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API RECOMMENDED PRACTICE 1125

.2.2 Tank barge level sensor circuits (or sensor relay circuits, for systems which also meet the requirements of 46 CFR 39.20-7) should have normally closed contacts and be grounded by connecting the barge cable shield to the ground pin of the connector.

2.2.3 The total connected inductance and capacitance of switches and cabling aboard the barge should not exceed 0.6 mH (inductance) or 0.18 gF (capacitance) at 20.66 volts DC/155 mA. The length of connected cable on the barge should not exceed 3000 feet.

2.3 TERMINALS

2.3.1 Terminals should determine the best option for interfacing the barge/terminal connection system with their emergency shutdown system (intrinsically safe electrical, fiber optic, radio, or pneumatic means may be technically feasible). Whatever interface system is used by the terminal, the barge/terminal connection system must be intrinsically safe electrical and the integrated barge/terminal system should permit an overfill protection signal on the barge to activate the terminal emergency shutdown system without delay.

2.3.2 The ground pin on the terminal's plug should be connected to the terminal cable shield which should be grounded at the overfill protection control panel.

2.3.3. The intrinsically safe associated apparatus of the terminal's overfill protection control panel should be designed within the following constraints:

1. Maximum length of terminal cable (panel to connector): 1000 feet.
2. Maximum output voltage (panel): 20.66 volts DC.
3. Maximum output current (panel): 155 mA.
4. Maximum allowable connected inductance (barge circuit): 0.6 mH.
5. Maximum allowable connected capacitance (barge circuit): 0.18 pF.

2.4 ELECTRICAL CONNECTION

2.4.1 TANK BARGES

Tank barges should provide a mechanically protected, shielded multicable 2x18 AWG minimum (or U18 AWG minimum if optional high level system is used) with an oil and seawater resistant jacket, terminating in a fixed, male, 5-wire, earthing-contact position 1, 16 amp inlet meeting IEC 309-1/309-2, located within 10 feet of the barge cargo loading manifolds (port and starboard). The inlet should be clearly labeled as follows:

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