

## IESO Engagement

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**From:** Ruby Mekker  
**Sent:** May 11, 2023 10:38 AM  
**To:** IESO Engagement  
**Subject:** Re: Long Term Request for Proposals (LT1 RFP) Procurement Update (May 4, 2023)

**CAUTION:** This email originated from outside of the organization. Exercise caution when clicking on links or opening attachments even if you recognize the sender.

Please amend the statement, "My number one (1) feedback is IESO is required to have input from fully informed residents for any and all proposed projects before any commitment is made." to:

My number one (1) feedback is IESO is required to have input from fully informed local residents for any and all proposed projects before any commitment is made.

Thank you.

Ruby Mekker  
Finch, ON

On Thu, May 11, 2023 at 10:34 AM Ruby Mekker wrote:  
Long Term Request for Proposals (LT1 RFP) Procurement Update (May 4, 2023)

Thank you for the reminder of the May 18 deadline to submit written feedback following the May 4 LT1 RFP engagement meeting on the following:

- Revised **procurement timeline** with changes to the schedule of the Deliverability Test process
- Broadened definition of an **Eligible Expansion** facility
- Removal of **locational Rated Criteria Points**

In reviewing the submitters' comments it is apparent that there are few, if any, private citizen submissions but rather wind, solar and battery companies and lobbyists. This is of great concern. None of the people involved/associated with these groups will be living with the projects or experiencing any of the impacts of such projects. My number one (1) feedback is IESO is required to have input from fully informed residents for any and all proposed projects before any commitment is made.

**Points re: Long Term Request for Proposals (LT1 RFP) Procurement Update (May 4, 2023) presentation:**

[1] •The IESO continues to see the need for longer duration resources that can meet reliability needs for several continuous hours during peak times of the day"

- This statement supports the fact that IESO recognizes the time of day and unreliability of wind and solar power projects. The people living with industrial wind turbines have told the Government of Ontario this fact multiple times; the majority of wind power is produced nightly when people of all ages are trying to sleep. The Rodan-Sygration website demonstrates this fact hourly and has consistently reported the limited wind and solar power produced.

The question becomes, why is IESO pursuing any wind, solar project when IESO's own reporting system has consistently reported their unreliability?

Second: Will the safety of the people be protected? For example, battery storage, does IESO make provision of a fire safety plan a requirement for any project? Will IESO inform the residents in the battery storage area of what is in an industrial battery, what happens if it burns, what chemicals are released into the air, how will the fire be extinguished, are the fire departments prepared should a fire occur? See information attached.

Third: Why should the people of Ontario be forced to pay for a system that requires a backup system; why not simply use the systems that have proven their consistency and reliability e.g. nuclear, hydro and gas plants which numbers are proposed to be expanded? <https://www.cbc.ca/news/canada/toronto/ontario-gas-plant-electricity-doug-ford-government-1.6820256#:~:text=CBC%20News%20Loaded-.Doug%20Ford%20government%20wants%20new%20gas%20plants%20to%20boost%20Ontario's,leave%20taxpayers%20on%20the%20hook.>

Fourth: At what point does the IESO accept responsibility for the consequences of their actions e.g., the noise and adverse health Incident Reports pertaining to industrial wind turbines filed by people of Ontario? Should a fire break out in a battery storage project how will the people be protected?

[2] •... assessing the use of the Facility Spread Adjustment Factor (FSAF) and Materials Cost Index Adjustment (MCIA) based on stakeholder feedback, analysis of E-LT1 RFP submissions and ongoing changes  
- IESO should be required to provide the residents the benefit and cost analysis of any proposed project; it is the people of Ontario paying for the projects  
- a cost/benefit analysis has never been provided to the Ontario people re: the Nation Rise wind project whose many of the 29 turbines are repeatedly stopped for extended lengths of time but when the turbines are turning people are being harmed; a consequence IESO refuses to accept as their responsibility. If the Nation Rise wind project is not supplying its contractual amount of power, why is the contract not terminated?

[3] • Stakeholders are also seeking clarity on the Investment Tax Credit (ITC), given recent federal government announcements  
- The people of Ontario require an explanation as to why an Investment Tax Credit is considered as they are the ones paying for the projects

[4] •... the IESO will consider modifications to this Rated Criteria based on feedback received as well as outcomes of the E-LT1 RFP  
- What enforcement power for the "Rated Criteria" does IESO have? Clearly IESO had no power when the proposed Nation Rise Wind project met zero (0) of the four (4) "Rated Criteria" but was still approved

[5] • The IESO is committed to ensuring that the LT1 RFP is conducted in an expeditious manner, so that system needs emerging in 2027 can be met  
- will the "expeditious manner" allow the time for full disclosure to be presented to the public, for public questions to be answered, for benefit and cost analysis to be available?

[6] • Local reliability needs will guide how location is valued in the IESO's future  
- Currently the City of Ottawa is considering the construction of 700+ industrial wind turbines. It is my understanding that the city requires approximately 1,400 Mw of power hourly. According to Rodan-Sygration website, the City of Ottawa, if using all of Ontario's wind power, would experience blackouts almost constantly

In summary, it is time for IESO and all of its members to listen to the people; to follow its own rules. It is understood IESO is arms length of the Ontario government but the contract for the Nation Rise Wind project was approved by IESO when it met ZERO of the four basic requirements.

The first screening tool used by IESO should be the Rodan-Sygration website. Facts are facts. The hourly production of all power generated sources is listed. With maintaining Ontario's nuclear facilities and allowing Ontario's full hydro generation power potential, and with the existing and proposed additional gas plants Ontario does not need the unreliable power sources of wind and solar which only add instability and cost to Ontario's power source.

NOTE: The statements made do not include the known wildlife, water and environmental damage or financial costs of industrial wind turbine projects. Industrial wind turbines have been consistently proven to cause annoyance, leading to serious negative health effects to those living in IWT projects.

Ruby Mekker  
Finch, ON

## Battery Energy Supply Systems

### Impact on Host Municipalities

#### **Presentation to Multi Municipal Wind Turbine Working Group**

**March 9, 2023**

**Bill (William K.G.) Palmer P. Eng.**

#### Battery Options

- Lithium Ion is the present champion (some 90% of industrial/electrical supply storage batteries)
- has mostly replaced lead – acid as storage battery of choice except for motor vehicle starting duty
- Li-ion generally good for fast response, up to 4 hour discharge time. Barely adequate for shifting night supply to daytime usage of energy, a poor choice for storage needing days or weeks, vs, hours of storage, due to Li-Ion self-discharge over time. Expensive ~ 135 to 250 US\$ per MWh, lithium scarce, fire hazard.

#### Li-Ion Grid Backup (BESS) Risks (1st example)

##### **Lithium ion battery energy storage systems (BESS) hazards (published Feb, 2023)**

- Over 30 large-scale (1 MW +) Li-Ion BESS experienced failures resulting in destructive fires in the past 4 years
- contain flammable electrolytes, can create unique hazards when the battery cell enters thermal runaway.
- paper focusses primarily on small containerized BESS are often installed in standard shipping containers ranging from 8 feet to 53 feet in length, with a width and height of approximately 8 feet each.
- typically equipped with smoke detection, fire alarm panel, and some form of fire control and suppression system
- initiating event frequently a short circuit which may be a result of overcharging, overheating, or mechanical abuse. During thermal runaway, large amounts of flammable and potentially toxic battery gas will be generated.
- Journal of Loss Prevention in the Process Industries, Vol 81, Feb. 2023, 104932
- <https://doi.org/10.1016/j.jlpp.2022.104932>

#### Li-Ion Grid Backup (BESS) Risks (3rd example)

##### **What are the fire safety risks of lithium-ion batteries? (Published Aug 2022)**

- Dr Amer Magrabi, principal fire engineer at Lote Consulting, gave a talk on battery fire safety at the Australasian Fire and Emergency Services Council (AFAC) conference in Adelaide.
- “It’s an emerging risk, we’re still coming to grips with it.”
- “Once alight, lithium-ion battery fires are very hard to extinguish. Common fire suppressants don’t work and the fire can burn very fiercely. In some circumstances, the battery can explode.”
- “If you have a problem with one cell, it’s going to start spreading.” This unstoppable fire is called “thermal runaway.”
- Water may assist with absorbing heat from some small fires, but it reacts dramatically with lithium – making it a bad decision to go directly on fires.

- Lithium-ion fires don't burn cleanly: batteries can vent toxic gases. It's not always clear what these gases will be, as battery chemistry is a closely guarded commercial secret."
- Some fire services have a code of not intervening in lithium-ion battery fires: they're unlikely to suppress them because the risk to firefighters is too high.
- Instead, they wait for the reaction to finish, and protect the surrounding environment.
- 26 August 2022 / COSMOS Magazine

### **A comprehensive investigation on the thermal and toxic hazards of large format lithium-ion batteries with LiFePO<sub>4</sub> cathode (Published 2020)**

- Toxic gases released from lithium-ion battery fires pose a **very large threat** to human health.
- Li-Ion Batteries with higher state of charge (SOC) are found to have greater fire risks in terms of their burning behavior, normalized heat release rate, and fire radiation, as well as the concentration of toxic gases.
- The major toxic gases detected from the online analysis are CO, HF, SO<sub>2</sub>, NO<sub>2</sub>, NO and HCl.
- Results show that the effects of irritant gases are much more significant than those of asphyxiant gases. HF and SO<sub>2</sub> have much greater toxicity than the other fire gases. The maximum FEC value (*fractional effective concentration – a measure of toxicity impact*) is approaching the critical threshold in such fire scenarios.
- <https://doi.org/10.1016/j.jhazmat.2019.120916>

Now – You Have the “Big Picture”

- so what can you do? (Other than reject BESS?)

### **• 6 practical steps to improve community safety near lithium-ion energy storage systems (Published Sept. 2021)**

- By Steve Kerber *Vice President of Research at UL Firefighter Safety Research Institute.*
- most first responders have limited experience with Li-Ion battery fires - behave differently than typical fires
- Lithium-ion batteries have flammable chemical electrolytes and are susceptible to thermal runaway
- lithium-ion batteries can spontaneously reignite hours or even days later after a fire event
- safety requirements for ESS sites are still evolving as more information about the technology becomes available
- what can be done right now to improve safety?
- Lithium-ion battery ESS should incorporate gas monitoring that can be accessed remotely.
- Lithium-ion battery ESS should incorporate robust communications systems to help ensure remote access to the battery management system, sensors and fire alarm control panel remains uninterrupted.
- Owners and operators of ESS should develop an emergency operations plan in conjunction with local fire service personnel and the authority having jurisdiction and hold a comprehensive understanding of the hazards associated with lithium-ion battery technology.
- Signage that identifies the contents of an ESS should be required on all ESS installations to alert first responders to the potential hazards associated with the installation.

- Lithium-ion battery ESS should incorporate adequate explosion prevention protection as required in National Fire Protection Association (NFPA) 855 or International Fire Code Chapter 12, where applicable, in coordination with the emergency operations plan.
- New lithium-ion battery ESS should be built in accordance with NFPA 855, the most current standards available for safety, and we are calling on local governments to mandate adoption within their cities and municipalities.
- <https://www.utilitydive.com/news/6-practical-steps-to-improve-community-safety-near-lithium-ion-energy-storage/585938/>