

**Subject: Independent Electricity System Operator (IESO) LT1 Procurement:
Requests for Municipal Support Resolution**

File Number: ACS2023-PRE-EDP-0051

**Report to Agriculture and Rural Affairs Committee on 30 November 2023
and Council 6 December 2023**

**Submitted on November 17, 2023 by David Wise, Director, Economic
Development and Long Range Planning, Planning, Real Estate and Economic
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Ward: Citywide

**Objet : Processus d'approvisionnement LT1 de la Société indépendante
d'exploitation du réseau d'électricité (SIERE) : demandes de
résolution d'appui du Conseil municipal**

Dossier : ACS2023-PRE-EDP-0051

Rapport au Comité de l'agriculture et des affaires rurales

le 30 novembre 2023

et au Conseil le 6 décembre 2023

**Soumis le 17 novembre 2023, par David Wise, Directeur, Développement
économique et planification à long terme, Services de la planification, des biens
immobiliers et du développement économique**

**Personne ressource : Melissa Jort-Conway, Urbaniste III, Services de la
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Quartier : À l'échelle de la ville

REPORT RECOMMENDATIONS

That the Agricultural and Rural Affairs Committee recommend Council:

- 1. Grant four (4) Municipal Support Resolution requests for proposed Battery Energy Storage System (BESS) projects within the Rural Area, as documented in this report, which shall not preclude the requirement to comply with any and all, current or future municipal regulations or applicable approvals and permit processes which may apply;**
- 2. Direct staff to include renewable energy generation and BESS facilities in the development review and approvals processes, as part of an upcoming report in Q1 2024 with zoning provisions for renewable energy generation and BESS facilities;**
- 3. Direct staff to provide a Memorandum to Council with an update on the LT1 RFP procurement results as soon as they become available, including any updates from the Province on the municipal role within Ontario Regulation 359/09 (Renewable Energy Approvals under the Environmental Protection Act) since the repeal of the Green Energy Act; and**
- 4. Grant delegated authority to the General Manager, Planning, Infrastructure and Economic Development, or their delegate, to decide on future Municipal Support Resolutions requests, which conform to the Official Plan and Zoning By-law, conditional upon required development approvals and permits which may apply.**

RECOMMANDATIONS DU RAPPORT

Que le Comité de l'agriculture et des affaires rurales recommande au Conseil :

- 1. d'accueillir quatre (4) demandes de résolution d'appui concernant des projets de système de stockage de l'énergie dans des batteries (SSEB) dans le secteur rural, comme l'explique le présent rapport, projets qui ne seront pas pour autant exemptés des règlements municipaux applicables actuels ou futurs ni des régimes d'approbation et de permis en vigueur; et**
- 2. de donner au personnel instruction d'assujettir les installations de production d'énergie renouvelable et de SSEB aux processus d'examen et d'approbation des projets d'aménagement, ce dont il rendra compte dans un rapport à venir au premier trimestre de 2024 concernant les dispositions de zonage pour ce type d'installations; et**
- 3. de donner au personnel instruction d'adresser au Conseil une note de service**

pour l'informer des résultats du processus d'approvisionnement LT1 dès qu'ils seront connus, y compris de toute mise à jour de la province concernant le rôle des municipalités sous le régime du Règlement de l'Ontario 359/09 (*Renewable energy approvals under part v.0.1 of the act*) depuis l'abrogation de la *Loi sur l'énergie verte*; et

- 4. de déléguer au directeur général de la Planification, de l'Infrastructure et du Développement économique, ou à sa représentante ou son représentant, le pouvoir de décider des prochaines demandes de résolution d'appui du Conseil municipal, lesquelles devront être conformes au Plan officiel et au *Règlement de zonage* et assujetties aux exigences d'approbation et de permis applicables.**

EXECUTIVE SUMMARY

The Independent Electricity Systems Operator (IESO) has identified the need to increase energy supply starting in 2025 in response to increased demand. Battery Energy Storage Systems (BESS) are an emerging technology that is seen as important to fulfill the reliability needs of the electricity system by helping to stabilize the power grid and scale peak shaving services to reduce the cost of electricity for the end user.

In October 2022, the Minister of Energy issued a directive under subsection 25.32(5) of the Electricity Act requiring the IESO to finalize the design for the First Long Term Request for Proposals ("LT1 RFP"), a mechanism to acquire new capacity that can come online no later than May 2028 with incentives to encourage early operation.

The first long term procurement (LT1 RFP) is now underway and is expected to competitively procure 2,518 megawatts (MW) of year-round effective capacity from dispatchable new build resources including new build storage facilities, larger than 1 MW and which can deliver a continuous amount of electricity to a connection point on a distribution system or transmission system for at least four consecutive hours. This represents the largest energy storage procurement ever in Canada.

Four (4) such Battery Energy Storage Systems (BESS) projects are proposed within the rural area of Ottawa. Where energy projects are proposed within an area governed by a municipal government, the IESO requires proponents to obtain a Municipal Support Resolution (MSR) before projects can proceed. As set out in the LT1 RFP, proponents have up to 18 months following the December 12, 2023 application deadline to submit such evidence, however, projects that include an MSR with their application are granted four (4) additional Rated Criteria points, which gives them a better chance of being selected.

Despite the fact that BESS facilities have been widely adopted and implemented in a variety of applications, innovation and development of the technology is ongoing. Lithium-ion batteries, commonly used in mobile phones and electric cars, are currently the dominant storage technology for large scale BESS facilities. They are often installed in standard shipping containers. Once constructed, these require only routine maintenance. However, these battery storage solutions can create a fire risk through what is known as “thermal runaway” caused by a chemical chain reaction. Emergency response planning is therefore essential to the review and approval of BESS systems.

This report is in keeping with [Council's](#) February 22, 2023, direction for appropriate Standing Committees to act in accordance with the timelines set out in the LT1 RFP and evaluate current and future requests for Municipal Support Resolutions until amendments have been made to Zoning By-law 2008-250. The criteria for obtaining a Municipal Support Resolution does not preclude any municipal development approvals, permitting and regulatory requirements which may apply before the BESS projects can be built.

Staff are therefore recommending that Council:

1. Grant four (4) Municipal Support Resolution requests for Battery Energy Storage System (BESS) projects within the Rural Area, as documented in this report;
2. Direct staff to include renewable energy generation and BESS facilities in the development review and approvals processes, as part of an upcoming report in Q1 2024 with zoning provisions for renewable energy generation and BESS facilities;
3. Direct staff to provide a Memorandum to Council with an update on the LT1 RFP procurement results as soon as they become available, including any updates from the Province on the municipal role within Ontario Regulation 359/09 (Renewable Energy Approvals under the Environmental Protection Act) since the repeal of the Green Energy Act; and
4. Grant delegated authority to the General Manager, Planning, Infrastructure and Economic Development, or their delegate, to decide on future Municipal Support Resolutions requests, which conform to the Official Plan and Zoning By-law, conditional upon required development approvals and permits which may apply.

RÉSUMÉ

La Société indépendante d'exploitation du réseau d'électricité (SIERE) estime qu'il faudra accroître la capacité d'approvisionnement en énergie à compter de 2025, compte tenu de la demande croissante. Les systèmes de stockage de l'énergie dans

des batteries (SSEB) constituent une technologie émergente prometteuse qui pourrait jouer un rôle important quant à la fiabilité du réseau électrique par sa contribution à la stabilisation du réseau et des services d'écrêtement des pointes d'échelle afin de réduire le coût de l'électricité pour l'utilisateur final.

En octobre 2022, en vertu du paragraphe 25.32(5) de la *Loi sur l'électricité*, le ministre de l'Énergie a adressé une directive à la SIERE pour qu'elle mette la dernière main à sa première demande de propositions à long terme (la « DP E-LT1 »), un mécanisme visant l'acquisition d'une capacité supplémentaire, à rendre effective au plus tard en mai 2028, assorti de mesures incitatives pour faire écourter ce délai.

Le premier processus concurrentiel de la DP E-LT1 est en cours. Ce sont 2 518 mégawatts (MW) qui devraient être acquis, une capacité effective à longueur d'année qui proviendra de nouvelles ressources répartissables, dont de nouvelles installations de stockage dépassant une capacité de 1 MW et pouvant acheminer de l'électricité vers un point de jonction via un système de distribution ou de transmission pendant au moins quatre heures consécutives. Le Canada n'a jamais vu plus grand projet d'approvisionnement pour le stockage d'électricité.

Un total de quatre (4) projets de SSEB sont proposés pour le secteur rural d'Ottawa. Pour les projets proposés dans des zones régies par une administration municipale, la SIERE exige au préalable l'obtention d'une résolution d'appui du conseil municipal. Comme l'énonce la DP E-LT1, la résolution doit être confirmée dans les 18 mois suivant la date limite de soumission des projets (12 décembre 2023). Toutefois, les projets qui sont soumis directement avec la résolution se voient accorder quatre (4) points additionnels au titre des critères cotés, ce qui augmente leurs chances d'être retenus.

Comme le secteur des SSEB en est encore à ses débuts, les normes et l'encadrement ne sont pas aussi définis que pour d'autres secteurs, et l'information mise à la disposition du public demeure limitée. Les batteries au lithium-ion, couramment utilisées dans les téléphones cellulaires et les voitures électriques, constituent actuellement la technologie de stockage dominante pour les grandes installations de SSEB. Souvent installées dans des conteneurs d'expédition ordinaires, elles ne nécessitent qu'un entretien de routine. Par contre, elles présentent un risque d'incendie à cause des « emballements thermiques » qui peuvent survenir à la suite d'une réaction chimique en chaîne. Par conséquent, il importe de ne pas approuver de tels projets s'ils ne s'accompagnent pas d'un plan d'intervention d'urgence.

Le présent rapport cadre avec la directive donnée par le [Conseil](#) le 22 février 2023, selon laquelle les comités permanents concernés doivent agir conformément à l'échéancier établi dans la DP E-LT1 et évaluer les demandes actuelles et futures de

résolution d'appui municipal d'ici à ce que le *Règlement de zonage* (n° 2008-250) soit modifié. L'obtention d'une résolution n'exemptera aucunement les projets du régime municipal d'approbation, de permis et de réglementation en matière d'aménagement; toutes les exigences en la matière pourront s'appliquer aux projets de SSEB proposés.

Par conséquent, le personnel recommande au Conseil :

1. d'accueillir quatre (4) demandes de résolution d'appui concernant des projets de système de stockage de l'énergie dans des batteries (SSEB) dans le secteur rural, comme l'explique le présent rapport; et
2. de donner au personnel instruction d'assujettir les installations de production d'énergie renouvelable et de SSEB aux processus d'examen et d'approbation des projets d'aménagement, ce dont il rendra compte dans un rapport à venir au premier trimestre de 2024 concernant les dispositions de zonage pour ce type d'installations; et
3. de donner au personnel instruction d'adresser au Conseil une note de service pour l'informer des résultats du processus d'approvisionnement LT1 dès qu'ils seront connus, y compris de toute mise à jour de la province concernant le rôle des municipalités sous le régime du Règlement de l'Ontario 359/09 (*Renewable energy approvals under part v.0.1 of the act*) depuis l'abrogation de la *Loi sur l'énergie verte*; et
4. de déléguer au directeur général de la Planification, de l'Infrastructure et du Développement économique, ou à sa représentante ou son représentant, le pouvoir de décider des prochaines demandes de résolution d'appui du Conseil municipal, lesquelles devront être conformes au Plan officiel et au *Règlement de zonage* et assujetties aux exigences d'approbation et de permis applicables.

BACKGROUND

In January 2020, Council approved the Climate Change Master Plan [ACS2020-PIE-EDP-0043](#) and adopted short, mid, and long-term greenhouse gas (GHG) reduction targets.

In October 2020, Council received Energy Evolution: Ottawa's Community Energy Transition Strategy [ACS2020-PIE-EDP-0036](#). This strategy is the framework for how Ottawa can achieve its GHG reduction targets. Doing so will require a transition of the energy system to clean electricity by 2050 with a focus on 1) energy conservation, 2) energy efficiency, and 3) the deployment of renewable energy.

In October 2021, Council approved the New Official Plan [ACS2021-PIE-EDP-0036](#). The

Official Plan fulfilled Council's direction set out in the Climate Change Master Plan to apply a climate lens in developing policies to respond to the climate emergency, declared in 2019, including considerations for the siting of renewable energy generation projects.

In 2019, 60 per cent of all Ontario electricity was from nuclear facilities, 24 per cent from hydroelectric, and the remaining 12 percent from wind, natural gas and solar facilities¹. Ontario Power Generation (OPG) produces approximately half of Ontario's electricity, and private generators supply the rest.

Electricity is a commodity that is produced by suppliers, sold and then transported to customers. The Independent Electricity Systems Operator (IESO) is responsible to manage the flow of electricity across Ontario and ensure reliability. They also oversee Ontario's electricity markets by driving competition to maintain affordability. Variables such as climate, infrastructure capacity and demand drivers such as new manufacturing

In response to challenges in accessing reliable electricity supply caused by increased demand from expanding electrification and business investment, combined with pressures on supply with the retirement of the Pickering nuclear facility, the refurbishment at Bruce and Darlington facilities, as well as expiring electricity supply contracts, the IESO has identified the need to increase energy supply, starting in 2025 through the latter part of the decade.

Traditionally, electricity has had to be used as it was made with generators managing output in real-time to match demand. Today, energy storage is an emerging technology that is seen as important to fulfill the reliability needs of the electricity system by helping to stabilize the power grid and scale peak shaving services to reduce the cost of electricity for the end user. This is done by drawing and storing energy from the grid during off-peak hours when demand is low and then discharging energy back into the grid when it is needed. Energy storage also is considered one of the most promising and well-suited options for dealing with intermittent renewables such as wind and solar at the utility-scale level.

In October 2022, the Minister of Energy issued a directive under subsection 25.32(5) of the Electricity Act requiring the IESO to finalize the design for the First Long Term Request for Proposals ("LT1 RFP"), a mechanism to acquire new capacity that can come online no later than May 2028 with incentives to encourage early operation. This represents the largest energy storage procurement ever in Canada.

In 2022, the IESO issued the Long-Term Request for Qualifications (LT1 RFQ) to

¹ <https://www.cer-rec.gc.ca/en/data-analysis/energy-markets/provincial-territorial-energy-profiles/provincial-territorial-energy-profiles-ontario.html>

establish a list of applicants with the experience and capability to successfully develop, construct and operate facilities acquired through the Expedited Process and the LT1 RFP.

Together, the total capacity to be procured under E-LT1, Upgrades to Existing Generation Facilities and LT1 RFP is approximately 4,000 megawatts (MW), while targeting 1,500 MW of capacity being accounted for by natural gas generation. The LT1 RFP alone is expected to competitively procure 2,500 MW of year-round effective capacity from dispatchable new build resources including new build storage facilities, larger than 1 MW and which can deliver a continuous amount of electricity to a connection point on a distribution system or transmission system for at least four consecutive hours.

On February 22, 2023, [Council](#) directed staff to advise any proponents seeking a Municipal Support Resolution (MSR) through the LT1 RFP that staff will not bring such requests to Council unless such requests are considered through the relevant Standing Committee, it being understood that the Standing Committee will act in accordance with the timelines provided in the LT1 RFP, furthermore, that Hydro Ottawa and its affiliates, shall be entitled to obtain any MSR required per the LT1 RFP (or other similar processes), via bilateral discussions with its sole shareholder, the City of Ottawa.

On July 12, 2023, Council approved By-law 2023-341 as a staff-initiated Zoning By-law Amendment ([ACS2023-PRE-EDP-0010](#)) adding provisions to limit the size of a battery energy storage system in an AG (Agricultural Zone) to two per cent of the total lot area, to a maximum of one hectare.

DISCUSSION

Battery Energy Storage Systems (BESS)

There are different types of energy storage facilities, including battery, flywheel, compressed air, pumped hydro storage and more². Lithium-ion batteries, commonly used in mobile phones and electric cars, are currently the dominant storage technology for large scale BESS facilities. They are often installed in standard shipping containers that come in the ISO standard sizes ranging from approximately 10 to 40 feet in length, and a width and height of approximately eight feet.

Despite the fact that lithium-ion batteries have been widely adopted and implemented in a variety of applications, innovation and development of the technology is ongoing. In July 2023, Hydro One released the draft “BESS Risk & Response Assessment

² <https://www.ieso.ca/en/Learn/Ontario-Electricity-Grid/Energy-Storage>

Standard”³, which provides a comprehensive summary of recommended codes and standards to apply to BESS projects.

Siting considerations of BESS Projects

BESS facilities, once constructed, require only routine maintenance. They can be monitored remotely and therefore traffic and onsite parking are minimal. Site lighting at BESS facilities is also minimal, except for security purposes. The absence of employees also means there is no water or sewer requirements at BESS facilities. Noise generated by cooling fans may require mitigation through the use of sound barriers or landscaping. Potential risks related to fire are discussed in more detail below.

To operate efficiently, large-scale grid supporting BESS, such as those proposed under the LT1 RFP, are often installed near existing electrical infrastructure such as substations. While there are no provincially established criteria for the siting of BESS facilities, staff believe the following siting considerations are relevant, based on information provided by the IESO and Energy Storage Canada about BESS systems:

- Proximity to existing substations/interconnection to the transmission system;
- Appropriate site access;
- Co-location with renewable energy generation project from a grid operations standpoint;
- Proximity to noise receptors / sensitive land uses;
- Proximity to natural heritage features and sensitive wildlife habitat; and
- Availability of rural water supplies for fire response.

Fire Risk considerations of BESS Facilities

Lithium-ion batteries contain flammable electrolytes that can create unique hazards when battery cells become compromised. Physical damage to a lithium-ion battery cell, degradation due to extreme temperatures, or poor battery maintenance can cause what is known as “thermal runaway”. Thermal runaway is a chain reaction within the battery that leads to an uncontrollable, self-heating state that can produce large amounts of flammable gases, among them hydrogen, presenting fire and explosion hazards.

In July of this year, Energy Storage Canada, a not-for-profit organization and trade association in support of the energy storage sector, released a study called “Battery

³https://www.hydroone.com/businessservices_/generators_/Documents/Fire_Protection_Risk_and_Response_Assessment_Standard.pdf

Energy Storage: Thermal Runaway and Fire Risk”⁴. The report states that “while the chemical nature of a BESS does present some degree of risk in of thermal runaway and fire, robust standards exist outlining the necessary detailed requirements for system design, configuration, construction, performance, and monitoring.” The report also recommended that testing of each BESS and gathering of empirical data be gathered prior to any on-site installation.

Emergency response planning is essential to the review and approval of BESS systems. Ottawa Fire Services has reviewed the proposed BESS facilities and are continuing to evaluate best practices for emergency response planning of BESS facilities. The IESO requires that BESS proponents fulfill municipal requirements for emergency response. Ottawa’s Fire Chief has delegated authority to establish the response requirements for BESS facilities. Their focus will be on emergency response planning for these facilities. At a minimum, these requirements will consider procedures for the following:

- Access and egress requirements for emergency vehicles;
- Changes to Computer Aided Dispatch (CAD), the system that determines what vehicles respond automatically, for fires in identified BESS systems;
- Provision of water supplies if required;
- Ensuring that fire protection systems are sufficient and meet applicable standards;
- Environmental protection – i.e. containment of runoff should a fire occur, Hazardous Material response for decontamination, air monitoring, power disconnection authorities and removal of affected batteries; and
- Fire Department Training.

Recommendation 1: Grant four (4) Municipal Support Resolution requests for proposed Battery Energy Storage System (BESS) projects within the Rural Area, as documented in this report, which shall not preclude the requirement to comply with all, current or future municipal regulations or applicable approvals and permit processes which may apply.

The LT1 RFP is procuring 2,518 MW of year-round capacity services, of which 1,600 MW are targeted to be procured from BESS facilities and 918 MW from resources other than BESS. All projects seeking MSR are BESS facilities.

⁴ <https://www.energystoragecanada.org/>

This report is in keeping with [Council's](#) February 22, 2023 direction to staff. The final procurement documents, including the final RFP, Contract and Prescribed Forms, were posted on the LT1 RFP webpage on October 12, 2023. These confirmed that the deadline for bid submissions, including evidence of municipal support to receive four (4) Rated Criteria Points is December 12, 2023. The IESO RFP bid process is competitive, and Rated Criteria Points play a key role in project approval decisions.

A summary of the four (4) proposed BESS facilities seeking a MSR is shown in Table 1. The locations of each BESS facility are shown in Document 1 and a summary of each BESS facility is summarized in Supporting Documents 2 through 5.

Table 1: Summary of Proposed Battery Energy Storage Systems (BESS) Seeking Municipal Support Resolution

Site	Ward	BESS Facility Location	Official Plan Designation	Zoning*	Project details
1	West Carleton-March (Ward 5)	Southwest corner of Galetta Side Road and Homesteaders Road	- Rural Countryside - Agricultural Resource Area - Natural Heritage System Linkage Overlay	AG4 and RU	See Document 2
2	West Carleton-March (Ward 5)	Between Machardy Road and Old Highway 17	- Agricultural Resource Area - Sand and Gravel Overlay in proximity	AG ME2 in proximity	See Document 3
3	West Carleton-March (Ward 5)	650 Upper Dwyer Hill Road	- Rural Countryside	RU	See Document 4
4	Rideau-Jock (Ward 21)	4186 William McEwen Road	- Rural Countryside - Agricultural Resource Area - Natural Heritage System Linkage Overlay	RU	See Document 5
* AG – Agricultural Zone RU – Rural Countryside ME2 – Mineral Extraction Operation – Pit Only					

Municipal governments themselves have little authority in exercising control over the amount and source of electricity that can be generated since the Province is the

regulator and a large owner of the bulk of the electricity generation in Ontario. However, the Green Energy Repeal Act (2018) restored municipal siting authority under the Planning Act over new proposed renewable energy generation projects. The Planning Act only exempts Ontario Power Generation, Transmission and Distribution utilities (i.e. Hydro Ottawa and Hydro One) from zoning by-laws.

In keeping with that legislation, where energy projects are proposed within an area governed by a municipal government, the IESO requires proponents to obtain a MSR before projects can proceed. As set out in the LT1 RFP, proponents have up to 18 months following the December 12, 2023 application deadline to submit such evidence, however, projects that include an MSR with their application are granted four (4) additional Rated Criteria points, which gives them a better chance of being selected.

In addition to the evidence of municipal support, the LT1 RFP requires applicants to submit a community and indigenous engagement plan, a summary of community consultations that must include at least one public meeting and a project website.

Following the IESO approval of selected bid submissions, more detailed project planning takes place, including any applicable environmental or site safety studies, reports, or plans. Projects that are not able to meet municipal regulations or other requirements will not be able to proceed with their projects even if they have been selected through the IESO bid process, and even if new municipal regulations are introduced following IESO approval.

An MSR to support LT1 RFP bids is general in nature and does not preclude a project from having to meet municipal regulatory requirements or obtain any municipal development approvals or permits.

Official Plan Policies

The Official Plan Section 4.11 (8) states that public utility facilities that are authorized under the requirements of the *Environmental Assessment Act* may be permitted in all designations of the Official Plan. Staff were advised by the Ministry of the Environment, Conservation and Parks that battery energy storage projects are subject to Hydro One's Class EA for Minor Transmission Facilities. They noted that BESS facilities themselves are not subject to an EA process because they are not designated undertakings under the *Environmental Assessment Act* (i.e., they do not generate electricity, nor do they transmit electricity), the transmission components of a BESS facility (i.e., the transformer station(s), transmission line(s)) may be subject to the Class EA for Minor Transmission Facilities.

Other public utilities and facilities are permitted in all designations on Schedule A and B-series of schedules, except in Natural Environment Areas, Significant Wetlands, Sand

and Gravel and Bedrock Resource Areas, Floodplains, or near Unstable Slopes shown on Schedule C15, provided that a) the construction of permanent buildings is discouraged where an area, not in one of the identified designations, is found to be environmentally sensitive; b) the design of the utility or facility meets the intent of the applicable transect and overlay policies; and c) Where proposed in Agricultural Resource Areas or the Natural Heritage System Overlay, the location shall be essential for the provision of the utility, service or facility or constitutes a necessary expansion of an existing facility. A study may be required to assess alternative locations outside the designated areas and the environmental impacts on these areas shall be mitigated if alternative locations are not feasible.

Documents 2 through 5 summarize the relevant Official Plan designations and policies which are applicable to each proposed BESS project site. Staff have identified where additional review of plans and applicable studies is required in order to determine conformity with the Official Plan. Conformity of the proposed BESS sites with the Official Plan cannot be confirmed until further review is carried out as part of the development approvals process.

Zoning By-law

BESS facilities are considered a Utility Installation in the Zoning By-law as they form part of the energy infrastructure grid, similar to transformer stations, hydro towers and substations. Utility installations are heavily regulated and must be appropriately located in keeping with their technical requirements for site selection. As such, they are permitted in all zones except EP – Environmental Protection, ME – Mineral Extraction and MR – Mineral Reserve Zones.

Earlier this year, Council approved By-law 2023-341 as a staff-initiated Zoning By-law Amendment to add provisions to limit the size of a BESS in an Agricultural (AG) Zone to two per cent of the total lot area, to a maximum of one hectare. A Zoning By-law Amendment to implement new provisions for energy storage systems and renewable energy generation facilities, originally anticipated for Q4 2023, will be brought to Council for approval in Q1 2024.

Documents 2 through 5 summarize the current Zoning By-law provisions which are applicable to each proposed BESS project site. Conformity of the proposed BESS sites with the existing Zoning By-law cannot be confirmed until further review is carried out as part of the development approvals process.

Proponents have been advised by staff that should Council grant MSR for any proposed BESS projects, this does not preclude them from having to meet any municipal by-laws (zoning, noise, fire, building code, etc.), which are currently in place,

or which may be approved as part of an upcoming report to Council in early 2024.

Recommendation 2: Direct staff to include renewable energy generation and BESS facilities in the development review and approvals processes, as part of an upcoming report in Q1 2024 with zoning provisions for renewable energy generation and BESS facilities.

As part of the development of zoning provisions to implement the Official Plan, a review of existing approval and permit requirements for BESS projects is being undertaken to understand where any gaps may exist. Should regulatory gaps be identified, this may impact upcoming municipal regulations proposed for this use, which will apply regardless of the issuance of an MSR.

Staff from Planning Services and Climate Change and Resiliency met with each BESS proponent to discuss each project and provide a summary of the relevant Official Plan policies and current Zoning By-law provisions. Authorization from each landowner was provided by the proponent giving consent for their properties to be referred to in this report. Proponents were advised that additional approvals may be required, including, for example, Site Plan Control. Staff will explore whether amendments to the Site Plan Control By-law 2014-256, as amended, are required to apply site plan control to BESS projects.

Ottawa Fire Services are looking into concerns that have been raised around BESS facilities and the risks they present related to the potential for fire. Staff will bring forward recommendations to address such safety concerns as part of an upcoming zoning report to Council in Q1 2024, should this be determined to be a necessary addition to the existing safety regulations and zoning regulations in place.

Recommendation 3: Direct staff to provide a Memorandum to Council with an update on the LT1 RFP procurement results as soon as they become available, including any updates from the Province on the municipal role within Ontario Regulation 359/09 (Renewable Energy Approvals under the Environmental Protection Act) since the repeal of the Green Energy Act.

Staff will report back to the Agriculture and Rural Affairs Committee as soon as they are informed of the LT1 RFP results. In addition, given that the Ministry of Environment, Conservation and Parks continues to be the approval authority on large-scale wind, solar and bioenergy generation projects, staff intend to consult with the Province and explore whether amendments to O. Reg. 359/09 are planned to address:

- Any planned amendments to the regulations since the 2018 repeal of the Green Energy Act and the role that municipalities now play with regards to the approval

of energy projects; and

- Given that BESS facilities are not included as part of O.Reg 359/09, staff will enquire with the Province on any plans to integrate BESS approvals as well as clarify the municipal role into these regulations.

Recommendation 4: Grant delegated authority to the General Manager, Planning, Infrastructure and Economic Development, or their delegate, to decide on future Municipal Support Resolutions requests, which conform to the Official Plan and Zoning By-law, conditional upon required development approvals and permits which may apply.

The IESO has indicated their intent to proceed with the next long-term procurement, the LT2 RFP, in fall 2023. Given the likelihood of additional proponents seeking MSRs, staff recommend that Council delegate responsibility to staff to decide on future MSR requests, which conform to the Official Plan and Zoning By-law, conditional upon required development approvals and permits which may apply.

FINANCIAL IMPLICATIONS

There are no direct financial implications associated with the recommendations of the report.

LEGAL IMPLICATIONS

There are no legal impediments to implementing the report recommendations.

CONSULTATION

Staff from Planning Services and Climate Change and Resiliency met with each BESS proponent to discuss each project and provide a summary of the relevant Official Plan policies and current Zoning By-law provisions. Specific, but preliminary, Development Review comments for each project are provided in Documents 2-5.

In addition to the evidence of municipal support, LT1-RFP bid submissions are required to include a community and indigenous engagement plan, and a summary of community consultations that must include at least one public meeting and a project website. Section 2 (f) of the LT1 RFP sets out the requirements that BESS proponents advise each owner or occupant of property located adjacent to the boundaries of the BESS project site at least 15 days prior to the date of the public community meeting, by means of electronic mail, registered mail or courier. The public community meeting must, at a minimum, be a meeting available to members of the public at large, collectively and minutes of the public community meeting must document that the public community meeting included a description and display of: (1) the legal name and contact

information of the Proponent; (2) the name, Nameplate Capacity and generating or storage technology of the Long-Term Reliability Project; and (3) a scale map showing the boundaries of the Project Site a question-and-answer opportunity where members of the public have an opportunity to ask questions to the Proponent in a manner accessible to all other members of the public attending the meeting. Community meetings for each of the proposed BESS facilities were carried out in late October and November 2023.

ASSET MANAGEMENT IMPLICATIONS

There are no asset management Implications for this report.

CLIMATE IMPLICATIONS

This report covers climate implications associated with significant policies, programs, and plans being developed to achieve the vision of the Climate Change Master Plan to take unprecedented collective action to transition Ottawa into a clean, renewable, and resilient city by 2050.

Municipal support for BESS projects supports the transition of our energy system to lower GHG electricity and potential future deployment of renewable energy.

Local renewable electricity generation and storage was included in the Energy Evolution model as electricity demand is projected to increase over the next 30 years and offset the GHG content of the electricity supplied by the provincial bulk transmission grid. Specifically, the model projected that:

- Solar photovoltaic (PV) reaches 1,060 MW by 2050 (approximately 36 km² of solar PV mostly on rooftops)
- Wind generation reaches 3,218 MW by 2050 (approximately 710 large scale turbines)
- 310 MW of local energy storage by 2030 and 612 MW by 2050 (approximately 122 large shipping containers of lithium batteries)

Overall, if properly managed, energy storage systems have the potential to increase renewable electricity grid penetration, reduce the climate change impact of the energy sector, improve grid flexibility, and support Ottawa's GHG reduction targets.

ENVIRONMENTAL IMPLICATIONS

As energy storage has emerged in Ontario as a primary solution to support increasing demand for electricity, work is ongoing to determine the environmental impacts of such

systems and what measures are necessary for municipalities to apply in response. As part of an upcoming zoning report in Q1 2024, staff intend to address necessary measures to mitigate the risks presented by BESS facilities, such as noise, air quality, fire and safety risks associated with the presence highly flammable substances and containment of runoff should a fire occur to prevent groundwater contamination.

INDIGENOUS GENDER AND EQUITY IMPLICATIONS

The LT1 RFP identifies the important role that effective engagement with Indigenous communities may play in the successful planning, development and operation of electricity resources. BESS proponents are required to have an Indigenous engagement plan in respect of the proposed project in order to engage with each local Indigenous Community corresponding in whole or in part to the Indigenous Lands on which the project site is located. They are also required to address the interests or concerns of such communities in good faith and in compliance with Laws and Regulations. Bid submissions must also include an Indigenous Support Confirmation as a part of the Prescribed Form: Evidence of Indigenous Support, which shall contain a project website, a scale map showing the location of the project and a description of public engagement activities and opportunities for the public, notice of one or more community meetings and a copy of meeting minutes of each meeting.

RISK MANAGEMENT IMPLICATIONS

There are risk implications. These risks have been identified and explained in the report and are being managed by the appropriate staff.

RURAL IMPLICATIONS

BESS facilities are permitted in all zones except EP – Environmental Protection, ME – Mineral Extraction and MR – Mineral Reserve Zones. New interim zoning provisions were approved by Council in July this year to limit the area of land used for such systems within prime agricultural areas. BESS facilities within AG – Agricultural Zone are therefore now limited to two per cent of the total lot area, to a maximum of one hectare.

The LT1 RFP procurement is for large scale BESS projects that can support the provincial electricity grid. The four (4) project sites that have been selected within Ottawa are therefore all situated within the Rural Area in order that they be situated in close proximity to existing transmission infrastructure. In order to mitigate fire risk in a rural context, access and egress for emergency vehicles as well as unlimited water supplies will be required for such projects, such as a storage pond with dry hydrant.

If selected by the IESO, the proposed BESS projects will be required to meet all

municipal planning approvals and by-laws (zoning, noise, fire, building code, etc.), which are currently in place, or which may be approved as part of an upcoming report to Council in early 2024. Consultations with interested stakeholders and rural residents will begin once Councillors have been advised of the directions in the draft provisions.

TERM OF COUNCIL PRIORITIES

This report poses no impacts to the 2023-2026 Term of Council Priorities

SUPPORTING DOCUMENTATION

Document 1 – Location Map of Proposed BESS Projects

Document 2 – Southwest corner of Galetta Side Road and Homesteaders Road (West-Carleton-March – Ward 5)

Document 3 – Between Machardy Road and Old Highway 17 (West-Carleton-March – Ward 5)

Document 4 – 650 Upper Dwyer Hill Road (West-Carleton-March – Ward 5)

Document 5 – 4186 William McEwen Road (Rideau-Jock – Ward 21)

Document 6 – IESO Prescribed Form – Evidence of Municipal Support

Document 7 – August 2023 Directive from the Minister of Energy

DISPOSITION

Office of the City Clerk, Council and Committee Services to notify the Independent Electricity Systems Operator (IESO) of City Council's decision and forward the completed IESO Prescribed Forms – Evidence of Municipal Support, contained in Document 6, for each proposed BESS facility summarized in Documents 2 through 5 to LT.RFP@ieso.ca