSERC-GMCL Chair in Collaborative Design, University  
11      of Waterloo 2006-2008
- 12      • Advisory Committee NSERC-GMCL Chair in Innovative Design Engineering,  
13      University of Ontario Institute of Technology 2006-2008
- 14      • Durham College Electronics Technology and Computing Program Advisory  
15      Committee
- 16      • Electric Vehicle Infrastructure Council, Chair of Chargers and Connectors Group
- 17      • Professional Engineers Ontario, Member and Lake Ontario Chapter Executive  
18      1990 – 1994 (Chair 1992-1993)

19

20   **PAPERS AND PRESENTATIONS:**

- 21      • Electric Vehicles and the Meter – EDA Upper Canada District – Metering  
22      Technologies Committee – May 21, 2009
- 23      • Energy and Climate Change – Electric Vehicles – Canadian Energy Forum 2009  
24      University of Ontario Institute of Technology – May 6, 2009
- 25      • Smart Infrastructure: Tomorrow's Vehicles and the Grid - ENERCOM 2009 –  
26      March 11, 2009 Toronto, Ontario
- 27      • Plug-In Electric Vehicles – Standards – Ontario Smart Grids Forum – October 14,  
28      2008



- 1       • Capstone Design Lecture – University of Ontario Institute of Technology –  
2       November 28, 2007
- 3       • Green By Design – Keynote Address Transportation Industry Breakfast -  
4       Southern Alberta Institute of Technology – March 13, 2007
- 5       • Engineering the Automobile of the Future – Canadian Federation of Engineering  
6       Students Complementary Education Course – University of Waterloo, July 12,  
7       2006
- 8       • Advances in Vehicle Technology, Design and Manufacturing – Keynote Address  
9       Ontario Council for Technology Education – May 12, 2006
- 10      • In-Vehicle Technology – Intelligent Transportation Systems Canada ITS/OTC  
11      Joint Workshop, April 26, 2006
- 12      • Vehicle Technology – Retail Impact – Toronto and District GM Dealer  
13      Association – October 19, 2005
- 14      • Engineering the Automobile of the Future – Engineering Week 2005 University  
15      of Ontario Institute of Technology March 4, 2005
- 16      • Trend in Vehicle Technology – Canadian Society for Civil Engineering – Annual  
17      Student Conference January 9, 2004
- 18      • Future Vehicle Technology at General Motors – Federal Fleet Workshop –  
19      October 27, 2004
- 20      • Next Generation Automotive Technology – McMaster/Mohawk Renewable  
21      Energy Conference – November 10, 2003
- 22      • Trends in Vehicle Technology – Automotive Insurers and Manufacturers Forum  
23      Metro Toronto Convention Centre May 14, 2003
- 24      • Automotive Technology – Ontario Drive Clean Office – October 15, 2001



**CURRICULUM VITAE OF**

**Jack Simpson, P.Eng.**

**EDUCATION:**

- University of Toronto, Master of Engineering (M.Eng.), May 1997
- Ryerson Polytechnic University, Bachelor of Engineering (B.Eng.), May 1995
- University of Waterloo, Bachelor of Science in Applied Physics (B.Sc.), May 1989

**PROFESSIONAL REGISTRATIONS:**

- Registered Professional Engineer Ontario (PEO)
- Member, American Society of Mechanical Engineers (ASME)
- Certified Energy Manager (CEM)

**BUSINESS EXPERIENCE:**

- Toronto Hydro-Electric System Limited
  - Director, Generation & Capacity Planning (2011 to present)
- Toronto Hydro Energy Services, Inc.
  - Director, Generation (2006-2010)
  - Manager, Engineering (2000-2005)
- SNC Lavalin
  - Manager, Engineering (1999-2000)
- Ameresco
  - Project Engineer (1995-1998)
- Ontario Hydro
  - Project Analyst (1989-1994)



1    **REGULATORY APPEARANCES:**

- 2       • Ontario Energy Board  
3           ○ DSM, Conservation Cost/Benefit, 1993  
4

5    **INDUSTRY ASSOCIATIONS AND COMMITTEES:**

- 6       • Canadian Standards Association (CSA), IEC 16400-3 Committee  
7       • Association of Energy Engineers (AEE), Ontario Chapter  
8       • American Society of Mechanical Engineers (ASME)  
9       • Association of Power Producers of Ontario (APPrO)  
10      • MARs/MoEnergy, Energy Storage Committee  
11      • City of Toronto, District Energy Group & Extreme Weather Resiliency Group



**CURRICULUM VITAE OF**

**Wendy Cheah**

**EDUCATION:**

- Honours Bachelor of Commerce, McMaster University, 1999

**BUSINESS EXPERIENCE:**

- Toronto Hydro-Electric System Limited (2009-Present)
  - Finance Manager, Distribution Operations
- De Beers Canada Inc. (2006-2009)
  - Finance Manager
- University Health Network (2002-2006)
  - Finance Manager (2004-2006)
  - Senior Financial Analyst (2002-2004)
- KPMG LLP (1999-2002)
  - Assurance Senior

**INDUSTRY ASSOCIATIONS AND COMMITTEES:**

- Chartered Accountant, Institute of Chartered Accountants of Ontario 2002-Present



**CURRICULUM VITAE OF**

**Colin J. McLorg**

**EDUCATION:**

- 1986, Master of Arts, Economics, University of Waterloo
- 1983, Bachelor of Arts, Honours Economics (Philosophy Minor), University of Waterloo

**BUSINESS EXPERIENCE:**

- Toronto Hydro-Electric System Limited
  - August 2006-Present, Manager, Regulatory Policy & Relations (Regulatory Affairs)
- Ontario Energy Board
  - July 2005-July 2006, Manager, Electricity Rate Applications (Applications)
- Toronto Hydro Corporation
  - January 2000-July 2005, Regulatory Specialist; Senior Advisor (Regulatory Affairs)
- Enbridge Consumers Gas
  - July 1997-January 2000, Senior Analyst; Manager, Business Intelligence (Strategic Planning)
  - July 1995-July 1997, Manager, Rate Design (Regulatory Affairs)
  - 1992-1995, Senior Integrated Resource Planning Analyst (Regulatory Studies)
  - 1989-1992, Conservation Analyst, Senior Conservation Analyst (Economic Studies)



- 1       • ICG Utilities (Ontario) Ltd.
  - 2             ○ 1987–1989, Intermediate Regulatory Analyst; Senior Economic Analyst;
  - 3             Supervisor Economic Forecasting (Budgets and Forecasts)
- 4       • University of Waterloo
  - 5             ○ 1986–1987, Course instructor and research assistant

6

7       **RECENT REGULATORY APPEARANCES:**

- 8       • Ontario Energy Board
  - 9             ○ EB-2011-0144, THESL's 2012 Electricity Distribution Rate Application,
  - 10            November 2011
  - 11            ○ EB-2010-0142, THESL's 2011 Electricity Distribution Rate Application,
  - 12            January, March, October, and December 2011
  - 13            ○ EB-2009-0139, THESL's 2010 Electricity Distribution Rate Application,
  - 14            February 2010
  - 15            ○ EB-2009-0308, THESL Suite Metering Compliance, January 2010
  - 16            ○ EB-2009-0243, THESL's Application for Recovery of Contact Voltage
  - 17            Remediation Costs, October 2009
  - 18            ○ EB-2009-0069, THESL's 2009 Electricity Distribution Rate Application,
  - 19            March 2009
  - 20            ○ EB-2008-0381, 1562 PILs, January 2009
  - 21            ○ EB-2008-0150, Issues related to Low Income energy consumers,
  - 22            September 2008
  - 23            ○ EB-2007-0680, THESL's 2008 Electricity Distribution Rate Application,
  - 24            December 2007-January 2008
  - 25            ○ EB-2007-0096, THESL's CDM Recovery Application, June 2007
  - 26            ○ EB-2007-0063, Smart Meter Combined Proceeding, June 2007



1     **INDUSTRY ASSOCIATIONS AND COMMITTEES:**

- 2             •     Advisory Committee Member, EDA Regulatory Council 2012-2013



**CURRICULUM VITAE OF**

**Darryl James Seal**

**EDUCATION:**

- Master of Arts, Economics, University of Waterloo, 1989
- Bachelor of Arts (Honours), Economics, Queen's University, Kingston, 1987

**BUSINESS EXPERIENCE:**

- Toronto Hydro-Electric System Limited (2006-Present)
  - Manager, Rates
- Institutional Energy Analysis Inc. (2005-2006, 2003-2004)
  - Principal Consultant
- SPI Group Inc. (2004-2005)
  - Project Manager
- Algorithmics Inc. (2001-2002)
  - Product Manager
- Ontario Independent Electricity System Operator (IESO) (1999-2001)
  - Consulting Economist
- Enbridge Consumers Gas (1989-1999)
  - Manager, Economic Studies Department (1996-1999)
  - Supervisor, Economics (1994-1996)
  - Senior Economic Analyst (1992-1994)
  - Economic Analyst (1989-1992)
- Ontario Ministry of Treasury and Economics (1988)
  - Junior Economist
- University of Waterloo (1988-1989)
  - Teaching Assistant



**REGULATORY APPEARANCES:**

- Ontario Energy Board
  - EB-2010-0142, THESL's 2011 Electricity Distribution Rate Application
  - EB-2009-0139, THESL's 2010 Electricity Distribution Rate Application,
  - EB-2009-0243, THESL's Application for Recovery of Contact Voltage Remediation Costs
  - EB-2009-0069, THESL's 2009 Electricity Distribution Rates Application
  - EB-2007-0680, THESL's 2008 Electricity Distribution Rates Application
  - EB-2005-0421
  - EB-2005-0529
  - RP-2004-0213
  - E.B.R.O 497-01
- Québec Régie de l'énergie
  - D-2006-158
- New York Public Service Commission
  - 97-G-0409

**INDUSTRY ASSOCIATIONS AND COMMITTEES:**

- Member, Toronto Association for Business Economics, 1989-Present
- Chair, Board of Directors, Consumers' Gas Employees Credit Union, 1996-1999
- Chair, Canadian Gas Association Economics and Statistics Committee, 1997-1998



**CURRICULUM VITAE OF**  
**Todd S. Williams, P.Eng., MBA**

**EDUCATION:**

- Queen's University, Kingston, Ontario (1983), Bachelor of Science (Honours),  
Engineering Physics
- Ivey School of Business, University of Western Ontario, London, Ontario (1990),  
Master of Business Administration

**PROFESSIONAL REGISTRATIONS:**

- Professional Engineers of Ontario (PEO)

**BUSINESS EXPERIENCE:**

- Navigant Consulting Ltd.
  - Director (1999 – Present)
- SRC International Pty Ltd (Melbourne, Australia)
  - Manager (1994 – 1998)
- Synergic Resources Corporation (Philadelphia)
  - Product Manager (1993 – 1994)
- Ontario Hydro
  - Project Manager, Customer/Sales Management System (1992 – 1993)
  - Superintendent, Residential Program Support (1991 – 1992)
  - Senior Supervisor, Program Management Services (1984 – 1990)
  - Nuclear Design Engineer (1983 – 1984)



1    **REGULATORY APPEARANCES:**

2    Witness at the following Ontario Energy Board proceedings:

- 3       •   EB-2005-0523 a proceeding initiated to make certain determinations respecting  
4           conservation and demand management activities by Local Distribution  
5           Companies as described in the Electricity Distribution Rates Handbook and Total  
6           Resource Cost Guide pursuant to sections 19(4) and 78 of the Ontario Energy  
7           Board Act, 1998, December 2005  
8       •   RP-2002-0133 Enbridge Gas Distribution Inc. 2003 Rates Application, April  
9           2003



**CURRICULUM VITAE OF**

**Barry Parker, CA**

**EDUCATION:**

- CICA In Depth Tax Course Part III, 2002
- Chartered Accountant Designation, 1998
- Bachelor of Administrative Studies, Honours, York University, 1996

**PROFESSIONAL REGISTRATIONS:**

- Institute of Chartered Accountants of Ontario

**BUSINESS EXPERIENCE**

- Toronto Hydro-Electric System Limited
  - Consultant, Corporate Taxation (August 2009 to Present)
  - Manager, Corporate Taxation (June 2005 to August 2009)
- KPMG LLP
  - Senior Tax Manager, Real Estate Advisory Services (2003 to 2005)
  - Tax Manager and Tax Specialist (1999 to 2003)
- Canada Customs and Revenue Agency
  - Tax Auditor (1998 to 1999)
- Stern Cohen, Chartered Accountants
  - Staff Accountant (1996 to 1998)