

SUSTAINABLE PLANNING ASSOCIATES INC.

Principal Dr. Roger M.R. Higgin PhD, MBA., P. Eng..

Dr. Roger Higgin has over 45 years of senior executive experience in the energy and environment sectors in both the public and private sectors.

His appointments include Commissioner for regulation of gas and electric utilities with the Ontario Energy Board. Executive positions include COO in a high-tech firm, CEO in Canadian natural gas R&D, Assistant Deputy Minister of Energy Ontario Government, Deputy Commissioner of Environmental Services City of Toronto. Academia: Lecturer Chemical Engineering University of Toronto

Since 2000, his Company- Sustainable Planning Associates Inc. has provided Regulatory Consulting Services to Ratepayer and Public Interest Groups across Canada. He has testified at the AUB, MPUB and Regie d'Energie.

CONSULTING EXPERIENCE

A. SPA Inc. (In Association with Econalysis Consulting Services 2000 to 2012)

Testimony at Canadian Regulatory Tribunals

2009

Manitoba Public Utilities Board

Review of Manitoba Hydro PowerSmart Low Income Programs

Testimony On behalf of Manitoba Society of Seniors and Consumers Association*

2006

Regie de l'Energie Quebec

-Gazifere Inc. 2006 Rates-Proposal for Incentive Regulation Mechanism

Testimony on Behalf of Option Consommateurs*

2005

Regie de l'Energie Quebec

-Hydro Quebec Distribution -Review of PGEE 2006-2010

Testimony on Behalf of Option Consommateurs*

-Gazifere Inc. 2005 Rates-O&M Expense and Corporate Cost Allocations

Testimony on Behalf of Option Consommateurs*

2004

Manitoba Public Utilities Board

-Review of Manitoba Hydro Wuskwatim Project-

DSM, Windpower alternatives and Business/Partnership Arrangements

Testimony on Behalf of Manitoba Society of Seniors (Public Interest Law Centre)*

2003

Alberta Energy and Utilities Board

-ATCO Gas/Electric Transfer of Default Supply to Direct Energy *

“No Harm” Test in context of transaction/transfer

Testimony on Behalf of City of Calgary*

2001

Regie de l'Energie Quebec

Societe en Commandite Gaz Metropolitan Unbundling of Rates

Testimony on Behalf of Option consommateurs*

Provision of consulting and advisory services and regulatory intervention support for Electricity, Gas and Telecommunications Regulatory Proceedings

- Electricity
 - Hydro Quebec Interruptible Power Rate
 - Review of IMO and OPA 2002-2006 Fees Submissions
 - Review of Manitoba Hydro Wuskwatim Project
 - OEB Review of Electric CDM Programs
 - OEB Review of 2006 EDR Rate Handbook
 - HQD PGEE 2006-2010*
 - LRAM and Smart Meter Cost Recovery for Ontario LDCs (26 Cases)
 - Toronto Hydro Rate Cases 2006-2010
 - Hydro One Distribution Rate Cases 2006-2012

- Natural Gas
 - OEB Gas Distribution Access Rule
 - OEB Natural Gas Forum 2004
 - OEB Generic Gas DSM 2006&2008

 - Enbridge Gas Distribution (OEB)
 - Comprehensive PBR Plan
 - Quarterly Rate Adjustment Mechanism Applications
 - Consultative on Demand Side Management
 - Review of 2002-2006 Rates
 - *IRM Plan 2007-2012*
 - *Annual IRM and ESM proceedings*
 - DSM plans 2006-2012
 - Rebasing and Cost of Service 2013
 - DSM Plan 2013-2014
 - Union Gas (OEB)
 - Unbundling of Rates and Services
 - Consultative on Demand Side Management
 - Quarterly Gas Cost Adjustment Mechanism Applications
 - Review of 2004 and 2006 Rates
 - Review of 2005 DSM Program
 - Review of 2006-2012 DSM Programs
 - Other
 - Regie- Societe en Commandite Gaz Metropolitan Unbundling
 - Natural Resource Gas 2001 and 2002 rates ADR Settlement
 - BCUC Gas- Gas Cost Adjustment Mechanism Staff Paper

- BCUC Outsourcing of Customer Care to CustomerWorks LLP
- Sithe Energies Canada Application for natural gas Supply Pipeline
- ATCO Gas/Electric Transfer of Default Supply to Direct Energy *
- Gazifere 2005 Rate Application
- Telecommunications Sector
 - CRTC PN 00 27 Restructured Bands
 - CRTC PN 00 99 Scope of Price Cap Review
 - CRTC PN 01 125 Monitoring Canadian Telecommunications Industry

B. SPA Inc. (On Behalf of Energy Probe Research Foundation) 2012 to Present

Incentive regulation cases in Italics

Electricity

- Great Lakes Power Transmission 2013 Rates
- *Toronto Hydro IRM/ICM 2012-2014*
- *Hydro One Transmission IRM/ICM 2013*
- *Hydro One Distribution IRM/ICM 2013*
- London Hydro COS 2013 Rates
- Hydro One Distribution MY COS 2015—2019
- IESO 2015-22 Fees (4 cases)
- *Hydro One Sault Ste. Marie Merger and IRM*
- Hydro One Transmission 2018 Rates
- *Toronto Hydro IRM 2018-2024*
- *Ottawa Hydro IRM 2022-2027 rates*
- *Next Bridge UCT Transmission Line IRM*
- *Ontario small LDC 4 GIRM Applications (>20) 2018-Present*
- *Ontario Power Generation Payment Amounts IRM 2022-2027*
- *Hydro One Transmission IRM 2023-2027*

Natural Gas

- Union Gas Limited 2012-16 Earnings Sharing and Deferral Accounts
- Enbridge DA and ESM 2015-2017
- Union Gas Rebasing COS 2013 Rates
- Enbridge and Union GTA Pipeline Projects 2015
- *Union Gas IRM 2014-2014 Rates*
- *EGDI IRM 2014-2018 Rates*
- *EGDI and Union Gas Amalgamation & IRM 2018-2027*
- Enbridge Inc. Rates 2020, 2021, 2022
- EGI Federal Carbon Tax FCPP 2020, 2021
- EGI Integrated Resource Planning 2021
- EGI Multi-year DSM Plan 2022-2027

C. SPA INC (other clients)

- Gaz Metro COS 2013 Rates
- *Hydro Quebec IRM 2014-2019*
- Manitoba Hydro NFAT Hydro Review 2014
Testimony On behalf of Manitoba Society of Seniors and Consumers Association*

- *Hydro Quebec Transmission IRM 2016-18*
- *Hydro Quebec Distribution 2018 Rates*
- *Hydro Quebec Distribution IRM 2016-18*
- *Hydro Quebec Transmission IRM 2021 Volet 1 (current)*
- *Hydro Quebec and Energir Bienergie (current)*

D. Employment History

Ontario Energy Board

Board Member 1996 to 2000 (Retired June 2000)

- Regulation of gas and electric utilities in Ontario. Holding proceedings, writing and rendering Decisions and Orders. Scope included facilities, rates, gas cost and generic proceedings. Examples are rates for Enbridge Consumers Gas and Union Gas, PBR plan for Enbridge Consumers Gas, standard supply service for electricity distributors, revenue requirement and transmission rates for Ontario Hydro Services Company (now Hydro One).
- Deregulation
 - Chaired/Participated in the Following Regulatory Proceedings:
 - 1999 and 2000 revenue requirements and rates for Ontario Hydro Networks (now Hydro One) – Transmission and Distribution
 - Hearing on Standard Supply Service (SSS)
 - Rates for unbundled Transmission tariffs for Hydro One
 - Member of Internal Committee on Codes and Standards:
 - Transmission Access Code
 - Retail Settlement Code
 - Affiliate Relations Code
 - Performance Based Regulation for Electricity Distributors
- Cost of Service Regulation
 - Review of Ontario Hydro Conservation Programs
 - Presided over and wrote numerous Rates and Facilities Decisions
 - Targeted PBR Decision for Enbridge Consumers Gas
 - Outsourcing of CIS-Union Gas Limited
 - Separation of Ancillary Programs – Union Gas Limited
 - Westcoast Merger of Union Gas and Centra Gas Ontario
 - Affiliate Relations Rule
 - Gas Marketing Code
 - E.B.O. 188 Report of Board Guidelines for Natural Gas System Expansion

Unisearch Associates Inc.

General Manager and Chief Operating Officer 1995 to 1996

- Responsible for Business Planning, Reorganization, Refinancing and Restructuring of \$2 million high technology environmental instrumentation and service start-up company. Establishment of marketing, production, financial management and securing new bank and equity financing. Strategic & Distribution alliances.

Gas Technology Canada and CGRI

President and Chief Executive Officer 1992 to 1995

- On behalf of Canadian Natural Gas Distribution Sector, operated \$8 million Natural Gas Research and Development program, including Canadian Gas Research Institute Laboratory and the Gas Technology Canada technology development investment portfolio.

Toronto Department of Public Works and the Environment

Deputy Commissioner Environmental Services Division

1991 to 1992

- Responsible for new Environmental Services Division with 600 staff dealing with waste management, air and water quality, transportation systems management, infrastructure planning and development, Office of Energy Efficiency, departmental IT planning and capital budgeting.

Ontario Energy Board

Board Member 1988 to 1991

- Regulatory/Administrative Commissioner. Chairing Public Hearings-Electric & Gas Utilities. Review of Ontario Hydro Rates and Capital Plans.
- Writing Decisions and Orders.
- Representing Board at meetings & conferences.

Ontario Ministry of Energy

Assistant Deputy Minister- Programs & Technology Division

1984 to 1988

- Staff complement 74, annual budget - \$35 million.
- Input to Policy and Strategy on all aspects of Energy Supply and Demand
- Allocation of over 80% of the Ministry's budget to Conservation and Renewable Energy program priorities.
- Organizational design and organizational development in the Division.
- Federal/Provincial relations.
- Representing the Ministry at numerous public events involving speaking engagements, TV and radio.

Ontario Energy Ventures

President 1986 to 1988

- In charge of the wind-up of Ontario Energy Corporation's subsidiary (OEV) and \$100 Million in venture capital investments in technology companies.
- Director of eight of the subsidiary companies. Responsible for portfolio management, strategy and negotiations leading to divestiture, conversion of investments into carried interest or folding of companies.

Canada/Kenya Energy Advisory Consortium 1982-1986

Chair of Board of CIDA-funded Ontario Energy Consortium Multi-disciplinary team of energy advisors to Kenya Ministry of Energy.

Ministry of Energy

Executive Coordinator 1980 to 1984

- Alternative and Renewable Energy Group.

Senior Advisor 1974 to 1980

- Special Studies and Renewable Energy.

Ontario Ministry of Environment

1973 to 1974 Branch Head

- Special Studies and Program Planning, Air Resources Branch.

1971 to 1973 District Engineer

- Air Pollution Abatement Section

1970 to 1971 Consulting Engineer (Self-Employed)

1968 to 1970 University of Toronto Chemical Engineering Department Post-graduate Research Fellow and Lecturer

D. Directorships & Committee Memberships Held

1995-96 Director-Unisearch Associates Inc.

1991-1995 Director -Gas Technology Canada, CGRI,

1984-88 Director - Ontario Energy Ventures

1984-88 Chairman -Ontario Energy Consortium Kenya/Canada Energy Project

1991 Chairman Energy Task Force Ontario Round Table Environment and Economy

1982-1988 Member-University Research Incentive Fund Selection Committee

Scientific Advisor-Premiers Council Tech Fund and NSERC

Professional Affiliations

Professional Engineers of Ontario (P. Eng.)

E. Education

Masters of Business Administration

University of Toronto, Faculty of Management Studies, Dean's List 1986

Ph.D.

Fuel Science and Applied Chemistry, University of Leeds, England, 1968.

Thesis: "Shock Tube Ignition of Hydrocarbon Fuels" - high speed chemical reactions and computer simulation of reactions. Presented at 12th Combustion Symposium, Poitiers 1968

B.Sc. with 1st Class Honours

Fuel Science and Combustion Engineering, University of Leeds, England, 1965.

Majors: Heat Transfer, Chemical Reactions, Coal, Oil and Gas Production and Utilization.

F. Selected Publications/Presentations

- Demand Side Management A Customer Perspective. CAMPUT Educational Conference Whistler BC April 2003
- PBR for Gas Utilities. Presentation to CGA Seminar. February 2002.
- Higgin, R.M.R., Dean, D.A., "Integrated Resource Planning", Presented at the Annual Meeting of the Ontario Natural Gas Association, Toronto, September 1990
- Higgin, R.M.R., "Non Utility Generation In Ontario", Presented at CAMPUT Educational Conference, Lake Louise, Alberta, May 1990

- Higgin, R.M.R., "Regulation of the Crown Owned Electric Utility In Ontario", Presented at CAMPUT Educational Conference, Lake Louise, Alberta, May 1990
- Higgin, R.M.R., "Conversion of Refuse to Energy in Ontario Canada and the Provincial Energy from Waste Program", Conversion of Refuse to Energy Conference, Berlin, West Germany, October 1979
- Higgin, R.M.R., "Ontario Biomass/Energy from Waste Program", CSCChE Conference, Halifax, 1978
- Orgill, J.F. and Higgin, R.M.R., "The Effect of Component Costs on Solar Systems Design", Renewable Alternatives Conference, Solar Energy Society of Canada, London, 1978
- Higgin, R.M.R., "Windpower Applications in Ontario", CSME Annual Meeting, Toronto, 1978
- Higgin, R.M.R., "Novel Energy Sources", 26th CSCChE Conference, Toronto, 1976
- Higgin, R.M.R., "Solar Heating for Buildings in Ontario", Sharing the Sun, Joint ISES/SESCI Conference, Winnipeg, 1976
- Higgin, R.M.R. and Brown, C.K., "Preliminary Assessment of the Potential of Wind Generators as Fuel Savers in A.C. Community Diesel Power Systems in Ontario", Sharing the Sun, Joint ISES/SESCI Conference, Winnipeg, 1976
- Chisamore, G.C. and Higgin, R.M.R., "Ontario Resources Recovery Program", Conversion of Refuse to Energy Conference, Montreaux, Switzerland, 1975
- Higgin, R.M.R., Ogner, D.J. and Shenfeld, L., "Frequency and Particle Size Distribution of Lead in the Toronto Urban Aerosol", 1975
- Higgin, R.M.R., "Shock Tube Studies of the Dissociation of Ammonia and Methane", Joint ACS/CSCChE Conference, 1970
- Higgin, R.M.R. and Williams, A., "Ignition Delay of Methane/Oxygen Methane/Oxygen/Butane Mixtures in Shock Tubes", 12th International Symposium on Combustion, Poitiers, France, 1968

Articles

- Northern Miner, September 18, 1976; Renewable Energy Resources Merit Continuing Study"
- Conservationist, March 1977
- Ontario's Energy from Waste Program: Perspective March 1981
- Time for Reassessment of Alternatives: Oil Week July 1982