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What documentation is required for a Field Approval?

Piping & Instrumentation drawings (P&ID) that show the following:

1. Main and pilot fuel trains from the fuel inlet shut-off valve to the burner with all shutdown interlocks.
2. Appliance process piping with associated shutdown interlocks.
3. All shutdown interlocks connected to the BMS that can shut down the fuel train.
4. Upstream fuel supply piping showing two components:
 - a. The component controlling the inlet pressure to the fuel train (eg. pressure reducing regulator or pressure control valve).
 - b. The component that will limit the supply pressure to the fuel train if the component in (a) should fail open (eg. pressure relief valve or second regulator in series).

Bill of Materials (BoM) or component datasheets showing the manufacturer, model number, configuration (eg. orifice size, adjustment spring, max pressure, min. temperature, etc.), CSA/ULC certification, and the component tag number that references the P&ID and electrical drawings. This must include the make and model of the Burner Management System (BMS).

Electrical Single Line drawings showing the BMS, automated safety shut-off valves (SSV), and all critical safety shutdown interlocks.

Control Narrative or Sequence of Operation document that details the pre-purge, burner ignition, low-fire start, normal operation, and shutdown of the BMS.

In addition, please provide a **Shutdown Key** or **Cause and Effect Diagram** if available.

A drawing showing the electrical **Hazardous Area Classification** at the fuel train and at the BMS. In general, we assume all outdoor areas are classified as Zone 2 and all indoor areas are Zone 1 unless we have documentation showing otherwise. The drawing must clearly show the area classification both inside and outside of the building or enclosure.

The **Commissioning Report** completed after the appliance has been installed should include:

1. List of all setpoints configured onsite during commissioning for shutdown interlocks, regulators, and pressure control valves.
2. Combustion report that includes:
 - a. O₂ %, Excess Air %, CO ppm, NO_x ppm (if available)
 - b. Draft Pressure, Stack Temperature, and Ambient Temperature
 - c. Combustion Efficiency at the higher heating value (HHV – gross value)
 - d. Main Burner Pressure (required) and Fuel Flow Rate (if available)
 - e. We need to have all of this information at the low-fire (light-off) and high-fire (max capacity) conditions

Other potential documentation:

1. Description of any hazardous condition which may affect the appliance or its installation.
2. Maintenance Instructions
3. If there is a dual fuel option, please provide a step-by-step procedure to switch between the primary and secondary fuels. This document must include details such as changing pressure setpoints or burner orifice sizes and a change log. Please refer to our FAQ on Guidelines for Dual Fuel Valve Trains for more information.
4. If it is a portable appliance, please provide step-by-step set-up and pack-up procedures.