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May 16, 2012

VIA RESS, EMAIL and COURIER

Ms Kirsten Walli
Board Secretary
Ontario Energy Board
2300 Yonge Street, Suite 2700
Toronto, Ontario, M4P 1E4

Dear Ms Walli:

**Re: Enbridge Gas Distribution Inc. ("Enbridge") – Application Updates
Renewable Natural Gas Program Application ("Application")
Ontario Energy Board ("Board") File Number EB-2011-0242 / EB-2011-0283**

Please find enclosed Enbridge's update for the Renewable Natural Gas proceedings. The Table of Contents has been updated to include the most recent additions to the proceeding. Also enclosed are the Curricula Vitae which were sent electronically on April 25, 2012, and are now filed as Exhibit A, Tab 3, Schedules 1 to 5.

This submission has been filed through the Board's Regulatory Electronic Submission System ("RESS"), and two hard copies are being sent to the Board as directed. Enbridge's filing for this proceeding can be found on the Enbridge website at: www.enbridgegas.com/ratecase.

If you have any questions, please contact the undersigned.

Sincerely,

[Original signed by]

Lesley Austin
Regulatory Coordinator, Regulatory Affairs

cc: Mr. F. Cass, Aird & Berlis LLP (via email and courier)
All Interested Parties EB-2011-0242 (via email)

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A – GENERAL

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		2	Union Gas Limited Curricula Vitae
		3	Ipsos Reid Curriculum Vitae
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B – COMMON EVIDENCE

<u>Exhibit</u>	<u>Tab</u>	<u>Appendix</u>	<u>Description</u>
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		1	Alberta Innovates Report
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I – INTERROGATORIES

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J – UNDERTAKING RESPONSES

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K – MISCELLANEOUS EXHIBITS

<u>Exhibit</u>	<u>Tab</u>	<u>Schedule</u>	<u>Contents</u>
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		2	Written Submissions of Canadian Manufacturers & Exporters (“CME”) on the Process Issue
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K – MISCELLANEOUS EXHIBITS

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		2	Pollution Probe Cross-Examination Reference Book
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		2	London Property Management Association Cross-Examination Compendium
	3	1	Curriculum Vitae – Salim A. Abboud
		2	Curriculum Vitae – Eric Camirand
		3	<i>Electricity Sector – Renewable Energy Initiatives</i> , Ministry of Energy , Chapter 3, Section 3.03.
		4	<i>A Sensible Strategy for Renewable Electrical Energy in North America</i> , Studies in Energy Policy, April 2012.
	4	1	Materials Relied Upon by Enbridge Gas Distribution Inc. for Argument in Chief (in addition to Exhibit KP1.1).

CURRICULUM VITAE OF
JACKIE E. COLLIER

Experience: Enbridge Gas Distribution Inc.

Manager, Rate Design
2003

Manager, Rate Research
2000

Senior Rate Research Analyst
1996

Centra Gas Ontario Inc.

Manager, Rate Design
1995

Supervisor, Cost of Service Studies
1990

Education: Bachelor of Business Management
Ryerson Polytechnical Institute, 1988

Appearances: (Ontario Energy Board)

EB-2011-0277

EB-2010-0146

EB-2009-0172

EB-2009-0055

EB-2008-0219

EB-2008-0106

EB-2006-0034

EB-2005-0001

RP-2003-0203

RP-2003-0048

RP-2002-0133

RP-2001-0032

RP-2000-0040

EBRO 489

EBRO 474-B, 483,484

EBRO 474-A

EBRO 474

EBRO 471

(Régie de l'énergie/Régie du gaz naturel)

R-3758-2011

R-3724-2010

R-3692-2009

R-3665-2008

R-3637-2007

R-3621-2006

R-2587-2005

R-3537-2004

R-3464-2001

R-3446-2000

CURRICULUM VITAE OF
JAMES GRANT

Experience: Enbridge Gas Distribution Inc.

Senior Market Research Consultant
2006

Benchmarks Research

President
2001

Fidelity Investments

Research Director
1999

Standard Life Assurance Company

Manager, Marketing Research
1988

Bank of Montreal

Marketing Research Coordinator
1983

Ogilvy & Mather Co. Ltd.

Research Associate
1979

Royal Insurance

Marketing Research Supervisor
1973

Education: Bachelor of Commerce
Concordia University, 1971

Memberships: Marketing Intelligence and Research Association,
Certified Marketing Research Professional

CURRICULUM VITAE OF
TREVOR MACLEAN

Experience: Enbridge Gas Distribution Inc.

Director, Business & Market Development
2008

Enbridge Gas New Brunswick

Manager, Distribution Operations
2006

Manager, Sales & Marketing
2004

RLG International

Consultant
2000

825929 Alberta Ltd

Consultant
1997

ISM (IBM Global Services)

Director, Systems Integration
1995

Manager Operations, Systems Integration
1994

National Defence/Canadian Forces

Military Officer
1986

Education: Master of Business Administration
Queen's University, 1995

Bachelor of Arts (Special)
University of Alberta, 1986

CURRICULUM VITAE OF
OWEN SCHNEIDER

Experience: Enbridge Gas Distribution Inc.

Manager, New Ventures, 2009

Enbridge Inc.

Manager, Power Generation and Business Development, 2006

Senior Advisor, Business Development, 2004

Advisor, Business and Financial Analysis, 2001

Senior Analyst, Business and Financial Analysis, 2000

Enbridge Consumers Gas

Financial Analyst, Financial and Economic Studies, 1997

Chemque, Inc.

Project Coordinator, 1995

Stalko Metals Corporation

Project Coordinator, 1993

Education: Masters of Business Administration
Dalhousie University, 1993

Bachelor of Arts
University of Toronto, 1991

Appearances: (Ontario Energy Board)
RP-2001-0014

CURRICULUM VITAE OF
DONALD R. SMALL

Experience: Enbridge Gas Distribution Inc.

Manager, Gas Costs and Budget
2010

Manager, Gas Cost Knowledge Centre
2003

Manager, Gas Costs and Budget
1989

Co-ordinator, Gas Costs
1984

Financial Statement Accountant
1980

Chief Clerk, Financial Statements
1979

Advanced Accounting Trainee
1978

Education: Business Administration Diploma
Ryerson Polytechnical Institute, 1978

Appearances: (Ontario Energy Board)

EB-2011-0277
EB-2010-0146
EB-2009-0172
EB-2009-0055
EB-2008-0219
EB-2008-0106
EB-2006-0034
EB-2005-0001
RP-2003-0203
RP-2003-0048
RP-2002-0133
RP-2001-0032
RP-2000-0040
RP-1999-0001
EBRO 497
EBRO 495
EBRO 492
EBRO 490
EBRO 487
EBRO 485
EBRO 479
EBRO 473
EBRO 465

Statement of Qualifications
Mary Evers

Experience:

Union Gas Limited

Manager, Gas Supply
2011

Team Lead, Gas Management Services
2009

Manager, Billing and Operational Support
2000

Team Lead, Fulfilment Support Services
1999

Coordinator, Rate Case Administration, Regulatory
1997

Regulatory Accounting Analyst
1995

Education:

Various Management and Accounting Courses,
University of Windsor

Appearances:

None

Statement of Qualifications
Barbara Gardiner

Experience: Union Gas Limited

Manager, Market Research & Analysis
1999

Administrator, Regulatory Planning & Research
1998

Coordinator, Regulatory Planning & Research
1997

**Education: Bachelor of Arts (Honours Economics), University of Western
Ontario
1979**

Masters of Arts (Economics), University of Toronto
1983

Memberships: Marketing Research and Intelligence Association

**Appearances: (Ontario Energy Board)
(as Barbara Marshall)
E.B.R.O. 491
E.B.R.O. 488**

**Statement of Qualifications
Bryan Goulden**

Experience:

Union Gas Limited

Manager, Market Development
2010

Manager, Utilization Technology and Deployment
2007

Manager, Regulatory Applications
2002

Manager, Integrated Supply Planning
1999

Manager, Delivery Services Development
1997

Manager, Technology Marketing
1995

Manager, NGV Operations
1993

Manager, Industrial Sales Support
1987

Contract Gas Sales Engineer
1984

Coordinating Contract Administration
1983

Gas Supply Analyst
1982

Education:

Bachelor of Applied Science (Mechanical Engineering), University
of Waterloo
1982

Masters of Business Administration, University of Windsor
1992

Memberships: Professional Engineers Ontario

Appearances: **(Ontario Energy Board)**

E.B.R.O. 470

E.B.R.O. 476-01

E.B.R.O. 476-03

E.B.O. 169-II

**Statement of Qualifications
Ed Seaward**

Experience: **Union Gas Limited**

Manager, Market Opportunity Development
2009

Manager, Strategic Accounts
2005

Manager, Channel Marketing
1999

Manager, Dealer Services
1995

Supervisor, Delivery Services
1990

Commercial & Industrial Account Manager
1987

Residential Inside Sales Representative
1986

Education: Honours Bachelor of Arts (Political Science)
University of Western Ontario
1981

Memberships: No professional memberships

Appearances: **(Ontario Energy Board)**

No appearances

**Statement of Qualifications
Greg Tetreault**

Experience: Union Gas Limited

Manager, Rates and Pricing
2008

Manager, Gas Management Services
2005

Team Lead, Gas Management Services
2001

Nominations Specialist, Gas Management Services
1999

Business Analyst, Industrial Marketing and Sales
1998

Education: Honours Bachelor of Commerce, Finance, University of Windsor
1998

Bachelor of Arts, Geography, University of Windsor
1995

Memberships: None

Appearances: (Ontario Energy Board)
EB-2011-0038
EB-2010-0039
EB-2008-0411
EB-2008-0106

CURRICULUM VITAE OF
SANDRA GUIRY

Experience: Ipsos Reid Corporation, Public Affairs Division

Vice President and Manager (Toronto)
2011-Present

Vice-President
2007-2011

Associate Vice-President
2004-2007

Senior Research Manager/Research Manager/Associate
2000-2004

Education: Master of Arts, Political Science, Specialization in Empirical
Theory and Methodology, York University, Toronto, Ontario, 1999

Bachelor of Arts (High Honours), Political Science
Carleton University, Ottawa, Ontario, 1997

Memberships: Marketing Research and Intelligence Association (MRIA)

Presentations: Presenter, Tenant Satisfaction Survey, Board of Directors Meeting,
Toronto Community Housing Corporation, 2012

Invited Speaker, 2nd Corporate Reputation Conference, Federated
Press Series "Measuring Corporate Reputation" September 2011
Toronto, Ontario

Presenter, Global Perception Audit, Executive Committee, Xstrata
Nickel, 2011

Speaker, Institute of Co-operative Leadership "Leveraging Innovation,
Identity and Integrity", Canadian Co-operative Association, 2011,
Toronto Ontario

Speaker, Corporate Reputation Management, Mearie Group Risk
Management Conference, 2010, Muskoka, Ontario

Presenter, Global Perception Audit, Executive Committee, Xstrata
Nickel, 2010

Presenter, Licensure Uptake Survey, Council Meeting, Professional Engineers Ontario, 2008

Panelist, Conference Board of Canada's Roundtable: "Measuring Customer Trust", September, 2007

Presenter, "Managing Your Corporate Reputation" Ipsos Knowledge Summit, May 10, 2007

Presenter, GTTA Foundational Research Survey, Board of Directors Meeting, Metrolinx, November 2007

Presenter, Library Survey, Board of Directors Meeting, Burlington Public Library, March 2007

Presenter, Quality of Services Survey, Council Meeting, City of Burlington, 2007

Presenter, Community Survey, Town Hall (Council Meeting), Town of Caledon, 2007

Presenter/Speaker, Canadian Society of Association Executives: "W5: The Who, What, Where, When and Why of Market Research", May 10, 2005

Projects:

Sandra advises clients on the design, execution and analysis of survey-based market research. She is active in all types of market research methodologies and specializes in public opinion, reputation, issues management, and stakeholder satisfaction research.

Sandra's clients include large and small organizations in the private and public sectors seeking public opinion survey research to support decision-making including municipalities, various Ministries and agencies of the provincial government and not-for-profit organizations.

Sandra is considered an internal expert on corporate reputation research and issues management and is the Canadian lead for the Ipsos Global Reputation Centre. In her role, Sandra consults with clients around the world on corporate reputation and risk management. Sandra has worked on corporate reputation and crisis management campaigns for top international companies including Coca-Cola, Xstrata Nickel, Ford Motor Company of Canada, Wal-Mart, Scotiabank and Vale Inco. Sandra has put this experience to work as a leading voice in developing the Ipsos present value approach to reputation. She has published several articles and white papers on the topic of corporate reputation and has been a speaker at various conferences on the topic of reputation.

Sandra is also considered an internal expert on advanced statistical analyses such as multivariate regression, factor analysis, segmentation, disaggregate discrete choice, and various forms of perceptual mapping.

In addition to her client responsibilities, Sandra manages a team of eight junior, intermediate and senior researchers and is responsible over \$8 million in annual revenue. Since 2006 Sandra has been coach and mentor in Ipsos Reid's Gold program for junior researchers.

CURRICULUM VITAE

SALIM A. ABOUD

Education

- | | |
|-------|---|
| B.Sc. | Honors Biophysics and Chemistry, 1974
University of Western Ontario
London, Ontario |
| M.Sc. | Biological Sciences, 1978
Concordia University
Montreal, Quebec |
| Ph.D. | Soil Chemistry, 1987
University of Guelph
Guelph, Ontario |

Employment History

- | | |
|--------------|---|
| 1974-1976 | Concordia University
Montreal, Quebec
- Research and Teaching Assistant |
| 1976-1980 | Montreal Children`s Hospital
Montreal, Quebec
- Research Assistant and Computer Consultant |
| 1980-1983 | University of Guelph
Guelph, Ontario
- Research and Teaching Assistant |
| 1984-Current | Alberta Research Council now Alberta Innovate – Technology Futures
Edmonton, Alberta
- Soil Chemist, Geochemist
- Group Leader, Solid Waste Management
- Manager, Soils Analytical Laboratory |
| 1987- 2004 | University of Alberta
Edmonton, Alberta
- Adjunct Professor of Soil Chemistry |

Areas of Experience

- 30+ years of experience in management of various organic and inorganic wastes from municipal, industrial and agricultural sectors.
- Teaching of several University and extension courses (Canadian and International) in solid waste management and environmental chemistry.
- Production of Renewable Natural Gas from Wastes
- Design and operation of pilot methane oxidation technology plants for landfill GHG emission mitigation.
- Composter design for pilot scale facility.
- Compost chemistry, quality and analytical procedures
- Chemical and physical characterization of composts and their feed-stocks.
- Development of a method to measure compost respiration and maturity.
- Pilot scale composting of municipal solid waste and sewage sludge.
- Design and commissioning of pilot scale trickling biofilter for odour treatment.
- Biofiltration of emissions from compost and wastewater treatment facilities.
- Characterization and remediation of contaminated soils and geological materials in temperate and tropical regions.
- Characterization, land treatment and land-spreading of industrial sludges from the pulp and paper, oil and gas extraction, petrochemical, chemical and refining sectors.

- Development of analytical procedures for heavy metals in soils, plants and wastes.
- Disposal of produced waters generated by heavy oil extraction plants.
- Interaction and fate of inorganic and organic pollutants (e.g. heavy metals, soil sterilents and phenolic compounds) with soils and subsurface rocks.
- The extraction, characterization and metal reactions of humic and fulvic materials from soil, aquatic and waste materials.
- The effects of acid and acid forming emissions on soil properties, and the computer modelling of these soil effects.
- The fate of oil condensates in soils after well blowouts and the reclamation of these contaminated soils.
- Sewage sludge disposal on soils.
- Heavy metal reactions with soils.
- Chemical speciation of soil solutions and other aqueous media.
- Extraction and Spectroscopic investigations (NMR, IR, ESR) of soil organic matter and humic materials in aquatic systems.

Publications and Presentations

- Abboud, Salim. 2010. The potential for producing Renewable Natural Gas from Canadian wastes – a presentation at the Canadian Gas association Renewable Gas Workshop, Vancouver, BC.
- Abboud, Salim. 2010. The Edmonton Waste Management Centre of Excellence (EWMCE) – an integration of public and private activities in solid waste management. A presentation at the REINNOVA Sessions, Innovation and Research applied to Waste Management, Catalunya, Spain.
- Abboud, Salim and Wanyu Chen. 2010. Pilot scale demonstration of methane oxidation technology at the Barriere and Lower Nicola landfills in the Thompson Nicola Regional District. A report prepared for the TNRD.
- Abboud, Salim and Shahrzad Rahbar. 2010. Potential for producing renewable natural gas from Canadian wastes. Proceedings of the Venice 2010 Third International Symposium on Energy from Biomass and Waste. Venice, Italy.
- Abboud, Salim; Kevin Aschim; Brennan Bagdan; Partha Sarkar; Hongqi Yuan; Brent Scorfield; Christian Felske; Shahrzad Rahbar and Louis Marmen. 2010. Potential production of methane from Canadian wastes. A joint report of the Alberta Research Council and Canadian Gas Association.
- Abboud, Salim. 2009. Results, Opportunities, Limitations of Methane Oxidation Technology in Western Canada. Presented at the 2009 SWANA NW Regional Symposium.
- Yu, Shouhai, D.M. McCartney, W. Chen, L. Zhou and S. Abboud. 2008. Trace metal mass transfer during thermophilic composting. Presented at the Annual Compost Council of Canada Conference.
- Abboud, Salim and Shahrzad Rahbar. 2008. Canadian Waste offers new source of Renewable Natural Gas. Canadian Natural Gas: Spring Edition.
- Abboud, Salim and Shahrzad Rahbar. 2008. The potential for Producing Renewable Natural Gas from Canadian Wastes. Presented at the International Gas Research Conference, Paris.
- Abboud, Salim. 2008. Renewable Natural Gas. Presented at the Canadian Gas Association Clean Energy Solutions Workshop, Vancouver.
- Abboud, Salim and Shahrzad Rahbar. 2008. Waste to Gas - The Acceptable Biofuel. BC Oil and Gas Report.

- Abboud, S.A. 2007. Cumulative changes in soil quality at Shell's Land Treatment Facility (LTF) 7 years after hydrocarbon based sludge additions. A report submitted to Shell Canada Limited.
- Daryl McCartney, Salim Abboud and Bo Ge. 2007. Achieving Acceptable Metal Levels in Municipal Solid Waste Compost. Presented at the International Solid Waste Association World Congress 2007 in Amsterdam, Netherlands.
- Abboud, Salim A. and Larry W. Turchenek. 2007. Site-Specific Critical Loads of Acid Deposition on Soils in the Edmonton 83H East Map Sheet, Alberta. Report prepared for Alberta Environmental Protection Department.
- Ge, Bo, Daryl McCartney and Salim Abboud. 2007. Achieving Acceptable Metal Levels in Municipal Solid Waste Compost. Presented at WasteCon2007, the annual SWANA conference.
- Turchenek, L. W., K. Ketilson and S. A. Abboud. 2006. Relative sensitivity and critical loads of acid deposition on soils in the Great Sand Hills land review area. Report submitted to University of Regina, Saskatchewan.
- Ge, Bo, Daryl McCartney and Salim Abboud. 2006. Trace metal sources in municipal solid waste composts. Presented at the ORBIT 2006, the 5th International conference on Biological Waste Management. Weimar, Germany.
- Abboud, Salim A. and Larry W. Turchenek. 2006. Site-Specific Critical Loads of Acid Deposition on Soils in the Edmonton 83H West Map Sheet, Alberta. Report prepared for Alberta Environmental Protection Department.
- Abboud, S.A, C. Schwartz, G. Dinwoodie, G. Byrtus and L.W. Turchenek. 2006. Trends in Soil Acidification in Alberta based on Long Term Acidification Monitoring from 1981 to 2005. Report prepared for Alberta Environmental Protection Department.
- Abboud, S.A. 2006. Changes in the Oil and Grease Fraction and Hydrophobicity of Shell's Land Treatment Facility (LTF) Soils after Additions of Biological and Hydrocarbon based Sludges. A report submitted to Shell Canada Limited.
- Abboud, S.A. 2006. Hydrophobicity of Shell's Land Treatment Facility (LTF) Soils and Changes after Organic Waste Additions (Synthesis of the 2000-2005 Results). A report submitted to Shell Canada Limited.
- Abboud, Salim. 2005. Overview of Waste Management GHG Emissions, Modelling, and Possibilities for Reduction. Presented at the Greenhouse Gases Workshop at the Edmonton Waste Management Centre of Excellence.
- Ge, Bo, Daryl McCartney and Salim Abboud. 2005. Trace Metal Sources in Mixed Municipal Solid Waste Compost Systems. Compost Council of Canada Annual Conference and Meeting, Lake Louise, Alberta.
- Abboud, Salim A., Christian Felske and Frances DeJong. 2005. Novel Biosolids Composting using Real Time Sensing and Control in a Covered Aerated Static Pile System. International Solid Waste Association Conference, Buenos Aires, Argentina.
- Whitson, I.R., S. Abboud, E.E. Prepas, and D.S. Chanasyk. 2005. Trends in dissolved phosphorus in gray Luvisolic soil profiles after forest harvest. Can. J. Soil Sci. 85(1):89-101.
- Abboud, Salim A. 2004. The Edmonton Waste Management Centre (EWMC) – Integration of waste management activities between the public and private sectors. Presented at the European Union Integrated Waste

Management and Life Cycle Analysis conference, Prague, Czech Republic.

Abboud, S. and F. DeJong. 2003. Biofiltration of emissions from the Gold Bar Wastewater Treatment Plant (GBWWTP). Report prepared to the GBWWTP.

Abboud, S. and A. Heidman. 2003. Biofiltration of compost emissions from the Edmonton Co-Composting Facility. Report prepared for the Edmonton Waste Management Centre of Excellence.

Abboud, S., L.W. Turchenek and L. Halsey. 2003. Critical loads of acid deposition on soils in the Athabasca oil sands region, Alberta. Report to the NO_x-SO₂ Management Working Group, Cumulative Environmental Management Association.

Abboud, S. and B. Bennet. 2002. Sampling and analysis of odours from the Gold Bar Wastewater Treatment Plant (GBWWTP). Report prepared to the GBWWTP.

L. van Noortwyk, S. Abboud and A. Yee. 2002. Biosolids composting using aerated static piles. Final report prepared for the Edmonton Waste Management Centre of Excellence.

L. van Noortwyk, S. Abboud and A. Yee. 2002. Curing partially co-composted municipal solid wastes and biosolids. Final report prepared for the Edmonton Waste Management Centre of Excellence.

Abboud, S. and J. Schubert. 2002. The potential of waste management as a mitigative tool for greenhouse gas reductions. Invited plenary paper at the Annual Recycling Council of Alberta meetings, Kananaskis.

Abboud, S., A. Heidman, L. van Noortwyk and A. Yee. 2002. Curing Partially Co-Composted Municipal Solid Waste and Biosolids. Annual meetings of the Compost Council of Canada.

Turchenek, L. and S. Abboud. 2001. Site-specific critical loads of acid deposition on soils in the Provost-Esther area, Alberta. Report prepared for Alberta Environmental Protection. Pub. No. T/609, ISBN: 0-7785-1723-3 (Printed Edition), ISBN: 0-7785-1725-X (Online Edition), Web Site: <http://www3.gov.ab.ca/env/info/infocentre/publist.cfm>

Abboud, S. and J. Schubert. 2001. Managing Municipal Wastes: The Potential for Carbon Sinks and Emission Offsets. An invited paper at Conference Climate Change 2: Canadian Technology Development, Toronto.

Abboud, S. and D. Reid. 2001. Accelerated Decomposition Test of the Mulch Mat Product. Report prepared to Nuform Packaging Inc.

Abboud, S.A. 2001. Contaminant Fate and Transport – Course Lecture notes. University of Alberta.

Abboud, S.A. 2000. Applied Soil Contaminant Interaction – Course Lecture notes. University of Alberta.

Abboud, S.A. 2000. Management of Oilfield Wastes – Course Lecture notes. Canadian Petroleum Institute.

Abboud, S.A. 2000. Toxicity Evaluation of Muds and Cements in Drilling Operations – Course Lecture notes. Canadian Petroleum Institute.

Murphy, S., M. Dudas, M. Gray, and S. Abboud. 2000. Surfactant-Assisted PAH Mass Transfer from Weathered

- Creosote-Contaminated Soils. In Proceedings of "Case Studies in the Remediation of Chlorinated and Recalcitrant Compounds : The Second International Conference on the Remediation of Chlorinated and Recalcitrant Compounds" Batelle Press.
- Nguyen, M., S. Abboud, J. Leonard and A. Yee. 2000. Measurement of Compost Water Content using a Thetaprobe ML2x Soil Moisture Sensor. Annual meetings of the Compost Council of Canada.
- Turchenek, L., S. Abboud and U. Dowey. 1998. Critical loads for organic (peat) soils in Alberta. Report prepared for Target Loading Subgroup, Clean Air Strategic Alliance.
- Abboud, S., W. McGill and J. Leonard. 1998. Co-composting of Edmonton's sewage sludge and municipal solid waste – Metal concentrations in MSW, sludge and their co-compost. Annual meetings of the Compost Council of Canada.
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(Peace River Division)

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- Abboud, S.A. 1986. The effect of redox status, ionic strength, solid to liquid ratio and formation lithology on the adsorption of phenol by carbonate and sandstone formations. Soil Science Society of America Annual Meeting, New Orleans, LA.
- Lloyd, D.A., and S.A. Abboud. 1986. Petroleum drilling wastes: The potential for landspreading in Alberta. Soil Science Society of America Annual Meeting, New Orleans, LA.
- Turchenek, L.W., and S.A. Abboud. 1986. Solid state ¹³C-NMR spectroscopy of size and density gradient fractions of a chernozemic soil. Soil Science Society of America Annual Meeting, New Orleans, LA.
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- Abboud, S., and T.E. Bates. 1984. Adsorption and site energy binding functions of cadmium on sewage-sludge amended soils. Soil Science Society of America Annual Meeting, Las Vegas, Nevada.
- Abboud, S., and T.E. Bates. 1984. Changes in soil organic matter after sewage-sludge additions. Canadian Society of Soil Science Annual Meeting, Banff, Alberta.
- Abboud, S., and T.E. Bates. 1984. Adsorption of Cd by sewage sludge-amended soils. Canadian Society of Soil Science Annual Meeting, Banff, Alberta.
- Abboud, S. and T.E. Bates. 1983. Chemical forms of cadmium in sludge-amended soils. Canadian Society of Soil Science, Annual Meeting, Truro, N.S.

Abboud, S. and T.E. Bates. 1983. Sequential extraction of soil cadmium after 8 years of sewage sludge amendments.
Soil Science Society of America Annual Meeting, Washington, D.C.



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EDUCATION AND MEMBERSHIPS

Bachelor of Engineering, Electrical Engineering, McGill University, 1993

Renewable Energy Training, RETScreen International, National Resources Canada, 2004

Member of Quebec engineering association : *l'Ordre des ingénieurs du Québec* (OIQ # 145774)

Founding president of *Biogaz Québec*, 2008

Member of the Canadian Society of Bioengineering (CSBE, SCGAB)

Member of the *American Society of Heating, Refrigerating & Air-Conditioning Engineers*

Founding Member of Open DVD Association, 1998-2001

Chairman Open MPEG consortium, 1995-2000

Member of SWANA (Solid Waste Association of North America)

Member of Agrienergy producers' association of Ontario

SELECTED EXPERIENCE

Electrigaz Technologies Inc.	Trois-Rivieres, QC	2004 – present
Engineering firm specialized in the development of biogas projects.		
President		

Task description

Manage all Electrigaz projects, staff and sub-contractors.

In charge of sales force and client management.

Establish business relationships with designers, equipment dealers and biogas researchers here and abroad.

Stay informed about new technology development in anaerobic digestion, biogas processing and organic waste management.

Present at conferences and workshops on technical, environmental, economical and political issues regarding the development of anaerobic digestion projects in Canada and USA.

Stay in touch with new biogas projects as well as national and international policies development on biogas.

Perform economical analysis and development of financial model for various biogas projects.

Develop sophisticated tools (spreadsheets) allowing quick evaluation of technical and economical feasibility of biogas projects.

Realization

Research and development of proprietary online software for preliminary evaluation of biogas projects.

(<http://www.electrigaz.com/kefir/index.php>)

Gaz Métro Montreal, QC

Analysis of all potential biomethane projects in Quebec. Recommendation of approach to qualify and answer potential biomethane producer concerns.

BC Bioenergy Network, Vancouver, BC

Feasibility Study – Due Diligence Review: Agricultural Waste to Green Energy and fertilizer project.

Happy Acres, Eastsound, WA

Preliminary design of an anaerobic digestion process for wastewater sludge and grease trap treatment.

Zhang Project, Hebei Province, China

Organic waste survey and analysis for the construction of a centralized biogas plant. On site visit of waste producers and operator. Preliminary design of an anaerobic digestion plant.

Earthreanu, Vancouver, BC

Analysis of organic waste material and bioenergy potential for industrial and agricultural material.

Ashworth Farm, New-Brunswick

Preliminary engineering and economical analysis for a farm based anaerobic digester using manure and silage as feedstock.

Concordia University, Montreal

Preliminary engineering and cost assessment of an anaerobic digester to be located downtown Montreal on the University campus.

Guelph University, Ontario

Development and presentation of a course on the principles and design of anaerobic digesters.

Centre Local de Développement Repentigny

Conceptual, environmental and economical analysis for the construction of a coop food waste treatment plant where biogas is being reused on site.

British Columbia Innovation Council, Vancouver

Technical review and economical analysis of biogas upgrading technologies to meet natural gas pipeline specifications.

HSF Foods, New Brunswick

Economical analysis and preliminary engineering of an anaerobic digester for potatoes process industry.

BLT Farms, Ste-Catharine, Ontario

Technical and economical comparative study of anaerobic digestion systems for a poultry producer.

BC Bioproducts Association, British Columbia

Evaluation of the potential for a biogas industry in BC and development of policy recommendations to enable its development in the Fraser Valley.

Champêtre cheese factory, Repentigny

Technical and economical feasibility study for a lactoserum digester and usage possibility of biogas produced.

Frito-Lay, North America

Preliminary evaluation of waste management of potatoes chips plant sludge using anaerobic digestion.

McLeod Agronomics, New Brunswick

Study for the development of an ethanol pilot plant using biogas energy in the distillation process.

Mobilogaz, Harrington

Design and construction of a 3 m³ mobile biogas plant (10kW).

École des énergies alternatives du Québec (EEAQ), Montreal

Workshop presentation on biogas technologies and possible applications.

Messier Farm, Ham Nord

Technical research to convert heating system « LB White » to use raw biogas.

SEG Engineering, Gan-Yavne, Israël

Preliminary evaluation and carbon financing study for a centralized biogas plant in dairy complex housing 30,000 dairy cows.

Geonomic BT, Bangalore, India

Research and development of a waste treatment solution for a southern India temple housing 100 elephants.

C3FE Corp, Maine, Etats-Unis
Comparative study of various technologies for treatment of manure for a 4.5 millions chicken egg layers farm.

Global Advisors Ltd, New Delhi, Inde
Carbon financing study for 7,500 family digesters in rural India.

Katani Ltd, Tanzanie, Afrique
Research for the implementation of an R & D pilot plant for the production of bio-hydrogen from Sisal fiber plant waste.

Camirand Consultant/Consulting Environmental consultant.	Montreal, Qc	2002 – 2004
Director		

Task description

Market research on renewable energy and in depth understanding of the energy and waste management sectors.

Building data base and relationship with energy development promoters and renewable technology providers.

Development of financial models allowing a quick analysis of project potential.

Study, planning and project design for clients.

Aeolus Consulting, Vancouver. C-B
Economical analysis for renewable energy projects: wind, solar, biogas and bioenergy.

Morgan Farm, Weir, Qc
Waste management study of an organic farm: plastic combustion energy utilization, animal remains composting and anaerobic digestion of manure.

CANWEA (ACÉEÉ), Montreal, Qc
Active member of the Quebec section of the Canadian Wind Energy Association.

Realization

Wind and solar energy prototype, Montreal
Design, assemble and start up of a wind-solar energy generator for marine application.

Ravisent Technologies Inc. Audio/video software development company.	Vancouver, BC	2000 – 2001
Vice-president business development		

Task description

General manager of Ravisent Canada.

Project management of Ravisent software integration with Cinax Design product.

Asian market business development of Ravisent technologies.

Business plan development of the merged company (Ravisent and Cinax).

Realization

Software integration
Integration of audio/video compression software of Ravisent technologies into Cinax products.

MediaLock business development

Promotion of MediaLock technologies to asian partners. Integration technique discussion.

Cinax Design	Vancouver, BC	1994 – 2000
Audio/video software development company.		

Founding president

Task description

General manager of a team of 15 software developers producing compressed audio/video software MPEG/MP3/DVD.

Business partnership development for international markets.

In charge of market research and identification of client's needs.

Report to the company board and shareholders.

Project management, staff management and project timelines.

Financing research and promotion of the company to potential investors.

Realization

iFilmStudio software development
Project manager of a complex interactive film making software for CD and DVD.

iFilmEdit software development
Project manager of an uncompressed digital film production software.

MediaPalette software development
Project manager of an audio-video format conversion software

MediaLock software development
Project manager of copyrights management system for networked audio and video files distribution.

OTHER EXPERIENCE

Petro-Canada	Montreal, Qc	1992
Junior engineer/software developer		

Task description

Perform analysis and software development to update existing database.

Realization

Project manager in developing a database to facilitate the maintenance team to easily access specifications of broken equipment and to locate replacement material on site.

CONFERENCES, PUBLICATIONS, COURSES AND WORKSHOPS

Courses and workshops

Biogas training course
Guelph University, 2008

Introduction to renewable energy technologies.
Institut des technologies agro-alimentaires (ITA) Ste-Hyacinthe, 2008

Workshop on renewable energy and anaerobic digestion
Director of energy policies for Quebec ministry of agriculture
MAPAQ, 2008

Biogas : Introduction to biomass energy
École des énergies alternatives du Québec
(http://www.eeaq.ca/Ateliers_Cours/ateliers_cours.html), 2007

Perspectives for biogas energy in BC
Biogas workshop, Abbotsford, BC, 2007

Biogas energy workshop
Taos, New Mexico, 2006

Technical and economical challenges of building a mobile biogas plant
Biocycle conference, California, 2009

Economical viability of upgrading farm biogas to sell energy directly to consumers over the natural gas grid
Growing the margins, London, ON, 2008,

Prospects of anaerobic digestion potential of organic materiel and biogas energy valorization for various Canadian markets
Salon TEQ, 2008, Quebec

Anaerobic digestion technologies
Quebec Liberal Party congress, 2008

Perspectives for biomethane production and resell in the Fraser Valley
Agricultural BC show, 2008

Farm based biogas projects in Ontario
Toronto International Agricultural show 2008

Biogas investment opportunities
Biofinance conference, Toronto, 2008

On farm energy production
Conférence énergie à la ferme, St-Jean-Richelieu, 2008

Conferences and publications

Biomethane development and operational challenges, Canadian Gas Association Biomethane Workshop, Vancouver, November, 2010

Biogas project development cycle, Biogas USA, San Francisco, October 2010

Biomethane production cost from various sources, Biocycle, Des Moines, October 2010

Electric cars economical analysis as a solution for renewable energy in Quebec, Salon des technologies environnementales du Québec, Quebec, March 2010

Mandatory biomethane mix in the Canadian natural gas network, Growing the margins conference, London, ON, March 2010

Economical viability of upgrading farm biogas for thermal or automotive applications
Biocycle conference, Wisconsin, October, 2008

Biogas principles
CRAAQ, Journée sur la méthanisation, 2007

Climat change and anaerobic digestion
APCAS, Air et changements climatiques, 2007

Economical viability of biogas production from energy crops
Growing the margins, 2007, London, On