

Crystal Henwood, Regulatory Affairs Clerk, NSUARB

Transmitted electronically to: Crystal.Henwood@novascotia.ca

July 12, 2023

Dear Ms. Henwood,

**RE: Comments and questions to Synapse on Revised Technical Report (M10905)**

Energy Storage Canada (ESC) is the national trade association dedicated to accelerating the deployment of energy storage projects and technologies<sup>1</sup>. Further to: ESC's written Comments on the M10905 Initial Technical Report filed May 3; participation in the technical stakeholder conference on May 17; discovery questions to NS Power Inc., and stakeholder comments and questions to Synapse Energy Economics Inc. filed May 31; please find enclosed our comments and questions to Synapse on the Revised Technical Report (the "Report").

Thank you once again for the opportunity to participate in this important process.

Very best regards,



Robert Tremblay

Policy Manager, Energy Storage Canada

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<sup>1</sup> For further information, please visit: [www.energystoragecanada.org](http://www.energystoragecanada.org)

## Appendix 1. Comments and Questions to Synapse on Revised Technical Report (M10905)

1. ESC appreciates the various ways in which NSPI and Synapse have given consideration to ESC's comments and questions to date in M10905, and how they have been reflected in the Revised Technical Report (the "Report"). In particular, we welcome the statement in the Report that "[i]nterconnection protocols should directly consider the different and generally beneficial nature of energy storage resources" (pg. 10).
2. ESC's first targeted outcome from M10905 is interconnection processes, costs and timelines that expedite ESS project development and deployment (whether connected at the transmission- or distribution-level, and whether stand-alone or integrated with generation or load). At this round of iteration, ESC presents comments and questions related to this targeted outcome under the headings: undifferentiated treatment of ESS and generation; ESS as non-material additions and modifications; and fast-tracking and expedited processes for ESS.

### Undifferentiated Treatment of ESS and Generation

2.1. *"At the present time, ESS is treated in the same manner as other generation sources in both the Distribution Generation Interconnection Procedures (DGIP) and the Generation Interconnection Procedures (GIP) with regards to its installation as a capacity resource".<sup>2</sup>*

2.1.1. *ESC respectfully asks that Synapse adopt a recommendation in M10905 to the effect to "develop dedicated interconnection procedure pathways to recognize the emergence of energy storage systems by explicitly naming them in procedures and tariffs".*

2.1.2. *ESC asks under the current approach, would a distribution-connected ESS that has a nameplate capacity of 101 kW and controls limiting export to 99 kW be considered Class 1 or 2?*

2.1.3. *ESC asks under the current approach, would an ESS (100 MW) co-located with a generation facility (100 MW) and interconnected at the same Point of Interconnection be considered to be 200 MW for the purpose of determining the applicable application and study fees, etc.?*

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<sup>2</sup> Board Review of NSPI's Interconnections Processes (NSUARB M10905), NSPI Responses to ESC Information Requests, Response IR-6

## ESS as Non-Material Additions and Modifications

- 2.2. With respect to the addition of ESS at the existing point of interconnection of a generating facility (or facilities) at the transmission-level, GIP Section 2.6 (“Procedures for Assessment of Proposed Non-Material Additions or Modifications”) states “[t]he Transmission Provider will only assess requests [that a proposed addition or modification to a generation facility not be deemed a new Interconnection Request and therefore subject to the GIP] that comply with the following: a) Project Size: Capacity increase up to 10 % of the aggregate Generating Facility capacity, and b) Point of Interconnection: The new request utilizes the Generating Facility’s existing Point of Interconnection with the Transmission System” (see pg. 18 of 72). **ESS as non-material additions and modifications present significant opportunities to expedite ESS project development and deployment. ESS submits that non-material additions or modifications should be included as a class of ESS project in the Revised Technical Report (e.g., “current and proposed studies, fees, and procedures” section, and table showing “[s]ummary of current and proposed application and study fee structure by size and type of resource” on pg. 10 of 47, etc.). ESC asks that Synapse consider in M10905 whether: this project size capacity threshold criterion (i.e. 10%) has been established in consideration of the addition of ESS to existing generation facilities; whether a 10% addition of i) generation, or ii) storage, could be expected to have similar system impacts; and in what circumstances it would be appropriate to increase the criterion to greater than 10% where the “capacity addition” is from ESS.**
- 2.3. With respect to the addition of ESS at the existing point of interconnection of a generating facility (or facilities) at the distribution-level, **ESC submits that non-material additions or modifications should also be included as a class of ESS project in the Revised Technical Report. ESC would welcome Synapse’s view in M10905 as to whether the treatment of non-material additions or modifications in the DGIP is appropriate. For example, should the addition of ESS to the same point of interconnection at an existing distribution-connected generation facility to an extent that is unlikely to result in adverse system impacts have a more streamlined and expedited process than is currently provided for in the DGIP.**

## Fast-tracking and Expedited Processes for ESS

2.4. Section 2.5 of the GIP defines the “Expedited Process for Small Generating Facilities”: *[i]n assessing whether the interconnection process can be expedited, the Transmission Provider will consider the capacity of the Generation Facility, the Point of Interconnection requested, and the results of any previously completed System Impact Studies that may be relevant. To expedite the process, the Transmission Provider will consider the following options: Forego the Interconnection Feasibility Study; Combine the Interconnection System Impact Study and the Interconnection Facilities Study; Eliminate the requirement for coordination with Affected Systems; Modify the Interconnection System Impact Study scope to exclude stability analysis*. ESC understands that the intent of this provision is that Interconnection Requests with a low probability of having a material system impact are granted an expedited process. **ESC submits that small generating facilities should also be included as a class of ESS project in the Revised Technical Report. ESC would welcome Synapse’s view in M10905 on whether such an expedited process should also be available to ESS with a low probability of having a material system impact. And if so, what technical and capacity requirements should be applied?**

2.5. The Report identifies that “[o]ther jurisdictions do not have the same requirements as Nova Scotia to move through the interconnection process” (pp. 13 – 15, re: bottlenecks, and project readiness). **ESC would welcome Synapse’s view in M10905 as to whether these current requirements could present barriers to certain project proponents. And if so, are there examples of approaches from other jurisdictions that could be appropriately adopted in Nova Scotia?**

3. ESC’s second targeted outcome from M10905 is system impact studies and capacity allocation methodologies that reflect the valuable function of energy storage.

3.1. ESC has additional questions related to the current approach to defining the operating characteristics of ESS for the purpose of system impact studies (as presented in the Report, pp. 8 – 9 of 47). If stakeholder engagement outside of M10905 is a more appropriate avenue to explore and resolve these questions, ESC would welcome the opportunity to participate therein.

3.1.1. The current approach considers that charging and discharging an ESS is fully dispatchable (i.e., in Winter Peak Load scenario) so as to reflect its likely behaviour, and thereby not over-estimate its

system impact. Charging an ESS is also fully dispatchable. The current approach assumes that charging takes place at full nameplate capacity. Charging at full nameplate capacity is not a common operation for reasons including to reduce battery degradation (unless during high supply cushion hours in response to market or grid operator signals). For example, in the Independent Electricity System Operator (IESO)'s "Deliverability Test Process for the Long-Term Request for Proposals (LT1 RFP), "[f]or the charging demand test for electricity storage facilities, 50% of the maximum continuous rating levels will be used. Electricity storage facilities have 16 hour periods where the charging could occur and charging demand can be much less than the maximum continuous rating in generation mode. The 50% level is thought to be a reasonable level for the test".<sup>3</sup> **ESC asks in what ways would ratepayers benefit if it were assumed in system impact studies that ESS would not charge at full nameplate capacity when grid conditions were not favourable?**

**3.1.2. ESC asks how would the current approach accommodate an example where an Interconnection Request is for an ESS that due to its configuration can only be charged by the existing generation facility (or facilities) at whose Point of Interconnection it is proposed?**

3.2. Finally, the DGIP states that "[i]f NSPI determines that Transmission System impacts are anticipated to occur as a result of the Distribution System Interconnection, NSPI shall notify the Interconnection Customer and the Interconnection Customer shall do one of the following: a) Reduce the capacity of the request to a level which alleviates the anticipated Transmission System Impacts (subject to capacity confirmation in the DSIS)" (Section 2.1.1). **ESC would welcome Synapse's view in M10905 as to whether the addition of ESS should be another stated option for Interconnection Customers to alleviate Transmission System impacts under this provision in the DGIP.**

3.3. **ESC would welcome Synapse's view in M10905 on whether it is appropriate that the Combined Transmission and Distribution Advanced Stage Interconnection Request Queue (as posted on the NS Power OASIS Site) be respected in future in all cases, especially with consideration to an example where ESS (that could reduce congestion and curtailment, and increase hosting capacity for other Interconnection Customers), has a later timestamp than other Interconnection Customers in the connection queue.**

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<sup>3</sup> "Final Deliverability Test Guidance Document v2.3" (pg. 17 of 25), available at <https://ieso.ca/en/Sector-Participants/Resource-Acquisition-and-Contracts/Long-Term-RFP-and-Expedited-Process>