Q. **Reference: *Structural Capacity Assessment of the Labrador Island Transmission Link (LITL)*, EFLA, April 28, 2020, page 26.**

"In most standards, the safety factor for the tension hardware is equal or greater than that for the suspension hardware. In the LITL design requirements, the requirement is reversed, i.e. the suspension hardware has a safety factor of 2 and the tension hardware safety factor is 1.44 when the conductor is utilized at 80% of RTS. The safety factor of 2 is considered as rather high when compared with other design standards while 1.44 may be on the lower end for the tension hardware."

Please explain why the LIL was designed with a safety factor of tension hardware that is lower than the safety factor of suspension hardware.

A. It is important to note that from a design perspective for the Labrador-Island Link ("LIL"), there are two different base references when comparing the factor of safety for both the tension and suspension hardware assemblies. The suspension hardware strength is referenced to the rated strength of the suspension insulators, whereas the tension hardware assembly strength is referenced to the rated conductor strength.

As mentioned in the "Structural Capacity Assessment of the Labrador-Island Link" the factor of safety for suspension and tension hardware vary individually. In an effort to improve structural reliability and withstand the ice and wind loads specified for LIL, the designers selected very strong components for both conductor rated strength and insulators rated tensile capacities. During detailed design, the factor of safety resulting from the procured and selected hardware represents the strongest components deemed acceptable for low temperature transmission line hardware. This design resulted in a high factor of safety for suspension hardware and an acceptable factor of safety for tension hardware. These selections avoided having to manufacture special components that have no proven utility experience thereby introducing additional risk.