

LC-SB-036

Conduit End Connection

Scope of Work Summary:

To provide power to the island of Newfoundland, three HVdc submarine cables will be installed across the Strait of Bell Isle. Three conduits will be installed on each side of SOBI for both transitioning the cables from shore to deep water and providing protection from surface ice and icebergs, resulting in a total of six cable conduits. Horizontal directional drilling (HDD) will be used to establish holes for the conduits. The length of the cable conduits will be approximately 1600 m on the Labrador side and approximately 2200 m on the Newfoundland Island side. The holes are to be drilled from shore and exit the rock into the ocean at a depth of approximately 60 to 80 meters below sea level. The geology in the area consists of sedimentary sandstone, limestone, dolomite, shale, and Precambrian granite. Detailed field condition information will be provided in the request for proposal (RFP) package that would follow this EOI. To support final drill-out, a drill bit will be mounted to the end of the casing. The casing will be rotated to advance the casing through the final rock and sediment layers prior to seabed break-out. When the final location on the seabed has been verified, the drill bit will be disconnected and removed, leaving the remainder of the casing in-place, providing an open-ended conduit for the cable pull in. To allow for removal of the drill bit from the casing, Company requires the design, fabrication, and testing of such a connection device. It is envisaged the drill bit will be mounted to the casing at topsides via the connection device, utilized during casing installation and drill out/push out, then removed once subsea. As such, connectors must withstand forces encountered during conduit installation and final drill out and prevent damage to the conduit end that will interface with the cable. The connection design must be 'thru-bore' presenting no restrictions to the casing inner diameter. Connection systems should utilize a primary and secondary release mechanism to provide redundancy. For the purposes of the EOI, a conduit OD of 10.75" may be assumed. This will be finalized during detailed design. The system design criteria including conduit specifications, installation loads and cable parameters will be provided in the request for proposal (RFP) package that would follow this EOI. The drilling program is anticipated to commence in Q2 2014; the first of the conduit end connection devices (2 off) will be required in Q2 2014. The work includes concept development, detailed design, fabrication, troubleshooting and system integration testing. Development of the solution will require a collaborative effort between Company and the various contractors supporting the conduit installation scope.