

Subject Re: Ontario Fire Marshal website request.
From
To Clark, Carrie (SOLGEN) <Carrie.Clark@ontario.ca>
Cc Macdonald-Duncan, Nancy (SOLGEN) <Nancy.Macdonald-Duncan@ontario.ca>
Date 09 Feb 2025 16:56



Dear Ms. Carrie Clark,

Deputy Fire Marshal, Office of the Fire Marshal

Ministry of the Solicitor General, Ontario Public Service

Thank you for your response of Feb. 7, 2025, to the submission I filed on the OFM Website, Dec. 16, 2024, titled, "Submission for Review - Re - Safety of the Public and First Responders in the event of a Lithium Ion BESS Fire." That submission, was then resent on Dec. 17, via Nancy Duncan-Macdonald, Deputy Fire Marshal, Office of the Fire Marshal, Midhurst, in response to her request to send the submission directly to her for review so she might direct it to the appropriate division of the OFM. I mention this only since your very generic response to me about Battery Energy Storage Systems (BESS), fails to respond to any of the points raised in my submission with regard to safety to first responders or the public, and suggests reference material to me such as the UL 9540A standard, and Hydro One standard, which were already referenced in my original submission. I had to wonder if the composer of your response to me had the opportunity to actually review my submission, or if it was simply a response to the website subject heading.

While it is encouraging to receive a respectful response from a Ministry spokesperson, I wondered if it might be useful for me in acknowledgement of your reply, to respond to a question that may be in your mind, "Why is this Mr. Palmer writing to the Office of the Fire Marshal about BESS? Why does he care?"

I had signed my letter only, William Palmer, P. Eng., but that generic designation gives little background. My career as an Professional Engineer first with Noranda Mines, then with Ontario Hydro Nuclear, and it's successor organizations, Ontario Power Generation, and Bruce Power, followed by post retirement technical advisory service to municipalities and professional associations provided a special opportunity:

- responsible for the replacement of a station battery (the precursor of a BESS) at Noranda Mines Geco Division, and other electrical projects there (in compliance with the Electrical Safety Code)
- responsible for commissioning gas turbine standby generators (including their fire protection and battery banks), the 500 kV switchyard, and for cable fire protection at Bruce Nuclear Generating Station A
- on shift experience as authorized nuclear shift supervisor, responsible for safety of all Bruce A plant staff, and for public safety from the entire station on a shift basis
- responsible for training and safety of all Bruce A station staff, providing the opportunity to be suited up in a bunker suit, on a hose line before the BNPD fire practice site (while I'm not qualified a a fire fighter, it gave a healthy respect for those whose profession it is - including cousins in both Ontario and the United Kingdom)
- experience dealing with regulators regarding public safety (reactor safety) (including time acting as site Nuclear Safety Manager, accompanying Site Vice President, to explain Bruce site Nuclear Safety issues to the corporate Chief Nuclear Officer)
- later responsibility for Bruce site Operations Performance Assurance (including reviews of station battery performance), then for training staff performing public safety risk assessment. and for verification of that risk assessment to justify Bruce A restart
- then following retirement from Bruce Power, acting as technical advisor to Multi Municipal Energy Working Group, and being qualified as expert witness before Review Tribunals on the subjects of noise, public safety and risk for energy systems in Ontario and the state of Ohio in the USA

You may legitimately ask, why am I not satisfied with adopting hobbies of golf, curling, or pickleball in retirement, and instead write to regulatory authorities such as the Ontario Fire Marshall, raising concerns with public safety issues related to energy projects? Why have I been requested to prepare and deliver technical sessions on energy projects before groups such as the Ontario Society of Professional Engineers, the Ontario Branch of the International Association of Electrical Inspectors, the Canadian Acoustical Association, the Acoustical Society of America, or the International Wind Turbine Noise Conferences sponsored by the Institute of Noise Control Engineers? I suppose the reason is two fold. First, I have an obligation as a Professional Engineer "to report a situation that an engineer believes may endanger the safety or welfare of the public." That is easy to state, and is a legal obligation. The second reason is harder to explain in a politically correct manner, but is the real underlying reason. What can I say when the lady who lives at 37 Concession 4, Arran-Elderslie, calls me to express her concern that the Tara BESS is being built right beside her home, which was severed from the farm siting the BESS, where she has lived for 47 years? She explains that she filed her concerns with the municipality, and the planning board, but no one is willing to listen. All I can answer, is that I will state the facts, professionally to the best of my knowledge, and as honestly as I can, before the responsible authority. While it may not be politically correct to say so, in my personal life, I choose to follow the guidance of Jesus Christ, who in Luke 10: Verse 37 tells those who have the ability to do so, to show mercy to those in need. I apologize if this may be offensive, as that is not the intent, but it is the real reason why I am approaching you, as the responsible authority based on my professional knowledge and experience. This is even though it puts me in the unenviable position of being "opposed" to a Minister of Energy Directive and IESO plans to establish many BESS systems, with the IESO then going on to explain that protection of fire fighters is assured by the "Solar Energy and Battery Storage Systems Safety Handbook" prepared by CanREA, the proponent for BESS. I wrote to you as the responsible authority, to outline my concerns with the statement that protection of firefighters and the public is assured.

My submission tries to explain why the 60 metre setback identified in the Ontario Hydro Standard designed to protect 115 kV Right of Way are inappropriate for public safety. I can certainly not explain to any person that if Hydro One sets a 60 metre setback from a power corridor for which it has usual redundancy, that it is an appropriate setback from their home, by explaining that they are "redundant" to society, as there are other persons who can fill their place. NFPA 855 is even worse, establishing a 30.6 metre setback from BESS to residential homes, although I did not even identify that inadequate "standard" in my submission. Similarly my submission explained why UL 9540A is inadequate as it certifies a lithium ion battery that can pass a charge - discharge - charge - discharge (2 cycle) test, while multiple peer reviewed papers show that Lithium Ion batteries fail not after 2 cycles, but after repeated cycles, and in particular when routinely charged to full capacity as utility BESS will be. Neither does Bulletin 64-7-2 of the Ontario Electrical Safety Code regarding the Installation and Approval of Energy Storage Systems assure public safety.

I hope my response explains the "why" I filed my submission with the Office of the Fire Marshall, as the responsible authority for the Fire Code, thus, "to govern standards for reducing the risk of, or consequences of, a fire that would seriously endanger the health or safety of any person "and may provide grounds for you to again review my full submission.

With respect,

William K.G. Palmer P. Eng.

On 07 Feb 2025 14:02, Clark, Carrie (SOLGEN) wrote:

Dear Mr. Palmer,

Thank you for your correspondence regarding fire safety concerns related to Battery Energy Storage Systems.

In Ontario, the installation of Battery Energy Storage Systems (BESS) is regulated by the Ontario Electrical Safety Code (OESC). Prior to commissioning, BESS installations must be inspected and approved by the Electrical Safety Authority, the organization responsible for enforcing compliance with the OESC.

Under the OESC, BESS installations are required to conform with provisions of UL 9540 (Standard for Safety for Energy Storage Systems and Equipment) and UL 9540A (Standard for Safety Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems), standards that address the risks of thermal runaway and other fire hazards associated with BESS technology.

Additional requirements for BESS installations have also been established by Hydro One as detailed in the [BESS Fire Protection Risk & Response Assessment Standard](#). These requirements must be met prior to connecting BESS installations to transmission lines owned by Hydro One.

While BESS projects are not subject to the Ontario Fire Code, fire departments play a critical role in the development of firefighting strategies and emergency response plans, as well as community risk assessments required under [O. Reg. 378/18 \(Community Risk Assessments\)](#). Therefore, consultation and collaboration between BESS project developers and local fire departments is needed to ensure the safety of both the community and firefighters in the event of a fire at a BESS facility.

The Office of the Fire Marshal recognizes that Battery Energy Storage Systems are a rapidly expanding area of technology and is exploring options for the development of guidance materials to support fire services in their role respecting BESS projects within their communities. It is anticipated that this work will be undertaken in partnership with stakeholders, regulators, and industry experts in the coming months and when available, will be announced to Ontario fire services through a Fire Marshal's Communique available at the following link: [Office of the Fire Marshal's communiqués and bulletins | ontario.ca](#).

We thank you for bringing this matter to our attention and for your interest in fire safety.

Carrie

Carrie Clark

Deputy Fire Marshal | Office of the Fire Marshal

Ministry of the Solicitor General | Ontario Public Service

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Office of the Fire Marshal 

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