ऑयल इंडिया लिमिटेड
(भारत सरकार का उद्यम)
Oil India Limited
(A Government of India Enterprise)
Conquering Newer Horizons

MATERIALS DEPARTMENT
P.O. DULIAJAN – 786 602
DIST. DIBRUGARH ASSAM,
INDIA
PHONE : 0374 – 2808613
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FORWARDING LETTER

M/s_____

_____

Sub: Tender No. SDH4832P21/04 Dated 08.08.2020 for PROCUREMENT OF PRESSURE CONTROL VALVE.

Dear Sirs,

1.0 OIL INDIA LIMITED (OIL), a "Navaratna" Category, Government of India Enterprise, is a premier Oil Company engaged in exploration, production and transportation of crude oil & natural gas with its Headquarters at Duliajan, Assam. Duliajan is well connected by Air with nearest Airport being at Dibrugarh, 45 km away.

2.0 In connection with its operations, OIL invites Local Competitive Bids (LCB) from competent and experienced manufacturers through OIL's e-procurement site for "**PROCUREMENT OF PRESSURE CONTROL VALVE**". One complete set of Bid Document for above is uploaded in OIL's e-procurement portal. You are invited to submit your most competitive bid on or before the scheduled bid closing date and time through OIL's e-procurement portal. For your ready reference, few salient points of the Tender are highlighted below:

E-Tender No	:	**SDH4832P21/04 Dated 08.08.2020**
Type of Bidding	:	**SINGLE STAGE TWO BID SYSTEM**
Tender Fee	:	NOT APPLICABLE
Bid Closing Date & Time	:	**14.10.2020; 11:00 HRS.**
Technical Bid Opening Date & Time	:	**14.10.2020; 14:00 HRS.**
Price Bid Opening Date & Time	:	To be decided later and shall be intimated separately to the technically qualifying bidders
Bid Security Amount	:	**INR 163,100.00 OR USD 2,175.00**
Bid Security Validity	:	Up to **12.05.2021**
Bid Submission Mode	:	Bids must be uploaded online in OIL's E-procurement portal
Bid Opening Place	:	Office of CGM-Materials, Materials Department, Oil India Limited, Duliajan -786602, Assam, India.
Bid Validity	:	Bid should be valid for **120 days** from actual bid closing date.
Original Bid Security to be submitted	:	Office of CGM-Materials, Materials Department, Oil India Limited, Duliajan -786602, Assam, India.

Performance Guarantee	:	**Applicable @ 10% of Order value.** The order value shall be considered excluding taxes and duties.
Integrity Pact	:	**Applicable**
Contact Details	:	MANISHA AGARWALA, MATERIALS MANAGER(FD) E- MAIL:MANISHA_AGARWAL@OILINDIA.I N; PHN: 0374-2808613
E-Tender technical Support	:	TEL: 0374- 2804903, 2807171, 2807192, E-MAIL: ERP_MM@OILINDIA.IN
Bids to be addressed to	:	CGM-Materials, Materials Department, Oil India Limited, Duliajan -786602, Assam, India.
LIST OF ANNEXURES APPLICABLE		
General Terms & Conditions	:	MM/LOCAL/E-01/2005 for E-Procurement of Indigenous Tenders
Annexure-A	:	Specification and various notes to bidders
Annexure-B	:	Bid Evaluation & Rejection Criteria
Annexure-C	:	Commercial Checklist
Annexure-I & Annexure-II		Matrix for Technical Evaluation
Appendix-A3		Format of undertaking by Bidders towards submission of authentic information/documents
Annexure-D	:	Format for certificate of annual turnover & net worth
Annexure-III	:	Matrix for BEC/BRC Evaluation
Others	:	Any other document uploaded online in OIL's E-procurement portal.

3.0 OIL now look forward to your active participation in the Tender.

Thanking you,
Yours faithfully,
OIL INDIA LIMITED

sd/-
(MANISHA AGARWALA)
Materials Manager (FD)
For CGM Materials
For Resident Chief Executive

ANNEXURE – A

AA:: TECHNICAL SPECIFICATIONS & QUANTITY OF ITEMS

SL NO	ITEM DESCRIPTION	QUANTITY
10 (Mat. Code-99065823)	**VALVE,CONTROL,PRESSURE,100MM(4")NB,150Class** Diaphragm operated pneumatic control valve along with positioner and air filter regulator, complete with companion flange and requisite number of Studs& Nuts, as per the following specification. 1.0 SERVICE CONDITION: Fluid to be handled : Sweet Natural Gas contaminated with water. Gas Gravity : 0.65-0.70 Normal Operating Temp : 45 Deg C. Maximum Throughput : 0.30 MMSCMD Normal Throughput : 0.20 MMSCMD Minimum Throughput : 0.15 MMSCMD Maximum Inlet Pressure : 6.0 Kg/sq.cm Normal Inlet Pressure : 3.5 Kg/sq.cm Minimum Inlet Pressure : 1.0 Kg/sq.cm Maximum Outlet Pressure : 2.5 Kg/sq.cm Normal Outlet Pressure : 2.1 Kg/sq.cm Minimum Outlet Pressure : 0.7 Kg/sq.cm 2.0 VALVE BODY & BONNET: 2.1 DESIGN PARAMETERS: Valve Size & Rating : 100MM(4")NB,150Class End connection Size & Rating : Flanged,100MM(4")NB,150Class,Raised face Serrated. 2.2 MATERIAL OF CONSTRUCTION & SPECIFICATION: Body Style: Globe, Straight through type Body and Bonnet Material: Cast carbon Steel (ASTM A-216, Gr. WCB/WCC or ASTM A352, Gr. LCB/LCC), epoxy painted. Casting must be of radiographic quality as per ASTM B16.34. Body End Connection: Flanges conforming to ANSI B-16.5. Face-to-face dimension as per ANSI/ISA-75.08.01 Bonnet Style : Plain, Bolted Bonnet Bolting: SA-193-B7 Studs/2H Nuts. Gland Type : Bolted Gland Packing: Double, PTFE V-ring or equivalent/superior, suitable for the handling fluid. Stem Material: S31600 SST (SS 316) or equivalent. Finished to less than 4 micron. Stem Size : Suitable for service condition. (To be specified by bidder). 3.0 TRIM : 3.1 DESIGN PARAMETERS: No of Port : Single /Double (To be specified by bidder).	**21 NOS.**

Seat Ring & Port Size : To be designed by bidder.
Flow Direction : Up / Both
Seat Ring Type: Threaded
Plug Design : Contoured
Plug Characteristics : Linear
Plug Balance : Unbalanced
Guiding : Top & Bottom / Top Post Guided, (To be specified by bidder).
Cage : Not required
Seat Leakage: Class IV as per ANSI/FCI 70.2 standard.
Noise level: <90 dBA within 1 meter area from the control valve.
Hysteresis Error : +/-3% of Full Span or less
Independent Linearity : +/- 5% of Full Span or less

3.2 MATERIAL OF CONSTRUCTION & SPECIFICATION

Seat Ring : S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath or equivalent
Plug Material: S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath and Guide or equivalent
Guide Material : SS 410 / SS 440C or equivalent.

4.0 ACTUATOR :

4.1 DESIGN PARAMETERS:

Actuator action : Direct, Normally / Fail open, Air to Close.
Servo & Signal Supply Medium: Natural Gas
Servo gas supply pressure : 20 psig (1.4 kg / sq. cm) (maximum)
Actuator Shutoff pressure : 1.2 times Maximum inlet pressure
Gas/Air connection : ¼ inch NPT (F)

4.2 MATERIAL OF CONSTRUCTION & SPECIFICATION

Actuator type: Yolk mounted, spring loaded, pneumatic diaphragm operated.
Diaphragm material: Chloroprene/Neoprene rubber with fabric reinforced / equivalent or superior material suitable for natural gas as servo.
Spring material : Spring Steel (Epoxy coated)
Casing : Weather proof, Corrosion Resistant, Pressed steel, Epoxy coated
Plug, diaphragm & Stem connection : Clamp type (threaded stem)
Stroke Scale : Required.

5.0 POSITIONER :

5.1 DESIGN PARAMETERS:

Split Range: Single Valve
Output action : Direct /Field reversible
Output characteristics :Linear
Servo & input Signal Supply Medium : Natural Gas
Input signal Pressure : 3 – 15 psig (0.21 -1.05 Kg/sq cm)
Servo gas supply Pressure : 20 psig (1.4 Kg/Sq cm) (maximum)
Maximum Steady?State Servo Gas Consumption: 14.0 scfh
Operating Temperature Limit: Upto 60 degree C
Gas/Air connection Point: ¼ inch NPT (F)
Hysteresis Error : +/- 1% of Full Span or less
Independent Linearity : +/- 1% of Full Span or less

	Dead band : +/- 0.5% of Full Span or less 5.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Type : Pneumatic, Linear Stem slide control, Single acting Independent adjustment of zero and span : Required Adjustable amplification & dampening: Required Adjustable Stem travel: Required Valve Postiton indicator: Required. Pressure Gauge: Required for Inlet, output & Instrument(Signal), 40 mm (1.5")Dia, dual scale (psig & Kg/cm2), MS Powder coated/plastic casing, ¼ inch NPT brass connection, Enclosure : Weatherproof, with screened venting at bottom/side Tube fitting : Complete with necessary SS tube fitting of size suitable for application. 6.0 AIR/GAS FILTER REGULATOR : 6.1 DESIGN PARAMETERS: Setting Range : 0 to 7.0 Kg/sq cm Inlet & Oulet connection: ¼" NPTF Filter porosity : 5 Micron 6.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Filter material : Cintered Bronze or equivalent Pressure Gauge : Required. Drain : Required Manual. 7.0 COMPANION FLANGE AND STUDS & NUTS : 7.1 DESIGN PARAMETERS: Flange : Flange Size & Class : Same as End connection Studs & Nuts : As required 7.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Flange : Raised faced Serrated as per ANSI B-16.5 & line pipe threaded as per API5B. Studs & Nuts : Studs as per SA-193-B7 & Nuts as per SA-193-2H.	
20 (Mat. Code-99065824)	**VALVE,CONTROL,PRESSURE,150MM(6")NB,150Class** Diaphragm operated pneumatic control valve along with positioner and air filter regulator, complete with companion flange and requisite number of Studs& Nuts, as per the following specification. 1.0 SERVICE CONDITION: Fluid to be handled : Sweet Natural Gas contaminated with water. Gas Gravity : 0.65-0.70 Normal Operating Temp : 45 Deg C. Maximum Throughput : 0.30 MMSCMD Normal Throughput : 0.20 MMSCMD Minimum Throughput : 0.15 MMSCMD Maximum Inlet Pressure : 6.0 Kg/sq.cm Normal Inlet Pressure : 3.5 Kg/sq.cm	**15 Nos.**

Minimum Inlet Pressure : 1.0 Kg/sq.cm
Maximum Outlet Pressure : 2.5 Kg/sq.cm
Normal Outlet Pressure : 2.1 Kg/sq.cm
Minimum Outlet Pressure : 0.7 Kg/sq.cm

2.0 VALVE BODY & BONNET:

2.1 DESIGN PARAMETERS:
Valve Size & Rating : 150MM(6")NB,150Class
End connection Size & Rating : Flanged,150MM(6")NB,150Class,Raised face Serrated.

2.2 MATERIAL OF CONSTRUCTION & SPECIFICATION:

Body Style: Globe, Straight through type
Body and Bonnet Material: Cast carbon Steel (ASTM A-216, Gr. WCB/WCC or ASTM A352, Gr. LCB/LCC), epoxy painted. The casting must be of radiographic quality as per ASTM B16.34.
Body End Connection: Flanges conforming to ANSI B-16.5. Face-to-face dimension as per ANSI/ISA-75.08.01
Bonnet Style : Plain, Bolted
Bonnet Bolting: SA-193-B7 Studs/2H Nuts.
Gland Type : Bolted
Gland Packing: Double, PTFE V-ring or equivalent/superior, suitable for the handling fluid.
Stem Material: S31600 SST (SS 316) or equivalent. Finished to less than 4 micron.
Stem Size : Suitable for service condition. (To be specified by bidder).

3.0 TRIM :

3.1 DESIGN PARAMETERS:

No of Port : Single /Double (To be specified by bidder)
Seat Ring & Port Size : To be designed by bidder.
Flow Direction : Up / Both
Seat Ring Type: Threaded
Plug Design : Contoured
Plug Characteristics : Linear
Plug Balance : Unbalanced
Guiding : Top & Bottom / Top Post Guided, (To be specified by bidder).
Cage : Not required
Seat Leakage: Class IV as per ANSI/FCI 70.2 standard.
Noise level: <90 dBA within 1 meter area from the control valve.
Hysteresis Error : +/-3% of Full Span or less
Independent Linearity : +/- 5% of Full Span or less

3.2 MATERIAL OF CONSTRUCTION & SPECIFICATION

Seat Ring : S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath or equivalent
Plug Material: S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath and Guide or equivalent
Guide Material : SS 410 / SS 440C or equivalent.

4.0 ACTUATOR:
4.1 DESIGN PARAMETERS:

	Actuator action : Direct, Normally / Fail open, Air to Close. Servo & Signal Supply Medium: Natural Gas Servo gas supply pressure : 20 psig (1.4 kg / sq. cm) (maximum) Actuator Shutoff pressure : 1.2 times Maximum inlet pressure Gas/Air connection : ¼ inch NPT (F) 4.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Valve Size & Rating : 150MM(6")NB,150Class End connection Size & Rating : Flanged,150MM(6")NB,150Class,Raised face Serrated. 2.2 MATERIAL OF CONSTRUCTION & SPECIFICATION: Body Style: Globe, Straight through type Body and Bonnet Material: Cast carbon Steel (ASTM A-216, Gr. WCB/WCC or ASTM A352, Gr. LCB/LCC), epoxy painted. The casting must be of radiographic quality as per ASTM B16.34. Body End Connection: Flanges conforming to ANSI B-16.5. Face-to-face dimension as per ANSI/ISA-75.08.01 Bonnet Style : Plain, Bolted Bonnet Bolting: SA-193-B7 Studs/2H Nuts. Gland Type : Bolted Gland Packing: Double, PTFE V-ring or equivalent/superior, suitable for the handling fluid. Stem Material: S31600 SST (SS 316) or equivalent. Finished to less than 4 micron. Stem Size : Suitable for service condition. (To be specified by bidder). 3.0 TRIM : 3.1 DESIGN PARAMETERS: No of Port : Single /Double (To be specified by bidder) Seat Ring & Port Size : To be designed by bidder. Flow Direction : Up / Both Seat Ring Type: Threaded Plug Design : Contoured Plug Characteristics : Linear Plug Balance : Unbalanced Guiding : Top & Bottom / Top Post Guided, (To be specified by bidder). Cage : Not required Seat Leakage: Class IV as per ANSI/FCI 70.2 standard. Noise level: <90 dBA within 1 meter area from the control valve. Hysteresis Error : +/-3% of Full Span or less Independent Linearity : +/- 5% of Full Span or less 3.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Seat Ring : S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath or equivalent Plug Material: S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath and Guide or equivalent Guide Material : SS 410 / SS 440C or equivalent. 4.0 ACTUATOR: 4.1 DESIGN PARAMETERS: Actuator action : Direct, Normally / Fail open, Air to Close.	

	Servo & Signal Supply Medium: Natural Gas Servo gas supply pressure : 20 psig (1.4 kg / sq. cm) (maximum) Actuator Shutoff pressure : 1.2 times Maximum inlet pressure Gas/Air connection : ¼ inch NPT (F) 4.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Flange : Raised faced Serrated as per ANSI B-16.5 & line pipe threaded as per API5B. Studs & Nuts : Studs as per SA-193-B7 & Nuts as per SA-193-2H	
30 (Mat. Code-99065825)	**VALVE,CONTROL,PRESSURE,100MM(4")NB,300Class** Diaphragm operated pneumatic control valve along with positioner and air filter regulator, complete with companion flange and requisite number of Studs& Nuts, as per the following specification. 1.0 SERVICE CONDITION: Fluid to be handled : Sweet Natural Gas contaminated with water. Gas Gravity : 0.65-0.70 Normal Operating Temp : 45 Deg C. Maximum Throughput : 0.30 MMSCMD Normal Throughput : 0.20 MMSCMD Minimum Throughput : 0.15 MMSCMD Maximum Inlet Pressure : 23.0 Kg/sq.cm Normal Inlet Pressure : 21.0 Kg/sq.cm Minimum Inlet Pressure : 18.0 Kg/sq.cm Maximum Outlet Pressure : 20.0 Kg/sq.cm Normal Outlet Pressure : 18.0 Kg/sq.cm Minimum Outlet Pressure : 16.0 Kg/sq.cm 2.0 VALVE BODY & BONNET: 2.1 DESIGN PARAMETERS: Valve Size & Rating : 100MM(4")NB,300Class End connection Size & Rating : Flanged, 100MM(4")NB,300Class,Raised face Serrated. 2.2 MATERIAL OF CONSTRUCTION & SPECIFICATION: Body Style: Globe, Straight through type Body and Bonnet Material: Cast carbon Steel (ASTM A-216, Gr. WCB/WCC or ASTM A352, Gr. LCB/LCC), epoxy coated. Casting must be of radiographic quality as per ASTM B16.34. Body End Connection: Flanges conforming to ANSI B-16.5. Face-to-face dimension as per ANSI/ISA-75.08.01 Bonnet Style : Plain, Bolted Bonnet Bolting: SA-193-B7 Studs/2H Nuts. Gland Type : Bolted Gland Packing: Double, PTFE V-ring or equivalent/superior, suitable for the handling fluid. Stem Material: S31600 SST (SS 316) or equivalent. Finished to less than 4 micron. Stem Size : Suitable for service condition. (To be specified by bidder). 3.0 TRIM :	**22 Nos.**

3.1 DESIGN PARAMETERS:

No of Port : Single /Double (To be specified by bidder)
Seat Ring & Port Size : To be designed by bidder
Flow Direction : Up / Both
Seat Ring Type: Threaded /Clamped
Plug Design : Contoured
Plug Characteristics : Linear
Plug Balance : Unbalanced /Balanced (To be specified by bidder)
Guiding : Top & Bottom / Top Post Guided, Or Balanced Cage Guided(To be specified by bidder).
Cage Characteristics : Linear (applicable for balanced cage guided type only)
Seat Leakage: Class IV as per ANSI/FCI 70.2 standard.
Noise level: <90 dBA within 1 meter area from the control valve.
Hysteresis Error : +/-3% of Full Span or less
Independent Linearity : +/- 5% of Full Span or less

3.2 MATERIAL OF CONSTRUCTION & SPECIFICATION

Seat Ring : S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath or equivalent
Plug Material: S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath and Guide or equivalent
Cage Material: CF8M SST /SS 420 / UNS S17400 SS (17Cr-4Ni Precipitation Hardened SS) / or equivalent. (applicable for balanced cage guided type only)

4.0 ACTUATOR:

4.1 DESIGN PARAMETERS:

Actuator action : Direct, Normally / Fail open, Air to Close.
Servo & Signal Supply Medium: Natural Gas
Servo gas supply pressure : 20 psig (1.4 kg / sq. cm) (maximum)
Actuator Shutoff pressure : 1.2 times Maximum inlet pressure
Gas/Air connection : ¼ inch NPT (F)

4.2 MATERIAL OF CONSTRUCTION & SPECIFICATION

Actuator type: Yolk mounted, spring loaded, pneumatic diaphragm operated.
Diaphragm material: Chloroprene/Neoprene rubber with fabric reinforced / equivalent or superior material suitable for natural gas as servo.
Spring material : Spring Steel (Epoxy coated)
Casing : Weather proof, Corrosion Resistant, Pressed steel, Epoxy coated
Plug, diaphragm & Stem connection : Clamp type (threaded stem)
Stroke Scale : Required.

5.0 POSITIONER :

5.1 DESIGN PARAMETERS:

Split Range: Single Valve
Output action : Direct /Field reversible
Output characteristics :Linear
Servo & input Signal Supply Medium : Natural Gas

	Input signal Pressure : 3 – 15 psig (0.21 -1.05 Kg/sq cm) Servo gas supply Pressure : 20 psig (1.4 Kg/Sq cm) (maximum) Maximum Steady?State Servo Gas Consumption: 14.0 scfh Operating Temperature Limit: Upto 60 degree C Gas/Air connection Point: ¼ inch NPT (F) Hysteresis Error : +/- 1% of Full Span or less Independent Linearity : +/- 1% of Full Span or less Dead band : +/- 0.5% of Full Span or less 5.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Type : Pneumatic, Linear Stem slide control, Single acting Independent adjustment of zero and span : Required Adjustable amplification & dampening: Required Adjustable Stem travel: Required Valve Postiton indicator: Required. Pressure Gauge: Required for Inlet, output & Instrument(Signal), 40 mm (1.5")Dia, dual scale (psig & Kg/cm2), MS Powder coated/plastic casing, ¼ inch NPT brass connection, Enclosure : Weatherproof, with screened venting at bottom/side Enclosure Rating : Ingression protection rating IP65 or IP66. Tube fitting : Complete with necessary SS tube fitting of size suitable for application. 6.0 AIR/GAS FILTER REGULATOR : 6.1 DESIGN PARAMETERS: Setting Range : 0 to 7.0 Kg/sq cm Inlet & Oulet connection: ¼" NPTF Filter porosity : 5 Micron 6.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Filter material : Cintered Bronze or equivalent Pressure Gauge : Required. Drain : Required Manual. 7.0 COMPANION FLANGE AND STUDS & NUTS : 7.1 DESIGN PARAMETERS: Flange Size & Class : Same as End Connection Studs & Nuts : As required 7.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Flange : Raised faced Serrated as per ANSI B-16.5 & line pipe threaded as per API5B. Studs & Nuts : Studs as per SA-193-B7 & Nuts as per SA-193-2H	
40 (Mat. Code-99065827)	**VALVE,CONTROL,PRESSURE,75MM(3")NB,300Class** Diaphragm operated motor/control valve, direct on line type along with valve positioned as one complete unit to the following specification & general requirement Size: 76.2mm (3") X ANSI 300 Class RF Control action - air to close, normally open. Body: Globe, straight, through type.	**02 Nos.**

	Body materials: Cast carbon steel (ASTM A 216 Gr. WCB). No. of ports : Double Bonnet : Plain bonnet Trim (seat ring & plug) : 316 SS with stellited facing (on seat & entire surface of the plug). Gland type : Bolted gland Seat ring & port size : Full Plug characteristic : Quick opening or throttling with linear or equal percentage characteristic. Stem : Standard Stuffing box packing : ENVIRO SEAL PTFE / equivalent or superior material. Diaphragm material : Chloroprene rubber with fabric reinforced/ equivalent or superior material. Actuator type : Spring loaded pneumatic operated diaphragm Spring range : 0.2 to 1.0 kg / square cm (maximum) Air supply pressure : 1.4 kg / square cm (maximum) Spring materials : Stainless steel (Cadmium plated) Mounting : Field mounted Plug, diaphragm & Stem connection : Clamp type(threaded) Valve positionar : Required Temperature range: 5 degree C to 45 degree C. Actuator action : Field reversible type End connection : Flanged type, raised face as per ANSI B 16.5 specification Air connection : ¼ inch NPT (F) Fluid to be handled: sweet natural gas contaminated with water. Seat leakage classification : CLASS IV (as per ANSI/FCI 70-2-2006 Standard) Hysteresis error : 3% FS or less Linearity : +/- 5% FS or less Rangeability : 30:1 Noise level: <90 dBA within 1 meter area from the valve. Casing : Weather proof The actuator yoke shall be provided with necessary arrangement for clamping pneumatic pressure indicating controller. 1.0 Positioner: 1.1 DESIGN PARAMETERS: Split Range: Single Valve Output action: Direct /Field reversible Output characteristics: Linear Servo & input Signal Supply Medium: Natural Gas Input signal Pressure: 3 – 15 psig (0.21 -1.05 Kg/sq cm) Servo gas supply Pressure: 20 psig (1.4 Kg/Sq cm) (maximum) Maximum Steady State Servo Gas Consumption: 14.0 scfh Operating Temperature Limit: Upto 60 degree C Gas/Air connection Point: ¼ inch NPT (F) Hysteresis Error: +/- 1% of Full Span or less Independent Linearity: +/- 1% of Full Span or less Dead band: +/- 0.5% of Full Span or less 1.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Type : Pneumatic, Linear Stem slide control, Single acting Independent adjustment of zero and span : Required Adjustable amplification & dampening: Required	

	Adjustable Stem travel: Required Valve Position indicator: Required. Pressure Gauge: Required for Inlet, output & Instrument (Signal), 40 mm (1.5") Dia, dual scale (psig & Kg/cm2), MS Powder coated/plastic casing, ¼ inch NPT brass connection, Enclosure: Weatherproof, with screened venting at bottom/side Tubes & tube fittings: Complete with necessary SS tubes & tube fittings of size suitable for application. 2.0 Air/Gas Filter Regulator : 2.1 DESIGN PARAMETERS: Setting Range: 0 to 7.0 Kg/sq cm Inlet & Outlet connection: ¼" NPTF Filter porosity: 5 Micron 2.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Filter material: Sintered Bronze or equivalent Pressure Gauge: Required. Drain: Required Manual	
50 (Mat. Code-99065822)	**VALVE,CONTROL,PRESSURE,50MM(2")NB,300Class** Diaphragm operated control valves with valve positioner . 50.8mm (2")x ANSI 300 Class RF Control action - normally open, on air supply valve to close. Upstream pressure - 25 kg/cm2 Min CV - 50 Supply of diaphragm operated motor/control valve, direct on line type along with valve positioner as one complete unit to the following specification & general requirement - Body : Globe, straight, through type. Body materials : Cast carbon steel (ASTM A 216 Gr. WCB). No. of ports : Double Bonnet : Plain bonnet Trim (seat ring & plug) : 316 SS with stellited facing (on seat & entire surface of the plug). Gland type : Bolted gland Seat ring & port size : Full Plug characteristic : Quick opening or throttling with linear or equal percentage characteristic. Stem : Standard Stuffing box packing : ENVIRO SEAL PTFE / equivalent or superior material. Diaphragm material : Chloroprene rubber with fabric reinforced/ equivalent or superior material. Actuator type : Spring loaded pneumatic operated diaphragm (single spring) Spring range : 0.2 to 1.0 kg / square cm (maximum) Air supply pressure : 1.4 kg / square cm (maximum) Spring materials : Stainless steel (Cadmium plated) Mounting : Field mounted Plug, diaphragm & Stem connection : Clamp type(threaded) Valve positionar : Required Temperature range : 5 degree to 45 degree C.	**09 Nos.**

	Actuator action : Field reversible type End connection : Flanged type, raised face as per ANSI B 16.5 specification Air connection : ¼ inch NPT (F) Fluid to be handled : sweet natural gas contaminated with water. Seat leakage classification : CLASS IV (as per ANSI/FCI 70-2-1991 Standard) Hysteresis error : 3% FS or less Linearity : +/- 5% FS or less Rangeability : 30:1 Casing : Weather proof The actuator yoke shall be provided with necessary arrangement for clamping pneumatic pressure indicating controller. 1.0 Positioner: 1.1 DESIGN PARAMETERS: Split Range: Single Valve Output action: Direct /Field reversible Output characteristics: Linear Servo & input Signal Supply Medium: Natural Gas Input signal Pressure: 3 – 15 psig (0.21 -1.05 Kg/sq cm) Servo gas supply Pressure: 20 psig (1.4 Kg/Sq cm) (maximum) Maximum Steady State Servo Gas Consumption: 14.0 scfh Operating Temperature Limit: Upto 60 degree C Gas/Air connection Point: ¼ inch NPT (F) Hysteresis Error: +/- 1% of Full Span or less Independent Linearity: +/- 1% of Full Span or less Dead band: +/- 0.5% of Full Span or less 1.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Type : Pneumatic, Linear Stem slide control, Single acting Independent adjustment of zero and span : Required Adjustable amplification & dampening: Required Adjustable Stem travel: Required Valve Position indicator: Required. Pressure Gauge: Required for Inlet, output & Instrument (Signal), 40 mm (1.5") Dia, dual scale (psig & Kg/cm2), MS Powder coated/plastic casing, ¼ inch NPT brass connection, Enclosure: Weatherproof, with screened venting at bottom/side Tubes & tube fittings: Complete with necessary SS tubes & tube fittings of size suitable for application. 2.0 Air/Gas Filter Regulator : 2.1 DESIGN PARAMETERS: Setting Range: 0 to 7.0 Kg/sq cm Inlet & Outlet connection: ¼" NPTF Filter porosity: 5 Micron 2.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Filter material: Sintered Bronze or equivalent	

	Pressure Gauge: Required. Drain: Required Manual	
60 (Mat. Code-99066649)	**VALVE,CONTROL,LIQUID LEVEL,50MM(2")NB,300Class** Diaphragm operated pneumatic control valve along with positioned and air filter regulator, complete with companion flange and requisite number of Studs& Nuts, as per the following specification. 1.0 SERVICE CONDITION: Fluid to be handled : Crude Oil mixed with formation water. Gas Gravity : 0.85 Normal Operating Temp: 45 Deg C. Maximum Throughput : 900 KLPD Normal Throughput : 600 KLPD Minimum Throughput : 400 KLPD Maximum Inlet Pressure : 23.0 Kg/sq.cm Normal Inlet Pressure : 21.0 Kg/sq.cm Minimum Inlet Pressure : 18.0 Kg/sq.cm Maximum Outlet Pressure : 6.0 Kg/sq.cm Normal Outlet Pressure : 5.0 Kg/sq.cm Minimum Outlet Pressure : 3.5 Kg/sq.cm 2.0 VALVE BODY & BONNET: 2.1 DESIGN PARAMETERS: Valve Size & Rating : 50MM(2")NB,300Class End connection Size &Rating : Flanged,50MM(2")NB,300Class,Raised face Serrated. 2.2 MATERIAL OF CONSTRUCTION & SPECIFICATION: Body Style: Globe, Straight through type Body and Bonnet Material: Cast carbon Steel (ASTM A-216, Gr. WCB/WCC or ASTM A352, Gr. LCB/LCC), epoxy painted. Casting must be of radiographic quality as per ASTM B16.34. Body End Connection: Flanges conforming to ANSI B-16.5. Face-to-face dimension as per ANSI/ISA-75.08.01 Bonnet Style : Plain, Bolted Bonnet Bolting: SA-193-B7 Studs/2H Nuts. Gland Type : Bolted Gland Packing: Double, PTFE V-ring or equivalent/superior, suitable for the handling fluid. Stem Material: S31600 SST (SS 316) or equivalent. Finished to less than 4 micron. Stem Size : Suitable for service condition. (To be specified by bidder). 3.0 TRIM :	**02 Nos.**

3.1 DESIGN PARAMETERS:
No of Port : Single /Double (To be specified by bidder).
Seat Ring & Port Size : To be designed by bidder.
Flow Direction : Up / Both
Seat Ring Type: Threaded
Plug Design : Contoured
Plug Characteristics : Linear
Plug Balance : Unbalanced
Guiding : Top & Bottom / Top Post Guided, (To be specified by bidder).
Cage : Not required
Seat Leakage: Class IV as per ANSI/FCI 70.2 standard.
Noise level: <90 dBA within 1 meter area from the control valve.
Hysteresis Error : +/-3% of Full Span or less
Independent Linearity : +/- 5% of Full Span or less

3.2 MATERIAL OF CONSTRUCTION & SPECIFICATION

Seat Ring : S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath or equivalent
Plug Material: S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A
(Stellite 6) Sheath and Guide or equivalent
Guide Material : SS 410 / SS 440C or equivalent.

4.0 ACTUATOR :

4.1 DESIGN PARAMETERS:

Actuator action : Direct, Normally / Fail Close , Air to open.
Servo & Signal Supply Medium: Natural Gas
Servo gas supply pressure : 20 psig (1.4 kg / sq. cm) (maximum)
Actuator Shutoff pressure : 1.2 times Maximum inlet pressure
Gas/Air connection : ¼ inch NPT (F)

4.2 MATERIAL OF CONSTRUCTION & SPECIFICATION

Actuator type: Yolk mounted, spring loaded, pneumatic diaphragm operated.
Diaphragm material: Chloroprene/Neoprene rubber with fabric reinforced /
equivalent or superior material suitable for natural gas as servo.
Spring material : Spring Steel (Epoxy coated)
Casing : Weather proof, Corrosion Resistant, Pressed steel, Epoxy coated
Plug, diaphragm & Stem connection : Clamp type (threaded stem)
Stroke Scale : Required.

5.0 POSITIONER :

5.1 DESIGN PARAMETERS:

Split Range: Single Valve
Output action: Direct /Field reversible
Output characteristics: Linear
Servo & input Signal Supply Medium: Natural Gas
Input signal Pressure: 3 – 15 psig (0.21 -1.05Kg/sq cm)
Servo gas supply Pressure: 20 psig (1.4 Kg/Sq cm) (maximum)
Maximum Steady State Servo Gas Consumption: 14.0 scfh

	Operating Temperature Limit: Upto 60 degree C Gas/Air connection Point: ¼ inch NPT (F) Hysteresis Error: +/- 1% of Full Span or less Independent Linearity: +/- 1% of Full Span or less Dead band: +/- 0.5% of Full Span or less 5.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Type : Pneumatic, Linear Stem slide control, Single acting Independent adjustment of zero and span : Required Adjustable amplification & dampening: Required Adjustable Stem travel: Required Valve Position indicator: Required. Pressure Gauge: Required for Inlet, output & Instrument (Signal), 40 mm (1.5") Dia, dual scale (psig & Kg/cm2), MS Powder coated/plastic casing, ¼ inch NPT brass connection, Enclosure: Weatherproof, with screened venting at bottom/side Tube fitting: Complete with necessary SS tube fitting of size suitable for application. 6.0 AIR/GAS FILTER REGULATOR: 6.1 DESIGN PARAMETERS: Setting Range: 0 to 7.0 Kg/sq cm Inlet & Outlet connection: ¼" NPTF Filter porosity: 5 Micron 6.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Filter material: Sintered Bronze or equivalent Pressure Gauge: Required. Drain: Required Manual. 7.0 COMPANION FLANGE AND STUDS & NUTS : 7.1 DESIGN PARAMETERS: Flange : Flange Size & Class : Same as End connection Studs & Nuts : As required 7.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Flange : Raised faced Serrated as per ANSI B-16.5 & line pipe threaded as per API5B. Studs & Nuts : Studs as per SA-193-B7 & Nuts as per SA-193-2H	
70 (Mat. Code-99066648)	**VALVE,CONTROL,LIQUID LEVEL,50MM(2")NB,150Class** Diaphragm operated motor/control valve, direct on line type along with valve positioned as one complete unit to the following specification & general requirement Size:(2") x ANSI 150 class RF Control action - air supply to open, normally closed. Body : Globe, straight, through type. Body materials : Cast carbon steel (ASTM A 216 Gr. WCB).	**02 Nos.**

	No. of ports : Double Bonnet : Plain bonnet Trim (seat ring & plug) : 316 SS with stellited facing (on seat & entire surface of the plug). Gland type : Bolted gland Seat ring & port size : Full Plug characteristic : Quick opening or throttling with linear or equal percentage characteristic. Stem : Standard Stuffing box packing : ENVIRO SEAL PTFE / equivalent or superior material. Diaphragm material : Chloroprene rubber with fabric reinforced/ equivalent or superior material. Actuator type : Spring loaded pneumatic operated diaphragm Spring range : 0.2 to 1.0 kg / square cm (maximum) Air supply pressure : 1.4 kg / square cm (maximum) Spring materials : Stainless steel (Cadmium plated) Mounting : Field mounted Plug, diaphragm & Stem connection : Clamp type (threaded) Valve positionar : Required Temperature range : 5 degree C to 45 degree C. Actuator action : Field reversible type End connection : Flanged type, raised face as per ANSI B 16.5 specification Air connection : ¼ inch NPT (F) Fluid to be handled : Crude oil + water Seat leakage classification : CLASS IV (as per ANSI/FCI 70-2-2006 Standard) Hysteresis error : 3% FS or less Linearity : +/- 5% FS or less Rangeability : 30:1 Noise level: <90 dBA within 1 meter area from the valve. Casing : Weather proof The actuator yoke shall be provided with necessary arrangement 1.0 Positioner: 1.1 DESIGN PARAMETERS: Split Range: Single Valve Output action: Direct /Field reversible Output characteristics: Linear Servo & input Signal Supply Medium: Natural Gas Input signal Pressure: 3 – 15 psig (0.21 -1.05 Kg/sq cm) Servo gas supply Pressure: 20 psig (1.4 Kg/Sq cm) (maximum) Maximum Steady State Servo Gas Consumption: 14.0 scfh Operating Temperature Limit: Upto 60 degree C Gas/Air connection Point: ¼ inch NPT (F) Hysteresis Error: +/- 1% of Full Span or less Independent Linearity: +/- 1% of Full Span or less Dead band: +/- 0.5% of Full Span or less 1.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Type : Pneumatic, Linear Stem slide control, Single acting Independent adjustment of zero and span : Required Adjustable amplification & dampening: Required Adjustable Stem travel: Required Valve Position indicator: Required.	

	Pressure Gauge: Required for Inlet, output & Instrument (Signal), 40 mm (1.5") Dia, dual scale (psig & Kg/cm2), MS Powder coated/plastic casing, ¼ inch NPT brass connection, Enclosure: Weatherproof, with screened venting at bottom/side Tubes & tube fittings: Complete with necessary SS tubes & tube fittings of size suitable for application. 2.0 Air/Gas Filter Regulator : 2.1 DESIGN PARAMETERS: Setting Range: 0 to 7.0 Kg/sq cm Inlet & Outlet connection: ¼" NPTF Filter porosity: 5 Micron 2.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Filter material: Sintered Bronze or equivalent Pressure Gauge: Required. Drain: Required Manual.	
80 (Mat. Code-99066650)	**VALVE,CONTROL,LIQUID LEVEL,100MM(4")NB,150Class** Diaphragm operated pneumatic control valve along with positioner and air filter regulator, complete with companion flange and requisite number of Studs& Nuts, as per the following specification. 1.0 SERVICE CONDITION: Fluid to be handled : Crude Oil mixed with formation water. Gas Gravity : 0.85 Normal Operating Temp : 45 Deg C. Maximum Throughput : 900 KLPD Normal Throughput : 600 KLPD Minimum Throughput : 400 KLPD Maximum Inlet Pressure : 6.0 Kg/sq.cm Normal Inlet Pressure : 3.5 Kg/sq.cm Minimum Inlet Pressure : 1.0 Kg/sq.cm Maximum Outlet Pressure : 3.5 Kg/sq.cm Normal Outlet Pressure : 2.0 Kg/sq.cm Minimum Outlet Pressure : 0.8 Kg/sq.cm 2.0 VALVE BODY & BONNET: 2.1 DESIGN PARAMETERS: Valve Size & Rating : 100MM(4")NB,150Class End connection Size & Rating : Flanged,100MM(4")NB,150Class,Raised face Serrated. 2.2 MATERIAL OF CONSTRUCTION & SPECIFICATION:	**06 Nos.**

	Body Style: Globe, Straight through type Body and Bonnet Material: Cast carbon Steel (ASTM A-216, Gr. WCB/WCC or ASTM A352, Gr. LCB/LCC), epoxy painted. Casting must be of radiographic quality as per ASTM B16.34. Body End Connection: Flanges conforming to ANSI B-16.5. Face-to-face dimension as per ANSI/ISA-75.08.01 Bonnet Style : Plain, Bolted Bonnet Bolting: SA-193-B7 Studs/2H Nuts. Gland Type : Bolted Gland Packing: Double, PTFE V-ring or equivalent/superior, suitable for the handling fluid. Stem Material: S31600 SST (SS 316) or equivalent. Finished to less than 4 micron. Stem Size : Suitable for service condition. (To be specified by bidder). 3.0 TRIM : 3.1 DESIGN PARAMETERS: No of Port : Single /Double (To be specified by bidder). Seat Ring & Port Size : To be designed by bidder. Flow Direction : Up / Both Seat Ring Type: Threaded Plug Design : Contoured Plug Characteristics : Linear Plug Balance : Unbalanced Guiding : Top & Bottom / Top Post Guided, (To be specified by bidder). Cage : Not required Seat Leakage: Class IV as per ANSI/FCI 70.2 standard. Noise level: <90 dBA within 1 meter area from the control valve. Hysteresis Error : +/-3% of Full Span or less Independent Linearity : +/- 5% of Full Span or less 3.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Seat Ring : S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath or equivalent Plug Material: S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath and Guide or equivalent Guide Material : SS 410 / SS 440C or equivalent. 4.0 ACTUATOR : 4.1 DESIGN PARAMETERS: Actuator action : Direct, Normally / Fail Close , Air to open. Servo & Signal Supply Medium: Natural Gas Servo gas supply pressure : 20 psig (1.4 kg / sq. cm) (maximum) Actuator Shutoff pressure : 1.2 times Maximum inlet pressure Gas/Air connection : ¼ inch NPT (F) 4.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Actuator type: Yolk mounted, spring loaded, pneumatic diaphragm operated. Diaphragm material: Chloroprene/Neoprene rubber with fabric	

reinforced /
equivalent or superior material suitable for natural gas as servo.
Spring material : Spring Steel (Epoxy coated)
Casing : Weather proof, Corrosion Resistant, Pressed steel, Epoxy coated
Plug, diaphragm & Stem connection : Clamp type (threaded stem)
Stroke Scale : Required.

5.0 POSITIONER :

5.1 DESIGN PARAMETERS:

Split Range: Single Valve
Output action: Direct /Field reversible
Output characteristics: Linear
Servo & input Signal Supply Medium: Natural Gas
Input signal Pressure: 3 – 15 psig (0.21 -1.05 Kg/sq cm)
Servo gas supply Pressure: 20 psig (1.4 Kg/Sq cm) (maximum)
Maximum Steady State Servo Gas Consumption: 14.0 scfh
Operating Temperature Limit: Upto 60 degree C
Gas/Air connection Point: ¼ inch NPT (F)
Hysteresis Error: +/- 1% of Full Span or less
Independent Linearity: +/- 1% of Full Span or less
Dead band: +/- 0.5% of Full Span or less

5.2 MATERIAL OF CONSTRUCTION & SPECIFICATION

Type : Pneumatic, Linear Stem slide control, Single acting
Independent adjustment of zero and span : Required
Adjustable amplification & dampening: Required
Adjustable Stem travel: Required
Valve Position indicator: Required.
Pressure Gauge: Required for Inlet, output & Instrument (Signal), 40 mm
(1.5") Dia, dual scale (psig & Kg/cm2), MS Powder coated/plastic casing,
¼ inch NPT brass connection,
Enclosure: Weatherproof, with screened venting at bottom/side
Tube fitting: Complete with necessary SS tube fitting of size suitable for application.
6.0 AIR/GAS FILTER REGULATOR:

6.1 DESIGN PARAMETERS:

Setting Range: 0 to 7.0 Kg/sq cm
Inlet & Outlet connection: ¼" NPTF
Filter porosity: 5 Micron

6.2 MATERIAL OF CONSTRUCTION & SPECIFICATION

Filter material: Sintered Bronze or equivalent
Pressure Gauge: Required.
Drain: Required Manual.
7.0 COMPANION FLANGE AND STUDS & NUTS :

7.1 DESIGN PARAMETERS:

Flange : Flange Size & Class : Same as End connection
Studs & Nuts : As required

	7.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Flange : Raised faced Serrated as per ANSI B-16.5 & line pipe threaded as per API5B. Studs & Nuts : Studs as per SA-193-B7 & Nuts as per SA-193-2H	
90 (Mat. Code-99066682)	**VALVE,CONTROL,LIQUID LEVEL,100MM(4")NB,300Class** Diaphragm operated pneumatic control valve along with positioned and air filter regulator, complete with companion flange and requisite number of Studs& Nuts, as per the following specification. 1.0 SERVICE CONDITION: Fluid to be handled : Crude Oil mixed with formation water. Gas Gravity : 0.85 Normal Operating Temp : 45 Deg C. Maximum Throughput : 900 KLPD Normal Throughput : 600 KLPD Minimum Throughput : 400 KLPD Maximum Inlet Pressure : 23.0 Kg/sq.cm Normal Inlet Pressure : 21.0 Kg/sq.cm Minimum Inlet Pressure : 18.0 Kg/sq.cm Maximum Outlet Pressure : 6.0 Kg/sq.cm Normal Outlet Pressure : 5.0 Kg/sq.cm Minimum Outlet Pressure : 3.5 Kg/sq.cm 2.0 VALVE BODY & BONNET: 2.1 DESIGN PARAMETERS: Valve Size & Rating : 100MM(4")NB,300Class End connection Size & Rating : Flanged,100MM(4")NB,300Class,Raised face Serrated. 2.2 MATERIAL OF CONSTRUCTION & SPECIFICATION: Body Style: Globe, Straight through type Body and Bonnet Material: Cast carbon Steel (ASTM A-216, Gr. WCB/WCC or ASTM A352, Gr. LCB/LCC), epoxy painted. Casting must be of radiographic quality as per ASTM B16.34. Body End Connection: Flanges conforming to ANSI B-16.5. Face-to-face dimension as per ANSI/ISA-75.08.01 Bonnet Style : Plain, Bolted Bonnet Bolting: SA-193-B7 Studs/2H Nuts. Gland Type : Bolted Gland Packing: Double, PTFE V-ring or equivalent/superior, suitable for the handling fluid. Stem Material: S31600 SST (SS 316) or equivalent. Finished to less than 4 micron.	**05 Nos.**

Stem Size : Suitable for service condition. (To be specified by bidder).

3.0 TRIM :

3.1 DESIGN PARAMETERS:

No of Port : Single /Double (To be specified by bidder).
Seat Ring & Port Size : To be designed by bidder.
Flow Direction : Up / Both
Seat Ring Type: Threaded
Plug Design : Contoured
Plug Characteristics : Linear
Plug Balance : Unbalanced
Guiding : Top & Bottom / Top Post Guided, (To be specified by bidder).
Cage : Not required
Seat Leakage: Class IV as per ANSI/FCI 70.2 standard.
Noise level: <90 dBA within 1 meter area from the control valve.
Hysteresis Error : +/-3% of Full Span or less
Independent Linearity : +/- 5% of Full Span or less

3.2 MATERIAL OF CONSTRUCTION & SPECIFICATION

Seat Ring : S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath or equivalent
Plug Material: S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A
(Stellite 6) Sheath and Guide or equivalent
Guide Material : SS 410 / SS 440C or equivalent.

4.0 ACTUATOR :

4.1 DESIGN PARAMETERS:

Actuator action : Direct, Normally / Fail Close , Air to open.
Servo & Signal Supply Medium: Natural Gas
Servo gas supply pressure : 20 psig (1.4 kg / sq. cm) (maximum)
Actuator Shutoff pressure : 1.2 times Maximum inlet pressure
Gas/Air connection : ¼ inch NPT (F)

4.2 MATERIAL OF CONSTRUCTION & SPECIFICATION

Actuator type: Yolk mounted, spring loaded, pneumatic diaphragm operated.
Diaphragm material: Chloroprene/Neoprene rubber with fabric reinforced /
equivalent or superior material suitable for natural gas as servo.
Spring material : Spring Steel (Epoxy coated)
Casing : Weather proof, Corrosion Resistant, Pressed steel, Epoxy coated
Plug, diaphragm & Stem connection : Clamp type (threaded stem)
Stroke Scale : Required.

5.0 POSITIONER :

5.1 DESIGN PARAMETERS:

Split Range: Single Valve
Output action: Direct /Field reversible
Output characteristics: Linear

	Servo & input Signal Supply Medium: Natural Gas Input signal Pressure: 3 – 15 psig (0.21 -1.05 Kg/sq cm) Servo gas supply Pressure: 20 psig (1.4 Kg/Sq cm) (maximum) Maximum Steady State Servo Gas Consumption: 14.0 scfh Operating Temperature Limit: Upto 60 degree C Gas/Air connection Point: ¼ inch NPT (F) Hysteresis Error: +/- 1% of Full Span or less Independent Linearity: +/- 1% of Full Span or less Dead band: +/- 0.5% of Full Span or less 5.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Type : Pneumatic, Linear Stem slide control, Single acting Independent adjustment of zero and span : Required Adjustable amplification & dampening: Required Adjustable Stem travel: Required Valve Position indicator: Required. Pressure Gauge: Required for Inlet, output & Instrument (Signal), 40 mm (1.5") Dia, dual scale (psig & Kg/cm2), MS Powder coated/plastic casing, ¼ inch NPT brass connection, Enclosure: Weatherproof, with screened venting at bottom/side Tube fitting: Complete with necessary SS tube fitting of size suitable for application. 6.0 AIR/GAS FILTER REGULATOR: 6.1 DESIGN PARAMETERS: Setting Range: 0 to 7.0 Kg/sq cm Inlet & Outlet connection: ¼" NPTF Filter porosity: 5 Micron 6.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Filter material: Sintered Bronze or equivalent Pressure Gauge: Required. Drain: Required Manual. 7.0 COMPANION FLANGE AND STUDS & NUTS : 7.1 DESIGN PARAMETERS: Flange : Flange Size & Class : Same as End connection Studs & Nuts : As required 7.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Flange : Raised faced Serrated as per ANSI B-16.5 & line pipe threaded as per API5B. Studs & Nuts : Studs as per SA-193-B7 & Nuts as per SA-193-2H	
100 (Mat. Code-99066681)	**VALVE,CONTROL,LIQUID LEVEL,150MM(6")NB,150Class** Diaphragm operated motor/control valve, direct on line type along with valve positioned as one complete unit to the following specification & general requirement Size:152.4mm (6") X ANSI 150 Class RF	**02 Nos.**

	Control action - air supply to open, normally closed. Body : Globe, straight, through type. Body materials : Cast carbon steel (ASTM A 216 Gr. WCB). No. of ports : Double Bonnet : Plain bonnet Trim (seat ring & plug) : 316 SS with stellited facing (on seat & entire surface of the plug). Gland type : Bolted gland Seat ring & port size : Full Plug characteristic : Quick opening or throttling with linear or equal percentage characteristic. Stem : Standard Stuffing box packing : ENVIRO SEAL PTFE / equivalent or superior material. Diaphragm material : Chloroprene rubber with fabric reinforced/ equivalent or superior material. Actuator type : Spring loaded pneumatic operated diaphragm Spring range : 0.2 to 1.0 kg / square cm (maximum) Air supply pressure : 1.4 kg / square cm (maximum) Spring materials : Stainless steel (Cadmium plated) Mounting : Field mounted Plug, diaphragm & Stem connection : Clamp type (threaded) Valve positionar : Required Temperature range : 5 degree C to 45 degree C. Actuator action : Field reversible type End connection : Flanged type, raised face as per ANSI B 16.5 specification Air connection : ¼ inch NPT (F) Fluid to be handled : Crude oil + water Seat leakage classification : CLASS IV (as per ANSI/FCI 70-2-2006 Standard) Hysteresis error : 3% FS or less Linearity : +/- 5% FS or less Rangeability : 30:1 Noise level: <90 dBA within 1 meter area from the valve. Casing : Weather proof The actuator yoke shall be provided with necessary arrangement for clamping pneumatic pressure indicating controller. 1.0 Positioner: 1.1 DESIGN PARAMETERS: Split Range: Single Valve Output action: Direct /Field reversible Output characteristics: Linear Servo & input Signal Supply Medium: Natural Gas Input signal Pressure: 3 – 15 psig (0.21 -1.05 Kg/sq cm) Servo gas supply Pressure: 20 psig (1.4 Kg/Sq cm) (maximum) Maximum Steady State Servo Gas Consumption: 14.0 scfh Operating Temperature Limit: Upto 60 degree C Gas/Air connection Point: ¼ inch NPT (F) Hysteresis Error: +/- 1% of Full Span or less Independent Linearity: +/- 1% of Full Span or less Dead band: +/- 0.5% of Full Span or less 1.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Type : Pneumatic, Linear Stem slide control, Single acting Independent adjustment of zero and span : Required	

	Adjustable amplification & dampening: Required Adjustable Stem travel: Required Valve Position indicator: Required. Pressure Gauge: Required for Inlet, output & Instrument (Signal), 40 mm (1.5") Dia, dual scale (psig & Kg/cm2), MS Powder coated/plastic casing, ¼ inch NPT brass connection, Enclosure: Weatherproof, with screened venting at bottom/side Tubes & tube fittings: Complete with necessary SS tubes & tube fittings of size suitable for application. 2.0 Air/Gas Filter Regulator : 2.1 DESIGN PARAMETERS: Setting Range: 0 to 7.0 Kg/sq cm Inlet & Outlet connection: ¼" NPTF Filter porosity: 5 Micron 2.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Filter material: Sintered Bronze or equivalent Pressure Gauge: Required. Drain: Required Manual.	
110 (Mat. Code-99066683)	**VALVE,CONTROL,LIQUID LEVEL,75MM(3")NB,150Class** Diaphragm operated motor/control valve, direct on line type along with valve positioned as one complete unit to the following specification & general requirement Size:76.2mm(3")XANSI 150 Class RF Control action - air supply to open, normally closed. Body : Globe, straight, through type. Body materials : Cast carbon steel (ASTM A 216 Gr. WCB). No. of ports : Double Bonnet : Plain bonnet Trim (seat ring & plug) : 316 SS with stellited facing (on seat & entire surface of the plug). Gland type : Bolted gland Seat ring & port size : Full Plug characteristic : Quick opening or throttling with linear or equal percentage characteristic. Stem : Standard Stuffing box packing : ENVIRO SEAL PTFE / equivalent or superior material. Diaphragm material : Chloroprene rubber with fabric reinforced/ equivalent or superior material. Actuator type : Spring loaded pneumatic operated diaphragm Spring range : 0.2 to 1.0 kg / square cm (maximum) Air supply pressure : 1.4 kg / square cm (maximum) Spring materials : Stainless steel (Cadmium plated) Mounting : Field mounted Plug, diaphragm & Stem connection : Clamp type (threaded) Valve positionar : Required Temperature range : 5 degree C to 45 degree C. Actuator action : Field reversible type End connection : Flanged type, raised face as per ANSI B 16.5 specification Air connection : ¼ inch NPT (F) Fluid to be handled : Crude oil + water	**01 No.**

	Seat leakage classification : CLASS IV (as per ANSI/FCI 70-2-2006 Standard) Hysteresis error : 3% FS or less Linearity : +/- 5% FS or less Rangeability : 30:1 Noise level: <90 dBA within 1 meter area from the valve. Casing : Weather proof The actuator yoke shall be provided with necessary arrangement for clamping pneumatic pressure indicating controller. 1.0 Positioner: 1.1 DESIGN PARAMETERS: Split Range: Single Valve Output action: Direct /Field reversible Output characteristics: Linear Servo & input Signal Supply Medium: Natural Gas Input signal Pressure: 3 – 15 psig (0.21 -1.05 Kg/sq cm) Servo gas supply Pressure: 20 psig (1.4 Kg/Sq cm) (maximum) Maximum Steady State Servo Gas Consumption: 14.0 scfh Operating Temperature Limit: Upto 60 degree C Gas/Air connection Point: ¼ inch NPT (F) Hysteresis Error: +/- 1% of Full Span or less Independent Linearity: +/- 1% of Full Span or less Dead band: +/- 0.5% of Full Span or less 1.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Type : Pneumatic, Linear Stem slide control, Single acting Independent adjustment of zero and span : Required Adjustable amplification & dampening: Required Adjustable Stem travel: Required Valve Position indicator: Required. Pressure Gauge: Required for Inlet, output & Instrument (Signal), 40 mm (1.5") Dia, dual scale (psig & Kg/cm2), MS Powder coated/plastic casing, ¼ inch NPT brass connection, Enclosure: Weatherproof, with screened venting at bottom/side Tubes & tube fittings: Complete with necessary SS tubes & tube fittings of size suitable for application. 2.0 Air/Gas Filter Regulator : 2.1 DESIGN PARAMETERS: Setting Range: 0 to 7.0 Kg/sq cm Inlet & Outlet connection: ¼" NPTF Filter porosity: 5 Micron 2.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Filter material: Sintered Bronze or equivalent Pressure Gauge: Required. Drain: Required Manual.	
120 (Mat. Code-	**VALVE,CONTROL,LIQUID LEVEL,75MM(3")NB,300 Class**	**01 No.**

99066684)	Diaphragm operated motor/control valve, direct on line type along with valve positioned as one complete unit to the following specification & general requirement Size:76.2mm(3")X ANSI 300 Class RF Control action - air supply to open, normally closed. Body : Globe, straight, through type. Body materials : Cast carbon steel (ASTM A 216 Gr. WCB). No. of ports : Double Bonnet : Plain bonnet Trim (seat ring & plug) : 316 SS with stellited facing (on seat & entire surface of the plug). Gland type : Bolted gland Seat ring & port size : Full Plug characteristic : Quick opening or throttling with linear or equal percentage characteristic. Stem : Standard Stuffing box packing : ENVIRO SEAL PTFE / equivalent or superior material. Diaphragm material : Chloroprene rubber with fabric reinforced/ equivalent or superior material. Actuator type : Spring loaded pneumatic operated diaphragm Spring range : 0.2 to 1.0 kg / square cm (maximum) Air supply pressure : 1.4 kg / square cm (maximum) Spring materials : Stainless steel (Cadmium plated) Mounting : Field mounted Plug, diaphragm & Stem connection : Clamp type (threaded) Valve positionar : Required Temperature range : 5 degree C to 45 degree C Actuator action : Field reversible type End connection : Flanged type, raised face as per ANSI B 16.5 specification Air connection : ¼ inch NPT (F) Fluid to be handled : Crude oil + water Seat leakage classification : CLASS IV (as per ANSI/FCI 70-2-2006 Standard) Hysteresis error : 3% FS or less Linearity : +/- 5% FS or less Rangeability : 30:1 Noise level: <90 dBA within 1 meter area from the valve. Casing : Weather proof The actuator yoke shall be provided with necessary arrangement for clamping pneumatic pressure indicating controller. 1.0 Positioner: 1.1 DESIGN PARAMETERS: Split Range: Single Valve Output action: Direct /Field reversible Output characteristics: Linear Servo & input Signal Supply Medium: Natural Gas Input signal Pressure: 3 – 15 psig (0.21 -1.05 Kg/sq cm) Servo gas supply Pressure: 20 psig (1.4 Kg/Sq cm) (maximum) Maximum Steady State Servo Gas Consumption: 14.0 scfh Operating Temperature Limit: Upto 60 degree C Gas/Air connection Point: ¼ inch NPT (F) Hysteresis Error: +/- 1% of Full Span or less Independent Linearity: +/- 1% of Full Span or less Dead band: +/- 0.5% of Full Span or less	

	1.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Type : Pneumatic, Linear Stem slide control, Single acting Independent adjustment of zero and span : Required Adjustable amplification & dampening: Required Adjustable Stem travel: Required Valve Position indicator: Required. Pressure Gauge: Required for Inlet, output & Instrument (Signal), 40 mm (1.5") Dia, dual scale (psig & Kg/cm2), MS Powder coated/plastic casing, ¼ inch NPT brass connection, Enclosure: Weatherproof, with screened venting at bottom/side Tubes & tube fittings: Complete with necessary SS tubes & tube fittings of size suitable for application. 2.0 Air/Gas Filter Regulator: 2.1 DESIGN PARAMETERS: Setting Range: 0 to 7.0 Kg/sq cm Inlet & Outlet connection: ¼" NPTF Filter porosity: 5 Micron 2.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Filter material: Sintered Bronze or equivalent Pressure Gauge: Required. Drain: Required Manual.	

BB :: <u>SPECIAL NOTES TO BIDDERS</u>

1. The bidder shall confirm that the goods, materials to be supplied shall be new, of recent make, of the best quality & workmanship. The bidder shall confirm that the materials shall be guaranteed for a period of 18 months from the date of despatch or 12 months from the date of receipt at destination, whichever is earlier, against defects arising from faulty materials, workmanship or design. Defective goods / materials or parts notified by OIL to the Seller shall be replaced immediately by the Seller on FOR destination basis including payment of all taxes and duties at Seller's expense. This guarantee shall survive and hold good not-withstanding inspection, payment for and acceptance of the goods.

2. The following documents/drawing/brochures shall be submitted along with technical bid:

   i. Detailed cross sectional drawing with Part list & Material of Construction (MOC)/ Material Specification,
   ii. General Arrangement Diagram (GAD) with dimensions,
   iii. Technical catalogue for the quoted valves,
   Manufacturer's QAP.

3. In the technical bid bidder shall submit the document of Capacity Test & Characteristic Curve of Control Valve as per ANSI/ISA 75.02 standard for one no of similar type of control valve manufactured by them.

4. Valve body shall be manufactured in / procured from EIL / Lloyds approved foundries. The foundry certificate & Casting Heat No shall be provided along with the

material supply.

5. The following tests shall be carried out and the test reports shall be submitted along with materials supply-
   a) Chemical Analysis & Mechanical Property Test of all materials of components of the valves as per EN10204 Standard.
   b) Radiographic testing of valve body & bonnet as per ASME SEC V / ASTM B16.34 Standard.
   c) Hydraulic test for pressure containing part (Shell Test) of each valve as per ASME B 16.34/ISA S 75.19.01 Standard at 1.5 times the rated pressure.
   d) Hydraulic test for Assembled valve (Body Mount Leak Test) of each valve as per ASME /ISA S 75.19.01 Standard at 1.1 times the rated pressure.
   e) Seat Leakage Tests for Class IV as per FCI 70.2 standard, using air or water with suitable inhibitor to prevent corrosion.
   f) Control Valve Capacity Test & plotting of Characteristic Curve of Control Valve for one no of each Purchase Order Item as per Purchase Order Specification and as per ANSI/ISA 75.02 standard.
   g) Actuator Leak Test as per relevant standard/ Manufacturer's QAP, using compressed air at 1.5 times the supply pressure to the actuator as per Purchase Order specification.
   h) Linearity, hysteresis, stem over travel, & functional test with accessories connected shall be conducted as per relevant standard /Manufacturer's QAP.
   i) Cyclic & physical tests on each actuator shall be performed to ensure sound quality of diaphragm & spring as per relevant standard /Manufacturer's QAP .
   j) Necessary tests on the spring like SCRAG, STIFFNESS & PARALLELISM test as per relevant standard/ Manufacturer's QAP.

6. The valves shall bear the following permanent marks-
   (i) Manufacturer's Name
   (ii) Valve size
   (iii) Pressure Rating
   (iv) Serial No.
   (v) OIL's Purchase Order no.

7. All valves shall be inspected by any one of OIL's approved Third party inspection agencies. viz. M/s Lloyds or M/s Bureau Veritas or M/s IRS or M/s Rites, M/s Tuboscope Vetco or M/s DNV.

8. The Scope of Third Party Inspection will be as detailed below and TPI certificates shall be submitted along with material supply.

i) To inspect stage wise from procurement of raw materials to assembly to ensure that proper technique and procedure are followed as per relevant standards and Purchase Order specification.
ii) To review necessary chemical & mechanical test certificates to ensure that different components of the valve are as per relevant standards and Purchase Order specification.
iii) To review heat number wise foundry certificates of castings in order to ensure that the materials used are as per relevant standards and Purchase Order specification.
iv) To ensure that valve body castings are manufactured in / procured from foundries approved by M/s EIL or M/s Lloyds.
v) To review and certify the radiographs of body & bonnet of all valves to ensure that casting are of radiographic quality.
vi) To review and certify radiography of 10%. of valves randomly selected against each purchase order item to ensure that casting are of radiographic quality.
vii) To witness, review & certify hydraulic & pneumatic test of each valve as per relevant standards and Purchase Order specification.
viii) To witness, review & certify Linearity, Hysteresis, Capacity & Plug characteristic (Cv) tests (one no. against each item), leakage test etc as per relevant standards and Purchase Order specification.

ix) To carry out visual & dimensional inspection to ensure that the valves are manufactured as per relevant standards and Purchase Order specification.

x) To ensure that the valves are embossed as per relevant standards and Purchase Order specification.

xi) xi) To document, review and issue all inspection certificates to be provided along with material supply.

9. OIL reserves the right to depute its engineer at final stage of manufacturing for inspection of functional & hydraulic test of the valves at the manufacturing facility. The supplier has to arrange for the inspection accordingly and inform OIL for the same at least 15 days prior to such inspection. Expenditures related to such inspection visit shall be borne by OIL itself. However, inspection by OIL's engineer will remain at its discretion.

10. Only kerosene or water with suitable inhibitor to prevent corrosion shall be used for hydraulic testing. If water is used for testing, valves shall be properly dried and inside & internal parts of each valve shall be properly greased.

11. Valve body, bonnet & actuator shall be thoroughly cleaned & painted with suitable anti-corrosive epoxy paint.

12. Both ends of each valve/companion flange should also be provided with protective rubber / plastic caps, securely attached to the valves to prevent entry of foreign material during transportation and storage.

13. Valve shall be suitably protected to avoid any damage during transit or storage.

14. The Bidder to submit Technical Compliance Check List duly filled along with technical bid as per Annexure-I & Annexure-II, attached.

15. The tender items shall be used for critical process applications of hydrocarbon production, which involves severe Safety & Environmental hazards leading to accidents, blowout & fire incident which may eventually result in personnel injury, equipment damage, environmental pollution, damage to organizational image, and financial loss etc.

    It may be noted that production operations of OIL are governed by relevant Acts & Regulations and Standards & Guidelines of DGMS, Pollution Control Boards, & OISD etc., and occurrence of any catastrophic incident might cause serious setback to the entire organization.

    Considering the nature of the item, if the product offered by the lowest acceptable bidder (with or without price preference for MSE bidders) is not field proven in OIL, purchaser at its discretion may place a trial order to the extent of 25 % (maximum) only and balance quantity will be procured from other competitive bidders whose product has been field proven in OIL. (Refer clause no 38.7 under MM/LOCAL/E-01/2005 for E-Procurement of Indigenous Tenders).

16. Any deviation(s) from the tender specification should be clearly highlighted specifying justification in support of deviation.

17. Bidder should categorically confirm in the technical bid a delivery schedule within six (06) months, FOB Port of dispatch, after establishment of letter of credit (in case of foreign bidder) or for dispatch of the equipment within six (06) months after receipt of formal order (in case of indigenous bidder) failing which their offer will be rejected.

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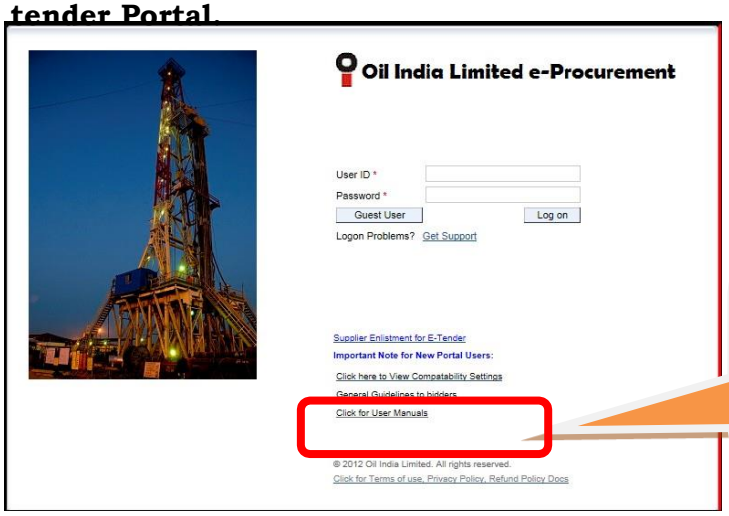
CC:: <u>GENERAL NOTES TO BIDDERS:</u>

Sl No	Clause description
1.0	Tender fee is not applicable against this tender.
2.0	**Submission of Bid Security/EMD/Performance Bank Guarantee – Must be paid either through NEFT/RTGS or online mode or Submission of Bank Guarantee/LC only. No DD/Cheques/Cashier Cheque or any other mode will be acceptable.** The Bank Guarantee issued by the Bank must be routed through SFMS platform as per following details: (i) MT 760 / MT 760 COV for issuance of Bank Guarantee (ii) MT 760 / MT 767 COV for amendment of Bank Guarantee The above message / intimation shall be sent through SFMS by the BG issuing Bank branch to HDFC Bank, Duliajan Branch, IFS Code – HDFC0002118; SWIFT Code - HDFCINBBCAL. Branch Address: HDFC Bank Limited, Duliajan Branch, Utopia Complex, BOC Gate, Jayanagar, Duliajan, Dibrugarh, PIN – 786602. b. The vendor shall submit to OIL the copy of the SFMS message as sent by the issuing bank branch along with the original bank guarantee.

3.0	a) Bidders without having E-tender Login ID and Password should complete their online registration at least seven (7) days prior to the scheduled bid closing date and time of the tender. For online registration, Bidder may visit the OIL's E-tender site https://etender.srm.oilindia.in/irj/portal b) Necessary Login ID & Password will be issued by OIL only after submitting the complete online registration by the Bidder. In the event of late registration/incomplete registration by Bidder, OIL INDIA LIMITED shall not be responsible for late allotment of User ID & Password and request for bid closing date extension on that plea shall not be entertained by Company. C) Categorisation and various criteria applicable to MSE bidders shall be guided by the Gazette notification no. CG-DL-E-26062020-220191 dated 26.06.2020 issued by Ministry of Micro, Small and Medium Enterprises. The existing enterprises registered under EM-Part-II or UAM till 30th June, 2020 shall continue to be valid only for a period up to the 31stday of March, 2021. The bidder claiming as MSE status (MSE-General, MSE-SC/ST, MSE -Woman) against this tender has to submit following documents for availing the benefits applicable to MSEs: i. Udyam Registration No. with Udyam Registration certificate OR ii. Proof of registration with District Industry Centres or Khadi & Village Industries Commission or Khadi & Village Industries Board or Coir Board or National Small Industries Corporation or Directorate of Handicrafts & Handloom or Udyog Adhar registration or registration with any other body specified by Ministry of MSME. Note: In case bidding MSE is owned by Schedule Caste or Schedule Tribe entrepreneur, valid documentary evidence issued by the agency who has registered the bidder as MSE owned by SC/ ST entrepreneur/ Woman Entrepreneurs should also be enclosed. d) For availing benefits under Public Procurement Policy (Purchase preference), the interested MSE Bidders must ensure that they are the manufacturers of tendered item(s) and registered with the appropriate authority (as mentioned above) for the said item(s). Bids without EMD shall be rejected, if the technical offer does not include a valid copy of relevant MSE Certificate issued by appropriate authority specifying the item as per tender. Therefore, it is in the interest of such MSE Vendors to furnish a copy of complete certificate to the concerned tender handling officer of OIL at least seven (7) days prior to the scheduled Bid Closing Date of the tender; seeking clarification/ confirmation as to whether their registered item is eligible for EMD exemption or not. Late communications in this regard and request for bid closing date extension on that plea shall not be entertained by Company. e) Bid Security/EMD/Performance Bank Guarantee- Kindly refer Annexure-A attached.
4.0	The tender will be governed by "General Terms & Conditions" for e-Procurement as per Booklet No. MM/LOCAL/E-01/2005 for E-Procurement of Indigenous Tenders including Amendments & Addendum to "General Terms & Conditions" for e- Procurement.
5.0	Bid must be submitted online through OIL's e-procurement portal. Bid submitted in any other form will be rejected.

6.0	Please note that all tender forms and supporting documents are to be submitted through OIL's e-Procurement site only except following documents which are to be submitted manually in sealed envelope super scribed with Tender no. and Due date to The Head Materials, Materials Department, Oil India Limited, Duliajan- 786602, Assam on or before 13:00 Hrs (IST) on the Bid Closing Date mentioned in the Tender. a) Original Bid Security. b) Detailed Catalogue. c) Any other document required to be submitted in original as per tender requirement. All documents submitted in physical form should be signed on all pages by the authorized signatory of the bidder and to be submitted in triplicate.
7.0	Bidders must ensure that their bid is uploaded in the system before the tender closing date and time. Also, they must ensure that above documents which are to be submitted in a sealed envelope are also submitted at the above mentioned address before the bid closing date and time, failing which the offer shall be rejected.

8.0	The tender is invited under **SINGLE STAGE-TWO BID SYSTEM**. The bidder has to submit both the **"TECHNO-COMMERCIAL UNPRICED BID"** and **"PRICED BID"** through electronic form in the OIL's e-Tender portal within the Bid Closing Date and Time stipulated in the e-Tender. The "Techno-commercial Unpriced Bid" shall contain all technical and commercial details except the prices which shall be kept blank. Details of prices as per Bid format / Commercial bid to be uploaded as attachment in the Attachment Tab "Notes and Attachments". Any offer not complying with above submission procedure will be rejected as per Bid Rejection Criteria mentioned in the tender. **Notes and Attachments** — **Only Price Details Should Be Uploaded** **Technical attachments** — **All technical bid documents except price details** **Please do refer "NEW INSTRUCTION TO BIDDER FOR SUBMISSION" for the above two points and also please refer "New Vendor Manual (effective from 12.04.2017) " available in the login Page of the OIL's E-tender Portal.** 
9.0	In Technical Bid opening, only Technical Rfx will be opened. Therefore, the bidder should ensure that "TECHNO-COMMERCIAL UNPRICED BID should contain details as mentioned in the technical specifications as well as BEC/ BRC and upload the same in the Technical RFx Response-> User - > Technical Bid. **No price should be given in above Technical Rfx otherwise the offer will be rejected.** Please go through the help document in details before uploading the document and ensure uploading of technical bid in the Technical RFx Response-> User - > Technical Bid only. The "PRICE BID" must contain the price schedule and the bidder's commercial terms and conditions. Details of prices as per Bid format / Commercial bid can be uploaded as Attachment under the attachment option under "Notes & Attachments". PRICED BIDS OF ONLY THOSE BIDDERS WILL BE OPENED WHOSE OFFERS ARE FOUND TO BE TECHNO-COMMERCIALLY ACCEPTABLE.
10.0	Bidders are requested to examine all instructions, forms, terms and specifications in the bid. Failure to furnish all information required as per the bid or submission of offers not substantially responsive to the bid in every respect will be at the bidders risk and may result in rejection of its offer without seeking any clarifications.

11.0	Please mention clearly in your quotation the Net. Weight, Gross Weight & Volume, Payment Terms, Delivery period etc.
12.0	To ascertain the substantial responsiveness of the bid, OIL reserves the right to ask the bidder for clarification in respect of clauses covered under BRC also and such clarifications fulfilling the BRC clauses in toto must be received on or before the deadline given by OIL, failing which the offer will be summarily rejected.
13.0	Other terms and conditions of the tender shall be as per "General Terms & Conditions" for e- Procurement as per Booklet No. MM/LOCAL/E-01/2005 for E-Procurement of Indigenous Tenders. However, if any of the Clauses of the Bid Rejection Criteria (BRC) / Bid Evaluation Criteria (BEC) mentioned here contradict the Clauses in the "General Terms & Conditions" for e-Procurement as per Booklet No. MM/LOCAL/E-01/2005 for E-Procurement of Indigenous Tenders of the tender and/or elsewhere, those mentioned in this BEC / BRC shall prevail.
14.0	The original bid security (Amount is mentioned above and also in Rfx Parameters of the tender in OIL's e-portal) should reach us before bid closing date and time of the technical bid. Bid without original Bid Security will be rejected. The bidders who are exempted from submitting the Bid Bond should attach documentary evidence in the Technical RFx Response-> User-> Technical Bid as per General Terms and conditions for Local Tender (MM/LOCAL/E-01/2005-MAY2020). The bid security shall be valid up to **12.05.2021**.
15.0	Oil India Limited (OIL) has upgraded its E-tender Portal. As part of the new system, the intending bidder must have Encryption Certificate along with Digital Signature Certificate (DSC) of Class III [Organization]. The date for implementation of new system is 12th April 2017 and the requirement of the new DSC will be applicable for the tenders floated on 12th April 2017 onwards. All our current and prospective esteemed bidders are therefore requested to acquire Class III DSC [Organization] along with Encryption Certificate issued by any of the Licensed Certifying Authorities (CA) operating under Controller of Certifying Authorities (CCA) of India as per Indian IT Act 2000. Guideline for getting Digital Signature and other related information are available on the e-tender website www.oilindia.com. The bid signed using any other digital certificate or digital certificate without organization name of the bidder, will be liable for rejection.
16.0	Encryption certificate is mandatorily required for submission of bid. In case bidder created response using one certificate (using encryption key) and bidder subsequently changes the digital signature certificate then the old certificate (used for encryption) is required in order to decrypt his encrypted response for getting the edit mode of his response. Once decryption is done, the bidder may use his new DSC certificate for uploading and submission of his offer. It is the sole responsibility of the bidder to keep their DSC certificate properly. In case of loss of DSC certificate, Oil India Limited is not responsible.
17.0	The items covered by this tender shall be used by Oil India Limited in the PEL/ ML areas which are issued/ renewed after 01/04/99 and hence Indigenous bidder shall be eligible for concessional rate of GST against Essentiality Certificate wherever applicable, as per Notification No.3/2017 - Integrated/ Central Tax (Rate) dated 28th June, 2017.
18.0	Ministry of Finance of Govt. of India, Department of Expenditure, Public procurement Division vide office memorandum F. No. 6/18/2019-PPD dated 23rd July, 2020 (order-Public Procurement no.1) has proclaimed the insertion of Rule 144 (xi) in the General Financial Rules (GFRs), 2017 w.e.f. 23rd July, 2020 regarding restrictions on procurement from a bidder of a country which shares a land border with India on the grounds of defence of India on matters

directly or indirectly related thereto including national security. Bidders are requested to take note of the following clauses and submit their offers accordingly wherever applicable.

Bidders must submit duly sealed & signed undertaking as per Annexure-B provided along with the technical bid.

I. Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority.

Validity of Registration: In respect of tenders, registration should be valid at the time of submission of bids and at the time of acceptance of bids. In respect of supply otherwise than by tender, registration should be valid at the time of placement of order. If the bidder was validly registered at the time of acceptance/placement of order, registration shall not be a relevant consideration during contract execution.

II. "Bidder" (including the term 'tenderer', 'consultant' or 'service provider' in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process. III. "Bidder from a county which shares a land border with India "for the purpose of this Order means:

a. An entity incorporated, established or registered in such a country; or
b. A subsidiary of an entity incorporated, established or registered in such a country; or
c. An entity substantially controlled through entities incorporated, established or registered in such a country; or
d. An entity whose beneficial owner is situated in such a country; or
e. An Indian (or other) agent of such an entity; or
f. A natural person who is a citizen of such a country; or
g. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above.

IV. The beneficial owner for the purpose of (iii) above will be as under:
1. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercises control through other means. Explanation:

a. "Controlling ownership interest" means ownership of or entitlement to more than twenty-five per cent of shares or capital or profits of the company;
b. "Control" shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements;

2. In case of a partnership firm, the beneficial owner is the natural person (s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership.

3. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership or entitlement to more than fifteen percent of the property or capital or profits

	of such association or body of individuals; 4. Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official; 4. In case of trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership. V. An Agent is a person employed to do any act for another, or to represent another in dealings with third person. VI. The successful bidder shall not be allowed to sub-contract any job related to the procurement (e.g. installation and commissioning, Annual Maintenance Contract etc.) to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority.
19.0	Oil India Limited (OIL) has upgraded its E-tender Portal. All the bidders are requested to go through the following documents available on the login Page of the OIL's E-tender Portal before uploading their bid. a) Guidelines to Bidders for participating in OIL. b) New Vendor Manual.
20.0	Please do refer the User Manual provided on the portal on the procedure How to create Response for submitting offer.
21.0	The items shall be brand new, unused & of prime quality. The manufacturer shall warrant (in the event of an order) that the product supplied will be free from all defects & fault in material, workmanship & manufacture and shall be in full conformity with ordered specifications. This clause shall be valid for 18 months from date of shipment or 12 months from date of receipt at site, whichever is earlier. The defective materials, if any, rejected by OIL shall be replaced by the supplier at their own expense. Bidders must confirm the same in their quotations.
22.0	Any deviation(s) from the tender specification should be clearly highlighted specifying justification in support of deviation.

23.0	Original Bid Closing Date shall be considered by OIL for evaluation of BRC Criteria in case of any extension of the original bid closing date.
24.0	Bidder to sign and submit completely filled up Technical & Commercial check list and Technical Evaluation Matrix for Bid evaluation criteria and Technical specification failing which their offer will be rejected.
25.0	**Payment terms: Refer to "General Terms & Conditions" for e-Procurement as per Booklet No. MM/LOCAL/E-01/2005 for E-Procurement of Indigenous Tenders**

26.0	Liquidated Damage: Refer to "General Terms & Conditions" for e- Procurement as per Booklet No. MM/LOCAL/E-01/2005 for E-Procurement of Indigenous Tenders. The applicable GST on the Liquidated Damage shall have to be borne by the seller. Accordingly, the Liquidated Damage shall be recovered from the seller along with applicable GST.
27.0	**FURNISHING FRAUDULENT INFORMATION/ DOCUMENT:** If it is found that a Bidder has furnished fraudulent document/information, the Bid Security/Performance Security shall be forfeited and the party will be debarred for a period of 3(three) years from date of detection of such fraudulent act, besides the legal action. In case of major and serious fraud, period of debarment may be enhanced. In this regard, bidders are requested to submit an Undertaking as per Appendix-A3 along with their offer failing which their offer shall be liable for rejection.
28.0	**ONLINE VIEWING OF PRICE BY BIDDERS:** For convenience of the qualified Bidders and to improve transparency, the rates/costs quoted by bidders against OIL's e-tenders shall be available for online viewing by such Bidders whose price bids are opened by Company. A Bidder can view item-wise rates/ costs of all other such peer bidders against the tender immediately after price bid opening, if the e-tender is floated by Company with PRICE CONDITION. In case the Price-Bid is invited by Company through attachment form under "Notes & Attachment" (i.e., NO PRICE Condition), Bidders must upload their detailed Price-Bid as per the prescribed format under "Notes & Attachment", in addition to filling up the "Total Bid Value" Tab considering the cost of all individual line items and other applicable charges like freight, tax, duties, levies etc. Under NO PRICE Condition (i.e. Price Bid in attachment form), the "Total Bid Value" as calculated & quoted by the Bidder shall only be shared amongst the eligible bidders and Company will not assume any responsibility whatsoever towards calculation errors/ omissions therein, if any. Notwithstanding to sharing the "Total Bid Value" or the same is whether filled up by the Bidder or not, Company will evaluate the cost details to ascertain the inter-se-ranking of bidders strictly as per the uploaded attachment and Bid Evaluation Criteria only. Online view of prices as above shall be available to the Bidders only upto seven days from the date of Price-Bid opening of the e-tender.
29.0	**APPLICABILITY OF BANNING POLICY OF OIL INDIA LIMITED:** Banning Policy dated 6th January, 2017as uploaded in OIL's website will be applicable against the tender (and order in case of award) to deal with any agency (bidder/ contractor/ supplier/ vendor/ service provider) who commits deception, default, fraud or indulged in other misconduct of whatsoever nature in the tendering process and/or order execution processes. Applicability of the policy shall include but not limited to the following in addition to other actions like invoking bid security/performance security/cancellation of order etc. as deemed fit and as mentioned elsewhere in the tender: a) Backing out by bidder within bid validity b) Backing out by successful bidder after issue of LOA/ Order/ Contract c) Non/ Poor performance and order/ contract execution default The bidders who are on Holiday/ Banning/ Suspension list of OIL on due date of submission of bid/ during the process of evaluation of the bids, the offers of such bidders shall not be considered for bid opening/evaluation/ award. If the bidding documents were issued inadvertently/ downloaded from website, the offers submitted by such bidders shall also not be considered for bid opening/ evaluation/ Award of Work.

30.0	**Clauses related to GST** 1. For the purposes of levy and imposition of GST, the expressions shall have the following meanings: (a) GST - means any tax imposed on the supply of goods and/or services under GST Law. (b) Cess – means any applicable cess, existing or future on the supply of Goods and Services as per Goods and Services Tax (Compensation to States) Act, 2017. (c) GST Law - means IGST Act 2017, CGST Act 2017, UTGST Act, 2017 and SGST Act, 2017and all related ancillary Rules and Notifications issued in this regard from time to time. 2. The rates quoted by the bidders shall be inclusive of all taxes, duties and levies. However, bidders are required to provide separately the rate and amount of all types of taxes, duties and levies. In case, the quoted information related to various taxes, duties & levies subsequently proves wrong, incorrect or misleading, OIL will have no liability to reimburse the difference in the duty/ tax, if the finally assessed amount is on the higher side and OIL will have to right to recover the difference in case the rate of duty/ taxes finally assessed is on the lower side. Further, bidders have to clearly show the amount of GST separately in the Tax Invoices. Further, it is the responsibility of the bidders to make all possible efforts to make their accounting / IT system GST compliant in order to ensure availability of Input Tax Credit (ITC) to Oil India Ltd. 3. Offers without giving any of the details of the taxes (Including rates and amounts) as specified above will be considered as inclusive of all taxes including GST. When a bidder mentions taxes as extra without specifying the rates & amount, the offer will be loaded with maximum value towards taxes received against the tender for comparison purposes. If the bidder emerges as lowest bidder after such loading, in the event of order on that bidder, taxes mentioned by OIL on the Purchase Order/ Contracts will be binding on the bidder. 4. Bidders are required to pass on the benefit arising out of introduction of GST, including seamless flow of Input Tax Credit, reduction in Tax Rate on inputs as well as final goods by way of reduction of price as contemplated in the provision relating to Anti-Profiteering Measure vide Section 171 of the CGST Act, 2017. Accordingly, for supplies made under GST, the bidders should confirm that benefit of lower costs has been passed on to OIL by way of lower prices/taxes and also provide details of the same as applicable. OIL reserves the right to examine such details about costs of inputs/input services of the bidders to ensure that the intended benefits of GST have been passed on to OIL. 5. Oil India Ltd. shall declare the value of free issue of materials and services, if any, involved in the execution of the contract. The Contractor should consider the same while working out the GST liability, if any. Further in cases where GST is leviable on any facilities provided by OIL and used by bidders and the consideration for which is recovered by OIL in the form of reduction in the invoice raised by bidders then OIL will raise GST invoices on such transactions and the same will be reimbursed by bidders. **6. When Input tax credit is available for Set Off** Evaluation of L-1 prices shall be done based on Quoted price after deduction of Input Tax Credit (ITC) of GST, if available to OIL.OIL shall evaluate the offers on the basis of the quoted rates only and any claim subsequently by the bidders for additional payment/liability shall not be admitted and has to be borne by the bidders

	When Input tax credit is NOT available for Set Off Evaluation of L-1 prices shall be done based on Quoted price only. OIL shall evaluate the offers on the basis of the quoted rates only and any claim subsequently by the bidders for additional payment/liability shall not be admitted and has to be borne by the bidders 7. Bidders agree to do all things not limited to providing GST compliant Tax Invoices or other documentation as per GST law relating to the supply of goods and/or services covered in the instant contract like raising of and /or acceptance or rejection of credit notes / debit notes as the case may be, payment of taxes, timely filing of valid statutory Returns for the tax period on the Goods and Service Tax Network (GSTN), submission of general information as and when called for by OIL in the customized format shared by OIL in order to enable OIL to update its database etc. that may be necessary to match the invoices on GSTN common portal and enable OIL to claim input tax credit in relation to any GST payable under this Contract or in respect of any supply under this Contract. 8. In case Input Tax Credit of GST is denied or demand is recovered from OIL by the Central / State Authorities on account of any non-compliance by bidders, including non-payment of GST charged and recovered, the Vendor/Supplier/Contractor shall indemnify OIL in respect of all claims of tax, penalty and/or interest, loss, damages, costs, expenses and liability that may arise due to such non-compliance. OIL, at its discretion, may also withhold/recover such disputed amount from the pending payments of the bidders. ~~9.~~ GST liability, if any on account of supply of free samples against any tender shall be to bidder's account. ~~10.~~ Bidders should submit their bids incorporating the following details: (i) GST Registration Details of Supplier: (ii) Item-wise HSN Code: (iii) Applicable Rate of GST: Also please note that OIL-Duliajan's Provisional GSTIN as: **18AAACO2352C1ZW**.
31.0	**OPPORTUNITY TO STARTUP AND MICRO & SMALL ENTERPRISES** In case a Startup [defined as per Ministry of Commerce and Industry (Department of Industrial Policy and Promotion, DIPP) latest notification]/ MSE is interested in supplying the tendered item but does not meet the Pre-Qualifying Criteria (PQC)/ Proven Track Record (PTR) indicated in the tender document, the Startup/MSE is requested to write a detailed proposal separately, and not against the present tender requirement, to the tender issuing authority about its product. Such proposals shall be accompanied by relevant documents in support of MSE (where applicable) or in case of Startup, following documents shall be given: 1. Certificate of Recognition issued by the Department of Industrial Policy and Promotion, Ministry of Commerce and Industry, Government of India. 2. Certificate of incorporation. 3. Audited Profit & Loss (P&L) Statement of all the Financial Years since incorporation. In case where the Balance sheet has not been prepared, bidder shall submit a certificate in original from its CEO/CFO stating the turnover of the bidding entity separately for each Financial Years since incorporation along with a declaration stating the reason for not furnishing the audited P&L Statement. This certificate shall be endorsed by a Chartered

	Accountant/Statutory Auditor. The Proposal shall be examined by OIL and OIL may consider inviting a detailed offer from the Startup/MSE with the intent to place a TRIAL or TEST Order, provided the Startup/MSE meets the Quality and Technical Specifications. In case the Startup/MSE is successful in the Trial Order, the vendor shall be considered for PQC exemption/relaxation (as the case may be) for the next tender for such item till the time it remains a Startup/MSE.
32.0	The Integrity Pact is applicable against this tender. OIL shall be entering into an Integrity Pact with the bidders as per format enclosed vide Annexure XII of the tender document. This Integrity Pact pro forma has been duly signed by OIL's competent signatory. The pro forma has to be uploaded by the bidder (along with the technical bid) duly signed by the same signatory who signed the bid, i.e., who is duly authorized to sign the bid. The names of the OIL's Independent External Monitors at present are as under: a) SHRI SUTANU BEHURIA, IAS (Retd.), E-mail: sutanu2911@gmail.com b) Shri RUDHRA GANGADHARAN, IAS (Retd.), Ex-Secretary, Ministry of Agriculture E-mail: rudhra.gangadharan@gmail.com

********** **END OF ANNEXURE – A** **********

Appendix –A3

Format of undertaking by Bidders towards submission of authentic information/documents (To be typed on the letter head of the bidder)

Ref. No_____ Date _____

Sub: Undertaking of authenticity of information/documents submitted

Ref: Your tender No._____ Dated _____

To,
The HOD-
Materials
Materials Deptt,
OIL, Duliajan

Sir,

With reference to our quotation against your above-referred tender, we hereby undertake that no fraudulent information/documents have been submitted by us.

We take full responsibility for the submission of authentic information/documents against the above cited bid.

We also agree that, during any stage of the tender/contract agreement, in case any of the information/documents submitted by us are found to be false/forged/fraudulent, OIL has right to reject our bid at any stage including forfeiture of our EMD and/or PBG and/or cancel the award of contract and/or carry out any other penal action on us, as deemed fit.

Yours faithfully,
For (type name of the firm here)

Signature of Authorised

Signatory Name :

Designation :

Phone
No.

Place :

Date :

(Affix Seal of the Organization here, if applicable.

ANNEXURE – B

BID REJECTION CRITERIA (BRC) / BID EVALUATION CRITERIA (BEC) (TECHNICAL)

The bids shall broadly conform to the specifications and terms and conditions given in this bid document. Bids shall be rejected in case the items offered do not conform to required parameters stipulated in the technical specifications and to the respective international/national standards wherever stipulated. Notwithstanding the general conformity of the bids to the stipulated specifications and terms and conditions, the following requirements will have to be particularly met by the Bidders without which the same will be considered as non-responsive and rejected.

I. BID REJECTION CRITERIA (BRC)

(A) TECHNICAL

1.0 BIDDER'S ELIGIBILITY:

1.1 The bidder should be an Original Equipment Manufacturer (OEM) of the tendered item (s) /equipment.

OR

1.2 The bidder should be a sole selling agent/authorised distributor/ authorised dealer/authorised supply house of an Original Equipment Manufacturer (OEM) of the tendered item (s).

1.3 In case the bidder is quoting as agent /distributor/dealer/supply house, the bidder should submit valid authorisation certificate/letter issued by its Original Equipment Manufacturer (OEM), confirming the Bidders' status as their authorised supplier/dealer /distributor/wholly owned subsidiary (as the case may be) to sell their products with proper warranty and guarantee back up. Such authorisation certificate/letter shall be valid for the entire period of execution of the order.

1.4 NOTES TO BIDDER REGARDING AUTHORISATION

1.4.1 Authorization letter must be issued on the official letter head only of the OEM clearly mentioning the status of Bidder i.e., whether sole selling agent / authorised distributor / authorised dealer / authorised supply house of Original Equipment Manufacturer (OEM), failing which the bid shall not be considered for evaluation and in that case the offer shall be rejected straightway. Such certificates/authority letter issued by a party other than the OEM shall not be considered as valid authorization letter and in such as the bid shall be rejected without any further reference.

1.4.2 Authorization letter issued by the OEM in any other form such as Direct Chanel Partner /Indirect Chanel Partner/Chanel Partner/ seller/ Reseller/Sub Dealer / Sub Distributor/Sister Concern shall not be considered for bid evaluation and the offer shall be rejected.

1.4.3 In case the bidder is a wholly owned subsidiary company of the parent company (OEM), in addition to the authorization letter including warranty/guarantee back-up, the bidder shall also upload/submit the documents such as board resolution / certificate of incorporation / any other legal certificate along with their offer that would establish the relation between the parent company with the subsidiary company without which the bid will not be evaluated and will be rejected straightway.

1.5 The bidder/OEM must submit an undertaking along with the Technical Bid that their offered equipment is not going to become obsolete during the next 5 (five) years from the

date of successful installation & Commissioning/supply, if order is awarded on them by OIL and must guarantee uninterrupted supply of spares and availability of services for at least for ten (10) years with effect from the successful installation & Commissioning/supply of the equipment, without which offer will not be considered for evaluation/placement of order. This clause will be applicable only if the tender item has requirement of spares.

2.0 BIDDERS' EXPERIENCE

2.1 IN CASE THE BIDDER IS AN ORIGINAL EQUIPMENT MANUFACTURER (OEM):

The bidder must comply with the following:

2.1.1 The bidder (OEM) should have at least 5 (five) years of manufacturing experience of equipment of same or higher capacity and same or higher working pressure and same or higher sizes preceding to the original bid closing date of the tender.

Documentary evidence to substantiate manufacturing experience as above must be submitted in the form of self –certified copy which should be on the letter head and duly signed and sealed by CEO/CFO/any other person who holds the Power of Attorney of the company or by the statutory Auditor. A copy of Power of Attorney shall also be submitted for the same.

2.1.2 In addition to above, the bidder (OEM) should have supply experience of successfully executed at least 50% tendered quantity(rounded off to next higher integer) of equipment of same or higher capacity and same or higher working pressure and same or higher sizes, to any E&P companies/Oil & Gas Companies during last 5 (five) years as on original bid closing date of the tender (either by themselves or through their sole selling agent/distributor/dealer/supply house).

2.1.3 Documentary evidences to substantiate manufacturing & supply records must be submitted in the form of copies of relevant Purchase Order(s) & any one or combination of the following documents evidencing satisfactory execution of those Purchase Orders(s) such as:
(i)Satisfactory supply /completion/installation report (OR)
(ii) Bill of lading, Commercial Invoice/Payment Invoice (OR)
(iii) Consignee receipt, delivery receipt (OR)
(iv) Central Excise Gate Pass/Tax invoice issued under relevant rules of Central Excise/VAT/GST invoice.
(v) Any other documents which shall prove that the bidder has successfully executed such order(s)

2.1.4 NOTES TO BIDDER REGARDING EXPERIENCE CRITERIA

a) The Purchase Order need not be within 5 (five) years preceding original bid closing date of this tender. However, execution of supply should be within 5 (five) years preceding original bid closing date of this tender.

b) Satisfactory supply/completion/installation report should be issued on company's letterhead with signature and stamp.

c) Bidders showing supply experience towards supply to its sister concern/ subsidiaries shall not be considered as experience for the purpose of meeting BRC.

2.2 IN CASE THE BIDDER IS A SOLE SELLING AGENT / AUTHORISED DISTRIBUTOR /AUTHORISED DEALER / AUTHORISED SUPPLY HOUSE OF OEM:

The bidder must fulfil the following requirements

2.2.1 The bidder's OEM (the Principal) should have at least 5 (five) years of manufacturing

experience of equipment of same or higher capacity and same or higher working pressure and same or higher sizes preceding to the original bid closing date of the tender.

Documentary evidence to substantiate manufacturing experience as above must be submitted in the form of self –certified copy which should be on the letter head and duly signed and sealed by CEO/CFO/any other person who holds the Power of Attorney of the company or by the statutory Auditor. A copy of Power of Attorney shall also be submitted for the same.

2.2.2 The bidder's OEM (the Principal) should have supply experience of successfully executed at least 50% tendered quantity(rounded off to next higher integer) of equipment of same or higher capacity and same or higher working pressure and same or higher sizes, to any E&P companies/Oil & Gas Companies during last 5 (five) years as on original bid closing date of the tender (either by themselves or through their sole selling agent/distributor/dealer/supply house).

2.2.3 Additionally, the bidder himself/themselves as sole selling agent/distributor/dealer/supply house should have supply experience of successfully executed at least 50% tendered quantity (rounded off to next higher integer) of equipment of same or higher capacity and same or higher working pressure and same or higher sizes, to any E&P companies/Oil & Gas Companies during last 5 (five) years as on original bid closing date of the tender (either from same OEM (the principal) from any other OEM).

2.2.4 Documentary evidences to substantiate manufacturing & supply records must be submitted in the form of copies of relevant Purchase Order(s) & any one or combination of the following documents evidencing satisfactory execution of those Purchase Orders(s) such as:

(i)Satisfactory supply /completion/installation report (OR)
(ii) Bill of lading, Commercial Invoice/Payment Invoice (OR)
(iii) Consignee receipt, delivery receipt (OR)
(iv) Central Excise Gate Pass/Tax invoice issued under relevant rules of Central Excise/VAT/GST invoice.
(v) Any other documents which shall prove that the bidder has successfully executed such order(s)

2.2.5 NOTES TO BIDDER REGARDING EXPERIENCE CRITERIA

a) The Purchase Order need not be within 5 (five) years preceding original bid closing date of this tender. However, execution of supply should be within 5 (five) years preceding original bid closing date of this tender.
b) Satisfactory supply/completion/installation report should be issued on company's letterhead with signature and stamp.
c) Bidders showing supply experience towards supply to its sister concern/ subsidiaries shall not be considered as experience for the purpose of meeting BRC.

3.0 Delivery required against this tender is maximum six(06) months from the date of opening of LC in case order is placed on the foreign supplier OR within six(06) months from the date of receipt of order in case order is placed on indigenous supplier. Date of clean Bill of Lading (B/L in case of foreign supplier) or Consignment Note date (C/Note date in case of indigenous supplier) shall be considered as delivery date. Bidder must comply the above schedule and confirm in their Techno-Commercial bid. Bids not meeting time schedule as mentioned above shall be summarily rejected

(B) FINANCIAL CRITERIA

1.0 **Annual Turnover**: The bidder shall have an annual financial turnover of minimum **US$ 54,285.00** or **Rs. 40.77 Lakhs** (Being 50% of tender value) during any of the preceding 03 (three) financial years reckoned from the original bid closing date, irrespective of whether their bid is for all the tendered items or not of the tender.

2.0 "Net Worth" of the bidder should be positive for the preceding financial/ accounting year.(i.e. FY 2019-20).

3.0 Considering the time required for preparation of Financial Statements, if the last date of preceding financial / accounting year falls within the preceding six months reckoned from the original bid closing date and the Financial Statements of the preceding financial / accounting year are not available with the bidder, then the financial turnover of the previous three financial / accounting years excluding the preceding financial / accounting year will be considered. In such cases, the Net worth of the previous financial / accounting year excluding the preceding financial / accounting year will be considered. However, the bidder has to submit an affidavit/undertaking certifying that 'the balance sheet/Financial Statements for the financial year 2019(As the case may be) has actually not been audited so far'.

Note:

(a) For proof of Annual Turnover & Net worth any one of the following document must be submitted along with the bid:-

i) A certificate issued by a practicing Chartered Accountant (with Membership Number and Firm Registration Number), certifying the Annual turnover & Net worth as per format prescribed in ANNEXURE.

OR

ii) Audited Balance Sheet along with Profit & Loss account. In case of foreign bidders, self-attested/digitally signed printed published accounts are also acceptable

(b) In case the bidder is a Central Govt. Organization/PSU/State Govt. Organization/Semi-State Govt. Organization or any other Central/State Govt. Undertaking, where the auditor is appointed only after the approval of Comptroller and Auditor General of India and the Central Government, their certificates may be accepted even though FRN is not available. However, bidder to provide documentary evidence for the same.

4.0 In case the Audited Balance Sheet and Profit & Loss Account submitted along with the bid are in currencies other than INR or US$, the bidder shall have to convert the figures in equivalent INR or US$ considering the prevailing conversion rate on the date of Balance Sheet and Profit & Loss Account. A CA certificate is to be submitted by the bidder regarding converted figures in equivalent INR or US$.

(C) COMMERCIAL

1.0 FOR TWO- BIDS:: Bids are invited under **Single Stage Two- Bid System**. Bidders shall quote accordingly under Single Stage Two- Bid System.

2.0 The prices offered shall have to be firm through delivery and not subject to variation on any account. A bid submitted with an adjustable price will be treated as non-responsive and rejected.

3.0 Bids received in physical form against online invitation through e-portal shall be rejected (except the documents specifically called for in hard copies, if any). Similarly, Bids received after the bid closing date and time shall be rejected. Also, modifications to bids

received after the bid closing date & time shall not be considered.

4.0 Bids containing incorrect statement shall be rejected.

5.0 Validity of the bid shall be **minimum 120 days** from the date of actual Bid Closing Date. Bids with lesser validity will be straightway rejected.

6.0 **Bid Security in ORIGINAL** shall be furnished by the Bidder as a part of their Bid. The amount of Bid Security & its validity shall be specified in the covering letter of this bid document. **Any bid not accompanied by a proper bid security in ORIGINAL shall be rejected without any further consideration.** A bid shall be rejected straightway if Original Bid Security is not received within the stipulated date & time mentioned in the Tender and/or if the Bid Security validity is shorter than the validity indicated in Tender and/or if the Bid Security amount is lesser than the amount indicated in the Tender.
The bank guarantee issued by the bank must be routed through SFMS platform as per following details:

A. i) MT 760 / MT 760 COV for issuance of Bank guarantee
ii) MT 760 / MT 767 COV for amendment of Bank guarantee

The above message / intimation shall be sent through SFMS by the BG issuing bank branch to HDFC Bank, Duliajan Branch, IFS Code - HDFC0002118, SWIFT Code-HDFCINBBCAL. Branch Address - HDFC Bank Ltd., Duliajan Branch, Utopia Complex, BOC Gate, Jayanagar, Duliajan, District - Dibrugarh, Pin - 786602.

B. The vendor shall submit to OIL the copy of SFMS message as sent by the issuing bank branch along with the original bank guarantee.

6.1 For exemption for submission of Bid Security please refer "General Terms & Conditions" for e-Procurement as per Booklet No. MM/LOCAL/E-01/2005 for E-Procurement of Indigenous Tenders.

7.0 Bidders must confirm that Goods, materials or plant(s) to be supplied shall be new of recent make and of the best quality and workmanship and shall be guaranteed for a period of 18 months from the date of shipment/dispatch or twelve (12) months from the date of receipt of the items at destination or twelve (12) months from the date of successful installation of the items, whichever is earlier against any defects arising from faulty materials, workmanship or design. Defective goods/materials or parts rejected by OIL shall be replaced immediately by the supplier at the supplier's expenses at no extra cost to OIL.

8.0 Successful bidder shall be required to furnish a Performance Security equivalent to ten (10%) of total evaluated value of Order (excluding taxes and duties), which should remain valid throughout the period execution, including extension, if any. The successful bidder shall submit Performance Security within 30 days of award, failing which OIL reserves the right to cancel the order and forfeit their Bid Security. Bidders should undertake in their bids to submit Performance Security as stated above

9.0 Offers should be submitted along with Integrity Pact **(if applicable)** duly signed by the authorized signatory of the bidder. If any bidder refuses to sign Integrity Pact or declined to submit Integrity Pact with the offer, their bid shall be rejected straightway.

10.0 All the tendered items shall be evaluated individually; hence bidders are requested to quote accordingly.

11.0 Bidders are required to submit the summary of the prices in their price bids as per bid format (Summary), given below **(strike out whichever is not applicable)**.

(i) Price Bid Format (SUMMARY) for Foreign Bidders:

(A) Basic Material Value including TPI charges, if any(to indicate HSN code):

(B) Pre-despatch Inspection Charges, if any:

(C) Packing & FOB charges:

(D) FOB Value, A+B+C:

(E) Ocean Freight Charges upto Kolkata, India:

(F) Banking & Insurance, @1.5% of D :

(G) CIF Value, D+E+F :
(H) IGST @ 5% on I:
(I) Compensatory Cess, if any:
(J) CIF+GST Value, G+H+I:
(K) Training Charges, if any:
(L) Applicable rate of GST on K:
(M) Installation & Commissioning Charges, if any:
(N) Applicable rate of GST on M:
(O) AMC Charges, if any:
(P) Applicable rate of GST Charges on O:
(Q) Cost of AMC operational/maintenance spares, if any:
(R) Applicable rate of GST charges on Q:
(S) Total, J+K+L+M+N+O+P+Q+R:
(T) Total Value in words :
(U) Gross Weight:
(V) Gross Volume :

(ii) <u>Price Bid Format (SUMMARY) for Indigenous Bidders:</u>
(A) Basic Material Value including TPI charges, if any (to indicate HSN code):
(B) Pre-despatch Inspection Charges, if any:
(C) Packing & Forwarding charges, if any:
(D) Total Ex-Works Value, A+B+C:
(E) Applicable rate of GST on D:
(F) Compensatory Cess, if any:
(G) Total FOR Despatching Station Value, D+E+F:
(H) Inland Freight Charges upto Duliajan, Assam including GST:
(I) Transit Insurance Charges, if any including GST:
(J) Training Charges, if any:
(K) Applicable rate of GST on J:
(L) Installation & Commissioning Charges, if any:
(M) Applicable rate of GST on L:
(N) AMC Charges, if any:
(O) Applicable rate of GST on N:
(P) Cost of AMC operational/maintenance spares, if any:
(Q) Applicable rate of GST on P:
(R) Total, G+H+I+J+K+L+M+N+O+P+Q:
(S) Total Value in words :
(T) Gross Weight:
(U) Gross Volume:
(V) Import Content, if any:

12.0 Bidder shall accept and comply with the following clauses as given in the Bid Document, failing which bid shall be liable for rejection:

i) Liquidated Damages
ii) Warranty/Guarantee of material
iii) Arbitration / Resolution of Dispute
iv) Force Majeure
v) Applicable Laws

13.0 A bid shall be rejected straightway if it does not conform to any one of the following clauses:

a) Validity of bid shorter than the validity indicated in the Tender.
b) Original Bid Security not received within the stipulated date & time mentioned in the Tender.
c) Bid Security with (i) validity shorter than the validity indicated in Tender and/or (ii) Bid Security amount lesser than the amount indicated in the Tender.

B) BID EVALUATION CRITERIA

The bids conforming to the specifications, terms and conditions stipulated in the enquiry and considered to be responsive after subjecting to the Bid Rejection Criteria will be considered for further evaluation as per General Terms and Conditions for National Tender and the Bid Evaluation Criteria given below:

B.1 <u>BID EVALUATION CRITERIA</u>:

The bids conforming to the specifications, terms and conditions stipulated in the tender and considered to be responsive after subjecting to the Bid Rejection Criteria shall be considered for further evaluation as per General Terms and Conditions for National Tender and the Bid Evaluation Criteria given below:

1.0 The evaluation of bids shall be done as per the Price Bid Format (SUMMARY) provided in the Tender and detailed below.

2.0 If there is any discrepancy between the unit price and the total price, the unit price will prevail and the total price shall be corrected. Similarly, if there is any discrepancy between words and figure, the amounts in words shall prevail and will be adopted for evaluation.

3.0 For conversion of foreign currency into Indian currency, B.C. selling (Market) rate declared by State Bank of India, one day prior to the date of price bid opening shall be considered. However, if the time lag between the opening of the bids and final decision exceed 3(three) months, then B.C. Selling(Market) rate of exchange declared by SBI on the date prior to the date of final decision shall be adopted for conversion and evaluation.

4.0 To ascertain the inter-se-ranking, the comparison of the responsive bids will be made as under, subject to corrections / adjustments given herein.

<u>Note:</u> 1) Domestic Bidders must quote inland freight charges upto Duliajan. In case bidder fails to quote inland freight charges, highest freight quoted by domestic bidder (considering pro-rata distance) against this tender or OIL's estimated freight, whichever is higher, shall be loaded to their offer for comparison purpose.

2) For enquiries with duty exemption benefit – The items covered under this enquiry shall be used by OIL in the PEL/ML areas issued/renewed after 01/04/99 and hence, applicable customs duty for import of goods shall be zero for materials valuing Rs. 1.00 Lakh and above. However, IGST @5% shall be applicable. Indigenous bidder shall be eligible for concessional rate of GST @5% against Essentiality Certificate for invoice valuing 1.00 lakh and above.

4.1 When only foreign bidders are involved:

The Total Value of Foreign bidder as worked out as per para **<u>A.3 11.0 (i) S</u>** shall be compared

NOTE: *Banking charge in the country of the foreign bidder shall be borne by the bidder. Banking charge 1% for payment through Letter of Credit. And 1.5 % if confirmed LC at buyer's account is required.

4.2 When only domestic bidders are involved or when more than one domestic bidders are in contention in case of mixed response:

The Total Value of Domestic bidder as worked out as per para**A.3 11.0 (ii) R** shall be compared

4.3 When both foreign and domestic bidders are involved:

The Total Value of domestic bidder as worked out as per para**A.3 11.0 (ii) R (excluding H & I)** above and Total Value of the foreign bidder worked out as per Para **A.3 11.0 (i) S** above will be compared.

Note: If the Government of India revises these evaluation criteria the same as applicable on the bid closing date will be adopted for evaluation of the offers.

5.0 Other terms and conditions of the enquiry shall be as per General Terms and Conditions for National Tender. However, if any of the Clauses of the Bid Rejection Criteria / Bid Evaluation Criteria (BEC / BRC) mentioned here contradict the Clauses in the General Terms & Conditions of National Tender of the tender and/or elsewhere, those mentioned in this BEC / BRC shall prevail.

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ANNEXURE – C

A) COMMERCIAL CHECKLIST:

THE CHECK LIST MUST BE COMPLETED AND RETURNED WITH YOUR OFFER. PLEASE ENSURE THAT ALL THESE POINTS ARE COVERED IN YOUR OFFER. THESE WILL ENSURE THAT YOUR OFFER IS PROPERLY EVALUATED. PLEASE SELECT "Yes" OR "No" TO THE FOLLOWING QUESTIONS, IN THE RIGHT HAND COLUMN.

Sl#	REQUIREMENT	COMPLIANCE
1.0	Whether bid submitted under Single Stage Two Bid System?	Yes / No
2.0	Whether quoted as manufacturer?	Yes / No
2.1	Whether quoted as OEM Dealer / Supply House. To Specify-	Yes / No
2.2	If quoted as OEM Dealer / Supply House	Yes / No
	(a) Whether submitted valid and proper authorization letter from manufacturer confirming that bidder is their authorized Dealer / supply House for the product offered ?	
3.0	(b) Whether manufacturer's back-up Warranty/Guarantee certificate submitted?	
	Whether ORIGINAL Bid Bond (not copy of Bid Bond) as per Revised Format(Annexure VII Revised) Sent separately? If YES, provide details	Yes / No
	(a) Amount :	
	(b) Name of issuing Bank :	
	(c) Validity of Bid Bond :	
4.0	Whether offered firm prices ?	Yes / No
4.1	Whether quoted offer validity of 120 days from the bid closing date of tender?	Yes / No
4.2	Whether quoted a firm delivery period?	Yes / No
4.3	Whether agreed to the NIT Warranty clause?	Yes / No
4.4	Whether confirmed acceptance of NIT Payment Terms	Yes / No
5.0	Whether confirmed to submit PBG as asked for in NIT?	Yes / No
5.1	Whether agreed to submit PBG within 30 days of placement of order?	Yes / No
6.0	Whether Price submitted as per Price Schedule ?	Yes / No
7.0	Whether quoted as per NIT (without any deviations)?	Yes / No
7.0	Whether quoted any deviation?	Yes / No
7.1	Whether deviation separately highlighted?	Yes / No
8.0	Whether indicated the country of origin for the items quoted?	Yes / No
8.1	Whether technical literature / catalogue enclosed?	Yes / No
8.2	Whether weight & volume of items offered indicated?	Yes / No
9.0	For Foreign Bidders - Whether offered FOB / FCA port of despatch including sea / air worthy packing & forwarding?	Yes / No
9.1	For Foreign Bidders – Whether port of shipment indicated. To specify:	Yes / No
9.2	For Foreign Bidders only - Whether indicated ocean freight up to Kolkata port (Excluding marine insurance) ?	Yes / No

9.3	Whether Indian Agent applicable ?	Yes / No
	If YES, whether following details of Indian Agent provided?	

	(a) Name & address of the agent in India – To indicate	
	(b) Amount of agency commission – To indicate	
	(c) Whether agency commission included in quoted material value?	
10.0	For Indian Bidders – Whether indicated the place from where the goods will be dispatched. To specify :	Yes / No
10.1	For Indian Bidders – Whether road transportation charges up to Duliajan quoted?	Yes / No
10.2	For Indian Bidders only - Whether offered Ex-works price including packing/forwarding charges?	Yes / No
10.3	For Indian Bidders only - Whether indicated import content in the offer?	Yes / No
10.4	For Indian Bidders only - Whether offered Deemed Export prices?	Yes / No
10.5	For Indian Bidders only – Whether all applicable Taxes & Duties have been quoted?	Yes / No
11.0	Whether all BRC/BEC clauses accepted ?	Yes / No
12.0	Whether Integrity Pact with digital signature uploaded?	Yes / No
12.1	Whether all the clauses in the Integrity Pact have been accepted?	Yes / No

B) TO BE FILLED UP IN DETAIL:

Sl No	Requirement	Bidder's Reply
01	Name of Manufacturer	
02	Bid validity	
03	Payment Terms	
04	Guarantee/Warranty Terms	
05	Delivery Period	
08	Port of Despatch / Despatching Station	
09	Confirm submission Integrity pact, if required as per NIT	
10	Confirm submission PBG, if required as per NIT	
11	Compliance to: Liquidated Damage Warranty/Guarantee Arbitration/Resolution of Dispute Force Majeure Applicable laws	
12	**Confirm submission of the balance sheet/Financial Statements for the financial year 2019-20. If not, whether declaration as per BRC submitted.**	
13	Exception/Deviations quoted, if any, to be given in details or refer to respective page of the bid documents	

ANNEXURE – D

CERTIFICATE OF ANNUAL TURNOVER & NET WORTH

TO BE ISSUED BY PRACTISING **CHARTARD ACCOUNTANTS' FIRM** ON THEIR LETTER HEAD

TO WHOM IT MAY CONCERN

This is to certify that the following financial positions extracted from the audited financial statements of M/s.....(Name of the bidder) for the last three (3) completed accounting years upto..... **(as the case may be)** are correct

YEAR	TURN OVER In INR (Rs.) Crores/ US $ Million) *	NET WORTH In INR (Rs.) Crores / US $ Million) *

*Rate of conversion (if used any): USD 1.00 = INR .....

Place:
Date:

Seal

Membership No:
Registration Code:

Signature

***Applicable only for GLOBAL tenders**

TECHNICAL EVALUATION MATRIX (TO BE FILLED IN BY BIDDER DULY SIGNED)			
TECHNICAL SPECIFICATIONS			
Clause Number	**DESCRIPTION**	**BIDDER'S RESPONSE (Complied / Not Complied / Deviation / Not Applicable)**	**TO BE FILLED BY THE BIDDER Relevant Location of their Bid to support the remarks / compliance (Reference of Document name / Serial number / Page number of bid for documentary evidence)**
Item No 10	**VALVE,CONTROL,PRESSURE,100MM(4")NB,150Class** Diaphragm operated pneumatic control valve along with positioner and air filter regulator, complete with companion flange and requisite number of Studs& Nuts, as per the following specification. 1.0 SERVICE CONDITION: Fluid to be handled : Sweet Natural Gas contaminated with water. Gas Gravity : 0.65-0.70 Normal Operating Temp : 45 Deg C. Maximum Throughput : 0.30 MMSCMD Normal Throughput : 0.20 MMSCMD Minimum Throughput : 0.15 MMSCMD Maximum Inlet Pressure : 6.0 Kg/sq.cm		

	Normal Inlet Pressure : 3.5 Kg/sq.cm Minimum Inlet Pressure : 1.0 Kg/sq.cm Maximum Outlet Pressure : 2.5 Kg/sq.cm Normal Outlet Pressure : 2.1 Kg/sq.cm Minimum Outlet Pressure : 0.7 Kg/sq.cm 2.0 VALVE BODY & BONNET: 2.1 DESIGN PARAMETERS: Valve Size & Rating : 100MM(4")NB,150Class End connection Size & Rating : Flanged,100MM(4")NB,150Class,Raised face Serrated. 2.2 MATERIAL OF CONSTRUCTION & SPECIFICATION: Body Style: Globe, Straight through type Body and Bonnet Material: Cast carbon Steel (ASTM A-216, Gr. WCB/WCC or ASTM A352, Gr. LCB/LCC), epoxy painted. Casting must be of radiographic quality as per ASTM B16.34. Body End Connection: Flanges conforming to ANSI B-16.5. Face-to-face dimension as per ANSI/ISA-75.08.01 Bonnet Style : Plain, Bolted Bonnet Bolting: SA-193-B7 Studs/2H Nuts. Gland Type : Bolted Gland Packing: Double, PTFE V-ring or equivalent/superior, suitable for the handling fluid. Stem Material: S31600 SST (SS 316) or equivalent. Finished to less than 4 micron. Stem Size : Suitable for service condition. (To be specified by bidder). 3.0 TRIM : 3.1 DESIGN PARAMETERS: No of Port : Single /Double (To be specified by bidder). Seat Ring & Port Size : To be designed by bidder.		

	Flow Direction : Up / Both Seat Ring Type: Threaded Plug Design : Contoured Plug Characteristics : Linear Plug Balance : Unbalanced Guiding : Top & Bottom / Top Post Guided, (To be specified by bidder). Cage : Not required Seat Leakage: Class IV as per ANSI/FCI 70.2 standard. Noise level: <90 dBA within 1 meter area from the control valve. Hysteresis Error : +/-3% of Full Span or less Independent Linearity : +/- 5% of Full Span or less 3.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Seat Ring : S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath or equivalent Plug Material: S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath and Guide or equivalent Guide Material : SS 410 / SS 440C or equivalent. 4.0 ACTUATOR : 4.1 DESIGN PARAMETERS: Actuator action : Direct, Normally / Fail open, Air to Close. Servo & Signal Supply Medium: Natural Gas Servo gas supply pressure : 20 psig (1.4 kg / sq. cm) (maximum) Actuator Shutoff pressure : 1.2 times Maximum inlet pressure Gas/Air connection : ¼ inch NPT (F) 4.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Actuator type: Yolk mounted, spring loaded, pneumatic diaphragm operated. Diaphragm material: Chloroprene/Neoprene rubber with fabric reinforced / equivalent or superior material suitable for natural gas as servo.		

	Spring material : Spring Steel (Epoxy coated) Casing : Weather proof, Corrosion Resistant, Pressed steel, Epoxy coated Plug, diaphragm & Stem connection : Clamp type (threaded stem) Stroke Scale : Required. 5.0 POSITIONER : 5.1 DESIGN PARAMETERS: Split Range: Single Valve Output action : Direct /Field reversible Output characteristics :Linear Servo & input Signal Supply Medium : Natural Gas Input signal Pressure : 3 – 15 psig (0.21 -1.05 Kg/sq cm) Servo gas supply Pressure : 20 psig (1.4 Kg/Sq cm) (maximum) Maximum Steady?State Servo Gas Consumption: 14.0 scfh Operating Temperature Limit: Upto 60 degree C Gas/Air connection Point: ¼ inch NPT (F) Hysteresis Error : +/- 1% of Full Span or less Independent Linearity : +/- 1% of Full Span or less Dead band : +/- 0.5% of Full Span or less 5.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Type : Pneumatic, Linear Stem slide control, Single acting Independent adjustment of zero and span : Required Adjustable amplification & dampening: Required Adjustable Stem travel: Required Valve Postiton indicator: Required. Pressure Gauge: Required for Inlet, output & Instrument(Signal), 40 mm (1.5")Dia, dual scale (psig & Kg/cm2), MS Powder coated/plastic casing, ¼ inch NPT brass connection, Enclosure : Weatherproof, with screened venting at bottom/side Tube fitting : Complete with necessary SS tube fitting of size suitable for application.		

	6.0 AIR/GAS FILTER REGULATOR : 6.1 DESIGN PARAMETERS: Setting Range : 0 to 7.0 Kg/sq cm Inlet & Oulet connection: ¼" NPTF Filter porosity : 5 Micron 6.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Filter material : Cintered Bronze or equivalent Pressure Gauge : Required. Drain : Required Manual. 7.0 COMPANION FLANGE AND STUDS & NUTS : 7.1 DESIGN PARAMETERS: Flange : Flange Size & Class : Same as End connection Studs & Nuts : As required 7.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Flange : Raised faced Serrated as per ANSI B-16.5 & line pipe threaded as per API5B. Studs & Nuts : Studs as per SA-193-B7 & Nuts as per SA-193-2H.		
Item No 20	**VALVE,CONTROL,PRESSURE,150MM(6")NB,150Class** Diaphragm operated pneumatic control valve along with positioner and air filter regulator, complete with companion flange and requisite number of Studs& Nuts, as per the following specification. 1.0 SERVICE CONDITION: Fluid to be handled : Sweet Natural Gas contaminated with water. Gas Gravity : 0.65-0.70		

	Normal Operating Temp : 45 Deg C. Maximum Throughput : 0.30 MMSCMD Normal Throughput : 0.20 MMSCMD Minimum Throughput : 0.15 MMSCMD Maximum Inlet Pressure : 6.0 Kg/sq.cm Normal Inlet Pressure : 3.5 Kg/sq.cm Minimum Inlet Pressure : 1.0 Kg/sq.cm Maximum Outlet Pressure : 2.5 Kg/sq.cm Normal Outlet Pressure : 2.1 Kg/sq.cm Minimum Outlet Pressure : 0.7 Kg/sq.cm 2.0 VALVE BODY & BONNET: 2.1 DESIGN PARAMETERS: Valve Size & Rating : 150MM(6")NB,150Class End connection Size & Rating : Flanged,150MM(6")NB,150Class,Raised face Serrated. 2.2 MATERIAL OF CONSTRUCTION & SPECIFICATION: Body Style: Globe, Straight through type Body and Bonnet Material: Cast carbon Steel (ASTM A-216, Gr. WCB/WCC or ASTM A352, Gr. LCB/LCC), epoxy painted. The casting must be of radiographic quality as per ASTM B16.34. Body End Connection: Flanges conforming to ANSI B-16.5. Face-to-face dimension as per ANSI/ISA-75.08.01 Bonnet Style : Plain, Bolted Bonnet Bolting: SA-193-B7 Studs/2H Nuts. Gland Type : Bolted Gland Packing: Double, PTFE V-ring or equivalent/superior, suitable for the handling fluid. Stem Material: S31600 SST (SS 316) or equivalent. Finished to less than 4 micron. Stem Size : Suitable for service condition. (To be specified by bidder).		

	3.0 TRIM : 3.1 DESIGN PARAMETERS: No of Port : Single /Double (To be specified by bidder) Seat Ring & Port Size : To be designed by bidder. Flow Direction : Up / Both Seat Ring Type: Threaded Plug Design : Contoured Plug Characteristics : Linear Plug Balance : Unbalanced Guiding : Top & Bottom / Top Post Guided, (To be specified by bidder). Cage : Not required Seat Leakage: Class IV as per ANSI/FCI 70.2 standard. Noise level: <90 dBA within 1 meter area from the control valve. Hysteresis Error : +/-3% of Full Span or less Independent Linearity : +/- 5% of Full Span or less 3.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Seat Ring : S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath or equivalent Plug Material: S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath and Guide or equivalent Guide Material : SS 410 / SS 440C or equivalent. 4.0 ACTUATOR: 4.1 DESIGN PARAMETERS: Actuator action : Direct, Normally / Fail open, Air to Close. Servo & Signal Supply Medium: Natural Gas Servo gas supply pressure : 20 psig (1.4 kg / sq. cm) (maximum) Actuator Shutoff pressure : 1.2 times Maximum inlet pressure Gas/Air connection : ¼ inch NPT (F) 4.2 MATERIAL OF CONSTRUCTION & SPECIFICATION		

	Actuator type: Yolk mounted, spring loaded, pneumatic diaphragm operated. Diaphragm material: Chloroprene/Neoprene rubber with fabric reinforced / equivalent or superior material suitable for natural gas as servo. Spring material : Spring Steel (Epoxy coated) Casing : Weather proof, Corrosion Resistant, Pressed steel, Epoxy coated Plug, diaphragm & Stem connection : Clamp type (threaded stem) Stroke Scale : Required. 5.0 POSITIONER : 5.1 DESIGN PARAMETERS: Split Range: Single Valve Output action : Direct /Field reversible Output characteristics :Linear Servo & input Signal Supply Medium : Natural Gas Input signal Pressure : 3 – 15 psig (0.21 -1.05 Kg/sq cm) Servo gas supply Pressure : 20 psig (1.4 Kg/Sq cm) (maximum) Maximum Steady?State Servo Gas Consumption: 14.0 scfh Operating Temperature Limit: Upto 60 degree C Gas/Air connection Point: ¼ inch NPT (F) Hysteresis Error : +/- 1% of Full Span or less Independent Linearity : +/- 1% of Full Span or less Dead band : +/- 0.5% of Full Span or less 5.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Type : Pneumatic, Linear Stem slide control, Single acting Independent adjustment of zero and span : Required Adjustable amplification & dampening: Required Adjustable Stem travel: Required Valve Postiton indicator: Required. Pressure Gauge: Required for Inlet, output & Instrument(Signal), 40 mm (1.5”)Dia, dual scale (psig &		

	Kg/cm2), MS Powder coated/plastic casing, ¼ inch NPT brass connection, Enclosure : Weatherproof, with screened venting at bottom/side Tube fitting : Complete with necessary SS tube fitting of size suitable for application. 6.0 AIR/GAS FILTER REGULATOR : 6.1 DESIGN PARAMETERS: Setting Range : 0 to 7.0 Kg/sq cm Inlet & Oulet connection: ¼" NPTF Filter porosity : 5 Micron 6.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Filter material : Cintered Bronze or equivalent Pressure Gauge : Required. Drain : Required Manual. 7.0 COMPANION FLANGE AND STUDS & NUTS : 7.1 DESIGN PARAMETERS: Flange Size & Class: Same as End Connection. Studs & Nuts : As required 7.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Flange : Raised faced Serrated as per ANSI B-16.5 & line pipe threaded as per API5B. Studs & Nuts : Studs as per SA-193-B7 & Nuts as per SA-193-2H		
Item No 30	**VALVE,CONTROL,PRESSURE,100MM(4")NB,300Class** Diaphragm operated pneumatic control valve along with positioner and air filter regulator, complete with companion flange and requisite number of Studs& Nuts, as per the		

	following specification. 1.0 SERVICE CONDITION: Fluid to be handled : Sweet Natural Gas contaminated with water. Gas Gravity : 0.65-0.70 Normal Operating Temp : 45 Deg C. Maximum Throughput : 0.30 MMSCMD Normal Throughput : 0.20 MMSCMD Minimum Throughput : 0.15 MMSCMD Maximum Inlet Pressure : 23.0 Kg/sq.cm Normal Inlet Pressure : 21.0 Kg/sq.cm Minimum Inlet Pressure : 18.0 Kg/sq.cm Maximum Outlet Pressure : 20.0 Kg/sq.cm Normal Outlet Pressure : 18.0 Kg/sq.cm Minimum Outlet Pressure : 16.0 Kg/sq.cm 2.0 VALVE BODY & BONNET: 2.1 DESIGN PARAMETERS: Valve Size & Rating : 100MM(4")NB,300Class End connection Size & Rating : Flanged, 100MM(4")NB,300Class,Raised face Serrated. 2.2 MATERIAL OF CONSTRUCTION & SPECIFICATION: Body Style: Globe, Straight through type Body and Bonnet Material: Cast carbon Steel (ASTM A-216, Gr. WCB/WCC or ASTM A352, Gr. LCB/LCC), epoxy coated. Casting must be of radiographic quality as per ASTM B16.34. Body End Connection: Flanges conforming to ANSI B-16.5. Face-to-face dimension as per ANSI/ISA-75.08.01 Bonnet Style : Plain, Bolted Bonnet Bolting: SA-193-B7 Studs/2H Nuts. Gland Type : Bolted		

	Gland Packing: Double, PTFE V-ring or equivalent/superior, suitable for the handling fluid. Stem Material: S31600 SST (SS 316) or equivalent. Finished to less than 4 micron. Stem Size : Suitable for service condition. (To be specified by bidder). 3.0 TRIM : 3.1 DESIGN PARAMETERS: No of Port : Single /Double (To be specified by bidder) Seat Ring & Port Size : To be designed by bidder Flow Direction : Up / Both Seat Ring Type: Threaded /Clamped Plug Design : Contoured Plug Characteristics : Linear Plug Balance : Unbalanced /Balanced (To be specified by bidder) Guiding : Top & Bottom / Top Post Guided, Or Balanced Cage Guided(To be specified by bidder). Cage Characteristics : Linear (applicable for balanced cage guided type only) Seat Leakage: Class IV as per ANSI/FCI 70.2 standard. Noise level: <90 dBA within 1 meter area from the control valve. Hysteresis Error : +/-3% of Full Span or less Independent Linearity : +/- 5% of Full Span or less 3.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Seat Ring : S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath or equivalent Plug Material: S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath and Guide or equivalent Cage Material: CF8M SST /SS 420 / UNS S17400 SS (17Cr-4Ni Precipitation Hardened SS) / or equivalent. (applicable for balanced cage guided type only) 4.0 ACTUATOR:		

	4.1 DESIGN PARAMETERS: Actuator action : Direct, Normally / Fail open, Air to Close. Servo & Signal Supply Medium: Natural Gas Servo gas supply pressure : 20 psig (1.4 kg / sq. cm) (maximum) Actuator Shutoff pressure : 1.2 times Maximum inlet pressure Gas/Air connection : ¼ inch NPT (F) 4.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Actuator type: Yolk mounted, spring loaded, pneumatic diaphragm operated. Diaphragm material: Chloroprene/Neoprene rubber with fabric reinforced / equivalent or superior material suitable for natural gas as servo. Spring material : Spring Steel (Epoxy coated) Casing : Weather proof, Corrosion Resistant, Pressed steel, Epoxy coated Plug, diaphragm & Stem connection : Clamp type (threaded stem) Stroke Scale : Required. 5.0 POSITIONER : 5.1 DESIGN PARAMETERS: Split Range: Single Valve Output action : Direct /Field reversible Output characteristics :Linear Servo & input Signal Supply Medium : Natural Gas Input signal Pressure : 3 – 15 psig (0.21 -1.05 Kg/sq cm) Servo gas supply Pressure : 20 psig (1.4 Kg/Sq cm) (maximum) Maximum Steady?State Servo Gas Consumption: 14.0 scfh Operating Temperature Limit: Upto 60 degree C Gas/Air connection Point: ¼ inch NPT (F) Hysteresis Error : +/- 1% of Full Span or less Independent Linearity : +/- 1% of Full Span or less		

	Dead band : +/- 0.5% of Full Span or less 5.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Type : Pneumatic, Linear Stem slide control, Single acting Independent adjustment of zero and span : Required Adjustable amplification & dampening: Required Adjustable Stem travel: Required Valve Postiton indicator: Required. Pressure Gauge: Required for Inlet, output & Instrument(Signal), 40 mm (1.5")Dia, dual scale (psig & Kg/cm2), MS Powder coated/plastic casing, ¼ inch NPT brass connection, Enclosure : Weatherproof, with screened venting at bottom/side Enclosure Rating : Ingression protection rating IP65 or IP66. Tube fitting : Complete with necessary SS tube fitting of size suitable for application. 6.0 AIR/GAS FILTER REGULATOR : 6.1 DESIGN PARAMETERS: Setting Range : 0 to 7.0 Kg/sq cm Inlet & Oulet connection: ¼" NPTF Filter porosity : 5 Micron 6.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Filter material : Cintered Bronze or equivalent Pressure Gauge : Required. Drain : Required Manual. 7.0 COMPANION FLANGE AND STUDS & NUTS : 7.1 DESIGN PARAMETERS: Flange Size & Class : Same as End Connection Studs & Nuts : As required		

	7.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Flange : Raised faced Serrated as per ANSI B-16.5 & line pipe threaded as per API5B. Studs & Nuts : Studs as per SA-193-B7 & Nuts as per SA-193-2H		
Item No 40	**VALVE,CONTROL,PRESSURE,75MM(3")NB,300Class** Diaphragm operated motor/control valve, direct on line type along with valve positioned as one complete unit to the following specification & general requirement Size: 76.2mm (3") X ANSI 300 Class RF Control action - air to close, normally open. Body: Globe, straight, through type. Body materials: Cast carbon steel (ASTM A 216 Gr. WCB). No. of ports : Double Bonnet : Plain bonnet Trim (seat ring & plug) : 316 SS with stellited facing (on seat & entire surface of the plug). Gland type : Bolted gland Seat ring & port size : Full Plug characteristic : Quick opening or throttling with linear or equal percentage characteristic. Stem : Standard Stuffing box packing : ENVIRO SEAL PTFE / equivalent or superior material. Diaphragm material : Chloroprene rubber with fabric reinforced/ equivalent or superior material. Actuator type : Spring loaded pneumatic operated diaphragm Spring range : 0.2 to 1.0 kg / square cm (maximum) Air supply pressure : 1.4 kg / square cm (maximum) Spring materials : Stainless steel (Cadmium plated)		

	Mounting : Field mounted Plug, diaphragm & Stem connection : Clamp type(threaded) Valve positionar : Required Temperature range: 5 degree C to 45 degree C. Actuator action : Field reversible type End connection : Flanged type, raised face as per ANSI B 16.5 specification Air connection : ¼ inch NPT (F) Fluid to be handled: sweet natural gas contaminated with water. Seat leakage classification : CLASS IV (as per ANSI/FCI 70-2-2006 Standard) Hysteresis error : 3% FS or less Linearity : +/- 5% FS or less Rangeability : 30:1 Noise level: <90 dBA within 1 meter area from the valve. Casing : Weather proof The actuator yoke shall be provided with necessary arrangement for clamping pneumatic pressure indicating controller. 1.0 Positioner: 1.1 DESIGN PARAMETERS: Split Range: Single Valve Output action: Direct /Field reversible Output characteristics: Linear Servo & input Signal Supply Medium: Natural Gas Input signal Pressure: 3 – 15 psig (0.21 -1.05 Kg/sq cm) Servo gas supply Pressure: 20 psig (1.4 Kg/Sq cm) (maximum) Maximum Steady State Servo Gas Consumption: 14.0 scfh Operating Temperature Limit: Upto 60 degree C Gas/Air connection Point: ¼ inch NPT (F) Hysteresis Error: +/- 1% of Full Span or less Independent Linearity: +/- 1% of Full Span or less Dead band: +/- 0.5% of Full Span or less		

	1.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Type : Pneumatic, Linear Stem slide control, Single acting Independent adjustment of zero and span : Required Adjustable amplification & dampening: Required Adjustable Stem travel: Required Valve Position indicator: Required. Pressure Gauge: Required for Inlet, output & Instrument (Signal), 40 mm (1.5") Dia, dual scale (psig & Kg/cm2), MS Powder coated/plastic casing, ¼ inch NPT brass connection, Enclosure: Weatherproof, with screened venting at bottom/side Tubes & tube fittings: Complete with necessary SS tubes & tube fittings of size suitable for application. 2.0 Air/Gas Filter Regulator : 2.1 DESIGN PARAMETERS: Setting Range: 0 to 7.0 Kg/sq cm Inlet & Outlet connection: ¼" NPTF Filter porosity: 5 Micron 2.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Filter material: Sintered Bronze or equivalent Pressure Gauge: Required. Drain: Required Manual		
Item No 50	**VALVE,CONTROL,PRESSURE,50MM(2”)NB,300Class** Diaphragm operated control valves with valve positioner . 50.8mm (2")x ANSI 300 Class RF Control action - normally open, on air supply valve to close. Upstream pressure - 25 kg/cm2 Min CV - 50 Supply of diaphragm operated motor/control valve, direct on		

	line type along with valve positioner as one complete unit to the following specification & general requirement - Body : Globe, straight, through type. Body materials : Cast carbon steel (ASTM A 216 Gr. WCB). No. of ports : Double Bonnet : Plain bonnet Trim (seat ring & plug) : 316 SS with stellited facing (on seat & entire surface of the plug). Gland type : Bolted gland Seat ring & port size : Full Plug characteristic : Quick opening or throttling with linear or equal percentage characteristic. Stem : Standard Stuffing box packing : ENVIRO SEAL PTFE / equivalent or superior material. Diaphragm material : Chloroprene rubber with fabric reinforced/ equivalent or superior material. Actuator type : Spring loaded pneumatic operated diaphragm (single spring) Spring range : 0.2 to 1.0 kg / square cm (maximum) Air supply pressure : 1.4 kg / square cm (maximum) Spring materials : Stainless steel (Cadmium plated) Mounting : Field mounted Plug, diaphragm & Stem connection : Clamp type(threaded) Valve positionar : Required Temperature range : 5 degree to 45 degree C. Actuator action : Field reversible type End connection : Flanged type, raised face as per ANSI B 16.5 specification Air connection : ¼ inch NPT (F) Fluid to be handled : sweet natural gas contaminated with water.		

	Seat leakage classification : CLASS IV (as per ANSI/FCI 70-2-1991 Standard) Hysteresis error : 3% FS or less Linearity : +/- 5% FS or less Rangeability : 30:1 Casing : Weather proof The actuator yoke shall be provided with necessary arrangement for clamping pneumatic pressure indicating controller. 1.0 Positioner: 1.1 DESIGN PARAMETERS: Split Range: Single Valve Output action: Direct /Field reversible Output characteristics: Linear Servo & input Signal Supply Medium: Natural Gas Input signal Pressure: 3 – 15 psig (0.21 -1.05 Kg/sq cm) Servo gas supply Pressure: 20 psig (1.4 Kg/Sq cm) (maximum) Maximum Steady State Servo Gas Consumption: 14.0 scfh Operating Temperature Limit: Upto 60 degree C Gas/Air connection Point: ¼ inch NPT (F) Hysteresis Error: +/- 1% of Full Span or less Independent Linearity: +/- 1% of Full Span or less Dead band: +/- 0.5% of Full Span or less 1.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Type : Pneumatic, Linear Stem slide control, Single acting Independent adjustment of zero and span : Required Adjustable amplification & dampening: Required Adjustable Stem travel: Required Valve Position indicator: Required. Pressure Gauge: Required for Inlet, output & Instrument (Signal), 40 mm (1.5") Dia, dual scale (psig & Kg/cm2), MS Powder		

	coated/plastic casing, ¼ inch NPT brass connection, Enclosure: Weatherproof, with screened venting at bottom/side Tubes & tube fittings: Complete with necessary SS tubes & tube fittings of size suitable for application. 2.0 Air/Gas Filter Regulator : 2.1 DESIGN PARAMETERS: Setting Range: 0 to 7.0 Kg/sq cm Inlet & Outlet connection: ¼" NPTF Filter porosity: 5 Micron 2.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Filter material: Sintered Bronze or equivalent Pressure Gauge: Required. Drain: Required Manual		
Item No 60	**VALVE,CONTROL,LIQUID LEVEL,50MM(2")NB,300Class** Diaphragm operated pneumatic control valve along with positioned and air filter regulator, complete with companion flange and requisite number of Studs& Nuts, as per the following specification. 1.0 SERVICE CONDITION: Fluid to be handled : Crude Oil mixed with formation water. Gas Gravity : 0.85 Normal Operating Temp: 45 Deg C. Maximum Throughput : 900 KLPD Normal Throughput : 600 KLPD Minimum Throughput : 400 KLPD Maximum Inlet Pressure : 23.0 Kg/sq.cm		

	Normal Inlet Pressure : 21.0 Kg/sq.cm Minimum Inlet Pressure : 18.0 Kg/sq.cm Maximum Outlet Pressure : 6.0 Kg/sq.cm Normal Outlet Pressure : 5.0 Kg/sq.cm Minimum Outlet Pressure : 3.5 Kg/sq.cm 2.0 VALVE BODY & BONNET: 2.1 DESIGN PARAMETERS: Valve Size & Rating : 50MM(2")NB,300Class End connection Size &Rating : Flanged,50MM(2")NB,300Class,Raised face Serrated. 2.2 MATERIAL OF CONSTRUCTION & SPECIFICATION: Body Style: Globe, Straight through type Body and Bonnet Material: Cast carbon Steel (ASTM A-216, Gr. WCB/WCC or ASTM A352, Gr. LCB/LCC), epoxy painted. Casting must be of radiographic quality as per ASTM B16.34. Body End Connection: Flanges conforming to ANSI B-16.5. Face-to-face dimension as per ANSI/ISA-75.08.01 Bonnet Style : Plain, Bolted Bonnet Bolting: SA-193-B7 Studs/2H Nuts. Gland Type : Bolted Gland Packing: Double, PTFE V-ring or equivalent/superior, suitable for the handling fluid. Stem Material: S31600 SST (SS 316) or equivalent. Finished to less than 4 micron. Stem Size : Suitable for service condition. (To be specified by bidder).		

	3.0 TRIM : 3.1 DESIGN PARAMETERS: No of Port : Single /Double (To be specified by bidder). Seat Ring & Port Size : To be designed by bidder. Flow Direction : Up / Both Seat Ring Type: Threaded Plug Design : Contoured Plug Characteristics : Linear Plug Balance : Unbalanced Guiding : Top & Bottom / Top Post Guided, (To be specified by bidder). Cage : Not required Seat Leakage: Class IV as per ANSI/FCI 70.2 standard. Noise level: <90 dBA within 1 meter area from the control valve. Hysteresis Error : +/-3% of Full Span or less Independent Linearity : +/- 5% of Full Span or less 3.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Seat Ring : S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath or equivalent Plug Material: S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath and Guide or equivalent Guide Material : SS 410 / SS 440C or equivalent. 4.0 ACTUATOR : 4.1 DESIGN PARAMETERS: Actuator action : Direct, Normally / Fail Close , Air to open. Servo & Signal Supply Medium: Natural Gas Servo gas supply pressure : 20 psig (1.4 kg / sq. cm) (maximum) Actuator Shutoff pressure : 1.2 times Maximum inlet pressure Gas/Air connection : ¼ inch NPT (F)		

	4.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Actuator type: Yolk mounted, spring loaded, pneumatic diaphragm operated. Diaphragm material: Chloroprene/Neoprene rubber with fabric reinforced / equivalent or superior material suitable for natural gas as servo. Spring material : Spring Steel (Epoxy coated) Casing : Weather proof, Corrosion Resistant, Pressed steel, Epoxy coated Plug, diaphragm & Stem connection : Clamp type (threaded stem) Stroke Scale : Required. 5.0 POSITIONER : 5.1 DESIGN PARAMETERS: Split Range: Single Valve Output action: Direct /Field reversible Output characteristics: Linear Servo & input Signal Supply Medium: Natural Gas Input signal Pressure: 3 – 15 psig (0.21 -1.05 Kg/sq cm) Servo gas supply Pressure: 20 psig (1.4 Kg/Sq cm) (maximum) Maximum Steady State Servo Gas Consumption: 14.0 scfh Operating Temperature Limit: Upto 60 degree C Gas/Air connection Point: ¼ inch NPT (F) Hysteresis Error: +/- 1% of Full Span or less Independent Linearity: +/- 1% of Full Span or less Dead band: +/- 0.5% of Full Span or less 5.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Type : Pneumatic, Linear Stem slide control, Single acting Independent adjustment of zero and span : Required Adjustable amplification & dampening: Required		

	Adjustable Stem travel: Required Valve Position indicator: Required. Pressure Gauge: Required for Inlet, output & Instrument (Signal), 40 mm (1.5") Dia, dual scale (psig & Kg/cm2), MS Powder coated/plastic casing, ¼ inch NPT brass connection, Enclosure: Weatherproof, with screened venting at bottom/side Tube fitting: Complete with necessary SS tube fitting of size suitable for application. 6.0 AIR/GAS FILTER REGULATOR: 6.1 DESIGN PARAMETERS: Setting Range: 0 to 7.0 Kg/sq cm Inlet & Outlet connection: ¼" NPTF Filter porosity: 5 Micron 6.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Filter material: Sintered Bronze or equivalent Pressure Gauge: Required. Drain: Required Manual. 7.0 COMPANION FLANGE AND STUDS & NUTS : 7.1 DESIGN PARAMETERS: Flange : Flange Size & Class : Same as End connection Studs & Nuts : As required 7.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Flange : Raised faced Serrated as per ANSI B-16.5 & line pipe threaded as per API5B. Studs & Nuts : Studs as per SA-193-B7 & Nuts as per SA-193-		

	2H		
Item No 70	**VALVE,CONTROL,LIQUID LEVEL,50MM(2")NB,150Class** Diaphragm operated motor/control valve, direct on line type along with valve positioned as one complete unit to the following specification & general requirement Size:(2") x ANSI 150 class RF Control action - air supply to open, normally closed. Body : Globe, straight, through type. Body materials : Cast carbon steel (ASTM A 216 Gr. WCB). No. of ports : Double Bonnet : Plain bonnet Trim (seat ring & plug) : 316 SS with stellited facing (on seat & entire surface of the plug). Gland type : Bolted gland Seat ring & port size : Full Plug characteristic : Quick opening or throttling with linear or equal percentage characteristic. Stem : Standard Stuffing box packing : ENVIRO SEAL PTFE / equivalent or superior material. Diaphragm material : Chloroprene rubber with fabric reinforced/ equivalent or superior material. Actuator type : Spring loaded pneumatic operated diaphragm Spring range : 0.2 to 1.0 kg / square cm (maximum) Air supply pressure : 1.4 kg / square cm (maximum) Spring materials : Stainless steel (Cadmium plated) Mounting : Field mounted Plug, diaphragm & Stem connection : Clamp type (threaded) Valve positionar : Required Temperature range : 5 degree C to 45 degree C. Actuator action : Field reversible type End connection : Flanged type, raised face as per ANSI B 16.5		

	specification Air connection : ¼ inch NPT (F) Fluid to be handled : Crude oil + water Seat leakage classification : CLASS IV (as per ANSI/FCI 70-2-2006 Standard) Hysteresis error : 3% FS or less Linearity : +/- 5% FS or less Rangeability : 30:1 Noise level: <90 dBA within 1 meter area from the valve. Casing : Weather proof The actuator yoke shall be provided with necessary arrangement 1.0 Positioner: 1.1 DESIGN PARAMETERS: Split Range: Single Valve Output action: Direct /Field reversible Output characteristics: Linear Servo & input Signal Supply Medium: Natural Gas Input signal Pressure: 3 – 15 psig (0.21 -1.05 Kg/sq cm) Servo gas supply Pressure: 20 psig (1.4 Kg/Sq cm) (maximum) Maximum Steady State Servo Gas Consumption: 14.0 scfh Operating Temperature Limit: Upto 60 degree C Gas/Air connection Point: ¼ inch NPT (F) Hysteresis Error: +/- 1% of Full Span or less Independent Linearity: +/- 1% of Full Span or less Dead band: +/- 0.5% of Full Span or less 1.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Type : Pneumatic, Linear Stem slide control, Single acting Independent adjustment of zero and span : Required Adjustable amplification & dampening: Required Adjustable Stem travel: Required Valve Position indicator: Required. Pressure Gauge: Required for Inlet, output & Instrument		

	(Signal), 40 mm (1.5") Dia, dual scale (psig & Kg/cm2), MS Powder coated/plastic casing, ¼ inch NPT brass connection, Enclosure: Weatherproof, with screened venting at bottom/side Tubes & tube fittings: Complete with necessary SS tubes & tube fittings of size suitable for application. 2.0 Air/Gas Filter Regulator : 2.1 DESIGN PARAMETERS: Setting Range: 0 to 7.0 Kg/sq cm Inlet & Outlet connection: ¼" NPTF Filter porosity: 5 Micron 2.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Filter material: Sintered Bronze or equivalent Pressure Gauge: Required. Drain: Required Manual.		
Item No. 80	**VALVE,CONTROL,LIQUID LEVEL,100MM(4")NB,150Class** Diaphragm operated pneumatic control valve along with positioner and air filter regulator, complete with companion flange and requisite number of Studs& Nuts, as per the following specification. 1.0 SERVICE CONDITION: Fluid to be handled : Crude Oil mixed with formation water. Gas Gravity : 0.85 Normal Operating Temp : 45 Deg C. Maximum Throughput : 900 KLPD Normal Throughput : 600 KLPD		

	Minimum Throughput : 400 KLPD Maximum Inlet Pressure : 6.0 Kg/sq.cm Normal Inlet Pressure : 3.5 Kg/sq.cm Minimum Inlet Pressure : 1.0 Kg/sq.cm Maximum Outlet Pressure : 3.5 Kg/sq.cm Normal Outlet Pressure : 2.0 Kg/sq.cm Minimum Outlet Pressure : 0.8 Kg/sq.cm 2.0 VALVE BODY & BONNET: 2.1 DESIGN PARAMETERS: Valve Size & Rating : 100MM(4")NB,150Class End connection Size & Rating : Flanged,100MM(4")NB,150Class,Raised face Serrated. 2.2 MATERIAL OF CONSTRUCTION & SPECIFICATION: Body Style: Globe, Straight through type Body and Bonnet Material: Cast carbon Steel (ASTM A-216, Gr. WCB/WCC or ASTM A352, Gr. LCB/LCC), epoxy painted. Casting must be of radiographic quality as per ASTM B16.34. Body End Connection: Flanges conforming to ANSI B-16.5. Face-to-face dimension as per ANSI/ISA-75.08.01 Bonnet Style : Plain, Bolted Bonnet Bolting: SA-193-B7 Studs/2H Nuts. Gland Type : Bolted Gland Packing: Double, PTFE V-ring or equivalent/superior, suitable for the handling fluid. Stem Material: S31600 SST (SS 316) or equivalent. Finished to less than 4 micron.		

	Stem Size : Suitable for service condition. (To be specified by bidder). 3.0 TRIM : 3.1 DESIGN PARAMETERS: No of Port : Single /Double (To be specified by bidder). Seat Ring & Port Size : To be designed by bidder. Flow Direction : Up / Both Seat Ring Type: Threaded Plug Design : Contoured Plug Characteristics : Linear Plug Balance : Unbalanced Guiding : Top & Bottom / Top Post Guided, (To be specified by bidder). Cage : Not required Seat Leakage: Class IV as per ANSI/FCI 70.2 standard. Noise level: <90 dBA within 1 meter area from the control valve. Hysteresis Error : +/-3% of Full Span or less Independent Linearity : +/- 5% of Full Span or less 3.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Seat Ring : S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath or equivalent Plug Material: S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath and Guide or equivalent Guide Material : SS 410 / SS 440C or equivalent. 4.0 ACTUATOR : 4.1 DESIGN PARAMETERS: Actuator action : Direct, Normally / Fail Close , Air to open. Servo & Signal Supply Medium: Natural Gas Servo gas supply pressure : 20 psig (1.4 kg / sq. cm)		

	(maximum) Actuator Shutoff pressure : 1.2 times Maximum inlet pressure Gas/Air connection : ¼ inch NPT (F) 4.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Actuator type: Yolk mounted, spring loaded, pneumatic diaphragm operated. Diaphragm material: Chloroprene/Neoprene rubber with fabric reinforced / equivalent or superior material suitable for natural gas as servo. Spring material : Spring Steel (Epoxy coated) Casing : Weather proof, Corrosion Resistant, Pressed steel, Epoxy coated Plug, diaphragm & Stem connection : Clamp type (threaded stem) Stroke Scale : Required. 5.0 POSITIONER : 5.1 DESIGN PARAMETERS: Split Range: Single Valve Output action: Direct /Field reversible Output characteristics: Linear Servo & input Signal Supply Medium: Natural Gas Input signal Pressure: 3 – 15 psig (0.21 -1.05 Kg/sq cm) Servo gas supply Pressure: 20 psig (1.4 Kg/Sq cm) (maximum) Maximum Steady State Servo Gas Consumption: 14.0 scfh Operating Temperature Limit: Upto 60 degree C Gas/Air connection Point: ¼ inch NPT (F) Hysteresis Error: +/- 1% of Full Span or less Independent Linearity: +/- 1% of Full Span or less Dead band: +/- 0.5% of Full Span or less 5.2 MATERIAL OF CONSTRUCTION & SPECIFICATION		

	Type : Pneumatic, Linear Stem slide control, Single acting Independent adjustment of zero and span : Required Adjustable amplification & dampening: Required Adjustable Stem travel: Required Valve Position indicator: Required. Pressure Gauge: Required for Inlet, output & Instrument (Signal), 40 mm (1.5") Dia, dual scale (psig & Kg/cm2), MS Powder coated/plastic casing, ¼ inch NPT brass connection, Enclosure: Weatherproof, with screened venting at bottom/side Tube fitting: Complete with necessary SS tube fitting of size suitable for application. 6.0 AIR/GAS FILTER REGULATOR: 6.1 DESIGN PARAMETERS: Setting Range: 0 to 7.0 Kg/sq cm Inlet & Outlet connection: ¼" NPTF Filter porosity: 5 Micron 6.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Filter material: Sintered Bronze or equivalent Pressure Gauge: Required. Drain: Required Manual. 7.0 COMPANION FLANGE AND STUDS & NUTS : 7.1 DESIGN PARAMETERS: Flange : Flange Size & Class : Same as End connection Studs & Nuts : As required 7.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Flange : Raised faced Serrated as per ANSI B-16.5 & line pipe threaded		

	as per API5B. Studs & Nuts : Studs as per SA-193-B7 & Nuts as per SA-193-2H		
Item no. 90	**VALVE,CONTROL,LIQUID LEVEL,100MM(4")NB,300Class** Diaphragm operated pneumatic control valve along with positioned and air filter regulator, complete with companion flange and requisite number of Studs& Nuts, as per the following specification. 1.0 SERVICE CONDITION: Fluid to be handled : Crude Oil mixed with formation water. Gas Gravity : 0.85 Normal Operating Temp : 45 Deg C. Maximum Throughput : 900 KLPD Normal Throughput : 600 KLPD Minimum Throughput : 400 KLPD Maximum Inlet Pressure : 23.0 Kg/sq.cm Normal Inlet Pressure : 21.0 Kg/sq.cm Minimum Inlet Pressure : 18.0 Kg/sq.cm Maximum Outlet Pressure : 6.0 Kg/sq.cm Normal Outlet Pressure : 5.0 Kg/sq.cm Minimum Outlet Pressure : 3.5 Kg/sq.cm 2.0 VALVE BODY & BONNET: 2.1 DESIGN PARAMETERS: Valve Size & Rating : 100MM(4")NB,300Class End connection Size & Rating : Flanged,100MM(4")NB,300Class,Raised face Serrated. 2.2 MATERIAL OF CONSTRUCTION & SPECIFICATION:		

	Body Style: Globe, Straight through type Body and Bonnet Material: Cast carbon Steel (ASTM A-216, Gr. WCB/WCC or ASTM A352, Gr. LCB/LCC), epoxy painted. Casting must be of radiographic quality as per ASTM B16.34. Body End Connection: Flanges conforming to ANSI B-16.5. Face-to-face dimension as per ANSI/ISA-75.08.01 Bonnet Style : Plain, Bolted Bonnet Bolting: SA-193-B7 Studs/2H Nuts. Gland Type : Bolted Gland Packing: Double, PTFE V-ring or equivalent/superior, suitable for the handling fluid. Stem Material: S31600 SST (SS 316) or equivalent. Finished to less than 4 micron. Stem Size : Suitable for service condition. (To be specified by bidder). 3.0 TRIM : 3.1 DESIGN PARAMETERS: No of Port : Single /Double (To be specified by bidder). Seat Ring & Port Size : To be designed by bidder. Flow Direction : Up / Both Seat Ring Type: Threaded Plug Design : Contoured Plug Characteristics : Linear Plug Balance : Unbalanced Guiding : Top & Bottom / Top Post Guided, (To be specified by bidder). Cage : Not required Seat Leakage: Class IV as per ANSI/FCI 70.2 standard. Noise level: <90 dBA within 1 meter area from the control valve. Hysteresis Error : +/-3% of Full Span or less		

	Independent Linearity : +/- 5% of Full Span or less 3.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Seat Ring : S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath or equivalent Plug Material: S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath and Guide or equivalent Guide Material : SS 410 / SS 440C or equivalent. 4.0 ACTUATOR : 4.1 DESIGN PARAMETERS: Actuator action : Direct, Normally / Fail Close , Air to open. Servo & Signal Supply Medium: Natural Gas Servo gas supply pressure : 20 psig (1.4 kg / sq. cm) (maximum) Actuator Shutoff pressure : 1.2 times Maximum inlet pressure Gas/Air connection : ¼ inch NPT (F) 4.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Actuator type: Yolk mounted, spring loaded, pneumatic diaphragm operated. Diaphragm material: Chloroprene/Neoprene rubber with fabric reinforced / equivalent or superior material suitable for natural gas as servo. Spring material : Spring Steel (Epoxy coated) Casing : Weather proof, Corrosion Resistant, Pressed steel, Epoxy coated Plug, diaphragm & Stem connection : Clamp type (threaded stem) Stroke Scale : Required.		

	5.0 POSITIONER : 5.1 DESIGN PARAMETERS: Split Range: Single Valve Output action: Direct /Field reversible Output characteristics: Linear Servo & input Signal Supply Medium: Natural Gas Input signal Pressure: 3 – 15 psig (0.21 -1.05 Kg/sq cm) Servo gas supply Pressure: 20 psig (1.4 Kg/Sq cm) (maximum) Maximum Steady State Servo Gas Consumption: 14.0 scfh Operating Temperature Limit: Upto 60 degree C Gas/Air connection Point: ¼ inch NPT (F) Hysteresis Error: +/- 1% of Full Span or less Independent Linearity: +/- 1% of Full Span or less Dead band: +/- 0.5% of Full Span or less 5.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Type : Pneumatic, Linear Stem slide control, Single acting Independent adjustment of zero and span : Required Adjustable amplification & dampening: Required Adjustable Stem travel: Required Valve Position indicator: Required. Pressure Gauge: Required for Inlet, output & Instrument (Signal), 40 mm (1.5") Dia, dual scale (psig & Kg/cm2), MS Powder coated/plastic casing, ¼ inch NPT brass connection, Enclosure: Weatherproof, with screened venting at bottom/side Tube fitting: Complete with necessary SS tube fitting of size suitable for application. 6.0 AIR/GAS FILTER REGULATOR: 6.1 DESIGN PARAMETERS: Setting Range: 0 to 7.0 Kg/sq cm		

	Inlet & Outlet connection: ¼" NPTF Filter porosity: 5 Micron 6.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Filter material: Sintered Bronze or equivalent Pressure Gauge: Required. Drain: Required Manual. 7.0 COMPANION FLANGE AND STUDS & NUTS : 7.1 DESIGN PARAMETERS: Flange : Flange Size & Class : Same as End connection Studs & Nuts : As required 7.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Flange : Raised faced Serrated as per ANSI B-16.5 & line pipe threaded as per API5B. Studs & Nuts : Studs as per SA-193-B7 & Nuts as per SA-193-2H		
Item no. 100	**VALVE,CONTROL,LIQUID LEVEL,150MM(6")NB,150Class** Diaphragm operated motor/control valve, direct on line type along with valve positioned as one complete unit to the following specification & general requirement Size:152.4mm (6") X ANSI 150 Class RF Control action - air supply to open, normally closed. Body : Globe, straight, through type. Body materials : Cast carbon steel (ASTM A 216 Gr. WCB). No. of ports : Double Bonnet : Plain bonnet Trim (seat ring & plug) : 316 SS with stellited facing (on seat & entire surface of the plug).		

	Gland type : Bolted gland Seat ring & port size : Full Plug characteristic : Quick opening or throttling with linear or equal percentage characteristic. Stem : Standard Stuffing box packing : ENVIRO SEAL PTFE / equivalent or superior material. Diaphragm material : Chloroprene rubber with fabric reinforced/ equivalent or superior material. Actuator type : Spring loaded pneumatic operated diaphragm Spring range : 0.2 to 1.0 kg / square cm (maximum) Air supply pressure : 1.4 kg / square cm (maximum) Spring materials : Stainless steel (Cadmium plated) Mounting : Field mounted Plug, diaphragm & Stem connection : Clamp type (threaded) Valve positionar : Required Temperature range : 5 degree C to 45 degree C. Actuator action : Field reversible type End connection : Flanged type, raised face as per ANSI B 16.5 specification Air connection : ¼ inch NPT (F) Fluid to be handled : Crude oil + water Seat leakage classification : CLASS IV (as per ANSI/FCI 70-2-2006 Standard) Hysteresis error : 3% FS or less Linearity : +/- 5% FS or less Rangeability : 30:1 Noise level: <90 dBA within 1 meter area from the valve. Casing : Weather proof The actuator yoke shall be provided with necessary arrangement for clamping pneumatic pressure indicating controller. 1.0 Positioner:		

	1.1 DESIGN PARAMETERS: Split Range: Single Valve Output action: Direct /Field reversible Output characteristics: Linear Servo & input Signal Supply Medium: Natural Gas Input signal Pressure: 3 – 15 psig (0.21 -1.05 Kg/sq cm) Servo gas supply Pressure: 20 psig (1.4 Kg/Sq cm) (maximum) Maximum Steady State Servo Gas Consumption: 14.0 scfh Operating Temperature Limit: Upto 60 degree C Gas/Air connection Point: ¼ inch NPT (F) Hysteresis Error: +/- 1% of Full Span or less Independent Linearity: +/- 1% of Full Span or less Dead band: +/- 0.5% of Full Span or less 1.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Type : Pneumatic, Linear Stem slide control, Single acting Independent adjustment of zero and span : Required Adjustable amplification & dampening: Required Adjustable Stem travel: Required Valve Position indicator: Required. Pressure Gauge: Required for Inlet, output & Instrument (Signal), 40 mm (1.5") Dia, dual scale (psig & Kg/cm2), MS Powder coated/plastic casing, ¼ inch NPT brass connection, Enclosure: Weatherproof, with screened venting at bottom/side Tubes & tube fittings: Complete with necessary SS tubes & tube fittings of size suitable for application. 2.0 Air/Gas Filter Regulator : 2.1 DESIGN PARAMETERS: Setting Range: 0 to 7.0 Kg/sq cm Inlet & Outlet connection: ¼" NPTF Filter porosity: 5 Micron		

	2.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Filter material: Sintered Bronze or equivalent Pressure Gauge: Required. Drain: Required Manual.		
Item No. 110	**VALVE,CONTROL,LIQUID LEVEL,75MM(3")NB,150Class** Diaphragm operated motor/control valve, direct on line type along with valve positioned as one complete unit to the following specification & general requirement Size:76.2mm(3")XANSI 150 Class RF Control action - air supply to open, normally closed. Body : Globe, straight, through type. Body materials : Cast carbon steel (ASTM A 216 Gr. WCB). No. of ports : Double Bonnet : Plain bonnet Trim (seat ring & plug) : 316 SS with stellited facing (on seat & entire surface of the plug). Gland type : Bolted gland Seat ring & port size : Full Plug characteristic : Quick opening or throttling with linear or equal percentage characteristic. Stem : Standard Stuffing box packing : ENVIRO SEAL PTFE / equivalent or superior material. Diaphragm material : Chloroprene rubber with fabric reinforced/ equivalent or superior material. Actuator type : Spring loaded pneumatic operated diaphragm Spring range : 0.2 to 1.0 kg / square cm (maximum) Air supply pressure : 1.4 kg / square cm (maximum) Spring materials : Stainless steel (Cadmium plated)		

	Mounting : Field mounted Plug, diaphragm & Stem connection : Clamp type (threaded) Valve positionar : Required Temperature range : 5 degree C to 45 degree C. Actuator action : Field reversible type End connection : Flanged type, raised face as per ANSI B 16.5 specification Air connection : ¼ inch NPT (F) Fluid to be handled : Crude oil + water Seat leakage classification : CLASS IV (as per ANSI/FCI 70-2-2006 Standard) Hysteresis error : 3% FS or less Linearity : +/- 5% FS or less Rangeability : 30:1 Noise level: <90 dBA within 1 meter area from the valve. Casing : Weather proof The actuator yoke shall be provided with necessary arrangement for clamping pneumatic pressure indicating controller. 1.0 Positioner: 1.1 DESIGN PARAMETERS: Split Range: Single Valve Output action: Direct /Field reversible Output characteristics: Linear Servo & input Signal Supply Medium: Natural Gas Input signal Pressure: 3 – 15 psig (0.21 -1.05 Kg/sq cm) Servo gas supply Pressure: 20 psig (1.4 Kg/Sq cm) (maximum) Maximum Steady State Servo Gas Consumption: 14.0 scfh Operating Temperature Limit: Upto 60 degree C Gas/Air connection Point: ¼ inch NPT (F) Hysteresis Error: +/- 1% of Full Span or less Independent Linearity: +/- 1% of Full Span or less Dead band: +/- 0.5% of Full Span or less 1.2 MATERIAL OF CONSTRUCTION & SPECIFICATION		

	Type : Pneumatic, Linear Stem slide control, Single acting Independent adjustment of zero and span : Required Adjustable amplification & dampening: Required Adjustable Stem travel: Required Valve Position indicator: Required. Pressure Gauge: Required for Inlet, output & Instrument (Signal), 40 mm (1.5") Dia, dual scale (psig & Kg/cm2), MS Powder coated/plastic casing, ¼ inch NPT brass connection, Enclosure: Weatherproof, with screened venting at bottom/side Tubes & tube fittings: Complete with necessary SS tubes & tube fittings of size suitable for application. 2.0 Air/Gas Filter Regulator : 2.1 DESIGN PARAMETERS: Setting Range: 0 to 7.0 Kg/sq cm Inlet & Outlet connection: ¼" NPTF Filter porosity: 5 Micron 2.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Filter material: Sintered Bronze or equivalent Pressure Gauge: Required. Drain: Required Manual.		
Item No. 120	**VALVE,CONTROL,LIQUID LEVEL,75MM(3")NB,300 Class** Diaphragm operated motor/control valve, direct on line type along with valve positioned as one complete unit to the following specification & general requirement Size:76.2mm(3")X ANSI 300 Class RF		

	Control action - air supply to open, normally closed. Body : Globe, straight, through type. Body materials : Cast carbon steel (ASTM A 216 Gr. WCB). No. of ports : Double Bonnet : Plain bonnet Trim (seat ring & plug) : 316 SS with stellited facing (on seat & entire surface of the plug). Gland type : Bolted gland Seat ring & port size : Full Plug characteristic : Quick opening or throttling with linear or equal percentage characteristic. Stem : Standard Stuffing box packing : ENVIRO SEAL PTFE / equivalent or superior material. Diaphragm material : Chloroprene rubber with fabric reinforced/ equivalent or superior material. Actuator type : Spring loaded pneumatic operated diaphragm Spring range : 0.2 to 1.0 kg / square cm (maximum) Air supply pressure : 1.4 kg / square cm (maximum) Spring materials : Stainless steel (Cadmium plated) Mounting : Field mounted Plug, diaphragm & Stem connection : Clamp type (threaded) Valve positionar : Required Temperature range : 5 degree C to 45 degree C Actuator action : Field reversible type End connection : Flanged type, raised face as per ANSI B 16.5 specification Air connection : ¼ inch NPT (F) Fluid to be handled : Crude oil + water Seat leakage classification : CLASS IV (as per ANSI/FCI 70-2-2006 Standard) Hysteresis error : 3% FS or less Linearity : +/- 5% FS or less Rangeability : 30:1 Noise level: <90 dBA within 1 meter area from the valve.		

	Casing : Weather proof The actuator yoke shall be provided with necessary arrangement for clamping pneumatic pressure indicating controller. 1.0 Positioner: 1.1 DESIGN PARAMETERS: Split Range: Single Valve Output action: Direct /Field reversible Output characteristics: Linear Servo & input Signal Supply Medium: Natural Gas Input signal Pressure: 3 – 15 psig (0.21 -1.05 Kg/sq cm) Servo gas supply Pressure: 20 psig (1.4 Kg/Sq cm) (maximum) Maximum Steady State Servo Gas Consumption: 14.0 scfh Operating Temperature Limit: Upto 60 degree C Gas/Air connection Point: ¼ inch NPT (F) Hysteresis Error: +/- 1% of Full Span or less Independent Linearity: +/- 1% of Full Span or less Dead band: +/- 0.5% of Full Span or less 1.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Type : Pneumatic, Linear Stem slide control, Single acting Independent adjustment of zero and span : Required Adjustable amplification & dampening: Required Adjustable Stem travel: Required Valve Position indicator: Required. Pressure Gauge: Required for Inlet, output & Instrument (Signal), 40 mm (1.5") Dia, dual scale (psig & Kg/cm2), MS Powder coated/plastic casing, ¼ inch NPT brass connection, Enclosure: Weatherproof, with screened venting at bottom/side Tubes & tube fittings: Complete with necessary SS tubes & tube fittings of size suitable for application.		

	2.0 Air/Gas Filter Regulator: 2.1 DESIGN PARAMETERS: Setting Range: 0 to 7.0 Kg/sq cm Inlet & Outlet connection: ¼" NPTF Filter porosity: 5 Micron 2.2 MATERIAL OF CONSTRUCTION & SPECIFICATION Filter material: Sintered Bronze or equivalent Pressure Gauge: Required. Drain: Required Manual.		
GENERAL NOTES TO BIDDERS:			
1	The bidder shall confirm that the goods, materials to be supplied shall be new, of recent make, of the best quality & workmanship. The bidder shall confirm that the materials shall be guaranteed for a period of 18 months from the date of despatch or 12 months from the date of receipt at destination, whichever is earlier, against defects arising from faulty materials, workmanship or design. Defective goods / materials or parts notified by OIL to the Seller shall be replaced immediately by the Seller on FOR destination basis including payment of all taxes and duties at Seller's expense. This guarantee shall survive and hold good not-withstanding inspection, payment for and acceptance of the goods.		
2	The following documents/drawing/brochures shall be submitted along with technical bid: iv. Detailed cross sectional drawing with Part list & Material of Construction (MOC)/ Material Specification, v. General Arrangement Diagram (GAD) with dimensions, vi. Technical catalogue for the quoted valves, vii. Manufacturer's QAP.		
3	In the technical bid bidder shall submit the document of Capacity Test & Characteristic Curve of Control Valve as per ANSI/ISA 75.02 standard for one no of similar type of control valve manufactured by them.		

4	Valve body shall be manufactured in / procured from EIL / Lloyds approved foundries. The foundry certificate & Casting Heat No shall be provided along with the material supply		
5	The following tests shall be carried out and the test reports shall be submitted along with materials supply- k) Chemical Analysis & Mechanical Property Test of all materials of components of the valves as per EN10204 Standard. l) Radiographic testing of valve body & bonnet as per ASME SEC V / ASTM B16.34 Standard. m) Hydraulic test for pressure containing part (Shell Test) of each valve as per ASME B 16.34/ISA S 75.19.01 Standard at 1.5 times the rated pressure. n) Hydraulic test for Assembled valve (Body Mount Leak Test) of each valve as per ASME /ISA S 75.19.01 Standard at 1.1 times the rated pressure. o) Seat Leakage Tests for Class IV as per FCI 70.2 standard, using air or water with suitable inhibitor to prevent corrosion. p) Control Valve Capacity Test & plotting of Characteristic Curve of Control Valve for one no of each Purchase Order Item as per Purchase Order Specification and as per ANSI/ISA 75.02 standard. q) Actuator Leak Test as per relevant standard/ Manufacturer's QAP, using compressed air at 1.5 times the supply pressure to the actuator as per Purchase Order specification. r) Linearity, hysteresis, stem over travel, & functional test with accessories connected shall be conducted as per relevant standard /Manufacturer's QAP. s) Cyclic & physical tests on each actuator shall be performed to ensure sound quality of diaphragm & spring as per relevant standard /Manufacturer's QAP . t) Necessary tests on the spring like SCRAG, STIFFNESS & PARALLELISM test as per relevant standard/ Manufacturer's QAP.		
6	The valves shall bear the following permanent marks- (i) Manufacturer's Name (ii) Valve size		

	(iii) Pressure Rating (iv) Serial No. (v) OIL's Purchase Order no.		
7	All valves shall be inspected by any one of OIL's approved Third party inspection agencies. viz. M/s Lloyds or M/s Bureau Veritas or M/s IRS or M/s Rites, M/s Tuboscope Vetco or M/s DNV.		
8	The Scope of Third Party Inspection will be as detailed below and TPI certificates shall be submitted along with material supply. xii) To inspect stage wise from procurement of raw materials to assembly to ensure that proper technique and procedure are followed as per relevant standards and Purchase Order specification. xiii) To review necessary chemical & mechanical test certificates to ensure that different components of the valve are as per relevant standards and Purchase Order specification. xiv) To review heat number wise foundry certificates of castings in order to ensure that the materials used are as per relevant standards and Purchase Order specification. xv) To ensure that valve body castings are manufactured in / procured from foundries approved by M/s EIL or M/s Lloyds. xvi) To review and certify the radiographs of body & bonnet of all valves to ensure that casting are of radiographic quality. xvii) To review and certify radiography of 10%. of valves randomly selected against each purchase order item to ensure that casting are of radiographic quality. xviii) To witness, review & certify hydraulic & pneumatic test of each valve as per relevant standards and Purchase Order specification. xix) To witness, review & certify Linearity, Hysteresis, Capacity & Plug characteristic (Cv) tests (one no. against each item), leakage test etc as per relevant standards and Purchase Order specification. xx) To carry out visual & dimensional inspection to ensure that the valves are manufactured as per relevant standards and Purchase Order specification. xxi) To ensure that the valves are embossed as per relevant		

	standards and Purchase Order specification. xxii) To document, review and issue all inspection certificates to be provided along with material supply.		
9	OIL reserves the right to depute its engineer at final stage of manufacturing for inspection of functional & hydraulic test of the valves at the manufacturing facility. The supplier has to arrange for the inspection accordingly and inform OIL for the same at least 15 days prior to such inspection. Expenditures related to such inspection visit shall be borne by OIL itself. However, inspection by OIL's engineer will remain at its discretion.		
10	Only kerosene or water with suitable inhibitor to prevent corrosion shall be used for hydraulic testing. If water is used for testing, valves shall be properly dried and inside & internal parts of each valve shall be properly greased.		
11	Valve body, bonnet & actuator shall be thoroughly cleaned & painted with suitable anti-corrosive epoxy paint.		
12	Both ends of each valve/companion flange should also be provided with protective rubber / plastic caps, securely attached to the valves to prevent entry of foreign material during transportation and storage.		
13	Valve shall be suitably protected to avoid any damage during transit or storage.		
14	The Bidder to submit Technical Compliance Check List duly filled along with technical bid as per Annexure-I & Annexure-II, attached.		
15	The tender items shall be used for critical process applications of hydrocarbon production, which involves severe Safety & Environmental hazards leading to accidents, blowout & fire incident which may eventually result in personnel injury, equipment damage, environmental pollution, damage to organizational image, and financial loss etc. It may be noted that production operations of OIL are governed by relevant Acts & Regulations and Standards & Guidelines of DGMS, Pollution Control Boards, & OISD etc., and occurrence of any catastrophic incident might cause serious setback to the entire organization.		

	Considering the nature of the item, if the product offered by the lowest acceptable bidder (with or without price preference for MSE bidders) is not field proven in OIL, purchaser at its discretion may place a trial order to the extent of 25 % (maximum) only and balance quantity will be procured from other competitive bidders whose product has been field proven in OIL. (Refer clause no 3.6 under section D- BRC&BEC of General Terms & Condition MM/GLOBAL/01/2005).		
16	Any deviation(s) from the tender specification should be clearly highlighted specifying justification in support of deviation.		
17	Bidder should categorically confirm in the technical bid a delivery schedule within six (06) months, FOB Port of dispatch, after establishment of letter of credit (in case of foreign bidder) or for dispatch of the equipment within six (06) months after receipt of formal order (in case of indigenous bidder) failing which their offer will be rejected.		

********** **END OF ANNEXURE – I** **********

ANNEXURE –III

BEC/BRC EVALUATION MATRIX (TO BE FILLED IN BY BIDDER DULY SIGNED)			
BID EVALUATION CRITERIA			
Clause Number	**DESCRIPTION**	**BIDDER'S RESPONSE (Complied / Not Complied / Deviation / Not Applicable)**	**TO BE FILLED BY THE BIDDER** **Relevant Location of their Bid to support the remarks / compliance** **(Reference of Document name / Serial number / Page number of bid for documentary evidence)**
1.	The bids shall broadly conform to the specifications and terms and conditions given in this bid document. Bids shall be rejected in case the items offered do not conform to required parameters stipulated in the technical specifications and to the respective international/national standards wherever stipulated. Notwithstanding the general conformity of the bids to the stipulated specifications and terms and conditions, the following requirements will have to be particularly met by the Bidders without which the same will be considered as non-responsive and rejected.		
2.1	Experience:		
	MANUFACTURERS EXPERIENCE: IN CASE THE BIDDER IS AN ORIGINAL EQUIPMENT MANUFACTURER (OEM) The bidder must comply with the following:		

2.1.1	The bidder (OEM) should have at least 5 (five) years of manufacturing experience of equipment of same or higher capacity and same or higher working pressure and same or higher sizes preceding to the original bid closing date of the tender. Documentary evidence to substantiate manufacturing experience as above must be submitted in the form of self – certified copy which should be on the letter head and duly signed and sealed by CEO/CFO/any other person who holds the Power of Attorney of the company or by the statutory Auditor. A copy of Power of Attorney shall also be submitted for the same.		
2.1.2	In addition to above, the bidder (OEM) should have supply experience of successfully executed at least 50% tendered quantity(rounded off to next higher integer) of equipment of same or higher capacity and same or higher working pressure and same or higher sizes, to any E&P companies/Oil & Gas Companies during last 5 (five) years as on original bid closing date of the tender (either by themselves or through their sole selling agent/distributor/dealer/supply house).		
2.1.3	Documentary evidences to substantiate manufacturing & supply records must be submitted in the form of copies of relevant Purchase Order(s) & any one or combination of the following documents evidencing satisfactory execution of those Purchase Orders(s) such as: (i)Satisfactory supply /completion/installation report (OR) (ii) Bill of lading, Commercial Invoice/Payment Invoice (OR) (iii) Consignee receipt, delivery receipt (OR) (iv) Central Excise Gate Pass/Tax invoice issued under relevant rules of Central Excise/VAT/GST invoice. (v) Any other documents which shall prove that the bidder has successfully executed such order(s)		
2.1.4	NOTES TO BIDDER REGARDING EXPERIENCE CRITERIA a) The Purchase Order need not be within 5 (five) years preceding original bid closing date of this tender.		

	However, execution of supply should be within 5 (five) years preceding original bid closing date of this tender. b) Satisfactory supply/completion/installation report should be issued on company's letterhead with signature and stamp. c) Bidders showing supply experience towards supply to its sister concern/ subsidiaries shall not be considered as experience for the purpose of meeting BRC.		
2.2	IN CASE THE BIDDER IS A SOLE SELLING AGENT / AUTHORISED DISTRIBUTOR /AUTHORISED DEALER / AUTHORISED SUPPLY HOUSE OF OEM: The bidder must fulfil the following requirements:		
2.2.1	The bidder's OEM (the Principal) should have at least 5 (five) years of manufacturing experience of equipment of same or higher capacity and same or higher working pressure and same or higher sizes preceding to the original bid closing date of the tender. Documentary evidence to substantiate manufacturing experience as above must be submitted in the form of self – certified copy which should be on the letter head and duly signed and sealed by CEO/CFO/any other person who holds the Power of Attorney of the company or by the statutory Auditor. A copy of Power of Attorney shall also be submitted for the same.		
2.2.2	The bidder's OEM (the Principal) should have supply experience of successfully executed at least 50% tendered quantity(rounded off to next higher integer) of equipment of same or higher capacity and same or higher working pressure and same or higher sizes, to any E&P companies/Oil & Gas Companies during last 5 (five) years as on original bid closing		

	date of the tender (either by themselves or through their sole selling agent/distributor/dealer/supply house).		
2.2.3	Additionally, the bidder himself/themselves as sole selling agent/distributor/dealer/supply house should have supply experience of successfully executed at least 50% tendered quantity (rounded off to next higher integer) of equipment of same or higher capacity and same or higher working pressure and same or higher sizes, to any E&P companies/Oil & Gas Companies during last 5 (five) years as on original bid closing date of the tender (either from same OEM (the principal) from any other OEM).		
2.2.4	Documentary evidences to substantiate manufacturing & supply records must be submitted in the form of copies of relevant Purchase Order(s) & any one or combination of the following documents evidencing satisfactory execution of those Purchase Orders(s) such as: (i)Satisfactory supply /completion/installation report (OR) (ii) Bill of lading, Commercial Invoice/Payment Invoice (OR) (iii) Consignee receipt, delivery receipt (OR) (iv) Central Excise Gate Pass/Tax invoice issued under relevant rules of Central Excise/VAT/GST invoice. (v) Any other documents which shall prove that the bidder has successfully executed such order(s)		
2.2.5	2.2.2 NOTES TO BIDDER REGARDING EXPERIENCE CRITERIA a) The Purchase Order need not be within 5 (five) years preceding original bid closing date of this tender. However, execution of supply should be within 5 (five) years preceding original bid closing date of this tender. b) Satisfactory supply/completion/installation report should be issued on company's letterhead with signature and stamp.		

	c) Bidders showing supply experience towards supply to its sister concern/ subsidiaries shall not be considered as experience for the purpose of meeting BRC.		
3.0	Delivery required against this tender is maximum six(06) months from the date of opening of LC in case order is placed on the foreign supplier OR within six(06) months from the date of receipt of order in case order is placed on indigenous supplier. Date of clean Bill of Lading (B/L in case of foreign supplier) or Consignment Note date (C/Note date in case of indigenous supplier) shall be considered as delivery date. Bidder must comply the above schedule and confirm in their Techno-Commercial bid. Bids not meeting time schedule as mentioned above shall be summarily rejected		

**********END OF ANNEXURE – II **********

FORMAT - A

NO DEVIATION CONFIRMATION

Ref. No._____ Date:_____
From: _____(Insert name and address of Bidding Entity)
_____
_____
Tel.:
Fax:
E-mail address:

To
GM (MATERIALS)
MATERIALS DEPARTMENT
OIL INDIA LIMITED DULIAJAN
District : DIBRUGARH (Assam)
PIN 786602

Sub: Bid for "_____"
Tender No :

Dear Sir,
We understand that any 'deviation / exception' in any form may result in rejection of Bid. We, therefore, certify that we have not taken any 'exception / deviation' anywhere in the Bid and we agree that if any 'deviation / exception' is mentioned or noticed, our Bid may be rejected.

Place: [Signature of Authorized Signatory of Bidder]
Date: Name:
Designation:
Seal:

********** **END** **********