An ISO 9001
Company

Bharat Heavy Electricals Limited
(High Pressure Boiler Plant**)**
Tiruchirappalli – 620014, TAMIL NADU, INDIA
MATERIALS MANAGEMENT

ENQUIRY FOR BURNER TRIP VALVES & TRIP VALVES	Phone: +91 431 257 7022 / 7074 Fax : +91 431 252 0719 Email : mathan@bheltry.co.in

	Reference Number: Enquiry 1801100787/14	**Enquiry Date: 11.07.2011**	**Due date for submission of quotation: 13.08.2011**
You are requested to quote the Enquiry number date and due date in all your correspondences. This is only a request for quotation and not an order			

BHEL/Trichy is looking for empanelment of new vendors (manufacturers only) for supply of "BURNER TRIP VALVES & TRIP VALVES**"**

BHEL commercial terms & conditions with Price Bid formats and all annexure can be downloaded from BHEL web site http://www.bhel.com or from the Government tender website http://tenders.gov.in (public sector units) Bharath Heavy Electricals Limited) under enquiry reference "XXXXXXXXXX "	
Tenders should reach us before 14:00 hours on the due date Technical bid will be opened at 14:30 hours on the due date Tenders would be opened in presence of the tenderers who have submitted their offers and who may like to be present.	Yours faithfully, For **Bharath Heavy Electricals Limited** Sr. Manager/Purchase/SD

BHARAT HEAVY ELECTRICALS LIMITED

(A Government of India Undertaking)
HIGH PRESSURE BOILER PLANT
PURCHASE DEPARTMENT - FOSSIL BOILERS
THIRUCHIRAPALLI - 620014
TAMILNADU (INDIA)

PHONE : 2577074
GRAMS : BHARATELEC
FAX NO: 2520719
E-mail :
Web :

ENQUIRY
(INDIGENOUS)

429-002/A

OFFICE COPY

Collective No.	Enquiry Date	Due Date For Quotation
1801100787	11.07.2011	13.08.2011

Please quote Enquiry No, Date and due date in all correspondences.
This is only a request for quotation and not an order

Item	Description	Unit	Quantity	Delivery Quantity	Schedule Date
10	964262510000 Burner Trip Valves(O)-NB25-FLOW 3CU.M/HR-TEMP 150C: SPEC-TOS 1350/R1 & TOS 1351A	NO	156.000	156.00	30.12.11
20	964262530000 Burner Trip Valves STEAM(IBR)-NB25-FLOW 325KG/HR-TEMP 250C: SPEC-TOS 1350/R1 & TOS 1351 C	NO	144.000	144.00	30.12.11
30	964262550000 Light Oil Trip Valves (LOTV) -NB40-FLOW 7.5CU.M/HR-TEMP40C: SPEC-TOS1350/R1 & TOS 1351 E	NO	9.000	9.00	30.12.11
40	964262560000 Light Oil Trip Valves (LOTV) -NB50-FLOW 14.5CU.M/HR-TEMP40C: SPEC-TOS1350/R1 & TOS 1351 F	NO	1.000	1.00	30.12.11
50	964262580000 Heavy Oil Trip Valves (HOTV) -NB80-FLOW >21CU.M/HR-TEMP150C: SPEC-TOS1350/R1 & TOS 1351 H	NO	9.000	9.00	30.12.11
60	964262600000 Heavy Oil Return Trip Valves (HORTV) -NB40-FLOW 11CU.M/HR-TEMP150C: SPEC-TOS1350/R1 & TOS 1351 K	NO	1.000	1.00	30.12.11
70	964262610000 Heavy Oil Return Trip Valves (HORTV) -NB50-FLOW >11CU.M/HR-TEMP150C: SPEC-TOS1350/R1 & TOS 1351 L	NO	9.000	9.00	30.12.11

General Note:

1) Please fill up the commercail terms - Annexure A and send along with the offer for evaluation.
2) Please give point wise confirmation to our specification.
3) The offer to be submitted in two part bid system: a) Technical offer

The offers should reach us 30 minutes before the time of opening of tenders. The offers will be opened at 14.30 hrs on the due date of tender in the presence of tenderers who have submitted their offer and who may like to be present for the tender opening.Late and delayed offers are liable to be rejected.

Yours faithfully,
For BHARAT HEAVY ELECTRICALS LIMITED

PRAKASH TANTUWAY
Engineer (Purchase) SD
Materials Management (FB)
BHEL, Tiruchirappalli - 620 014.

BHARAT HEAVY ELECTRICALS LIMITED
(A Government of India Undertaking)
HIGH PRESSURE BOILER PLANT
PURCHASE DEPARTMENT - FOSSIL BOILERS
THIRUCHIRAPALLI - 620014
TAMILNADU (INDIA)

1801100787 / 11.07.2011 50072

with commercial terms and b) Price bid.
4) All the materials are to be despatched to BHEL stores/Trichy.
5) The offer will be considered as a single package for evaluation.

Enclosures:
1) Specn: TOS:1350/01.
2) Specn: TOS:1351A/00.
3) Specn: TOS:1351C/00.
4) Specn: TOS:1351E/00.
5) Specn: TOS:1351F/00.
6) Specn: TOS:1351H/00.
7) Specn: TOS:1351K/00.
8) Specn: TOS:1351L/00.
9) Commercial terms - Annexure A & Annexure A1.

"LD clause has to be confirmed without fail."
"Payment to vendors will be made only thro E-Payment mode."

PR Links

Material.	PR.No	PR.Item.	Quanity	Acc. Assign	Customer Number
964262510000	67448879	00010	**81.000**	U2/1220	U2/1220
964262510000	67448879	00020	**75.000**	U2/1220	U2/1220
964262530000	67448879	00040	**72.000**	U2/1220	U2/1220
964262530000	67448879	00030	**72.000**	U2/1220	U2/1220
964262550000	67448879	00050	**5.000**	U2/1220	U2/1220
964262550000	67448879	00060	**4.000**	U2/1220	U2/1220
964262560000	67448879	00070	**1.000**	U2/1220	U2/1220
964262580000	67448879	00080	**5.000**	U2/1220	U2/1220
964262580000	67448879	00090	**4.000**	U2/1220	U2/1220
964262600000	67448879	00100	**1.000**	U2/1220	U2/1220
964262610000	67448879	00110	**5.000**	U2/1220	U2/1220
964262610000	67448879	00120	**4.000**	U2/1220	U2/1220

The offers should reach us 30 minutes before the time of opening of tenders.
The offers will be opened at 14.30 hrs on the due date of tender in the presence of tenderers who have submitted their offer and who may like to be present for the tender opening.Late and delayed offers are liable to be rejected.

Yours faithfully,
For **BHARAT HEAVY ELECTRICALS LIMITED**

PRAKASH TANTUWAY
(FOSSIL Purchase) / SD
Engineer / Purchase
Materials Management (FB)
BHEL, Tiruchirappalli - 620 014.

TECHNICAL SPECIFICATION FOR TRIP VALVES

SPEC.:TOS:1350
Rev. :01
Date: 20.12.10

1.	Type of Valve	Compact globe body valve with short bonnet, plug push down to close and flow tends to open for ON / OFF application
2.	Type of operation	Pneumatic (spring diaphragm type actuator) operation for slow opening and quick closing application. (The closing time shall be less than 1 second and opening time shall be 6 -10 seconds adjustable)
3.	Flow Medium and maximum operating parameters.	Refer enclosed Data sheet TOS:1351A/B/C/D/E/F/G/H/J/K/L/M as applicable.
4.	Material of Construction: a. Body b. Plug & Stem c. Seats and seals d. Packing e. Noice level	 Cast (or) forged carbon steel Stainless steel Single seated Stainless steel trim, unbalanced, soft seated for oil service to offer Cl.VI shutoff, metal seated for steam service, stellited and fine lapped to offer Cl.V shut off. Packing suitable for both oil and steam service shall be offered Limited to 85dBA measured at a distance of 1.0 meter.
5.	End Connection	Flanged to ANSI 300 class rating.
6.	Leakage test	ANSI FCI 70-2
7.	3 way solenoid valve (By purchaser's scope)	Heavy duty, class-H insulation with the medium of air at 0-7 kg/sq.cm(g) pressure for Single / Dual coil with 110AC / 240VAC / 24VDC / 220VDC as applicable.
8.	Accessories	Quick exhaust valve, Airset , Airlock valve , Flow restrictor, 2Nos.of DPDT Limit switches (linear type)with 240V AC 10A / 220VDC 0.25A contact rating to indicate open/close position of valve and Compact Junction box to suit no.of terminals with NEMA 4&13 enclosure. All pneumatic connections shall be firmly piped up with 3/8" PVC jacketed copper tube taking

		3/8"solenoid valve connectivity in the hook up diagram and all electrical terminals shall be wired to the junction box and provide two holes with 3/4"dia for cable entry to the terminal block for output.
9.	Marking	Stainless steel name plate with following details: makers name, material code , type, size, rating, tag number and valve open/close position.
10.	Painting & Packing	As per contract requirement / manufacturer standard to address all openings shall be firmly caped and packing to suit wooden boxes with water proof under cover.(in the absence of contract requirement).
11.	Documents required after PO placement	a. Completely filled up valve data sheet b. Pneumatic hookup diagram with all accs. c. JB wiring diagram with offered box size. d. Valve dimensional drawing with all accs. e. 3 sets of O&M manuals along with one soft copy in CD Rom.

Prepared	Checked	Approved	Date
Anbu	MTP	SVS	20.12.2010

DATASHEET FOR BURNER TRIP VALVE(Oil)

UNITS: Flow-Liquid Cu M / hr, Pr-kg / cmSq (g), Temp-° C, *- **Vendor to fill the relevant data**

O.FLOW DATA		C.SOLENOID VLV(bhel scope)	
1. Line Fluid	LDO/LFO/HFO/LSHS/HPS/AIR	1. Make / Type No	
2. Flow Max	3.0	2. Style	
3. Normal in pr	15	3. To Open Main Valve	
4. Allowable DP	0.5	4. To Close Main Valve	
5. Actuator Sizing DP	30	5. Enclosure	
6. Temp Max	150	6. Coil Duty	
7.Flow Temp	150	7. Coil Rating	
8. Flow Sp Gravity	0.93	8. Insulation Class	
9. Flow Viscosity	20CST	9. Inrush / Hold Wattage	
10. Max Flow Cv	*	10. Valve Flow Cv	
11. Plug Lift%	100% (Full open)	11. Body Matl	
12. Valve Cv	*	12. Wetted parts	
13. Valve Closing Time	Less than one Sec.	13. Seating	
14. Valve Opening Time	6-10 Sec.Adjustable	14. Valve Ends	
		15. Cable entry	
A. VALVE BODY		16. Terminal Block	
1. Make/Type No	* *	D. QUICK EXHAUST VL	To meet 0.13
2. Line Size	ODXT 33.4 X 3.38 mm	1. Make/type No	* *
3. Body/port Size	Nb 25 mm / *	2. Port Conn	*
4. Plug Travel	* mm		
5. Body Style / Rating	Globe ANSI # 300	E. FLOW RESTRICTOR	To meet 0.14
6. Ends	Flanged to : ANSI # 300	1. Make/Type No	* *
7. Port	- Single -	2. Port Conn	*
8. Guiding	~~Cage or Top & Bottom~~	3. Adjustable Time Range	*
9. Body Matl	Carbon Steel, ASTM A216 WCB		
10. Trim No	*	F. AIRSET	Type No
11. Plug Matl	SS	1. Airset set pr	Purchaser's scope
12. Steam Size/Matl	Std SS		
13.Seat, Matl	SS	G.LIMIT SWITCHES	off
14. Cage Matl	-	1. Make/Type No	* *
15.Plug/Gage Style	Equal % age	2. Mounted For	Full open Full close ~~% Open~~
16. Seat Leak Class	VI to ANSI FCI 70-2	3. Contacts	2 X DPDT Off
17. Plug pushdown to	Close	4. Contact Rating	240Ac 10Amp 110 Dc 0.5 Amp
18. Flow Tends to	Open	5. Enclosure	Weather proof as per NEMA4 &13
19. Bonnet / packing	Std PTFE	6.Cable Entry	¾" NPT
20. Lub/Isol Valve	-	H. JUNCTION BOX	Provided
21. Drain Valve	-	1.Enclosure	Weather proof as per NEMA4 &13
22. Noise Level	Less than 85dBA	2. No. of Terminals	~24 Nos
		I.SUPPLY CONDITION	
		1. Assembly - 1	Hookup diagram
		2. Assembly - 2	-
		3. Pneumatic Terminal	- To suit 8 mm tube
B. ACTUATOR ASSY		4.Commissioning spares:	actuator -1no and packing mtls- 1set individually tagged and packed along with the valve.
1. Make/Type No	*		
2. Style	Pneumatic Spring Diaphragm	REF. DOCUMENTS:(SPECIFY DWG/MANUAL REF.NOs.BELOW) *	
3. Size/Volume	* *	1.Assy Dimensional Dwg: *	
4. Diaphragm Matl	*	2.Assy Hookup Dwg: *	
5.Spring No/Range	- Std		
6. Spring to	Close		
7. Air to	Open		
8. Signal pr	~40 psig		
9. Pr port Conn	*		
10. On Air Failure	Stay Put		
11. Lockup Valve type No	Purchaser's scope		
12. Lockup Valve Set pr	~40 psig		

S.No	ITEM	O & M Manual	Spares identifier	Catalog&Spec
3	A	*	*	*
4	B	*	*	*
5	B 11			
6	C			
7	D	*	*	*
8	E	*	*	*
9	F			
10	G	*	*	*

PREPARED BY (BHEL)	DATE	CONFIRM BY(VENDOR)	DATE
SVS	20.12.10		

DATASHEET FOR BURNER TRIP VALVE(Steam)-IBR

UNITS: Flow-Steam- Kg / hr, Pr-kg / cmSq (g), Temp-° C, *- **Vendor to fill the relevant data**

O.FLOW DATA		C.SOLENOID VLV(bhel scope)	
1. Line Fluid	STEAM	1. Make / Type No	
2. Flow Max	325	2. Style	
3. Normal in pr	7	3. To Open Main Valve	
4. Allowable DP	0.5	4. To Close Main Valve	
5. Actuator Sizing DP	15	5. Enclosure	
6. Temp Max	250	6. Coil Duty	
7.Flow Temp	250	7. Coil Rating	
8. Flow Sp Gravity	-	8. Insulation Class	
9. Flow Viscosity	-	9. Inrush / Hold Wattage	
10. Max Flow Cv	*	10. Valve Flow Cv	
11. Plug Lift%	100% (Full open)	11. Body Matl	
12. Valve Cv	*	12. Wetted parts	
13. Valve Closing Time	Less than one Sec.	13. Seating	
14. Valve Opening Time	6-10 Sec.Adjustable	14. Valve Ends	
		15. Cable entry	
A. VALVE BODY		16. Terminal Block	
1. Make/Type No	* / *	D. QUICK EXHAUST VL	To meet 0.13
2. Line Size	ODXT 33.4 X 3.38 mm	1. Make/type No	* / *
3. Body/port Size	Nb 25 mm / *	2. Port Conn	*
4. Plug Travel	* mm		
5. Body Style / Rating	Globe / ANSI # 300	E. FLOW RESTRICTOR	To meet 0.14
6. Ends	Flanged to : ANSI # 300	1. Make/Type No	* / *
7. Port	- / Single / -	2. Port Conn	*
8. Guiding	Cage or Top & Bottom	3. Adjustable Time Range	*
9. Body Matl	Carbon Steel, ASTM A216 WCB		
10. Trim No	*	F. AIRSET	Type No
11. Plug Matl	SS	1. Airset set pr	Purchaser's scope
12. Steam Size/Matl	Std / SS		
13.Seat, Matl	SS	G.LIMIT SWITCHES	/ off
14. Cage Matl	-	1. Make/Type No	* / *
15.Plug/Gage Style	Equal % age	2. Mounted For	Full open / Full close / % Open
16. Seat Leak Class	V to ANSI FCI 70-2	3. Contacts	2 X DPDT / Off
17. Plug pushdown to	Close	4. Contact Rating	240Ac 10Amp / 110 Dc 0.5 Amp
18. Flow Tends to	Open	5. Enclosure	Weather proof as per NEMA4 &13
19. Bonnet / packing	Std / GRAPHITE	6.Cable Entry	¾" NPT
20. Lub/Isol Valve	-	H. JUNCTION BOX	Provided
21. Drain Valve	-	1.Enclosure	Weather proof as per NEMA4 &13
22. Noise Level	Less than 85dBA	2. No. of Terminals	~24 Nos
		I.SUPPLY CONDITION	
		1. Assembly - 1	Hookup diagram
		2. Assembly - 2	-
		3. Pneumatic Terminal	- / To suit 8 mm tube
B. ACTUATOR ASSY		4.Commissioning spares:	actuator -1no and packing mtls- 1set individually tagged and packed along with the valve.
1. Make/Type No	*		
2. Style	Pneumatic Spring Diaphragm	REF. DOCUMENTS:(SPECIFY DWG/MANUAL REF.NOs.BELOW) *	
3. Size/Volume	* / *	1.Assy Dimensional Dwg: *	
4. Diaphragm Matl	*	2.Assy Hookup Dwg: *	
5.Spring No/Range	- / Std		
6. Spring to	Close		
7. Air to	Open		
8. Signal pr	~40 psig		
9. Pr port Conn	*		
10. On Air Failure	Stay Put		
11. Lockup Valve type No	Purchaser's scope		
12. Lockup Valve Set pr	~40 psig		

S.No	ITEM	O & M Manual	Spares identifier	Catalog&Spec
3	A	*	*	*
4	B	*	*	*
5	B 11			
6	C			
7	D	*	*	*
8	E	*	*	*
9	F			
10	G	*	*	*

PREPARED BY (BHEL)	DATE	CONFIRM BY(VENDOR)	DATE
SVS	20.12.10		

DATASHEET FOR LIGHT OIL TRIP VALVE

UNITS: Flow-Liquid Cu M / hr, Pr-kg / cmSq (g), Temp-° C, *- **Vendor to fill the relevant data**

O.FLOW DATA			C.SOLENOID VLV(bhel scope)		
1. Line Fluid	LDO/LFO		1. Make / Type No		
2. Flow Max	7.5		2. Style		
3. Normal in pr	15		3. To Open Main Valve		
4. Allowable DP	0.5		4. To Close Main Valve		
5. Actuator Sizing DP	30		5. Enclosure		
6. Temp Max	40		6. Coil Duty		
7.Flow Temp	40		7. Coil Rating		
8. Flow Sp Gravity	0.83		8. Insulation Class		
9. Flow Viscosity	15CST		9. Inrush / Hold Wattage		
10. Max Flow Cv	*		10. Valve Flow Cv		
11. Plug Lift%	100% (Full open)		11. Body Matl		
12. Valve Cv	*		12. Wetted parts		
13. Valve Closing Time	Less than one Sec.		13. Seating		
14. Valve Opening Time	6-10 Sec.Adjustable		14. Valve Ends		
			15. Cable entry		
A. VALVE BODY			16. Terminal Block		
1. Make/Type No	*	*	D. QUICK EXHAUST VL	To meet 0.13	
2. Line Size	ODXT 48.3X 3.68 mm		1. Make/type No	*	*
3. Body/port Size	Nb 40 mm / *		2. Port Conn	*	
4. Plug Travel	* mm				
5. Body Style / Rating	Globe	ANSI # 300	E. FLOW RESTRICTOR	To meet 0.14	
6. Ends	Flanged to : ANSI # 300		1. Make/Type No	*	*
7. Port	- Single -		2. Port Conn	*	
8. Guiding	Cage or Top & Bottom		3. Adjustable Time Range	*	
9. Body Matl	Carbon Steel, ASTM A216 WCB				
10. Trim No	*		F. AIRSET	Type No	
11. Plug Matl	SS		1. Airset set pr	*	
12. Steam Size/Matl	Std	SS			
13.Seat, Matl	SS		G.LIMIT SWITCHES		off
14. Cage Matl	-		1. Make/Type No	*	*
15.Plug/Gage Style	Equal % age		2. Mounted For	Full open	Full close / %-Open
16. Seat Leak Class	VI to ANSI FCI 70-2		3. Contacts	2 X DPDT	Off
17. Plug pushdown to	Close		4. Contact Rating	240Ac 10Amp	110 Dc 0.5 Amp
18. Flow Tends to	Open		5. Enclosure	Weather proof as per NEMA4 &13	
19. Bonnet / packing	Std	PTFE	6.Cable Entry	¾" NPT	
20. Lub/Isol Valve	-		H. JUNCTION BOX	Provided	
21. Drain Valve	-		1.Enclosure	Weather proof as per NEMA4 &13	
22. Noise Level	Less than 85dBA		2. No. of Terminals	~24 Nos	
			I.SUPPLY CONDITION		
			1. Assembly - 1	Hookup diagram	
			2. Assembly - 2	-	
			3. Pneumatic Terminal	-	To suit 8 mm tube
B. ACTUATOR ASSY			4.Commissioning spares:	actuator -1no and packing mtls- 1set individually tagged and packed along with the valve.	
1. Make/Type No	*				
2. Style	Pneumatic Spring Diaphragm		REF. DOCUMENTS:(SPECIFY DWG/MANUAL REF.NOs.BELOW) *		
3. Size/Volume	*	*	1.Assy Dimensional Dwg: *		
4. Diaphragm Matl	*		2.Assy Hookup Dwg: *		
5.Spring No/Range	-	Std	S.No / ITEM / O & M Manual / Spares identifier / Catalog&Spec		
6. Spring to	Close				
7. Air to	Open		3 A * * *		
8. Signal pr	~40 psig		4 B * * *		
9. Pr port Conn	*		5 B 11 * * *		
10. On Air Failure	Stay Put		6 C * * *		
11. Lockup Valve type No	*		7 D * * *		
12. Lockup Valve Set pr	~40 psig		8 E * * *		
			9 F * * *		
			10 G * * *		

PREPARED BY (BHEL)	DATE	CONFIRM BY(VENDOR)	DATE
SVS	20.12.10		

DATASHEET FOR LIGHT OIL TRIP VALVE

UNITS: Flow-Liquid Cu M / hr, Pr-kg / cmSq (g), Temp-° C, ***- Vendor to fill the relevant data**

O.FLOW DATA			C.SOLENOID VLV(bhel scope)			
1. Line Fluid	LDO/LFO		1. Make / Type No			
2. Flow Max	14.5		2. Style			
3. Normal in pr	15		3. To Open Main Valve			
4. Allowable DP	0.5		4. To Close Main Valve			
5. Actuator Sizing DP	35		5. Enclosure			
6. Temp Max	40		6. Coil Duty			
7.Flow Temp	40		7. Coil Rating			
8. Flow Sp Gravity	0.83		8. Insulation Class			
9. Flow Viscosity	15CST		9. Inrush / Hold Wattage			
10. Max Flow Cv	*		10. Valve Flow Cv			
11. Plug Lift%	100% (Full open)		11. Body Matl			
12. Valve Cv	*		12. Wetted parts			
13. Valve Closing Time	Less than one Sec.		13. Seating			
14. Valve Opening Time	6-10 Sec.Adjustable		14. Valve Ends			
			15. Cable entry			
A. VALVE BODY			16. Terminal Block			
1. Make/Type No	*	*	D. QUICK EXHAUST VL	To meet 0.13		
2. Line Size	ODXT 60.3X 3.91 mm		1. Make/type No	*	*	
3. Body/port Size	Nb 50 mm / *		2. Port Conn	*		
4. Plug Travel	* mm					
5. Body Style / Rating	Globe	ANSI # 300	E. FLOW RESTRICTOR	To meet 0.14		
6. Ends	Flanged to : ANSI # 300		1. Make/Type No	*	*	
7. Port	-	Single -	2. Port Conn	*		
8. Guiding	Cage or Top & Bottom		3. Adjustable Time Range	*		
9. Body Matl	Carbon Steel, ASTM A216 WCB					
10. Trim No	*		F. AIRSET	Type No		
11. Plug Matl	SS		1. Airset set pr	*		
12. Steam Size/Matl	Std	SS				
13.Seat. Matl	SS		G.LIMIT SWITCHES			off
14. Cage Matl	-		1. Make/Type No	*		*
15.Plug/Gage Style	Equal % age		2. Mounted For	Full open	Full close	¾ Open
16. Seat Leak Class	VI to ANSI FCI 70-2		3. Contacts	2 X DPDT		Off
17. Plug pushdown to	Close		4. Contact Rating	240Ac 10Amp		110 Dc 0.5 Amp
18. Flow Tends to	Open		5. Enclosure	Weather proof as per NEMA4 &13		
19. Bonnet / packing	Std	PTFE	6.Cable Entry	½" NPT		
20. Lub/Isol Valve	-		H. JUNCTION BOX	Provided		
21. Drain Valve	-		1.Enclosure	Weather proof as per NEMA4 &13		
22. Noise Level	Less than 85dBA		2. No. of Terminals	~24 Nos		
			I.SUPPLY CONDITION			
			1. Assembly - 1	Hookup diagram		
			2. Assembly - 2	-		
			3. Pneumatic Terminal	-	To suit 8 mm tube	
B. ACTUATOR ASSY			4.Commissioning spares:	actuator -1no and packing mtls- 1set individually tagged and packed along with the valve		
1. Make/Type No	*					
2. Style	Pneumatic Spring Diaphragm		REF. DOCUMENTS:(SPECIFY DWG/MANUAL REF.NOs.BELOW) *			
3. Size/Volume	*	*	1.Assy Dimensional Dwg: *			
4. Diaphragm Matl	*		2.Assy Hookup Dwg: *			
5.Spring No/Range	-	Std	S.No / ITEM / O & M Manual / Spares identifier / Catalog&Spec			
6. Spring to	Close					
7. Air to	Open		3 A * * *			
8. Signal pr	~40 psig		4 B * * *			
9. Pr port Conn	*		5 B 11 * * *			
10. On Air Failure	Stay Put		6 C * * *			
11. Lockup Valve type No	*		7 D * * *			
12. Lockup Valve Set pr	~40 psig		8 E * * *			
			9 F * * *			
			10 G * * *			

PREPARED BY (BHEL)	DATE	CONFIRM BY(VENDOR)	DATE
SVS	20.12.10		

DATASHEET FOR HEAVY OIL TRIP VALVE

UNITS: Flow-Liquid Cu M / hr, Pr-kg / cmSq (g), Temp-° C, ***- Vendor to fill the relevant data**

O.FLOW DATA			**C.SOLENOID VLV(bhel scope)**			
1. Line Fluid	**HFO/LSHS/HPS/FO**		1. Make / Type No			
2. Flow Max	**22**		2. Style			
3. Normal in pr	**22**		3. To Open Main Valve			
4. Allowable DP	**0.5**		4. To Close Main Valve			
5. Actuator Sizing DP	**45**		5. Enclosure			
6. Temp Max	**150**		6. Coil Duty			
7.Flow Temp	**150**		7. Coil Rating			
8. Flow Sp Gravity	**0.93**		8. Insulation Class			
9. Flow Viscosity	**20CST**		9. Inrush / Hold Wattage			
10. Max Flow Cv	*		10. Valve Flow Cv			
11. Plug Lift%	**100% (Full open)**		11. Body Matl			
12. Valve Cv	*		12. Wetted parts			
13. Valve Closing Time	**Less than one Sec.**		13. Seating			
14. Valve Opening Time	**6-10 Sec.Adjustable**		14. Valve Ends			
			15. Cable entry			
A. VALVE BODY			16. Terminal Block			
1. Make/Type No	*	*	**D. QUICK EXHAUST VL**	**To meet 0.13**		
2. Line Size	**ODXT 88.9X 5.49 mm**		1. Make/type No	*	*	
3. Body/port Size	**Nb 80 mm** / *		2. Port Conn	*		
4. Plug Travel	* mm					
5. Body Style / Rating	**Globe**	**ANSI # 300**	**E. FLOW RESTRICTOR**	**To meet 0.14**		
6. Ends	**Flanged to : ANSI # 300**		1. Make/Type No	*	*	
7. Port	-	**Single** -	2. Port Conn	*		
8. Guiding	**~~Cage or Top & Bottom~~**		3. Adjustable Time Range	*		
9. Body Matl	**Carbon Steel, ASTM A216 WCB**					
10. Trim No	*		**F. AIRSET**	**Type No**		
11. Plug Matl	**SS**		1. Airset set pr	*		
12. Steam Size/Matl	**Std**	**SS**				
13.Seat, Matl	**SS**		**G.LIMIT SWITCHES**			**off**
14. Cage Matl	-		1. Make/Type No	*	*	
15.Plug/Gage Style	**Equal % age**		2. Mounted For	**Full open**	**Full close**	**~~% Open~~**
16. Seat Leak Class	**VI to ANSI FCI 70-2**		3. Contacts	**2 X DPDT**	Off	
17. Plug pushdown to	**Close**		4. Contact Rating	**240Ac 10Amp**	**110 Dc 0.5 Amp**	
18. Flow Tends to	**Open**		5. Enclosure	**Weather proof as per NEMA4 &13**		
19. Bonnet / packing	**Std**	**PTFE**	6.Cable Entry	**½" NPT**		
20. Lub/Isol Valve	-		**H. JUNCTION BOX**	**Provided**		
21. Drain Valve	-		1.Enclosure	**Weather proof as per NEMA4 &13**		
22. Noise Level	**Less than 85dBA**		2. No. of Terminals	**~24 Nos**		
			I.SUPPLY CONDITION			
			1. Assembly - 1	**Hookup diagram**		
			2. Assembly - 2	-		
			3. Pneumatic Terminal	-	**To suit 8 mm tube**	
B. ACTUATOR ASSY			4.Commissioning spares:	actuator -1no and packing mtls- 1set individually tagged and packed along with the valve.		
1. Make/Type No	*					
2. Style	**Pneumatic Spring Diaphragm**		**REF. DOCUMENTS:(SPECIFY DWG/MANUAL REF.NOs.BELOW)** *			
3. Size/Volume	*	*	1.Assy Dimensional Dwg: *			
4. Diaphragm Matl	*		2.Assy Hookup Dwg: *			
5 Spring No/Range	-	**Std**	S.No / ITEM / O & M Manual / Spares identifier / Catalog&Spec			
6. Spring to	**Close**					
7. Air to	**Open**		3 A * * *			
8. Signal pr	**~40 psig**		4 B * * *			
9. Pr port Conn	*		5 B 11 * * *			
10. On Air Failure	**Stay Put**		6 C * * *			
11. Lockup Valve type No	*		7 D * * *			
12. Lockup Valve Set pr	**~40 psig**		8 E * * *			
			9 F * * *			
			10 G * * *			

PREPARED BY (BHEL)	**DATE**	**CONFIRM BY(VENDOR)**	**DATE**
SVS	**20.12.10**		

DATA SHEET FOR HEAVY OIL RETURN TRIP VALVE(3-WAY)

UNITS: Flow-Liquid Cu M / hr, Pr-kg / cmSq (g), Temp-° C , ***- Vendor to fill the relevant data**

O.FLOW DATA		C.SOLENOID VLV(bhel scope)		
1. Line Fluid	HFO/LSHS/HPS/FO	1. Make / Type No		
2. Flow Max	11	2. Style		
3. Normal in pr	15	3. To Open Main Valve		
4. Allowable DP	0.5	4. To Close Main Valve		
5. Actuator Sizing DP	30	5. Enclosure		
6. Temp Max	150	6. Coil Duty		
7.Flow Temp	150	7. Coil Rating		
8. Flow Sp Gravity	0.93	8. Insulation Class		
9. Flow Viscosity	20CST	9. Inrush / Hold Wattage		
10. Max Flow Cv	*	10. Valve Flow Cv		
11. Plug Lift%	100% (Full)	11. Body Matl		
12. Valve Cv	*	12. Wetted parts		
13. Valve Closing Time	Less than one Sec.	13. Seating		
14. Valve Opening Time	6-10 Sec.Adjustable	14. Valve Ends		
		15. Cable entry		
A. VALVE BODY		16. Terminal Block		
1. Make/Type No	* *	D. QUICK EXHAUST VL	To meet 0.13	
2. Line Size	ODXT 48.3X 3.68 mm	1. Make/type No	*	*
3. Body/port Size	Nb 40 mm / *	2. Port Conn	*	
4. Plug Travel	* mm			
5. Body Style / Rating	Globe ANSI # 300	E. FLOW RESTRICTOR	To meet 0.14	
6. Ends	Flanged to : ANSI # 300 .	1. Make/Type No	*	*
7. Port	- Single -	2. Port Conn	*	
8. Guiding	Cage or Top & Bottom	3. Adjustable Time Range	*	
9. Body Matl	Carbon Steel, ASTM A216 WCB			
10. Trim No	*	F. AIRSET	Type No	
11. Plug Matl	SS	1. Airset set pr	*	
12. Steam Size/Matl	Std SS			
13.Seat. Matl	SS	G.LIMIT SWITCHES		off
14. Cage Matl	-	1. Make/Type No	*	*
15.Plug/Gage Style	Linear	2. Mounted For	Full open	Full close % Open
16. Seat Leak Class	VI to ANSI FCI 70-2	3. Contacts	2 X DPDT	Off
17. Plug pushdown to	Close Lower port	4. Contact Rating	240Ac 10Amp	110 Dc 0.5 Amp
18. Flow Tends to	Close Upper port	5. Enclosure	Weather proof as per NEMA4 &13	
19. Bonnet / packing	Std PTFE	6.Cable Entry	¾" NPT	
20. Lub/Isol Valve	-	H. JUNCTION BOX	Provided	
21. Drain Valve	-	1.Enclosure	Weather proof as per NEMA4 &13	
22. Noise Level	Less than 85dBA	2. No. of Terminals	~24 Nos	
		I.SUPPLY CONDITION		
		1. Assembly - 1	-	
		2. Assembly - 2	-	
		3. Pneumatic Terminal	-	To suit 8 mm tube
B. ACTUATOR ASSY		4.Commissioning spares:	actuator -1no and packing mtls- 1set individually tagged and packed along with the valve.	
1. Make/Type No	*			
2. Style	Pneumatic Spring Diaphragm	REF. DOCUMENTS:(SPECIFY DWG/MANUAL REF.NOs.BELOW) *		
3. Size/Volume	* *	1.Assy Dimensional Dwg: *		
4. Diaphragm Matl	*	2.Assy Hookup Dwg: *		
5.Spring No/Range	- Std			
6. Spring to	Close Upper port			
7. Air to	Open Lower port			
8. Signal pr	~40 psig			
9. Pr port Conn	*			
10. On Air Failure	Stay Put			
11. Lockup Valve type No	*			
12. Lockup Valve Set pr	~40 psig			

S.No	ITEM	O & M Manual	Spares identifier	Catalog&Spec
3	A	*	*	*
4	B	*	*	*
5	B 11	*	*	*
6	C	*	*	*
7	D	*	*	*
8	E	*	*	*
9	F	*	*	*
10	G	*	*	*

PREPARED BY (BHEL)	DATE	CONFIRM BY(VENDOR)	DATE
SVS	20.12.10		

DATA SHEET FOR HEAVY OIL RETURN TRIP VALVE(3-WAY)

UNITS: Flow-Liquid Cu M / hr, Pr-kg / cmSq (g), Temp-° C , ***- Vendor to fill the relevant data**

O.FLOW DATA		C.SOLENOID VLV(bhel scope)	
1. Line Fluid	HFO/LSHS/HPS/FO	1. Make / Type No	
2. Flow Max	12	2. Style	
3. Normal in pr	15	3. To Open Main Valve	
4. Allowable DP	0.5	4. To Close Main Valve	
5. Actuator Sizing DP	30	5. Enclosure	
6. Temp Max	150	6. Coil Duty	
7.Flow Temp	150	7. Coil Rating	
8. Flow Sp Gravity	0.93	8. Insulation Class	
9. Flow Viscosity	20CST	9. Inrush / Hold Wattage	
10. Max Flow Cv	*	10. Valve Flow Cv	
11. Plug Lift%	100% (Full)	11. Body Matl	
12. Valve Cv	*	12. Wetted parts	
13. Valve Closing Time	Less than one Sec.	13. Seating	
14. Valve Opening Time	6-10 Sec.Adjustable	14. Valve Ends	
		15. Cable entry	
A. VALVE BODY		16. Terminal Block	
1. Make/Type No	* *	D. QUICK EXHAUST VL	To meet 0.13
2. Line Size	ODXT 60.3X 3.91 mm	1. Make/type No	* *
3. Body/port Size	Nb 50 mm / *	2. Port Conn	*
4. Plug Travel	* mm		
5. Body Style / Rating	Globe ANSI # 300	E. FLOW RESTRICTOR	To meet 0.14
6. Ends	Flanged to : ANSI # 300	1. Make/Type No	* *
7. Port	- Single -	2. Port Conn	*
8. Guiding	Cage or Top & Bottom	3. Adjustable Time Range	*
9. Body Matl	Carbon Steel, ASTM A216 WCB		
10. Trim No	*	F. AIRSET	Type No
11. Plug Matl	SS	1. Airset set pr	*
12. Steam Size/Matl	Std SS		
13 Seat, Matl	SS	G.LIMIT SWITCHES	off
14. Cage Matl	-	1. Make/Type No	* *
15.Plug/Gage Style	Linear	2. Mounted For	Full open Full close % Open
16. Seat Leak Class	VI to ANSI FCI 70-2	3. Contacts	2 X DPDT Off
17. Plug pushdown to	Close Lower port	4. Contact Rating	240Ac 10Amp 110 Dc 0.5 Amp
18. Flow Tends to	Close Upper port	5. Enclosure	Weather proof as per NEMA4 &13
19. Bonnet / packing	Std PTFE	6.Cable Entry	¾" NPT
20. Lub/Isol Valve	-	H. JUNCTION BOX	Provided
21. Drain Valve	-	1.Enclosure	Weather proof as per NEMA4 &13
22. Noise Level	Less than 85dBA	2. No. of Terminals	~24 Nos
		I.SUPPLY CONDITION	
		1. Assembly - 1	-
		2. Assembly - 2	-
		3. Pneumatic Terminal	- To suit 8 mm tube
B. ACTUATOR ASSY		4.Commissioning spares:	actuator -1no and packing mtls- 1set individually tagged and packed along with the valve.
1. Make/Type No	*		
2. Style	Pneumatic Spring Diaphragm	REF. DOCUMENTS:(SPECIFY DWG/MANUAL REF.NOs.BELOW) *	
3. Size/Volume	* *	1.Assy Dimensional Dwg: *	
4. Diaphragm Matl	*	2.Assy Hookup Dwg: *	
5.Spring No/Range	- Std		
6. Spring to	Close Upper port		
7. Air to	Open Lower port		
8. Signal pr	~40 psig		
9. Pr port Conn	*		
10. On Air Failure	Stay Put		
11. Lockup Valve type No	*		
12. Lockup Valve Set pr	~40 psig		

S.No	ITEM	O & M Manual	Spares identifier	Catalog&Spec
3	A	*	*	*
4	B	*	*	*
5	B 11	*	*	*
6	C	*	*	*
7	D	*	*	*
8	E	*	*	*
9	F	*	*	*
10	G	*	*	*

PREPARED BY (BHEL)	DATE	CONFIRM BY(VENDOR)	DATE
SVS	20.12.10		

ANNEXURE- A

ACCEPTANCE OF TECHNO - COMMERCIAL TERMS AND CONDITIONS BY THE BIDDERS
(To be Filled and submitted for evaluation and to consider for Price-Bid opening /RA)

Description of the Items:	**Burner Trip Valves & Trip Valves**
Enquiry Ref:	**1801100787/14 dt 11.07.11**
Project:	

Sl No.	Description	Vendor's confirmation
1	The tender will be operated on two part bid basis and the vendors are requested to submit both Techno-Commercial bid and Price Bid in a separate sealed cover.	
2	**Technical :** Supply shall be as per BHEL's Respective Specification.	
3	**Firm Price:** The quoted/Finalised rates shall be Firm till execution of the supplies.	
4	**Price Basis:** The rates are to be quoted on **FOR / BHEL Trichy Stores Destination** basis inclusive of Packing, Forwarding & Freight charges to your account.	
5	**Payment terms:** 90% against despatch documents and balance 10% against receipt and acceptance of materials at stores. OR 100% payment against despatch documents against receipt and acceptance of materials at stores	
6	**Liquidated damages:** Our standard LD term is 0.5% per week subject to a maximum of 15% shall be applicable for late deliveries.	
8	**Delivery Period:** Bidder shall indicate the firm delivery period required for the delivery of the materials from the date of Purchase Order	
9	**Validity:** Price Validity of your offer shall be Minimum 120 days from the date of Techno-Commercial Bid opening.	
10	**Taxes & Duties:** Please mention all the taxes and duties and other price elements applicable clearly in your offer.	
11	**Guarantee:** Guarantee clause 18 months from the date of supply or 12 months from the date of actual put in use, whichever is earlier.	
12	**Reverse Auction:** BHEL is having the option of finalising the tender through reverse auction.	
13	**Risk Purchase clause as per Annexure A1**	

Date :

Signature with seal

ANNEXURE

TERMS AND CONDITIONS — A1

1. a) **QUOTATIONS** : Each tender should be sent in double cover, inner cover should be sealed with tenderer's distinctive seal and superscribed with correct tender No. item of supply and due date of opening. The outer cover should only bear the address of this office and should not have any indication that a tender is within. Two or more quotation should not be sent in one cover but the quotation against each tender should be sent separately to avoid confusion. Tender should not be addressed to any individual's name but only by designation.

b) Tenders should be free from CORRECTION AND ERASURES. Corrections if any, must be attested. All amounts shall be indicated both in words as well as in figures. Where there is difference between amount quoted in words and figures, amount quoted in words shall prevail.

c) Price should be nett F.O.R despatching station inclusive of risk in transit and remain valid for 60 days from the due date.

d) If any Sales Tax is payable as extra to the quoted price it should be specifically stated in quotations alongwith CST & TNGST No failing which the purchaser will not be liable for payment of Sales Tax. Our T.N.G.S.T No 3560005 Dt. 01-04-1995 CST No. 239383 Dt. 11.6.1991.

e) No revision of prices will be entertained after tenders are opened.

f) Manufacturer's Name, Trade Mark or Patent No. if any should be specified. Illustrative leaflets giving technical particulars are required alongwith quotation wherever necessary.

g) Products with I.S.I Certification marks will be preferred.

h) The purchaser shall be under no obligation to accept the lowest or any other tender and shall be entitled to accept or reject any tender in part or full without assigning any reason whatsoever.

2. **SAMPLES** : Wherever possible, sample should be submitted separately whether specifically requested or not so as to reach the purchaser on or before the due date of the enquiry. They should be clearly marked with the enquiry No and the date on the outside cover to facilitate identification.

3. **PACKING AND MARKING:** The supplier shall arrange for securely protecting and packing the stores to avoid loss or damages during transit.

4. **TERMS OF PAYMENT** : Payment will be made within 30 days of satisfactory receipt of materials at site. Wherever required by the purchaser, the successful tenderer must send the operation and maintenance manuals, test certificates, drawings, etc., for the materials ordered. These should be sent immediately after despatch of the materials and a statement to that effect should be made in the invoice. Failure to comply with this provision will result in delay in payment of the bills. Goods despatched either by V.P.P or by the document presented through bank will not be accepted unless agreed to by the Purchaser.

The duplicate copy of the invoice meant for the transporters should accompany the material as stipulated under C.E. Rules 52A and 173C (or) 57GG. A photostat copy of the above invoice for each delivery challan should be submitted alongwith the original bills routed through bank or submitted directly to BHEL Finance Department.

5. **SECURITY DEPOSIT** : For purchases over Rs. 5,000/- the successful tenderer/s may be requested to furnish a Bank Guarantee. Security Deposit for an appropriate value as may be determined by BHEL.

6. **LIQUIDATED DAMAGES/ PENALTY AND INTEREST ON ADVANCES FOR DELAY IN DELIVERY:**

If the supplier fails to deliver the raw material / equipment / components within the period specified in the contract the purchaser shall deduct Liquidated Damages a sum equivalent to 0.5 % of the price for each week of delay upto a maximum of 15% of the price of the delayed / undelivered goods. In addition to the recovery of interest at normal cash credit rate plus 2% for the unadjusted portion of the advances. If the delay in delivery of a part contributes to delay in execution of total system, LD and interest on advances will be recovered on the total contract price / total advance paid .

7. **RISK PURCHASE** : Alternatively the purchaser at his option will be entitled to terminate the contract and to purchase elsewhere at the risk and cost of the seller either the whole of the goods or any part which the supplier has failed to deliver or despatch within the time stipulated as aforesaid or if the same were not available, the best and the nearest available substitute therefor. The supplier shall be liable for any loss which the Purchaser may sustain by reason of such risk purchases in addition to penalty at the rate mentioned in clause 6 above.

8. **PREFERENTIAL DELIVERY** : It should be noted if a contract is placed on a higher tenderer as a result of this invitation to tender in preference to the lowest acceptable offer in consideration of the earlier delivery, the seller will be liable to pay to the purchaser the difference between the contract rate and that of the lowest acceptable tender on the basis of final price F.O.R. destination, including all elements of freights, sales tax, duties and other incidents, incidental in case of failure to complete supplies in terms of such contract within the date of delivery specified in the tender and incorporated in the contract.

9. **MODVAT CREDIT** : If any Excise Duty is payable, the chapter head/sub-head reference and the rate of the duty should be quoted. If the tender is availing MODVAT credit for this inpute materials, the effect of proforma credit should be passed on to the purchaser. Tenderer under "MODVAT" shall be preferred.

10 **Purchase** : Preference will be given to CPSUs as per. Government Guidelines.

11. **GENERAL** : The purchaser reserves the right to split up the tender and place order for individual terms with different tenderers and also increase or decrease the quantity.

Any Other conditions which might have been quoted by the Seller and are in contravention to the terms prescribed in the order and which have not been specifically accepted in by Purchaser will not be applicable to the contract.