NP-CA-006 **Reference: *Comments on Newfoundland Power's 2022 Capital Budget Application*, Elenchus Research Associates Inc., August 13, 2021, page 22, lines 8-11.**

"DERs, including NWAs such as behind-the-meter generation and storage, demand response programs, automated load control, etc. will make the power system of tomorrow almost unrecognizable to the power system engineers trained only in traditional assets."

QUESTION: **a) What utility infrastructure is necessary to support behind the meter generation and storage, demand response programs and automated load control technologies? Please provide examples.**

b) Should the cost of establishing and upgrading this utility infrastructure be included in the economic analysis used to assess NWAs and DERs?

RESPONSE:

a) Utility infrastructure requirements have been identified by experts dealing with these technologies. It is the understanding of Elenchus that a primary infrastructure that is required to facilitate these new technologies is an advanced metering infrastructure ("AMI") as part of a smart grid; however, some experts have suggested that a ubiquitous internet infrastructure can facilitate much of the required supporting infrastructure without significant incremental utility investment in infrastructure assets. In the context of the expected physical life of many grid assets (many decades), Elenchus is not aware of any jurisdiction in a developed, developing or even an underdeveloped economy that does not anticipate implementation of smart grid technologies in the immediate decades.

b) An allocation of the attributable portion of the cost of establishing and upgrading this utility infrastructure should not normally be included in the economic analysis used to assess NWAs and DERs since implementation of the platform infrastructure is not contingent on (i.e., caused by) those projects. The accepted approach for supporting platform investments is to present an NPV based on the costs of the platform investment and the cost savings and incremental revenue of the projects they enable. This was the approach used by both NB Power and Nova Scotia Power in their applications for approval of their AMI projects.