Master Specification: Electric Immersion Heaters

General
Provide a quantity of _______ electric immersion heater(s) Model No. ____________ as manufactured by HUBBELL Electric Heater Co., Stratford, CT. The heater shall have a total rating of _______ KW composed of _______ circuit(s) of _______ KW each when supplied with _______ Volts _______ Phase _______ Hz electrical power. The heater shall be a _______ (Specify: Flange or Screwplug) type of _______ size. The heater shall be designed for full immersion in liquid and constructed of high quality grade materials to ensure a long service life.

Tubular
The heater shall consist of _______ individual tubular elements of _______ " diameter. The properly sized Nickel-Chromium resistor wire for the element shall be verified by computer calculations to ensure the longest service life possible. The resistor wire shall be factory inspected, tested, and verified as meeting rigid quality control specifications prior to being coiled. The resistor wire is to be centered in the sheath and insulated with high quality magnesium oxide. The magnesium oxide shall be compacted so that the terminal pin is firmly secured allowing for a maximum torque of 8 inch lbs. when tightening terminal hardware. The tubular sheathing shall be copper (☐ Optional Specifications: Incoloy, Type 304 or 316 or 321 stainless steel, Steel, Teflon coated, Titanium, Monel, Inconel, Copper-Nickel) and have a maximum watt density of _______ watts/square inch with a _______ " cold section and a total immersed length of _______ " . Non-Ferrous element spacers shall be supplied when required.

Terminal Housing
The heater (shall, shall not) include a terminal housing. The terminal housing shall be a general purpose NEMA 1 enclosure (☐ Optional Specification: Nema 4 watertight, explosion resistant) and supplied with a quantity of _______ electrical conduit connections of _______ " NPT size each.

In addition, the heater may be supplied with the following optional features:

☐ Option  Built-in thermostat with a 60-250°F range
☐ Option  Built-in thermowell
☐ Option  Factory fitted thermocouple strapped to the element sheathing
☐ Option  Factory fitted element baffle system
☐ Option  Passivation of material
☐ Option  Electropolishing of material
☐ Option  Hermetic seals for superior moisture protection
☐ Option  Individually replaceable element hairpins
☐ Option  Liquid Die Penetrant Testing
☐ Option  ASME Certification
☐ Option  Construction to MIL-H-22577
☐ Option  ____________________________
☐ Option  ____________________________

Warranty
The heater manufacturer shall warranty the entire immersion heating element against defects in workmanship and material for a period of one (1) year from date of start-up, provided that the unit is started within three (3) months of date of shipment and installed and operated within the scope of the heater design and operating capability.