Base Load Power Hub (BLPH)

ULTRASONIC FLOWMETER

COMMISSIONING PROCEDURES

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Table of Contents

SH.	DESCRIPTION	REVISIONS							
		00							
1	Cover	X							
2	Table of Contents	X							
3	Revision / Change Log / Hold List	X							
4	COMMISSIONING PROCEDURES - ULTRASONIC FLOWMETER	X							

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Revision / Change Log

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1.	
2.	
3.	
4.	

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Site commissioning Method

1. **Documentation**

Ensure that the following documentation is made available prior to commencement of the commissioning and site acceptance.

- Bill of material together with shipping notes
- Process Data Sheet
- P&ID
- Piping Isometrics
- General Arrangement Drawing/Wiring diagram
- As built Path length and Axial length information
- CFD where applicable
- Factory test information with GF868 config.
- Documented customer requirements for calculated items with units and decimal digits.

2. **Verification of supplied equipment**

Confirm All equipment supplied matches bill of material and shipping notes.

Confirm the dimensions of the supplied transducers. Record dimensions vs transducer serial number.

Note the serial numbers of all equipment supplied and confirm with the serial numbers vs path location. Record serial numbers vs path

Verify the spool path and axial dimensional information and record for each path.

3. **Verification of installed equipment**

Confirm the new flowmeter electronics unit is mounted and is not live before commencement of the Installation and test.

Confirm installed transducer cables are marked correctly with the correct terminations and have not been trimmed or damaged either at the electronics unit or at the spool location.

Confirm that the spool orientation and path location are as the design drawing and any CFD carried out for the meter.

Confirm that all transducer valves are closed prior to commencement of installation

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4. **Install new equipment.**

Connect co-axial cable connections identified for the individual path to the transducer pre-amplifier mounted in the transducer head on each of the transducers ensuring that the cables are connected to the correct paths.

Connect Coaxial cables at the flowmeter electronics in line with the transducer wiring diagram, ensuring that the correct cables are assigned to the correct channel on the meter.

5. **Flare Gas meter Validation**

Carry out Flare gas validation for each path in accordance with the flare gas validation procedure supplied as part of the project using a zero-flow test box to confirm functionality and performance. The data programmed in the meter should be checked for each path against the factory zero test results. Successful completion of this test should be recorded using the flare gas validation report for each path.

The following actions are carried out as part of the flare gas validation -

- The transducers will be installed in the spool following the "method for removal and cleaning of flare gas transducers" as part of this validation.
- Confirmation and programming of pipe dimensional information
- Confirmation and programming of analogue input ranges for pressure and temperature
- Calibration and exercising the inputs for pressure and temperature inputs confirming the accuracy.

Configure meter electronics parameters confirming the following:

Meter display and output match the process data and requirements for:-

- Mass Flowrate units and decimal digits as per customer requirements documentation
- Nitrogen % setting

Program any applicable CFD meter factors from the CFD report.

Ensure that two path error handling is enabled where applicable.