Annexure – 'A'

Scope of Supply and Installation

Installation of Compressed Air Management System with Remote Display

S.No.	DESCRIPTION OF BHEL REQUIREMENT
1.0	**PURPOSE OF PROJECT & BASIC REQUIREMENT**
	Installation of Compressed Air Management System
1.1	Purpose of installation of Compressed Air Management System (CAMS) is to measure and monitor the quantity and Pressure of Compressed Air supplied to different production blocks of HEEP.
1.2	After Installation, • Display of Real time Pressure and Instantaneous/cumulative Flow at remote location within 10 mtrs. of the location where flow meters are installed. • Display of Real Time/ historical Data of Flow and Pressure of Compressed Air on Flow Computer/Data Logger at Central Monitoring Place • Display of Real Time/ historical Data of Flow and Pressure of Compressed Air on PCs of authorized users using BHEL intranet
2.0	**Specification of Compressed Air Supply through Pipeline**
2.1	Pressure:- Working press. 7-8 Bar, Max press. 10 Bar
2.2	Temperature:- 15^0 C to 60^0 C
3.0	**SCOPE OF SUPPLY**
3.1	**Supply of Inline Flow Meters (with Pressure & Temperature compensator) with Digital Indicator cum Totalizer for Compressed Air application as per following technical specification**
3.1.1	**Flow Meter for Compressor House Main Line:** **(Qty: 1No.)** Pipe Line Dia. : 16 inch Type: Vortex Temperature: **Vendor to mention temperature range in which accuracy of Compressed Air flow Measurement is assured.** Flow Rate: upto 18000 m3/h **(Vendor to mention minimum flow rate at which accuracy of +/- 2 % is available.)** Accuracy: +/- 2% Communication Port:- As required for transmitting data to Flow Computer/ Data Logger
3.1.2	**Flow Meter for New Compressor House**: **(Qty: 1No.)** Pipe Line Dia. : 8 inch Type: Vortex Temperature: **Vendor to mention temperature range in which accuracy of Compressed Air flow Measurement is assured.** Flow Rate: upto 12000 m3/h **(Vendor to mention minimum flow rate at which accuracy of +/- 2 % is available.)** Accuracy: +/- 2%

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	Communication Port:- As required for transmitting data to Flow Computer/ Data Logger
3.1.3	**Flow Meter for NBS** **(Qty: 1 No.)** Pipe Line Dia. : 6 inch Type: Vortex Temperature: **Vendor to mention temperature range in which accuracy of Compressed Air flow Measurement is assured.** Flow Rate: upto 3000 m3/h **(Vendor to mention minimum flow rate at which accuracy of +/- 2 % is available.)** Accuracy: +/- 2% Communication Port:- As required for transmitting data to Flow Computer/ Data Logger
3.1.4	**Flow Meter for Block-1, Block-2, Block-3, Block-4, Block-5, Block-6, NTS (Qty: 7 Nos.)** Pipe Line Dia. : 4 inch Type: Vortex Temperature: **Vendor to mention temperature range in which accuracy of Compressed Air flow Measurement is assured.** Flow Rate: upto 2000 m3/h **(Vendor to mention minimum flow rate at which accuracy of +/- 2 % is available.)** Accuracy: +/- 2% Communication Port:- As required for transmitting data to Flow Computer/ Data Logger
3.1.5	**Flow Meter for Block-7,8 & Defense: (Qty:3Nos.)** Pipe Line Dia. : 3 inch Type: Vortex Temperature: **Vendor to mention temperature range in which accuracy of Compressed Air flow Measurement is assured.** Flow Rate: upto 1200 m3/h **(Vendor to mention minimum flow rate at which accuracy of +/- 2 % is available.)** Accuracy: +/- 2% Communication Port:- As required for transmitting data to Flow Computer/ Data Logger
3.2	**Flow Computer/ Data Logger -24 Input :-** TFT Touch Screen 10.4" Data Log & Report format should be a per Annexure- I Display should be clear and colorful. TCPIP Card will be inbuilt. Note:- Static IP & Internet connection will be provided by BHEL.
3.3	**Signal Cable From Flow meter to flow Computer/Remote Display:- (Qty: 2530 meter)** Cable from Flow Meter to Remote Display / Flow Computer with suitable connector
4.0	**Scope of Installation**
4.1	**Installation:-**
4.1.1	Installation of supplied Flow meters in Compressed Air Lines at given locations as per annexure-II. (All mounting hardware like

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	clamping fixtures, mating flanges, cable glands, welding electrodes etc. to be supplied by the bidder)
4.1.2	Installation of Flow Computer/ Data Logger
4.1.3	Installation of all supplies components as mentioned above.
4.2	**Connections**
4.2.1	Laying of all required cables & control wires (Refer Annexure-II)
4.2.2	Inter-connection of all components of CAMS
4.3	**Testing**
4.3.1	Testing of Complete Compressed Air Management System.
4.4.2	Trial run of CAMS to test the performance of the complete system for one week.

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Annexure- I

Report Format for Compressed Air-flow Management System

Date	Time	Locations	Flow	Cummulative Flow	Pressure

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Annexure-II

Description of Various Locations from Central Monitoring Place

S. No.	Location	Distance of flow meters to be installed from Central Monitoring Place (in Meter)	Pipeline Diameter (in inch)	Flow rate upto (in m3/hr)
1	Old Compressor house	30	16	18000
2	New Compressor House	1100	8	12000
3	NTS	1100	4	2000
4	NBS	30	6	3000
5	Block-1	30	4	2000
6	Block-2	30	4	2000
7	Block-3	30	4	2000
8	Block-4	30	4	2000
9	Block-5	30	4	2000
10	Block-6	30	4	2000
11	Block-7	30	3	1200
12	Block-8	30	3	1200
13	Defense	30	3	1200
		2530		

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