LS Power Grid California, LLC

Data Request #4

5/23/25

RE: DR-2: Construction Process Narrative for Cable Installation Using Vertical Injector Technology

Vertical Injection Installation

LSPGC evaluated the option of vertical injection for the installation of the submarine cables. A vertical injector installs submarine cables using a process known as simultaneous lay and burial. In this process, the cable is spooled off the cable lay barge through the barge mounted vertical injector and embedded continuously. The cable lay barge is equipped with water pumps that draw water from the river to supply the vertical injector. Similar to the hydroplow, the vertical injector is equipped with a series of forward-facing nozzles that direct water into the sediment to fluidize the sediment in advance of the vertical injector as it moves along the cable route. The injector foot is also equipped with nozzles facing downward to fluidize sediment under the injector foot to allow the cable to settle into the fluidized sediment as it exits the back of the injector foot. The vertical injector's hydrodynamic forces do not work to produce any significant upward movement of sediment into the water column since the objective of this method is to maximize gravitational replacement of sediments within the cable furrow to bury or embed the cable as the vertical injector progresses along its route. The vertical injector is expected to have a higher sediment dispersion concentration during installation compared to a hydroplow, and would likely exceed thresholds for water quality impacts.

Capabilities for Vertical Injection for Project

Using a vertical injector for installing the submarine cable on this project would be very difficult due to the maximum water depths (currently 60 to 65 ft). Additionally, the 15+ ft. of embedment would necessitate a tall vertical injector, which would involve modifying existing commercially available vertical injectors. This modification would significantly increase the mechanical load on the extended arm of the vertical injector as well as on the barge structure. The added force may result from increased leverage due to the extended reach, potentially affecting structural stability, operational safety, and increasing the chance of the vertical injector getting stuck in place. Additionally, the modification is expected to prolong the installation duration due to the need for more precise handling and stabilization measures. LSPGC is not aware of any other project using a vertical injector to install a tri-core cable; typically, vertical injectors are used for single core cables. Moreover, an installation with a vertical injector would eventually have to transfer to a jet sled due to the barge bottoming out on the riverbed. This would take time and lead to a longer

demurrage for the cable transport vessel. Furthermore, there are currently no commercially available vertical injectors for use during the construction window.