



Memo

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To: Montana Licensed Installers, Removers and Inspectors
From: Brett Smith
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Re: Installation of electrical controls in UST systems

One of our installers brought up a question for the program to answer. He asked if it was "code" to install low voltage wiring in PVC conduit in turbine sumps and dispenser sumps.

In researching this question, I discovered that there are two answers to this question. The 2002 NEC requires that *all wiring* in Class 1, Division 1 environments (this is the classification for tank-top sumps and dispenser sumps) be in explosion proof rigid metallic conduit (RMC) [352.12 and 501.4(A)(1) NEC 2002]. The answer to this question is that low voltage wiring may not be installed in anything but RMC. However, there is another component to the question that should be addressed...

Exception: Wiring that has been certified as being "intrinsically safe (IS)" can be installed in rigid non-metallic conduit (RNC) [504.20 NEC 2002] as long as the manufacturer allows it. Intrinsically safe wiring is designed with a maximum of 1.5 volts, 100 milliamps and 25 milliwatts of power as well as being UL listed as intrinsically safe. Veeder-Root/Gilbarco allow for the use of RNC wiring if local codes allow it. Check with your local electrical inspector before proceeding. If either the manufacturer or the local electrical inspector does not allow the use of RNC, you may not install it as part of the UST system.

Other notes (1): All wiring within Class 1, Division 1 environments must have epoxy "Y" seal fittings installed at each end of the intrinsically safe wiring system. This requirement refers to both the sump ends and the console ends of the conduit run. The seals **must** be properly sealed with epoxy upon completion of the wiring. This must be done before the Certification of Compliance is signed and submitted to DEQ.

Other notes (2): Weatherproof junction boxes may be used as part of the intrinsically safe wiring conduit system if the manufacturer allows for it. Once again, check with your manufacturer. Veeder-Root/Gilbarco does allow for the use of weatherproof junction boxes as part of their IS system.