



Energy Probe Research Foundation

# Promoters, Utilities, and Ratepayers Who Bears the Risk of DER Integration?

EB-2018-0287 and EB-2018-0288

Utility Remuneration and Responding to Distributed Energy Resources

Stakeholder Meeting

Tom Ladanyi

Consultant to Energy Probe



# Energy Probe

- Energy Probe Research Foundation (Energy Probe) is a non-profit environmental and consumer organization which promotes economic efficiency in the use of resources. Energy Probe relies on individual donations to help protect the public interest. It does not receive any direct or indirect financial support from any energy utility or union.
- Energy Probe has been an active participant in OEB electricity and natural gas proceedings since the 1980s. Its supporters are residential and small commercial customers.
- Energy Probe works to protect all ratepayers by ensuring the integrity of regulatory systems and the strict enforcement of laws. To eliminate biases and conflicts of interest, and to ensure that public- and private-sector interests are treated equally, it advocates independent regulators, who are subject to due process and judicial review, and regulatory processes that require full disclosure of information.



# What do ratepayers want?

What do ratepayers want?	What could they get?
Rates that do not increase faster than the rate of inflation	Rates that increase faster than inflation
Improvement in reliability	Deterioration in reliability



# What is DER integration?

- DERs stands for distributed energy resources: customer owned power generation devices such as rooftop solar and power storage batteries including batteries in plugged in electric vehicles.
- DER integration is a method of allowing two way flow of electricity between DERs and the power grid.



# There are many potential problems caused by integration of DERs according to NERC\*

- Non-dispatchable ramping/variability
- Response to faults: lack of low voltage ride through, lack of frequency ride through
- System protection
- Under frequency load shedding
- Under voltage load shedding
- Visibility and controllability
- Coordination of system restoration
- Scheduling/forecasting impacts on base load and cycling load generation
- Reactive power and voltage control
- Impact on forecast of apparent load seen by the transmission system

\*North American Electric Reliability Corporation, Special Report, Potential Bulk System Reliability Impacts of Distributed Resources, August 2011



We are told that all these problems can be prevented – all it takes is money

Ratepayer's question	DER Promoter's answer
How much?	Don't know.
Who will pay for it?	Ratepayers.
What if problems persist?	Spend more money to fix them.
Who will pay for that?	Ratepayers, of course.
What if problems are never resolved?	Trust me, they will be, all it will take is more ratepayers' money.
Won't rates go up?	Yes, but only in the short run.
How long is the short run?	Don't know.



# Why ratepayers should not bear all of the risk of DER integration

DER Promoter	Ratepayer
DER integration is for the benefit of ratepayers.	No, that has not been proven. There has been no cost-benefit analysis.
DER promoters and suppliers get their money including profits up front.	If they profit from DER integration they should share the risk.
Utilities get their money through return on assets in rate base. If they spend more money on DER integration assets, they get a higher return.	If utilities have an opportunity to earn higher returns by investing in DER integration they should share the risk.



# Objectives of Utility Remuneration by Ratepayers

- Principles:
  - Users pay principle – non users don't pay – no cross-subsidies
  - Benefits follow costs – those who benefit must pay the costs
  - Profits follow risks– those who want to profit must have profits at risk – no risk free investments
- Utilities should be at risk of not recovering their costs if there is a deterioration in reliability or an increase in rates above the rate of inflation.
  - Bad decisions, wrong design, poor installation by utilities, excessive costs
- DER promoters should be at risk if what they are promoting and selling does not work as intended.
  - Faulty equipment and software, poor design





# Objectives of DER integration

- Utility ratepayers with DERs who request that their DERs be integrated by the utility must pay full incremental costs of integration and should not be subsidized by other ratepayers.
- The provision of electricity to the grid by DERs must be strictly controlled by the grid operator on an instantaneous basis to prevent voltage and frequency fluctuations outside specified ranges.
- The IESO should continue to be the system operator and should manage power supply from DERs. This function should not be transferred to distributors.
- Power from DERs must not be allowed to displace lower cost dispatchable power.
- Payment by the IESO for power from DERs should not be higher than the cost of alternative dispatchable power – typically hydro-electric.



## Regulatory model for DER Integration

- If there is deterioration in reliability and increase in rates above the rate of inflation, utility returns and promoter's profits must be at risk.
- Create a DER Integration Deferral Account ("DERIDA") that would collect Utility investments on DER integration.
- The DERIDA would be subject to review and clearing on an annual basis.
- If there is a deterioration in reliability and/or an increase in rates above inflation, the OEB could disallow cost recovery of a portion of DERIDA balance through rates from ratepayers.



## DER promoters must bear some of the risk

- DER Promoters are suppliers of batteries, solar panels, electrical switchgear, computer hardware and software, DER engineering consultants, DER installation contractors etc.
- There must be no door to door sales of unregulated behind the meter DERs such as batteries, chargers and associated wiring.
- For regulated, in front of the meter utility assets, the utility should withhold a percentage of the payment to the DER promoter until the OEB approves the balance in the DERIDA for addition to utility rate base and recovery from ratepayers.
- If there is a disallowance the utility should ensure that the DER promoter shares in the disallowance.



# Conclusion

- Ontario should not embark on a costly re-building of its electricity distribution and transmission systems to integrate DERs without a rigorous examination of costs and benefits.
- The OEB should hold a public hearing where claims of DER promoters can be subjected to thorough discovery, including oral cross-examination.
- After the OEB has assessed the evidence and considered the arguments of the parties it should decide if DER integration is in the public interest.
- Only if the OEB decides that it is in the public interest to proceed with DER integration, it could consider utility remuneration.
- The model for utility remuneration that is adopted by the OEB should ensure that DER promoters and utilities bear some of the risks of DER integration.
- The IESO should continue to be the system operator and should manage power supply from DERs.



# Tom Ladanyi P.Eng.

Energy Regulatory Affairs Consultant

- Consulting

- advises clients in the areas of energy project development, regulatory approvals, utility regulation and rates
- Consultant to Energy Probe

- Education

- Bachelor of Engineering, McGill University, 1972
- Master of Applied Science, University of Toronto, 1974
- Certified Management Accountant, Ontario, 1987
- Executive Program, Queen's University, 1997

- Professional History

- 2016 – Present: TL Energy Regulatory Consultants Inc., President
- 2010 – 2015: Ontario Power Generation, management positions in Regulatory Affairs and Corporate Strategy
- 1990 – 2010: Enbridge Gas Distribution (Consumers Gas prior to 1998), management positions in Finance, Regulatory Affairs, Operations and Engineering
- 1974 – 1990: Trans Canada Pipe Lines, supervisory and management positions in Engineering and Operations
- 1972 – 1974: University of Toronto, Faculty of Applied Science and Engineering, Teaching Assistant

- Regulatory Experience

- Testified at hearings before the OEB, the NEB, and the New York State PSC
- Participated in over 100 regulatory proceedings as either witness, case manager or intervenor