



SafetyLetter

December 2019

A petroleum service technician troubleshooting two submersible turbine pumps (STPs) in the same tank sump locked out the STPs individually and worked on each pump accordingly. The plan kept the site open and allowed the regular product to flow. As he worked on the second STP, the tech heard the first STP come on. A wire in the pump that was de-energized arced inside the sump junction box. The tech had checked the sump atmosphere with his gas meter and had determined no vapors were present before entering the sump. He avoided a potential fire from the arcing wire.

An investigation determined both sets of STP wiring were fed through the same conduit because both STPs were in the same containment sump. The live STP induced a current into the de-energized STP (known as an eddy current). The small amount of induced current energized the wiring disconnected from the second STP and caused a spark.

In this case, the general contractor failed to follow the STP manufacturer's installation guidelines. The manufacturer recommended that each STP have its own dedicated conduit when entering the same containment sump. The tech, fortunately, took his air monitor in the sump to ensure workable conditions. Otherwise, the spark could have ignited a potentially explosive environment.

The PEI Safety Committee recommends service technicians always follow confined space entry procedures and proper lockout, tag-out and test-out procedures.

The PEI Safety Committee recommends reviewing and adhering to Occupational Safety and Health Administration (OSHA) 1910.147 The control of hazardous energy (lockout tag-out) and OSHA 1910.146, Appendix B Procedures for Atmospheric Testing in Confined Spaces and 1910.146 (c)(5)(ii)(C) and (d)(5)(iii).

Suggestions made by the PEI Safety Committee are offered for informational purposes only. PEI assumes no responsibility for the results produced from the advice offered by the committee. Submit incidents for inclusion in a future "SafetyLetter" to sboorse@pei.org. All information will remain anonymous.

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