

**General Note: BHARAT HEAVY ELECTRICALS LIMITED**

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

PHONE : 2577359  
 GRAMS : BHARATELEC  
 FAX NO: 2520719  
 E-mail :  
 Web :

429-002/A

	<b>Collective No.</b>	<b>Enquiry Date</b>	<b>Due Date For Quotation</b>
	1801501078	18.09.2015	22.10.2015
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	L172014720001001	NO	96.000	32.00	30.11.15
	PNEUMATICALLY OPERATED COAL SHUT-OFF GATE + ACCESSORIES PIPED UP/WIRED UP AND AS PER BHEL DRAWING 2-47-200-01750/Rev. 02 & TECH. SPECIFICATION TCC 1041/LATEST REVISION FOR 30" PIPE CARRYING PULVERISED COAL + HOT AIR. SUITABLE FOR SOLENOID VALVE INPUT VOLTAGE 24V DC. Enclosures : 1) TECH. SPECIFICATION TCC 1041 / LATEST REVISION 2) BHEL DRAWING 2-47-200-01750/Rev. 02				
				32.00	31.05.16
				32.00	30.11.16

**General Note:**

- The tender will be opened in two part bid basis and you are requested to submit your offers in separate sealed covers Techno-commercial bid and Price bid.
- You are requested to submit the offer on FOR/North Karanpura Project site/ Jharkhand State basis inclusive of P&F, freight and Insurance charges.
- Kindly refer Annexure -A(Commercial terms and conditions Indigineous/Import whichever is applicable) which is to be filled and submitted along with Techno-commercial offer for evaluation.
- You are requested to note our Loading terms-Annexure-B (Indigineous/Import whichever is applicable)and Annexure-C (Special provision for Micro and Small Enterprises)for finalizing the tender and the same will be taken for evaluation for arriving the L1 rate.

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

*R. Srinivasa Moles*  
 MANAGER PURCHASE  
 (FOSSIL BOILERS) **ENGINEER**

Materials Management / BOI  
 BHEL, TIRUCHY - 620 014.



# BHARAT HEAVY ELECTRICALS LIMITED

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

1801501078 / 18.09.2015

23505

5.Vendors to note that their offer shall be in line with our specification requirement only. Any deviation will lead to rejection of the offer.

6).Annexure - I ( Special Terms & Conditions/Pre-Qualification requirement)

is to filled with confirmation for all the points and to be submitted along with your offer for evaluation.Deviation in the PQR - Annexure I will leads to rejection of your offer.

7) Filled in Data sheet(Specification -TCC-1041/REV 03 Page-07 to 09) BHEL MATERIAL CODE L172014720001001 for of this specification shall be furnished by the Vendor along with the offer.

8)All the tenders may be addressed to the following address:

The Tender Opening Cell/MM  
Room No: 26, Building 24,Ground Floor  
Bharat Heavy Electricals Limited  
TIRUCHIRAPALLI 620014

In case personal delivery of the offer, it shall be dropped into the respective box kept in Room No: 26, after duly entering the data in the system.

Offers will be accepted only upto 14.00 Hrs on the due date. Therefore ,vendors shall ensure to submit the offers well before this time.All due date extension requirments should be addressed to the respective Purchase mail IDs. All the due date extension requested from vendors will be considered only upto 48 hours before the due date and time.

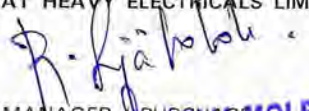
Vendors are requetsed to avoid submission of offers through e -mail/fax. In case of any unavoidable situation, offers shall be sent through e mail to the following ID only.  
tender\_cell@bheltry.co.in.

As tenders are being opened by Common Tender Opening Cell, offer covers should be sealed with tenderer's distinctive seal and super scribed with correct Tender No. item of supply and due date of opening.

The offers will be opened at 14:30 hrs on the due date of the 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

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

  
MANAGER (PURCHASE)  
(FOSSIL BOILERS)  
Yours faithfully,  
**SRIAMOORTHY**  
Engineer  
Materials Management / BOI  
BHEL, TIRUCHY - 620 014



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THIRUCHIRAPALLI - 620014  
TAMILNADU (INDIA)

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liable to be rejected.

**Enclosures:**

- 1)Specification TCC 1041/Rev03  
A)Data sheet(Specification -TCC-1041/REV 03 Page-07 to 09) Material code L172014720001001)
- 2)DRG:2-47-200-01750/Rev02
- 3)Special Terms & conditions/ Pre qualification requirement(PQR) (Annexure-I )
- 4)Annexure-A(Terms and conditions Indigeneous)
- 5)Annexure-B(Loading factors Indigeneous)
- 6)Annexure-A(Terms and conditions Import)
- 7)Annexure-B(Loading factors Import)
- 8)Annexure-C(Special provisions for Micro & Small Enterprises MSE)

"LD clause has to be confirmed without fail."

The bidder along with its associate / collaborators / sub-contractors / sub-vendors / consultants /service providers shall strictly adhere to BHEL fraud prevention policy displayed on BHEL website <http://www.bhel.com> and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to their notice.

**PR Links**

Material.	PR.No	PR.Item.	Quantity	Acc. Assign	Customer Number
L172014720001001	112043115	00010	32.000	U6/1720-SY-466-1-47-200	U6/1720
L172014720001001	112043116	00010	32.000	U6/1721-SY-466-1-47-200	U6/1721
L172014720001001	112043117	00010	32.000	U6/1722-SY-466-1-47-200	U6/1722

**list of suppliers**

RFQ-5200004313

Open Tender Dummy Code

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**

*R. Srinivasa Moles*  
MANAGER / PURCHASE  
(FOSSIL BOILERS)  
Yours faithfully, Engineer

Materials Management / BO  
BHEL, TIRUCHY - 620 014.

**BHARAT HEAVY ELECTRICALS LIMITED  
TIRUCHIRAPALLI-620014**

**FUEL SYSTEMS/PRODUCT ENGINEERING (FOSSIL BOILERS)**

**TITLE SHEET**



**SPECIFICATION FOR  
POWER OPERATED SHUT OFF GATE  
- KNIFE EDGE GATE VALVE WITH  
PNEUMATIC ACTUATOR**

**SPECIFICATION NUMBER: TCC 1041 / REVISION NO.03**

**REVISION STATUS**

Rev.No.	Date	Description	Altered	Checked & Approved
03	08-07-15	NFPA clause updated and Gasket material options revised (CL.5.6).	M.V	GSK & MTP
02	16-06-14	GASKET MATERIAL SELECTION (CL.5.6)ADDED	MCHSG	GSK & MTP
01	16-09-08	SPECIFICATION UPDATED	CSS	MTP

	NAME	SIGNATURE	DATE
PREPARED	G.SARAVANAKUMAR	-Sd-	21.03.2007
CHECKED	M.THANDAPANI	-Sd-	21.03.2007
APPROEVED	S.V.SIVARAMULU	-Sd-	21.03.2007



**SPECIFICATION FOR  
POWER OPERATED SHUT-OFF GATE  
/KNIFE EDGE GATE VALVE  
WITH PNEUMATIC ACTUATOR**

**SPECN.NO.  
TCC-1041  
REV-03**

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## **1.0 SCOPE**

The scope covers the design, supply, manufacture, testing, certification, marking and identification and packing for shipment of Round port Knife Edge Gate Valve assembly with Pneumatic Actuator for the specified duty conditions in Annexure.

The accessories those are to be supplied with gate, are tabulated in this document. This list is to be considered as non-exhaustive. The supplier is requested to state the items that has to be supplied to meet the intent of the requirements, which will be used during the evaluation of all potential suppliers.

The use of Supplier references, catalogue numbers shall not be deemed to supersede the performance requirements of the purchase order.

## **2.0 EXTENT OF SUPPLY**

The following extent of supply given is not necessarily exhaustive and shall not relieve the contractor of his responsibility to provide plant, equipment and services necessary to satisfy the performance criteria and guarantees specified, safely and efficiently.

Provide 6 numbers of Operation and Maintenance (O&M) instructions.


### **2.1 EXCLUSIONS**

None.

## **3.0 TERMINAL POINTS**

The terminal points for the extent of supply of the valves shall be,

- Fuel inlet elbow flange at valve inlet
- Coal nozzle flange at valve outlet
- All terminals connected to JUNCTION BOX (JB) & JB shall be on supplier's scope
- Single instrument air connection to air filter regulator (interconnecting pipes by Supplier)

	<b>SPECIFICATION FOR POWER OPERATED SHUT-OFF GATE /KNIFE EDGE GATE VALVE WITH PNEUMATIC ACTUATOR</b>	<b>SPECN.NO. TCC-1041 REV-03</b>	<b>PAGE 03/09</b>
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#### 4.0 TECHNICAL REQUIREMENTS

This knife edge gate valve is mounted between the fuel inlet elbow of coal – air piping and coal burner nozzle. One valve per coal pipe is envisaged. Pulverized coal – air mixture at a temperature of 90°C to 120°C flows through these gates at a velocity of 25 m/sec. The leading edge of the valve blade shall contain a 45° chamfer to eject out the accumulated dust and clean the blade guides during closing. Vendor shall include necessary provision in the valve to prevent ingress of dust and ensure friction free movement. The supplier has to ensure that the valves are suitable for operation in the specified conditions.

The supplier shall provide suitable body tapping for air to purge out the dust collected in the dead space between the body inner faces when the blade is retracted. To the body tapping supplier shall provide means for an air purge prior to valve closing. All valves shall be capable of safe, reliable operation and shall comply with the requirements of NFPA 85 / 2015 in particular to the sub-section 9.4.6.13 and 9.4.5.1.6 of less than 13.8 KPa gauge pressure for dust tight valve application.

**As the coal particles are highly erosive, the valve supplier shall provide measures to combat erosion of valve internals. Vendor shall indicate the details in the offer.**


Proper cable glands and tube fittings, for taking out/in cables and air tubing shall be provided. The limit switches shall be mounted on to gate valve to give signal for valve open/close condition. Overall dimensions of the gate shall be as per the attached drawing 2-47-003-01439 or 2-47-200-01750 whichever is asked for in the enquiry.

#### 4.1 VALVE OPERATION

During service the valve is always in opened condition and will be closed only during pulveriser maintenance. The valves are remote operated by a double acting pneumatic actuator with limit switch indicating the open & closed position of the valve. Each valve shall be provided with one solenoid valve. The solenoid valve shall be energized to open and energized to close.

#### 4.2 OPERATING ENVIRONMENT

The equipment will be required to operate in dust laden pulverized coal-air mixture, which can be expected to settle on the valve components during normal operation. The coal-air mixture is very erosive in nature and hence the interior surfaces of the valve shall be protected suitably.

	<b>SPECIFICATION FOR POWER OPERATED SHUT-OFF GATE /KNIFE EDGE GATE VALVE WITH PNEUMATIC ACTUATOR</b>	<b>SPECN.NO. TCC-1041 REV-03</b>	<b>PAGE 04/09</b>
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## 5.0 ACCESSORIES

The following accessories shall be assembled with Knife edge gate valves. The valve shall be integral part of the assembly with the power cylinder, limit switches, solenoid valve and air filter regulator and shall be supplied in fully piped up condition. Purchaser to provide only inlet air connection to the Air filter regulator.

### 5.1 AIR CYLINDER

The air cylinder shall be of double acting type and of heavy duty. The cylinder body shall be corrosion resistant and shall have a fine finish preferably honed that ensures minimum friction and long seal life. A self-centering cushion sleeve shall be provided at both sides of the piston. The piston rod shall be covered with leather gaiter to prevent dust and water intrusion for smooth operation.

The power cylinder shall be capable of stroking the valve to full travel on load at an air pressure of 3.0 Kg/Sq.cm (g). The material of gland seal/piston shall be suitable to withstand temperature of 120°C and a pressure of 7.0 Kg/Sq.cm (g).

### 5.2 SOLENOID VALVE (SV)


The heavy-duty dual coil solenoid valve shall be of ASCO make or ROTEX make with 5 ports, 2 way type and shall be as per Clause 11.3.3 of data sheet. The Solenoid valve shall be mounted at upstream side of the valve to enable easier approach at site.

### 5.3 AIR FILTER CUM REGULATOR (AFR)

A suitably sized air filter cum regulator of make of PLACKA / AIRMATIC / NUCON / FESTO shall be provided. The filter cum regulator shall be of metallic bowl only. The air filter cum regulator shall have the range of regulation from 6.0 kg/sq.cm (g) to 1.0 kg/sq.cm (g).

### 5.4 LIMIT SWITCH (LS)

Two numbers heavy duty limit switches of OMRAN or HONEYWELL make with DPDT contacts to indicate open/closed position of the valve with rating of 5A 230V AC / 0.5A 220V DC shall be provided. The enclosure shall be of IP55 class with ¾" NPT conduit for cable entry. The limit switch shall be firmly fixed on to a mounting plate.

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## 5.5 COPPER TUBING & FITTINGS

Necessary PVC sheathed copper tubing of sufficient wall thickness and good quality of fittings shall also form part of the assembly.

## 5.6 COMPRESSION GASKET SELECTION

Gasket shall be selected to withstand the higher compression load at elevated temperatures. These gaskets shall be selected for minimum design strength of 4000psi and continuous operating temperature not less than 120° C. Preferable material of gaskets is Silicone Rubber 60/70A shore a durometer or harder rated to +232°C to +260°C or Non-asbestos gasket of aramid fiber with a NBR Binder or higher grade meeting the design requirement said above. Two gaskets per gate shall be supplied.

## 6.0 INSPECTION AND TESTING

Supplier shall submit QP for Purchaser's review and approval. It is expected that Quality plan shall encompass the Supplier's standard inspection to satisfy all applicable design code and its testing requirements and will involve, as a minimum, the examination of material certificates, dimensional checks on parts and sub-assemblies, examination by visual or other methods for welds and material surfaces. The Purchaser's inspecting authority is to be allowed reasonable access to the Supplier's works during manufacture/ testing before delivery, in accordance with the approved Quality plan.

### 6.1 TESTING

1. The smooth operation of the valve shall be tested for an instrument air pressure of 3.0 kg/sq.cm.
2. Body and seat shall be tested accordingly as called for in API or MSS or any other equivalent standard.
3. Each valve shall be tested for leak as per API or MSS or any other equivalent standard for "**no visual leak**" condition.

## 7.0 CODES AND STANDARDS

The Supplier is required to list all the standards applicable to the equipment covered in this specification. To be provided and agreed before manufacture proceeds. Where the Supplier considers that the standards used in the design, manufacture or operation of the equipment may vary with the contents of this specification, then the matter shall be immediately brought to the written attention of Purchaser.



**SPECIFICATION FOR  
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## **8.0 DOCUMENTATION**


- 8.1 Technical offer shall contain complete details as called for specification confirming the requirements point by point.
- 8.2 Completely filled in data sheet CLAUSE 11.0.
- 8.3 Supplier shall submit the dimensional drawing giving details of MOC, accessories, dimensions, pneumatic hook up diagram, actuator selection data, and valve test parameters. Drawings shall be submitted in AutoCAD format and legible hard copies.
- 8.4 Confirmation for BHEL dimensional drawing as per enquiry.
- 8.5 Supplier may separately quote for the list of spares for two years of trouble free operation.
- 8.6 Supplier to quote for commissioning spares along with the main offer.
- 8.7 Reference list.

## **9.0 GUARANTEE**

The performance guarantee shall be given for minimum a period of 12 months from the date of commissioning or 18 months from the date of shipment whichever is earlier.

## **10.0 PACKING AND DESPATCH**

After inspection, the assembly shall be cleaned, prepared and suitably protected for despatch in such a way as to minimize the possibility of damage and deterioration during transit and storage.


	<b>SPECIFICATION FOR POWER OPERATED SHUT-OFF GATE /KNIFE EDGE GATE VALVE WITH PNEUMATIC ACTUATOR</b>	SPECN.NO. <b>TCC-1041</b> REV-03	PAGE <b>07/09</b>
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**11.0 DATA SHEET**
**BHEL MATERIAL CODE:**
**11.1 VALVE DATA SHEET**

	<b>BHEL SPECIFICATION</b>	<b>VENDOR CONFIRMATION</b>
DESIGN PRESSURE	To comply with NFPA 85, Valve body/ flanges shall be designed for 250 class.	
NORMAL WORKING PRESSURE	300-400 mm WC	
Design temperature	120°C	
Normal working temperature	90°C	
Indoor or outdoor installation	Outdoor	
Design pressure drop	Vendor to furnish	
Maximum pipe velocity	25 m/s	
Operation/frequency of use	Normally open. Closed during mill maintenance	
Flow medium	Hot air and coal particles	
Coal particle size	75 µm and less – 75% through 200 Mesh	
Erosion	The coal particles are highly erosive and the supplier shall provide measures to combat erosion of valve internals	

**11.2 Mechanical Data sheet for Power operated shut-off gate**

Model No.	Supplier to furnish	
Service	Coal pipe shut-off	
Valve performance code	NFPA 85 – Dust tight Valve	
Size	Valve ID = 737 mm Ref: 2-47-200-01750	
End Connection - Flanged	Flange details as per enclosed drawing	
Body Tapping (Yes/No)	Yes	
Remote Operation Details	Double acting pneumatic actuator, energized to open and energized to close	
Maximum Leakage Rate	"No Visual leak" as per API/MSS or equivalent specification	
Quality Plan	Supplier to furnish	
Painting Details	As per approved QP	

	<b>SPECIFICATION FOR POWER OPERATED SHUT-OFF GATE /KNIFE EDGE GATE VALVE WITH PNEUMATIC ACTUATOR</b>	SPECN.NO. <b>TCC-1041</b> REV-03	PAGE <b>08/09</b>
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**BHEL MATERIAL CODE:**

	<b>BHEL SPECIFICATION</b>	<b>VENDOR CONFIRMATION</b>
Body Ends Sealed (Yes/No)	Yes	
Joining Surfaces Protected (Yes/No)	Yes	
<b>MATERIAL SELECTION</b>		
Body	Carbon steel (Specify grade)	
Slide	Stainless Steel (Specify grade)	
Seals	Supplier to furnish	
Body Connector	Supplier to furnish	
Insert	Supplier to furnish	
Cover	Supplier to furnish	
Gasket	Silicone Rubber 60/70A shore a durometer or harder rated to +232°C to +260°C or Non-asbestos gasket of aramid fiber with a NBR Binder or higher grade to meet design criteria	
Fasteners	SA193 GRB7 or higher strength	

### 11.3 ACCESSORIES

#### 11.3.1 POWER CYLINDER

<b>BHEL SPECIFICATION</b>	<b>VENDOR CONFIRMATION</b>
Type	
Make	
Size – Diameter x Stroke	
Selection criteria of Power cylinder	Attach calculation sheet
End Connection details (Air entry)	
Bellows provided for air cylinders - Required	
Air consumption per stroke	Nm <sup>3</sup> /Hr

#### 11.3.2 LIMIT SWITCH

Type	
Make & Model	
Contact	
Rating	
Enclosure IP55 Class	
Cable entry Conduit size	



**SPECIFICATION FOR  
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**BHEL MATERIAL CODE:**

<b>BHEL SPECIFICATION</b>	<b>VENDOR CONFIRMATION</b>
<b>11.3.3 Solenoid valve</b>	5 Port-2way Dual coil
Type	
Make & Model	
Power supply / Coil Rating	<b>24V DC ± 10%</b>
<b>11.3.4 Air Filter Cum Regulator</b>	
Make	
Size	
End Connection size at BHEL TP	NPT (F)
<b>11.3.5 Copper Tubing &amp; Fitting provided</b>	YES
	Required
<b>11.3.6 Housing for accessories</b>	
Confirm provision of box housing filter/regulator & solenoid valves	
<b>11.4 Commissioning Spares Quoted with Offer</b>	YES / NO
<b>11.5 2/3 Years operational Spares Quoted with Offer</b>	YES / NO
<b>11.6 General Arrangement Drawing No.</b>	

**NOTE:**

Vendor shall fill-up the valve data sheet, Mechanical data sheet, Data sheets for accessories and others (Clause 11), submit along with the offer duly signing the same.

0910-00-47-200-01750  
DRAWING NO.

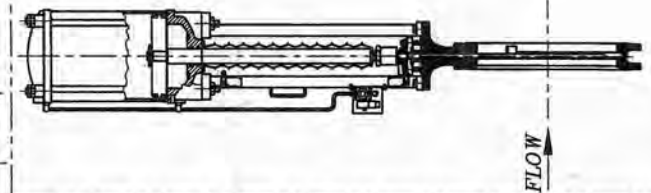
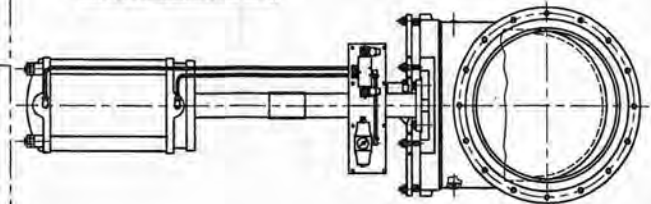
**ARRANGEMENT-P**

**SPECIAL NOTE**

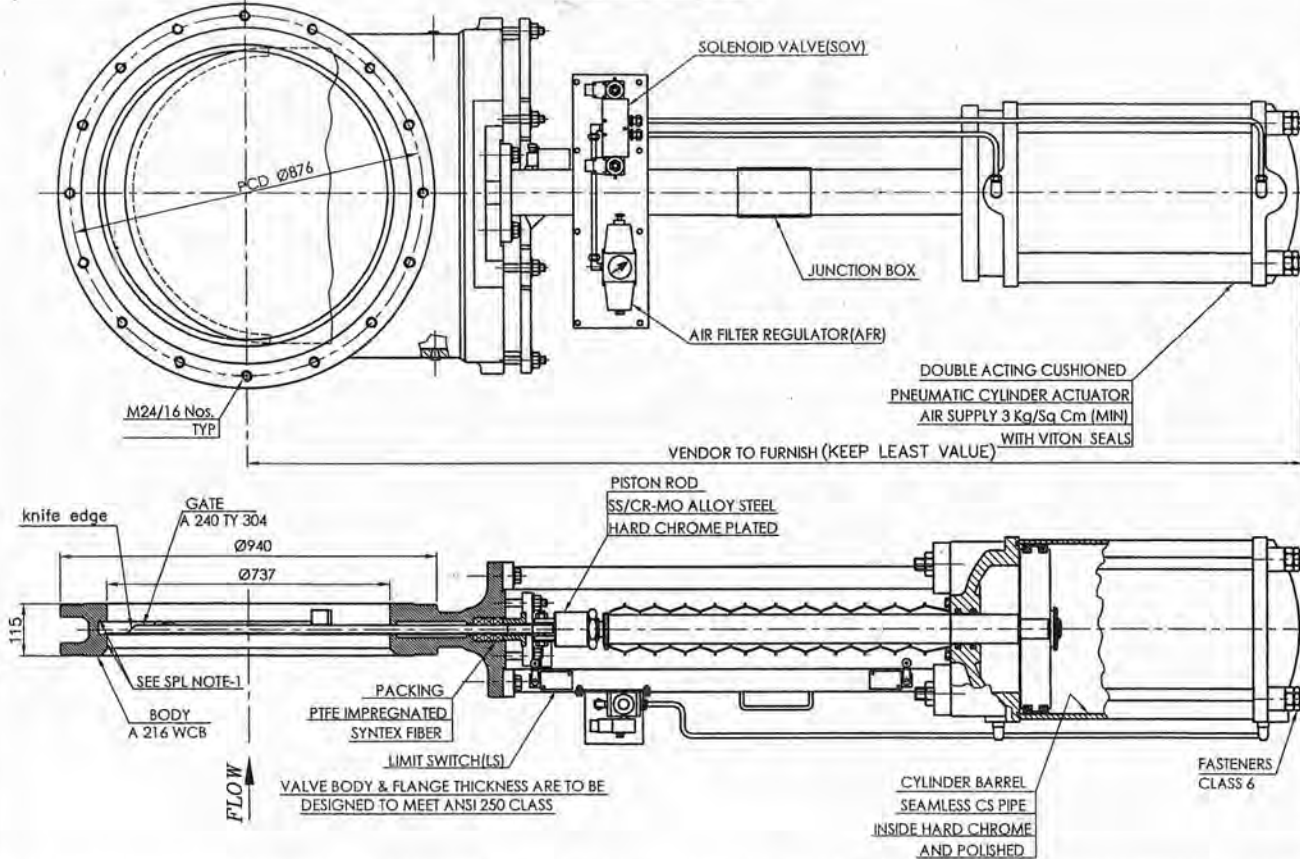
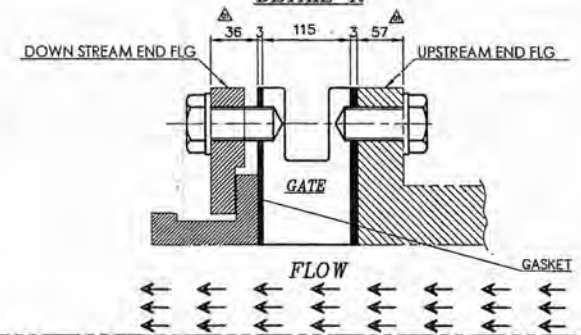
FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER PLANT STD. NO TP 023 0299

- AS THE PUL COAL PARTICLES ARE OF HIGHLY EROSION, THE VENDOR HAS TO PROVIDE SUITABLE MEASURES TO COMBAT EROSION OF VALVE INTERNALS. VENDOR TO INDICATE / CONFIRM IN THE OFFER.
- VENDOR TO SHOW PNEUMATIC HOOK UP (SCHEMATIC) DIAGRAM.
- VENDOR TO MAKE 50% QTY AS PER "ARRANGEMENT-P"; TO MAKE 50% QTY AS PER "ARRANGEMENT-Q";

**ARRANGEMENT-Q**



**DETAIL-R**



**VALVE DESIGN DATA:**

- |                             |                     |
|-----------------------------|---------------------|
| 1. FLOW MEDIUM              | HOT AIR + PUL. COAL |
| 2. FLOW TEMPERATURE         | 90 DEG C            |
| 3. DESIGN TEMPERATURE       | 120 DEG C           |
| 4. FLOW MEDIUM VELOCITY     | 25 M / SEC          |
| 5. SERVICE                  | COAL PIPE SHUT-OFF  |
| 6. CODE REQUIREMENT TO MEET | NFPA 85             |

**TERMINAL POINTS OF THE VALVE:**

- UPSTREAM END FLANGE t=57 mm ▲
- DOWN STREAM END FLANGE t=36 mm ▲
- ELECTRICAL TERMINAL POINT AT JUNCTION BOX. (LS & SOV TO BE INTERNALLY WIRED BY VENDOR)
- SINGLE INSTRUMENT AIR CONNECTION TO AFR. (INTER CONNECTING PIPES BY VENDOR)

**ACCESSORIES DATA: (VENDOR SCOPE)**

- |                            |   |
|----------------------------|---|
| SOLENOID VALVE (SOV)       | DUAL COIL, HEAVY DUTY, 5 PORT, 2 WAY CURRENT RATING, REFER BHEL TECH SPECN. ASCO/ROTEX  |
| AIR FILTER REGULATOR (AFR) | 3/8" SIZE METALIC BOWL AIR SUPPLY: 0-7 BAR, MAKE- PLACKA / AIRMATIC / NUCON / FESTO   |
| LIMIT SWITCH (LS)          | 2NO+2NC, 240V AC-5A, / 0.5A 220V DC IP 65 / IP 55, 3/4" NPT(F) CABLE ENTRY, MAKE- HONEYWELL , OMRON; QTY=2 Nos.                                 |
| JUNCTION BOX (JB)          | ELECTRICAL TERMINAL FOR LS & SOV.   |
| TUBING                     | 3/8" PVC COVERED COPPER   |
| FASTENERS                  | SUITABLE FOR COMPANION FLANGES SHOWN IN "DETAIL-R". FASTENERS TO BE SA 193 GR-B7 OR HIGHER STRENGTH (ref: spec 1041/02).                        |
| GASKETS                    | FOR COMPANION FLANGES - t=3 mm  |
| GASKETS MATERIAL           | SILICONE RUBBER 60/70A SHORE A DUROMETER OR NON-ASBESTOS GASKET OF ARAMID FIBRE WITH NBR BINDER OR HIGHER GRADE MEETING THE DESIGN REQUIREMENT. |

REV	DATE	ALTERED BY	CHK/APP	REV	DATE	ALTERED BY	CHK/APP
02	09/07/15	M. SARAN	M. VENKATESWARAN	01	28/10/14	RAJESHANKAR	GANGADHAR
ZONE	GASKET MATERIAL OPTIONS REVISED.			ZONE	CONNECTING FLANGE DIMENSIONS CHANGED BASED ON ALSTOM'S RECOMMENDATIONS(ZONE E-2&D-7).		

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT		Bharat Heavy Electricals Ltd UNIT: HIGH PRESSURE BOILER PLANT TIRUCHIRAPALLI - 620014	
DEPT	ALL DIMENSIONS ARE IN MM	PRODUCTION SCALE	WEIGHT (Kg)
CODE			2-47-003-01439
TITLE	30" COAL SHUT-OFF GATE (PNEUMATIC OPERATED)		DRAWING NO : 2-47-200-01750
REV			02

CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be disclosed or used in any way detrimental to the interest of the company.

# **BHEL TRICHY**

## **MM/BOI**

### **ANNEXURE – I**

#### **SPECIAL Terms & CONDITIONS / Pre Qualification requirements (PQR)**

<b><u>Sl.NO</u></b>	<b><u>Description</u></b>	<b><u>Vendor Confirmation</u></b>
<b>1</b>	This tender is for the supply of Pneumatically operated round port knife edge gate as per technical specifications /Drawings attached and quantity mentioned in our enquiry.	
<b>2</b>	Offer of manufacturer only will be considered. The vendor shall have adequate experience in manufacturing and supply of these Items and shall produce credentials for the same without which their offer will not be considered.	
<b>3</b>	The vendor shall be an established Pneumatically operated round port knife edge gate manufacturer having adequate Engineering, Manufacturing and testing facilities.	
<b>4</b>	Pneumatically operated round port knife edge gate model (30" size) offered shall be from the existing regular manufacturing range of the supplier. Vendor shall provide the manufacturing catalogue or general reference list for the offered power operated gate along with the offer.	
<b>5</b>	The supplier shall have experience of having supplied Pneumatically operated round port knife edge gate for erosive medium of coal air application or for the application of similar severity of erosion. Supplier shall submit the documents in proof of the same.	
<b>6</b>	In addition to technical and commercial conditions, you have to submit all the documents duly filled in "Supplier Registration Forms" through online (available in <a href="http://www.bheltry.co.in/">http://www.bheltry.co.in/</a> - Online Vendor Registration- Material Management). Duly filled-in Supplier Registration Forms, along with all credentials and supporting documents, Certificate of Rating from D&B (Dun & Brad) sheet or equivalent agencies (For Foreign vendors), Financial Performance / Profit & Loss Account / Balance sheet for last three years etc. (With Techno-Commercial Bid). Availability of minimum manufacturing, handling, testing and measuring facilities, to be detailed are to be mentioned clearly. All the documents to be uploaded. Apart from Qualifying the Techno- Commercial requirements of the enquiry, BHEL has the right for spot assessment of the facilities for evaluation, approval and for registration.	
<b>7</b>	The offers will be considered for Price Bid opening/Ordering subject to evaluation & approval as per above point 6.0 and also subject to approval by Customer/BHEL.	
<b>8</b>	<b>Risk Purchase clause:</b> "If the supplier fails to deliver the goods within the delivery specified in the purchase order, BHEL 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 delivery period mentioned in the purchase order".	
<b>9</b>	Guarantee clause: 18 months from the date of supply or 12 months from the date of commissioning, whichever is earlier.	
<b>10</b>	BHEL may negotiate the L1 rate, if not meeting our budget/estimated cost.	
<b>11</b>	BHEL may re-float the tender opened, if L1 price is not the acceptable price to BHEL.	
<b>12</b>	Any deviation in specified commercial terms- Annexure A will lead to rejection of offer.	

**Offers are liable for rejection, if not satisfying above qualifying criteria.**



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## Bharat Heavy Electricals Limited

(High Pressure Boiler Plant)

Tiruchirappalli-620 014, Tamil Nadu, India

Dept : PURCHASE-MATERIALS MANAGEMENT/BOI

### ANNEXURE-A(Indigenous)

#### **ACCEPTANCE OF TECHNO - COMMERCIAL TERMS AND CONDITIONS BY THE BIDDERS**

**(This techno-commercial sheet should be duly filled and signed, and should be the part of Bid part no-I)**

<b>Description of the Items:</b>	Pneumatically Operated Round Port Knife Edge Gate (30")	
<b>Enquiry Ref:</b>	1801501078/04 dated 18.09.2015	
<b>SI No.</b>	<b>Description</b>	<b>Vendor's confirmation</b>
1	The tender will be operated in two part bid system. One part consisting of Technical bid with Commercial terms & conditions and other part is Price Bid. Techno-Commercial bid and Price bid are to be submitted in separate sealed covers. Based on the above and other conditions, as well as technical capability, vendors will be short-listed. Both these covers are to be put in a single cover duly super scribing the Enquiry Number. The Techno-commercial bid will be opened on the due date and based on the suitability of techno-commercial bid, the price Bid of the techno-commercial suitable qualified vendors will be considered and opened on a suitable date with due intimation	
2	<b>Technical:</b> Supply shall be as per BHEL's Specification TCC 1041/Latest Revision and BHEL Drg 2-47-200-01750/Rev 02 attached with the enquiry.	
3	<b>Firm Price:</b> The quoted/Finalised rates shall be Firm till execution of the supplies.	
4	<b>Price Basis:</b> The rates are to be quoted on FOR/Destination-Respective Site basis inclusive of Packing & Forwarding, Freight and Insurance to your account.	
5	<b>Payment terms:</b> Payment term is 100% direct payment against site acknowledged copy of LR/Delivery Challan after 45 days with 10 % PBG valid for the warranty period.	
6	<b>Liquidated damages:</b> Liquidated damages shall be 0.5% of the total order value per week or part thereof subject to a maximum of 10% of the total order value.	
7	<b>Delivery Period:</b> Bidder shall indicate the firm delivery period required for the delivery of the materials (FOR dispatching station), from the date of Purchase Order/date of document approval, required for delivery of the materials (FOR dispatching station).	
8	<b>Validity:</b> Price Validity of your offer shall be Minimum 120 days from the date of Techno-Commercial Bid opening.	
9	All applicable Taxes, duties and any other extra cost applicable shall be indicated clearly in the offer.	
10	Guarantee clause: 18 months from the date of supply or 12 months from the date of commissioning, whichever is earlier	
11	Please refer Annexure-B duly enclosed for the loading factors that will be considered for commercial terms deviations in arriving net cost to BHEL	
12	In addition to technical and commercial conditions, you have to submit all the documents duly filled in "Supplier Registration Forms" through online (available in <a href="http://www.bheltry.co.in/">http://www.bheltry.co.in/</a> - Online Vendor Registration- Material Management). Duly filled-in Supplier Registration Forms, along with all credentials and supporting documents, Certificate of Rating from D&B (Dun & Brad) sheet or equivalent agencies (For Foreign vendors), Financial Performance / Profit & Loss Account / Balance sheet for last three years etc. (With Techno-Commercial Bid). Availability of minimum manufacturing, handling, testing and measuring facilities, to be detailed are to be mentioned clearly. All the documents to be uploaded. Apart from Qualifying the Techno- Commercial requirements of the enquiry, BHEL has the right for spot assessment of the facilities for evaluation, approval and for registration.	

**ANNEXURE-B (Indigenous)**

**Loading factors for the tender enquiry for requirement of Pneumatically Operated Round Port Knife  
Edge Gate 30"**

<b>SI No.</b>	<b>BHEL Commercial terms</b>	<b>Vendor Confirmation to BHEL Commercial terms</b>	<b>Loading Criteria for Deviations</b>
1	<b>Payment terms:</b> Payment term is 100% direct payment against site acknowledged copy of LR/Delivery Challan after 45 days with 10% PBG valid for the warranty period.		Any deviation in the above payment term will attract loading as mentioned below. “Base rate of SBI (as applicable on the date of bid opening. Techno-commercial bid opening in case of two part bids) + 6% shall be considered for loading for the period of relaxation sought by bidders.
2	<b>Liquidated damages:</b> Liquidated damages shall be 0.5% of the total order value per week of delay or part thereof subject to a maximum of 10% of the total order value.		Any deviation from the above LD clause, loading will be applied to the extent to which it is not agreed by the bidder (at offered value).
3.	<b>Guarantee:</b> Guarantee clause 18 months from the date of supply or 12 months from the date commissioning, whichever is earlier.		No deviation permitted and the deviated offers are liable for rejection.
	<b><u>Important Note:</u></b> i) Payment through Bank is not preferred. In case of Payment through Bank is opted by Supplier, BHEL prefers documents submission through bank with copy of LR and door delivery of Goods to Stores with Consignee copy attached. In this case Loading will be 3% on the offered value. ii) BHEL will evaluate the offers and consider the ranking after the loading is applied as referred above wherever deviations are observed. iii) LC/Advance payment will not be operated for indigenous vendors. Offers of indigenous vendors with payment term as LC/Advance payment are liable for rejection.		



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(High Pressure Boiler Plant)

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Dept : PURCHASE-MATERIALS MANAGEMENT/BOI

### ANNEXURE-A(Import)

#### ACCEPTANCE OF TECHNO - COMMERCIAL TERMS AND CONDITIONS BY THE BIDDERS

(This techno-commercial sheet should be duly filled and signed, and should be the part of Bid part no-I)

<b>Description of the Items:</b>		Pneumatically Operated Round Port Knife Edge Gate ( 30”)
<b>Enquiry Ref:</b>		1801501078/04 dated
SI No.	Description	Vendor's confirmation
1	The tender will be operated in two part bid system. One part consisting of Technical bid with Commercial terms & conditions and other part is Price Bid. Techno-Commercial bid and Price bid are to be submitted in separate sealed covers. Based on the above and other conditions, as well as technical capability, vendors will be short-listed. Both these covers are to be put in a single cover duly super scribing the Enquiry Number. The Techno-commercial bid will be opened on the due date and based on the suitability of techno-commercial bid, the price Bid of the techno-commercial suitable qualified vendors will be considered and opened on a suitable date with due intimation	
2	<b>Technical:</b> Supply shall be as per BHEL's Specification TCC 1041/Latest Revision and BHEL Drg 2-47-200-01750/Rev 02 attached with the enquiry.	
3	<b>Firm Price:</b> The quoted/Finalised rates shall be Firm till execution of the supplies.	
4	<b>Price Basis:</b> Bidders should submit their offer for CFR Chennai with freight break up details. If freight breakup details are not indicated, the offer may be liable for rejection. FOB rate will be arrived by subtracting the corresponding freight break up from the CFR rate. BHEL reserves the right to order on FOB or CFR basis.	
5	<b>Payment terms:</b> "100% payment on CAD basis after 45 days from the date of receipt of documents, specified in PO, at BHEL bank with 10% PBG valid for the warranty period. Respective bank charges to respective account."	
6	<b>Liquidated damages:</b> Liquidated damages shall be 0.5% of the total order value per week or part thereof subject to a maximum of 10% of the total order value.	
7	<b>Delivery Period:</b> Bidder shall indicate the firm delivery period required for the delivery of the materials (FOR dispatching station), from the date of Purchase Order/date of document approval, required for delivery of the materials (FOR dispatching station).	
8	<b>Validity:</b> Price Validity of your offer shall be Minimum 120 days from the date of Techno-Commercial Bid opening.	
9	<b>PORT OF LOADING &amp; PORT OF DISCHARGE SHOULD BE INDICATED WITHOUT FAIL. Weight of the Total Consignment shall be indicated in the offer.</b>	
10	Foreign Exchange rate prevailing on Techno – Commercial bid opening rate will be taken for calculation.	
11.	Please refer Annexure-B duly enclosed for the loading factors that will be considered for commercial terms deviations in arriving net cost to BHEL	
12.	Guarantee clause: 18 months from the date of supply or 12 months from the date of commissioning, whichever is earlier.	
13	In addition to technical and commercial conditions, you have to submit all the documents duly filled in "Supplier Registration Forms" through online (available in <a href="http://www.bheltry.co.in/">http://www.bheltry.co.in/</a> - Online Vendor Registration- Material Management). Duly filled-in Supplier Registration Forms, along with all credentials and supporting documents, Certificate of Rating from D&B (Dun & Brad) sheet or equivalent agencies (For Foreign vendors), Financial Performance / Profit & Loss Account / Balance sheet for last three years etc. (With Techno-Commercial Bid). Availability of minimum manufacturing, handling, testing and measuring facilities, to be detailed are to be mentioned clearly. All the documents to be uploaded. Apart from Qualifying the Techno- Commercial requirements of the enquiry, BHEL has the right for spot assessment of the facilities for evaluation, approval and for registration.	



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### ANNEXURE-B (Import)

#### Loading factors for the tender enquiry for the requirement of Pneumatically Operated Round Port Knife Edge Gate (30")

Sl No.	BHEL Commercial terms	Vendor Confirmation to BHEL Commercial terms	Loading Criteria for Deviations
1	<b>Payment terms:</b> BHEL Payment term is 100% payment on CAD basis after 45 days from the date of receipt of documents, specified in PO, at BHEL bank with 10% PBG. Respective bank charges to respective account.		Any deviation in the above payment term will attract loading as mentioned below. “Base rate of SBI (as applicable on the date of bid opening. Techno-commercial bid opening in case of two part bids) + 6% shall be considered for loading for the period of relaxation sought by bidders.
2	<b>Liquidated damages:</b> Liquidated damages shall be 0.5% of the total order value per week or part thereof subject to a maximum of 10% of the total order value.		Any deviation from the above LD clause, loading will be applied to the extent to which it is not agreed by the bidder (at offered value).
3.	<b>Guarantee:</b> Guarantee clause 18 months from the date of supply or 12 months from the date commissioning, whichever is earlier.		No deviation permitted and the deviated offers are liable for rejection.
	<b><u>Important Note:</u></b> i) In the case of Usance LCs the loading will be considered @ 1.5% on the offered Value. ii) For LC at sight the loading will be considered @ 3.5% on the offered Value. iii) Normally CAD at sight and Confirmed LCs are liable for rejection iv) BHEL will evaluate the offers and consider the ranking after the loading is applied as referred above wherever deviations are observed.		

## ANNEXURE-C (MSME)

### **Clause: Special provisions for Micro & Small Enterprises (MSE)**

1. In case MSE vendor participating in the tender quotes within the price band of L1+15%, they will be allowed to supply the complete package requirement subject to acceptance of L1 price by MSE vendor.
2. In case of more than one such MSE, the counter offering will be to the lowest quoted MSE vendor subject to fulfillment of Point No.1
3. MSE suppliers can avail the intended benefits only if they submit along with the offer, attested copies of either EM II certificate having deemed validity (Two years from the date of issue of acknowledgement in EM II) or valid NSIC certificate or EM II certificate along with CA certificate (Format enclosed) applicable for the year, certifying quantum of investment in plant and machinery within the permissible limit as per the act for relevant status (Micro or small) where the deemed validity of EM II is over. Date to be reckoned for determining the deemed validity will be the last date of technical bid submission. Non submission of such documents will lead to consideration of their bids at par with other bidders and MSE status of such suppliers shall be shifted to Non MSE supplier till the supplier submits these documents.