

3X660MW NORTH KARANPURA STPP

TECHNICAL SPECIFICATION FOR BUTTERFLY VALVES (STEAM SERVICE)

SPECIFICATION NO. PE-TS-405-100-M016



**BHARAT HEAVY ELECTRICALS LIMITED, POWER SECTOR
PROJECT ENGINEERING MANAGEMENT
NOIDA, INDIA**

	TECHNICAL SPECIFICATION BUTTERFLY VALVE (STEAM SERVICE) 3X660MW NORTH KARANPURA STPP	SPECIFICATION NO. PE-TS-0405-100-M016	
		REV. NO.: 00	DATE: 07.01.2020
		SHEET 1 OF 1	

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SECTION-I

SPECIFIC TECHNICAL REQUIREMENTS

 Maharashtra Company	SPECIFIC TECHNICAL REQUIREMENTS BUTTERFLY VALVES (STEAM SERVICE) 3X660MW NORTH KARPURA STPP		SPECIFICATION NO.: PE-TS-405-100-M016	
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1. GENERAL

- 1.1 The valves shall meet the technical requirements and conform to the requirements of Section-I and Data sheet-A of Section-II. However, in the event of contradictions between Section-I & Section-II/Data Sheet-A, Data Sheet-A will prevail.
- 1.2 The technical requirements for valves shall, in general, be as per the attached Data sheet A of Section-II.

2. SCOPE OF SUPPLY

- 2.1 The valves complete with all accessories shall be supplied as per Data sheets A of Section-II. For detail refer the same. Each valve (quantity and other details specified in Data Sheet-A) shall be complete with the following accessories.
 - i) Lifting arrangement provision for handling i.e., lifting lugs, eye bolts etc.
 - ii) Actuators and limit switches as required to make valve complete in all respects.
- 2.2 Commissioning spares, if any.
- 2.3 Set of special tools and tackles if required for the maintenance, erection etc. of the equipment supplied.
- 2.4 Mandatory spares as applicable depending upon the project requirement.
- 2.5 Finish paints for touch-up painting of equipment after erection at site in sealed containers.

4.0 CODES AND STANDARDS:

The design, manufacture, inspection and testing of the butterfly valves shall suit the design parameters specified in datasheet-A1 & comply with the requirements of latest revisions of the following standards. However, the testing shall be as per American Water Works Association AWWA C504-10 and C516-10 (whichever is applicable) including disc strength test (all sizes of valves), gear box POD Test & Valve POD test.

- a) AWWA C504-10 upto size 1800 mm.
- b) AWWA C516-10 upto for size 2000 mm and above.

- 4.1 In case of any conflict between the above Codes/Standards and this specification, the later shall prevail and in case any further conflict in this matter, the interpretation of the specification by the BHEL engineer shall be final & binding.

5.0 DESIGN REQUIREMENTS:

- 5.1 All valves shall be suitable for the service conditions i.e. flow, temperature and pressure under which they are required to operate and those performing similar duties shall be interchangeable with each other unless otherwise specified.
- 5.2 The butterfly valves shall be suitable for Indoor/outdoor installation with shaft either in horizontal or vertical position.
- 5.3 The valves shall have double off-set type disc (design with shaft eccentric to disc) and long body design for AWWA C504-10 and maximum laying length for AWWA C516-10 as specified in Data sheet-A.
- 5.4 The butterfly valves shall be with butt welded ends as specified in Data sheet-A and designed to ensure bubble tight shut off at the rated pressure of valve.

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5.5 MATERIALS

- 5.5.1 The materials of construction of main parts of the butterfly valves (steam service) shall be specified in Data sheet-A.
- 5.5.2 The materials of construction of the remaining parts shall be as per relevant standard governing the valves and to suit the service conditions. These materials shall be subject to approval of the purchaser.
- 5.5.3 Materials used in manufacture of valves shall be of tested quality.

6.0 CONSTRUCTION FEATURES

6.1 Valve Body

- 6.1.1 The valve body shall have integral hubs for shaft bearing housing. The minimum body shell thickness and minimum diameter of seat bore shall be as per requirement of the applicable table/equation of AWWA-C504-10/C516-10 (whichever is applicable). Material of construction of body and valve parts shall be as per materials indicated in Data sheet-A.
- 6.1.2 An arrow shall be embossed/ engraved and painted on the outside of body to clearly indicate the direction of flow.

6.2 Valve Shaft

- 6.2.1 The shaft of each butterfly valve shall be securely attached to the disc through Bolting, Riveting, threading, upsetting or cross pinning, adequately locked.
- 6.2.2 Valve shaft design shall consist of one piece unit extending completely through the valve disc. or may be the "Stub Shaft" type which consists of two separate shafts inserted into the disc. Each stub shaft shall be inserted into the valve disc hubs for a minimum distance of at least 1.5 times shaft diameter. The connection between the shaft and the disc shall be designed to transmit shaft torque equivalent to at least 75% of the torsional strength of the minimum required shaft diameter. The minimum shaft diameter shall be as per the relevant standard and shall be such that it will safely sustain the maximum differential pressure across the closed valve and transmit the maximum torque required to operate the valve.
- 6.2.3 Surface finish for shaft shall be minimum 16 RMS in the area of gland packing.

6.3 Valve Disc

The valve disc shall have no external ribs transverse to the flow and shall sustain full differential pressure across closed valve disc without exceeding working stress of one fifth of the tensile strength of the material used. The thickness of the valve disc shall not be more than 2 ¼ times the shaft diameter listed in AWWA-C504-10/C516-10 (whichever is applicable). The valve disc shall be designed to rotate 90° from full open to tight shut off position. Material of Disc shall be as per the Data sheet-A.

6.4 Body Seat & Disc Seal (Valve seat)

The soft seat shall be of replaceable type of suitable grade resilient material, adequately reinforced, securely attached to the disc or to the body, and shall be designed to provide bubble tight shut off under all operating conditions. The soft seat/ seal shall be attached by clamping ring, bolting or other suitable methods as per the standard design of the manufacturer. All clamping rings, bolts/studs, nuts used shall be of stainless steel. The sealing ring on the disc shall be continuous type and easily replaceable.

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The mating seat surface accordingly shall be on valve body or disc and shall be of stainless steel and securely attached to the body/disc by directly clamping, bolting or suitable methods. All clamps, retaining rings, nuts, screws / all hardware shall be of stainless steel.

6.5 Valve Bearing:

Each butterfly valve shall be fitted with sleeve type bearings contained in the hub of the valve body. The bearing shall be of self-lubricating type and the coefficient of friction of bearing material shall not exceed 0.25 when rubbing at the maximum bearing pressure. The housing for this bearing shall be rigidly attached to the valve body. Thrust bearings shall also be provided for vertical shaft installation. For valves of 350 NB and larger, the bearing should be capable of taking axial thrust also. The material of the bearing shall be self-lubricated type & low coefficient of friction in accordance with the relevant standard.

6.6 Shaft Seal:

Wherever the shaft project through the valve body for actuator connection, a shaft seal shall be provided. Shaft seal shall be designed for use of Standard 'O' rings seals and they shall be contained in a removable corrosion resistant recess. Shaft seals shall be designed to allow its replacement without removal of the valve shaft.

The hand wheel shall be of malleable iron or equivalent.

6.8 Body Ends:

These shall be as butt welded as per ASME B 16.25 as specified in Data sheet-A1.

6.9 Nameplate:

Each valve shall be fitted with a circular Stainless steel 2mm thick nameplate indicating the valve Tag No. and service description given in Data sheet-A1. All details shall be engraved 1 mm deep and filled with black enamel paint.

6.10 The stops which limit the travel of any valve in the 'Open' or 'Shut' position shall be arranged exterior to the valve body.

6.11 All valves shall be closed by rotating the handwheel in a clockwise direction when looking at the face of the handwheel. The pulling force required on handwheel rim shall not exceed 25 Kgf when operating the valve under full flow and operating pressure. The face of each hand wheel shall be clearly marked with the words 'Open' and 'Shut' with adjacent arrows to indicate the direction of rotation to which each refers.

6.12 Special attention shall be given to the operating mechanism for large size valves in order that quick and easy operation is obtained and maintenance is kept to a minimum.

6.13 Eyebolts shall be provided where necessary to facilitate handling heavy valves or part of valves.

6.14 Wherever practical, valves (including actuator, drive motor, integral bypass etc.) of total weight equal to or greater than 500 Kg shall be provided with suitable lugs to permit direct suspension by hanger rods or direct resting on bottom support, as applicable.

6.15 The valves as well as accessories shall be designed for easy dismantling and maintenance.

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6.16 The disc shall rotate through 90° from full open to the tight shut position. The disc shall be contoured to ensure the least possible resistance to flow and be suitable for throttling operation. While the disc is in throttled position, the valve shall not create any noise or vibration.

6.17 It may be noted that all construction features design and parameters will be governed by AWWA-C504-10 for sizes upto 1800 mm and AWWA-C516-10 for sizes 2000 mm and above.

7.0 **SPECIAL FEATURES:**

7.1 Gland Sealing Arrangement:

Butterfly valves, provided with gland sealing arrangement, shall be vacuum tested. All valves required with this arrangement shall be provided with G3/8" connection (duly plugged) for water sealing. Sealing water shall be supplied at 4 ata and 50°C unless otherwise specifically indicated for the particular project.

7.2 Motorised Valves:

7.2.1 The motorized valves shall be offered with the electric actuators of reputed make observing strict quality control and approved by reputed customers. A particular make and type of actuator shall be designed for the maximum differential working pressure. However, the stall torque of the selected actuators shall be minimum 1.5 times the valve unseating torque requirement at the maximum differential working pressure (design pressure) and required operating time as mentioned in in Datasheet A.

7.2.2 Electric actuators shall be mounted directly on the valves.

7.2.3 The motors, gearing and disengaging hand wheel shall be adequate to open and close the valve under maximum differential pressure and shall be completely assembled on the respective valve and shop tested before shipment.

Gear box and Electric Actuator shall also meet the inspection & testing requirements of latest revision of AWWA-C504-10 /AWWA C542-10 respectively.

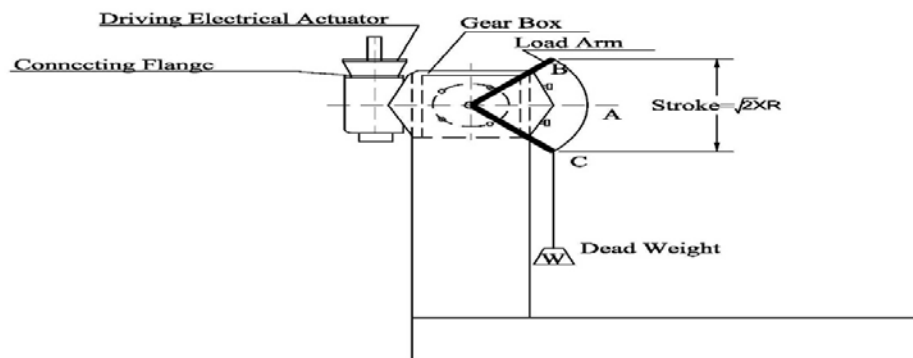
8.0 **INSPECTION AND TESTING:-**

All inspection & Testing for valve, Gear box and actuators shall be as per the requirements of the relevant standard.

The minimum NDT/testing and inspection requirements for valve, Gear Box, electric actuator etc. shall be as per the attached Quality Plan. However, in case of order, final inspection and testing shall be carried out as per the final approved quality plan without any price implications.

8.1 P.O.D. Tests:

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TEST SET UP

FIG. 1

- POD (Proof-of-design) Test as per AWWA-C504-10/C516-10 (whichever is applicable) is required to be carried out for valves. In case the valve POD Test has been done earlier, only Test Report of POD test for same model/ type/size/ rating is required to be submitted for verification.
- Gear Box and Electric Actuator shall be designed & tested in accordance with latest editions of AWWA C 504-10(gearbox) and AWWA C 542-10 (actuator) respectively. Gear Box shall be designed to hold the valve disc in intermediate position between full open and full closed position without creeping or fluttering.
- For valves designed and manufactured as per AWWA POD shall follow the guidelines of AWWA-C504-10/C516-10 (whichever is applicable) and Actuators shall meet the requirements of POD test of AWWA-C-542-10.
- Gear box POD test: - Valve POD and gear box POD tests should be done separately on each one of the valve & the gear box. Gear box POD test shall be done as per the procedure described below or as per the procedure agreed between purchaser & vendor.
- Gear box POD Test shall be carried out only at full rated torque of gear box, throughout the full cycle of testing i.e. at no point during each full cycle of testing; the applied torque should be less than the full rated torque of Gear Box. Refer Sketch for Gear Box POD test set up. Dead weight and length of arm shall be so selected that the torque generated at point "C" and "B" shall in no case be less than the full rated torque of the gear box.(refer fig.1)
- Irrespective of the requirement of conducting the type tests, the vendor shall submit the reports of the type tests carried out within last five years from the date of bid opening. These reports should be for the tests conducted on the equipment same (model / type/ size / rating) to those proposed to be supplied. Tests should have been conducted at an independent laboratory or should have been witnessed by a client.

These valves are for vacuum service and shall be provided with gland sealing arrangement which shall be vacuum tested with vacuum and helium gas.

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9.0 PERFORMANCE GUARANTEE:

- 9.1 The vendor shall guarantee the material & workmanship of all components as well as operation of the equipment as per the requirements of the specification.
- 9.2 The vendor shall also guarantee the following for each butterfly valve:
- Pressure drop as per the approved drop vs. opening curve.
 - The valve opening and closing time.

10.0 EXCLUSIONS:

Erection & Commissioning of equipment at site.

11.0 QUALITY ASSURANCE

- 11.1 The items covered under this contract shall be subjected to inspection, testing and quality surveillance. The Inspection Agency shall, at all reasonable times have access to Vendor's works, Quality Control records and all facilities as reasonably required for carrying out the inspection and testing efficiently, and these shall be provided by the vendor free of cost.
- 11.2 The Quality Plan enclosed with this specification specify minimum quality control requirement. During contract stage vendor shall furnish this Quality Plan duly signed & stamped for BHEL approval. Quality plans shall be approved by BHEL and customer. All inspection and testing shall be carried out by BHEL/ BHEL representative and customer (as applicable). In case inspection is by both BHEL and their customer, then the inspection can be carried out jointly or separately, which will be informed later. In case of the foreign bidder, inspection shall be carried out by reputed third party.
- 11.3 The charges for third party inspection (Lloyds, TUV or equivalent) for foreign bidders shall be included in the base price of the item by the bidder. This third party agency shall be approved by BHEL. Bidder to inform the same in the offer and mention the same in Quality Plan.

Note: There may be minor changes in quality plan depending on customer/consultant comments which will have to be accommodated by vendor at no extra cost. For actuator, if there is any separate reference quality plan with the customer (M/s NTPC), the same shall be accepted subject to acceptance from the customer.

12.0 PAINTING REQUIREMENT:

Surface preparation shall be as per SSPC-SP-3/ Power Tool Cleaning followed by 2 coat of Heat Resistance Aluminium paint to IS 13183 Gr. I or equivalent, paint shade Aluminium and total DFT of paint will be equal to 80 microns minimum.

13.0 PACKING INSTRUCTIONS:

- Each valve shall be drained, cleaned, prepared and suitably protected in such a way so as to minimize the possibility of damage and deterioration during transit and storage.
- The valve has to be dispatched in total assembled form.

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- c) Discs of all valves shall be properly secured while dispatching so that there is no risk of damage to the disc & seat.
- d) Body ends shall be suitably sealed to protect them against damage during transit and storage.
- e) Valves with butt-welding ends shall be protected by means of polythene caps/rubber and protectors to prevent damage to ends & also to avoid foreign material entering the valve while shipment & storage.
- f) Valve Tag Nos. shall be incorporated in all the dispatch documents.
- g) Proper care shall be taken to avoid damage to the painted surface during transit.
- h) All the valves shall be packed suitably in wooden cases in order to avoid damage during transit and also during storage at site in tropical climate conditions for a period of 15-18 months.
- i) Vendor to provide the following:
 - Photographs (soft) of Valves duly placed inside the wooden box just before final packing.
 - Photographs (soft) of the wooden box in which the valves have been finally packed just before dispatch.
 Clearance for dispatch of valves will be given only after receiving the photos of valves in satisfactory condition as mentioned in the condition stated above

14.0 SPARES

- a) **Mandatory Spares:** These shall be as per Data Sheet-A.
- b) Order for the spares may be placed simultaneously or otherwise at the option of purchaser.

15.0 DOCUMENTS TO BE SUBMITTED ALONG WITH OFFER

Bidder shall submit the following documents duly filled, signed and stamped along with the bid:

- a) Compliance sheet
- b) Documents as per the list indicated in the NIT.

The above are the only documents which will be used for technical evaluation unless other documents are asked for during technical clarifications. Any other technical document enclosed with the bid shall be ignored for the purpose of technical evaluation. All other documents attached with the specification are for information of the vendor and no comments shall be marked on these

16.0 DOCUMENTS TO BE SUBMITTED AFTER AWARD OF FRAMEWORK AGREEMENT:

- 16.1 Complete cross sectional arrangement of the valve.
- 16.2 Binding dimensions, dismantling clearances & weights.
- 16.3 Bill of material incorporating all the materials of construction of various parts and also specifying the AWWA/IS/BS/ASTM standards to which the materials conform to.
- 16.4 Standard Quality Plan duly signed with bidder's company seal as a token of acceptance by the bidder.

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SECTION-II

- DATA SHEET – A
- QUALITY PLAN
- ACTUATOR DATA SHEET & WIRING DIAGRAM
- COMPLIANCE SHEET



**DATA SHEET - A
BUTTERFLY VALVE
(STEAM SERVICE)
3X660MW NORTH KARANPURA
STPP**

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SECTION - II

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1	2	3	4	5	6	7		8	9	10	11	12	13		14	15	16	17	18
SL NO.	DESCRIPTION	TAG NOS.	TYPE OF VALVE	SIZE mm (NB)	OPERATION	DESIGN		SERVICE	RATING, DESIGN & TESTING CODE	BODY & DISC MATERIAL	END CONN	SPECIAL FEATURES	MATCHING PIPE OD X THKN		VALVES QTY WITHOUT COMMISSIONING SPARES	COMMISSIONING SPARES			
						PRESSURE KG/CM2(G)	TEMP C)						MM	MM		GLAND PACKING (VALVES) (SETS)	BOTTOM GASKET (VALVES) (SETS)	O' RING AND SEALS FOR ELECTRIC ACTUATORS (SETS)	DISC SEAL (SETS)
1	MAIN VALVE	EXV-25, EXV-26 (3 Nos. EACH)	BUTTERFLY VALVE (STEAM SERVICE)	1600	MO	Full vacuum and 2 kg/cm2	100	BFP DRIVE TURBINE EXHAUST LINE	CL.75B (MINIMUM) OF AWWA C504-2010	CCS (ASTM A216 GR. WCB)	BW AS PER ASME B16.25	SG, MO, OT = 50 ~ 90 SEC. SHAFT AXIS ORIENTATION HORIZONTAL/ VERTICAL SUITABLE FOR BOTH DIRECTIONS; ELECTRIC ACTUATOR WITH INTEGRAL STARTER.	1626	16	6	6	6	6	6
2	MANDATORY SPARE VALVE (COMPLETE VALVE ASSEMBLY WITH ACTUATOR WITHOUT COMMISSIONING SPARES)	—	BUTTERFLY VALVE (STEAM SERVICE)	1600	MO	Full vacuum and 2 kg/cm2	100	BFP DRIVE TURBINE EXHAUST LINE	CL.75B (MINIMUM) OF AWWA C504-2010	CCS (ASTM A216 GR. WCB)	BW AS PER ASME B16.25	SG, MO, OT = 50 ~ 90 SEC. SHAFT AXIS ORIENTATION HORIZONTAL/ VERTICAL SUITABLE FOR BOTH DIRECTIONS; ELECTRIC ACTUATOR WITH INTEGRAL STARTER.	1626	16	3	0	0	0	0
													TOTAL	9	6	6	6	6	
ABBREVIATIONS:- BW- BUTT WELDED, CCS - CAST CARBON STEEL, SG - SEALED GLAND, MO - MOTORISED ELECTRIC ACTUATOR OT - OPENING/CLOSING TIME OF VALVE WITH ELECTRIC ACTUATOR OPERATION IBR - INDIAN BOILER REGULATION 1. Valve POD, Gear box POD & Actuator POD test, if already carried out by bidder for similar model/ type/ size/ rating for any BHEL/NTPC/REPUTED CUSTOMER project within the last 5 years from the date of bid opening of this project, i.e. 07/01/2020, shall be considered applicable for this project, if found satisfactory by BHEL & NTPC. 2. Valve POD, Gear box POD & Actuator POD test, if required, as per technical specification & AWWA C504, then the charges for the same shall deemed to be included in the unit quoted prices of main valves. Bidder shall not indicate these charges as a separate head in the price bids. 3. Main valve prices shall BE EXCLUSIVE of cost of Commissioning Spares prices. 4. Bidder is required to quote unit price of each item under commissioning spares separately & individually i.e. prices of all commissioning spares shall not be clubbed/ included in the unit price of Main valves. 5. Commissioning spares --> One set each of Bottom/ Cover Gasket with 'O' Rings & Seals, Gland Packing with 'O' ring & seals in Gland packing area and actuator "o" rings and seal as applicable.																			

Signature of the bidder with name, designation, date and company's seal

	DATA SHEET-A BUTTERFLY VALVES (STEAM SERVICE) 3X660MW NORTH KARANPURA STPP		SPECIFICATION NO. PE-TS-405-100-M016	
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Material of Construction

SL NO.	PART NAME	MATERIALS
VALVE		
a.	Valve Body Butt welded: (Long body butt weld ends)	ASTM A-216 Gr. WCB
b.	Valve Disc.	ASTM A-216 Gr.WCB
c.	Shaft	ASTM A182 Gr..F304
d.	Disc Seal/Seat	EPDM (70 ~ 75 SHORE 'A')
e.	Valve body seat edge	AISI 316 (WELD OVERLAY/ DEPOSIT)
f.	Seat retaining ring and internal Bolts etc.	SS 304/316
g.	Bearing	SLEEVE TYPE, SELF LUBRICATED
h.	Shaft seal :	'O' RINGS TYPE (65~70 SHORE 'A')
i.	Fasteners (bolts & nuts)	ASTM A193 Gr. B7 (BOLTS) / ASTM A194 Gr. 2H(NUTS)
j.	Hand wheel (actuator)	MALLEABLE IRON (or equivalent)
GEAR BOX. (Bevel type)		
k.	Main Housing /Cover (Totally enclosed construction)	Cast Iron IS:210 Gr. FG 220/260
l.	Input shaft	13/% Cr SS/ EN8 (~200 BN)
m.	Worm	EN8 (~200 BN)
n.	Worm Wheel	Ductile iron / S.G iron
o.	Hand wheel	Malleable Iron (or equivalent)

BHEL PEM	DOCUMENT TITLE	DOCUMENT PE-DC-405-100-N306
	DATA SHEET FOR BFP TURBINE EXHAUST BUTTERFLY VALVES	NUMBER REVISION 00 DATE 30/09/2014 NUMBER
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TECHNICAL REQUIREMENTS

1. Tag no. : EXV-25 & EXV-26
2. Quantity : One each (Total 2 nos.) per unit (excluding mandatory spares).
3. Total Qty. : Main Valve Quantity -Six nos. (6) for Three units.
Mandatory Spare Valve Quantity–Three nos. (3) for Three Units (Complete valve without commissioning spare).
4. Type : Resilient seal.
5. Service : Butterfly valves shall be located in the exhaust ducts of the auxiliary drive turbines of the boiler feed pumps to isolate the aux. drive turbine from the surface condenser.
6. Size (Nominal) mm : 1600
7. Flow medium : Wet Steam, 2-7% moisture
8. Flow Velocity (Design) : 100 m/sec..
9. Operating parameters :

	<u>At EMCR condition</u> (Ref. HBD no.: A0300 R3)	<u>At MAX. condition</u> (Ref. HBD no.: T0338 R3)
9.1 Pressure (kg/cm ² (a)) :	0.2767	0.2703
9.2 Flow (T/hr) :	65.174	79.832
9.3 Dryness fraction :	0.979	0.980

BHEL PEM	DOCUMENT TITLE	DOCUMENT NUMBER
	DATA SHEET FOR BFP TURBINE EXHAUST BUTTERFLY VALVES	REVISION 00 DATE 30/09/2014
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TECHNICAL DATA

1. Valve Design Rating : Class 75B (minimum) of AWWA C504-2010
2. Flow medium Parameters :
Pressure : Full vacuum and 2 kg/cm² (g)
Temp. (Design) : 100 Deg. C
3. End Connections : Butt welded
4. Connecting pipe size and material : OD 1626 x 16 thk.
SA672 Gr. B70
5. Valve operation type : Motor operated
6. Shaft Axis orientation : Horizontal
7. Pipe line axis orientation : Horizontal
8. Operation : Full open & full close
9. Design pressure drop at max. flow : 0.0002 kg/cm² (max.)

MFGR'S LOGO	MANUFACTURER'S NAME & ADDRESS	MANUFACTURING QUALITY PLAN		PROJECT : 3X660MW NORTH KARANPURA STPP
		ITEM : CS BUTTERFLY VALVE DESIGN STD: AWWA C 504 SIZE : 1600 NB CL.75 B RATING SUB-SYSTEM: STEAM SERVICE	QP NO: PE-QP-405-100-M024 REV. NO : 00 DATE : 07.01.2020 Page 1 of 8	PACKAGE : EPC NTPC DRG NO : 4410-110-QVM-Q-199 CONTRACT NO : MAIN SUPPLIER : BHEL PEM NOIDA.

SL. NO	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPT-ANCE NORMS	FORMAT OF RECORD		AGENCY			REMARKS
					M	C/N				D*	M	C	N	
1.	2.	3.	4.	5.	6.		7.	8.	9.		10.			11.
1.0	RAW MATERIALS													
1.1	Body , Disc	1.Chemical composition & Mech properties	MA	1) Chem Tests	One per heat	One per heat	Appd Drg /Tech Spec	Appd Drg /Tech Spec	Test Cert	√	P/W	V	V	Note: Body castings to be procured from IBR Approved Foundry
				2) Mech tests	One per heat & heat treatment batch	One per heat & heat treatment batch	Appd Drg /Tech Spec	Appd Drg /Tech Spec	Test Cert	√	P/W	V	V	
		2. Internal defects of castings	MA	1. MPI 2. RT	100% 100%	100% 100%	ASTME E 709, ASME B16.34	ASTME E 709, ASME B16.34	NDT Report NDT Report	√ √	P/W P/W	V V	V V	MPI ON 100% AREA (ACCESSIBLE) RT ON CHANGE OF SECTION & BW ENDS (RT FILM REVIEW)
		3.sub-surface defects of shaft dia >40mm	CR	UT	100%	100%	ASTM A388	REFER REMARKS**	NDT Report	√	P/W	V	V	** Normal beam probe of 20mm /10 mm dia and 2/2.5

MANUFACTURER/ SUB-SUPPLIER	MAIN SUPPLIER	LEGEND	FOR NTPC USE	DOC no.:		
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SIGNATURE				REVIEWED BY	APPROVED BY	APPROVAL SEAL

MFGR'S LOGO	MANUFACTURER'S NAME & ADDRESS	MANUFACTURING QUALITY PLAN		PROJECT : 3X660MW NORTH KARANPURA STPP
		ITEM : CS BUTTERFLY VALVE DESIGN STD: AWWA C 504 SIZE : 1600 NB CL.75 B RATING SUB-SYSTEM: STEAM SERVICE	QP NO: PE-QP-405-100-M024 REV. NO : 00 DATE : 07.01.2020 Page 2 of 8	PACKAGE : EPC NTPC DRG NO : 4410-110-QVM-Q-199 CONTRACT NO : MAIN SUPPLIER : BHEL PEM NOIDA.

SL. NO	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPT-ANCE NORMS	FORMAT OF RECORD		AGENCY			REMARKS
					M	C/N				D*	M	C	N	
1.	2.	3.	4.	5.	6.		7.	8.	9.		10.			11.
		4 Casting defects	MA	Visual	100%	100%	MSS SP-55	MSS SP-55	Inspection Report	-	P/W	V	V	MHZ shall be used. Using this probe the back wall echo shall be set at 100% full screen height (FSH) in sound area at this sensitivity level the item shall be scanned and any defect echo more than 20% FSH is not acceptable also anywhere complete loss of back wall echo is not acceptable.
1.2	Clamping ring	Chemical , Mech properties	MA	Chemical analysis	One per heat	One per heat	APPD DRG/TECH SPEC	APPD DRG/TECH SPEC	TEST CERT	√	P/W	V	V	
			MA	Mechanical test	One per heat & Heat treatment batch	One per heat & Heat treatment batch	APPD DRG/TECH SPEC	APPD DRG/TECH SPEC	TEST CERT	√	P/W	V	V	
1.3	DISC SEAL (From vendor's regular & approved source)	1. visual inspection	MA	Visual	100%	100%	Appd Drg	Appd Drg	IR	-	P/W	V	V	
		2. Dimensions	MA	Measurement	100%	100%	Appd Drg	Appd Drg	LOG BOOK	-	P/W	V	V	
		3. Tensile and Hardness for vulcanizing	MA	Measurement	100%	100%	Tech spec/ Appd Drg	Tech spec/ Appd Drg	TEST CERT	√	P/W	V	V	
		4. Ozone crack resistance	MA	Testing	1sample / batch	1sample / batch	Tech spec +ASTM D1149	Tech spec +ASTM D1149	TEST CERT	√	P/W	V	V	Specimen Type A. 40 deg centigrade for 70 HRS

MANUFACTURER/ SUB-SUPPLIER	MAIN SUPPLIER	LEGEND	FOR NTPC USE	DOC no.:		
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SIGNATURE				REVIEWED BY	APPROVED BY	APPROVAL SEAL

MFGR'S LOGO	MANUFACTURER'S NAME & ADDRESS	MANUFACTURING QUALITY PLAN		PROJECT : 3X660MW NORTH KARANPURA STPP
		ITEM : CS BUTTERFLY VALVE DESIGN STD: AWWA C 504 SIZE : 1600 NB CL.75 B RATING SUB-SYSTEM: STEAM SERVICE	QP NO: PE-QP-405-100-M024 REV. NO : 00 DATE : 07.01.2020 Page 3 of 8	PACKAGE : EPC NTPC DRG NO : 4410-110-QVM-Q-199 CONTRACT NO : MAIN SUPPLIER : BHEL PEM NOIDA.

SL. NO	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPT-ANCE NORMS	FORMAT OF RECORD		AGENCY			REMARKS
					M	C/N				D*	M	C	N	
1.	2.	3.	4.	5.	6.		7.	8.	9.		10.			11.
		5. Ageing Test	MA	Physical	1sample/ batch	1sample/ batch	Tech spec +IS 3400 PART IV	Tech spec +IS 3400 PART IV*	TEST CERT	√	P/ W	V	V	* Test temp 125 deg C,Test duration 72 HRS,Max change in tensile strength 20% elongation 20%, Hardness 3%
		6. Hydraulic stability test(After Ageing)	MA	Hydraulic Stability	1sample/ batch	1sample/ batch	TECH SPEC/REF STD	TECH SPEC/REF STD	TEST CERT	√	P/ W	V	V	
		7.Wear resistance	MA	Testing	Type test	Type test	AWWA C-504	No damage	TEST CERT	√	P/ W	V	V	Type test report will be furnished for review –part of Valve POD
1.4	Fasteners ASTM A193 GR B7ASTMA194 GR2H,GRB8M	1.Verification of Make ,Grade, review of test certificate	MI	VISUAL	100%	100%	TECH SPEC/DATA SHEET	TECH SPEC/DATA SHEET	IR	√	P/ W	V	V	
		2.Dimensions	MA	Measurement	Sampling plan	Sampling plan	APPD DRG	APPD DRG	IR	√	P	V	V	
1.5	OPERATORS													
1.5.1	GEAR OPERATOR	1.Chem, comp & Phys Properties.	MA	Chem &Phys Test	1 / Batch	1 / Batch	Relv STD /Data sheet /MFG Drg	Relv STD /Data sheet /MFG Drg	Test cert		P/ W	V	V	
	A) GEAR,WORM& SHAFT (BS970Gr.EN8)	2. Dimensions	MA	Measurement	100%	100%	Relv STD /Data sheet /MFG Drg	Relv STD /Data sheet /MFG Drg	IR		P/ W	V	V	
		3. Hardness	MI	Measurement	100%	100%	Relv STD /Data sheet /MFG Drg	Relv STD /Data sheet /MFG Drg	Test Cert		P/ W	V	V	
	B) TORQUE TEST	1. Torque transmitting	MA	Torque test at twice the rated torque	One /Type/Model /Rating	One /Type/Model /Rating	AWWA C-504/Data sheet/MFG Drg	AWWA C-504/Data sheet/MFG Drg	IR *	√	P/ W	V *	V *	

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MANUFACTURER/ SUB-SUPPLIER	MAIN SUPPLIER			FOR NTPC USE	
SIGNATURE				REVIEWED BY	APPROVED BY
					APPROVAL SEAL

MFGR'S LOGO	MANUFACTURER'S NAME & ADDRESS	MANUFACTURING QUALITY PLAN		PROJECT : 3X660MW NORTH KARANPURA STPP
		ITEM : CS BUTTERFLY VALVE DESIGN STD: AWWA C 504 SIZE : 1600 NB CL.75 B RATING SUB-SYSTEM: STEAM SERVICE	QP NO: PE-QP-405-100-M024 REV. NO : 00 DATE. : 07.01.2020 Page 4 of 8	PACKAGE : EPC NTPC DRG NO : 4410-110-QVM-Q-199 CONTRACT NO : MAIN SUPPLIER : BHEL PEM NOIDA.

SL. NO	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPT-ANCE NORMS	FORMAT OF RECORD		AGENCY			REMARKS
					M	C/N				D*	M	C	N	
1.	2.	3.	4.	5.	6.		7.	8.	9.		10.			11.
		2. Design Verification.	MA	Cycle test at full rated torque of Gear Box	One / Type /Model	One / Type /Model	AWWA-C-504(At full rated torque of BG)	CL.4.3.8.5.9 of AWWA-C-504-2000/Appd Procedure	IR	√	P / W	V *	V *	
1.6	ELECTRICAL ACTUATOR ^s													
		1. TORQUE TESTING & SETTING OF TORQUE SWITCH	MA	{ }MECH., { }ELEC. { }TESTS	100%	100%	TECH. SPEC./ APPD. DRG./ DATA SHEET/ IS:9334	TECH. SPEC./ APPD. DRG./ DATA SHEET/ IS:9334	INSP REPORT	√	P / W	V	V	*For actuator, if there is any separate reference quality plan with the customer (M/s NTPC), the same shall be accepted subject to acceptance from the customer.
		2.TRAVEL/STROKE	MA	{ }MECH., { }ELEC. { }TESTS	100%	100%	TECH. SPEC./ APPD. DRG./ DATA SHEET/ IS:9334	TECH. SPEC./ APPD. DRG./ DATA SHEET/ IS:9334	INSP REPORT	√	P / W	V	V	
		3. TRAVEL TIME	MA	{ }MECH., { }ELEC. { }TESTS	100%	100%	TECH. SPEC./ APPD. DRG./ DATA SHEET/ IS:9334	TECH. SPEC./ APPD. DRG./ DATA SHEET/ IS:9334	INSP REPORT	√	P / W	V	V	
		4. OPERATION OF LIMIT SWITCH	MA	{ }MECH., { }ELEC. { }TESTS	100%	100%	TECH. SPEC./ APPD. DRG./ DATA SHEET/ IS:9334	TECH. SPEC./ APPD. DRG./ DATA SHEET/ IS:9334	INSP REPORT	√	P / W	V	V	
		5. MANUAL OPERATION THROUGH HAND WHEEL	MA	{ }MECH., { }ELEC. { }TESTS	100%	100%	TECH. SPEC./ APPD. DRG./ DATA SHEET/ IS:9334	TECH. SPEC./ APPD. DRG./ DATA SHEET/ IS:9334	INSP REPORT	√	P / W	V	V	

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MANUFACTURER/ SUB-SUPPLIER	MAIN SUPPLIER		FOR NTPC USE	REVIEWED BY
SIGNATURE				APPROVED BY
				APPROVAL SEAL

MFGR'S LOGO	MANUFACTURER'S NAME & ADDRESS	MANUFACTURING QUALITY PLAN		PROJECT : 3X660MW NORTH KARANPURA STPP
		ITEM : CS BUTTERFLY VALVE DESIGN STD: AWWA C 504 SIZE : 1600 NB CL.75 B RATING SUB-SYSTEM: STEAM SERVICE	QP NO: PE-QP-405-100-M024 REV. NO : 00 DATE : 07.01.2020 Page 5 of 8	PACKAGE : EPC NTPC DRG NO : 4410-110-QVM-Q-199 CONTRACT NO : MAIN SUPPLIER : BHEL PEM NOIDA.

SL. NO	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPT-ANCE NORMS	FORMAT OF RECORD		AGENCY			REMARKS
					M	C/N				D*	M	C	N	
1.	2.	3.	4.	5.	6.		7.	8.	9.		10.			11.
		6. OPERATION TEST WITH POWER SUPPLY VARIATION ENERGISES TO OPEN/CLOSE	MA	}MECH., }ELEC. }TESTS	100%	100%	TECH. SPEC./ APPD. DRG./ DATA SHEET/ IS:9334	TECH. SPEC./ APPD. DRG./ DATA SHEET/ IS:9334	INSP REPORT	√	P / W	V	V	
		7. IR,HV,IR	MA	}MECH., }ELEC. }TESTS	100%	100%	TECH. SPEC./ APPD. DRG./ DATA SHEET/ IS:9334	TECH. SPEC./ APPD. DRG./ DATA SHEET/ IS:9334	INSP REPORT	√	P / W	V	V	
		8. DEGREE OF PROTECTION	MA	}MECH., }ELEC. }TESTS	1/TYPE	1/TYPE	TECH. SPEC./ APPD. DRG./ DATA SHEET/ IS:9334	TECH. SPEC./ APPD. DRG./ DATA SHEET/ IS:9334	3rd PARTY TEST CERT.	√	P / W	V	V	
		9. DESIGN VERIFICATION	MA	TYPE TEST (CYCLE TEST)	1/TYPE	1/TYPE	AWWA C504 & AWWA C540	AWWA C504 & AWWA C540	TEST CERT	√	P / W	V	V	
2.0	IN PROCESS INSPECTION													
2.1	Body & Disc	1. Dimension	MA	Measurement	100%	100%	Mfg.drg	Mfg.drg	IR		P / W	V	V	
		2. Surface Defects	CR	P.T	100%	100%	ASTM E165	ANSI B16.34 Appendix III	NDT Report	√	P / W	V	V	On Machined area only
2.2	Body (Butt weld ends)	Sub-surface defect	CR	MPI	100% ON BW Area	100% ON BW Area	ASTM E709	ANSI B16.34 Appendix II	NDT Report	√	P / W	V	V	RT 100% of Body including BW ends as per SL.NO.1.1 Clause no.2 Film review by BHEL/Customer

MANUFACTURER/ SUB-SUPPLIER	MAIN SUPPLIER	LEGEND	FOR NTPC USE	DOC no.:		
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SIGNATURE				REVIEWED BY	APPROVED BY	APPROVAL SEAL

MFGR'S LOGO	MANUFACTURER'S NAME & ADDRESS	MANUFACTURING QUALITY PLAN		PROJECT : 3X660MW NORTH KARANPURA STPP
		ITEM : CS BUTTERFLY VALVE DESIGN STD: AWWA C 504 SIZE : 1600 NB CL.75 B RATING SUB-SYSTEM: STEAM SERVICE	QP NO: PE-QP-405-100-M024 REV. NO : 00 DATE : 07.01.2020 Page 6 of 8	PACKAGE : EPC NTPC DRG NO : 4410-110-QVM-Q-199 CONTRACT NO : MAIN SUPPLIER : BHEL PEM NOIDA.

SL. NO	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPT-ANCE NORMS	FORMAT OF RECORD		AGENCY			REMARKS
					M	C/N				D*	M	C	N	
1.	2.	3.	4.	5.	6.		7.	8.	9.		10.			11.
2.3	SHAFT	1. Dimensions	MA	Measurement	100%	100%	Manufacturer Drawing		IR		P / W	-	-	
		2.Surface defects	MA	PT	100%	100%	ASTM E165	ANSI B16.34 Appendix III	NDT Report	√	P	V	V	
3.1	Verification of all Previous Tests and Documents	Verification of Records	MA	--	100%	100%	TECH SPEC	TECH SPEC	IR	√	P	V	V	
3.2	TESTS													
	(Hydraulic)	1.Body test	CR	Hydro test	100%	100%	AWWA C504-00/Appd Drg	No leakage	QAC	√	P/ W	W	W	CHP
		2.Disc Strength	CR	Hydro test	100%	100%	AWWA C504-00/Appd Drg	No structural damage to Disc jjj	QAC	√	P/ W	W	W	CHP.One valve /size shall be tested for twice the design pressure from both side of the valve in addition to 100% testing in the normal flow direction. No. part of disc / valve shall be permanently deformed/damaged. Disc deformation is measured using dial gauge and body deformation by measuring tape

MANUFACTURER/ SUB-SUPPLIER	MAIN SUPPLIER	LEGEND	FOR NTPC USE	DOC no.:		
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SL. NO	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPT-ANCE NORMS	FORMAT OF RECORD		AGENCY			REMARKS
					M	C/N				D*	M	C	N	
1.	2.	3.	4.	5.	6.		7.	8.	9.		10.			11.
		3. Seat Leakage test with Actuator (both directions)	CR	Hydro test	100%	100%	AWWA C504-00/Appd Drg	No leakage	QAC	√	P	W	W	CHP
		4. Performance test	CR	Operating three times under no load/flow condition on both manual & through operators.	100%	100%	AWWA C504	Smooth operation	QAC	√	P / W	W	W	CHP : complete valve assembly along with the actuator shall be shop operated in vertical position. 1) Under at no load (25 cycles) 2) Under pressure (Crack open 3 cycles) in Horizontal position only) and following shall be checked- Operating and closing time. Operation of Torque & limit switches, current drawn by Actuator.
		5. Gland leak test (top & bottom flanges)	CR	Helium leak test	100%	100%	Tech spec	Tech spec	QAC	√	P / W	W	W	CHP
		6. Vacuum test & Helium leak test	CR	Vacuum test	100%	100%	Tech spec	Tech spec	QAC	√	P / W	W	W	CHP

		LEGEND		DOC no.:
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MANUFACTURER/ SUB-SUPPLIER	MAIN SUPPLIER		FOR NTPC USE	REVIEWED BY
SIGNATURE				APPROVED BY
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MFGR'S LOGO	MANUFACTURER'S NAME & ADDRESS	MANUFACTURING QUALITY PLAN		PROJECT : 3X660MW NORTH KARANPURA STPP
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SL. NO	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPT-ANCE NORMS	FORMAT OF RECORD		AGENCY			REMARKS
					M	C/N				D*	M	C	N	
1.	2.	3.	4.	5.	6.		7.	8.	9.		10.			11.
		7.Proof of Design test (Life cycle test)	CR	Cycle test	As per AWWA C504 on one size / type / size /Group/Rating	100%	Approved test procedure/ AWWA C504	Approved test procedure/ AWWA C504	QAC	√	P / W	W	W	Verification of test report of POD test on same, Model/type/size/rating carried out earlier NTPC Project/Reputed Customer.
4.	SHIPPING RELEASE													
4.1	FINAL INSPECTION	1.Overall dimension	MA	Measurement	100%	100%	APPD DRG	APPD DRG	IR	√	P/ W	V	V	
		2. Documentation Review.	MA	Review	100%	100%	APPD DRG/ TECH SPEC	APPD DRG/ TECH SPEC	DOC	-	P/ W	V	-	
		3.Cleanliness	MA	Visual	100%	100%	APPD DRG/ TECH SPEC	APPD DRG/ TECH SPEC	Log book	-	P/ W	V	-	
		4.Name plate	MA	Visual	100%	100%	APPD DRG/ TECH SPEC	APPD DRG/ TECH SPEC	Log book	-	P/ W	V	-	
5.0	PAINTING	1. Surface preparation. 2. Uniformity & Thickness	MI MI	Visual & Measurement	100%	100%	APPD DATA SHEE FROM BHEL/ CUSTOMER	APPD DATA SHEE FROM BHEL/ CUSTOMER	IR	-	P/ W	V	V	
6.0	PACKING	Soundness	MA	Visual	100%	100%	AS PER TECH SPECIFICATION	AS PER TECH SPECIFICATION	TR	-	P/ W	V	-	
7.0	PACKING	AS PER BHEL TECH. SPEC.	MA	VISUAL	100%	-	AS PER BHEL TECH SPEC	(Soft copy of Photos)			P/ W	V	V	Photographs of valves after packing to be verified by BHEL before issuing MDCC.

MANUFACTURER/ SUB-SUPPLIER	MAIN SUPPLIER	LEGEND	FOR NTPC USE	DOC no.:		
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SIGNATURE				REVIEWED BY	APPROVED BY	APPROVAL SEAL



SPECIFICATION FOR MOTORISED VALVE ACTUATOR

REV. NO.	00	DATE: 01.08.2014
SHEET	1	OF 4

Data Sheet A & B

DATA SHEET-A
(TO BE FILLED BY PURCHASER)

DATA SHEET-B
(TO BE FILLED-UP BY BIDDER)

GENERAL *	* PROJECT	3 X 660 MW NORTH KARANPURA STPP	
	OFFER REFERENCE		
	* TAG NO. SERVICE		
	* DUTY	☐ ON / OFF	☐ INCHING
	* LINE SIZE (inlet/outlet): MATERIAL		
	* VALVE TYPE	☐ GLOBE ☐ GATE ☐ REG. GLOBE ☐ BUTTERFLY	
	* OPENING / CLOSING TIME		
	* WORKING PRESSURE		
	AMBIENT CONDITION	SHALL BE SUITABLE FOR CONTINUOUS OPERATION UNDER AN AMBIENT TEMP. OF 0-55 DEG C AND RELATIVE HUMIDITY OF 0-95%	
	VALVE SEAT TEST PRESS	BIDDER TO SPECIFY	
	REQUIRED VALVE TORQUE	BIDDER TO SPECIFY	
	ACTUATOR RATED TORQUE	BIDDER TO SPECIFY	
CONSTRUCTION AND SIZING	CONSTRUCTION	TOTALLY ENCLOSED, WEATHER PROOF, IP:55	
	MECHANICAL POSITION INDICATOR	TO BE PROVIDED FOR 0-100% TRAVEL	
	BEARINGS	DOUBLE SHIELDED, GREASE LUBRICATED ANTI-FRICTION.	
	GEAR TRAIN FOR LIMIT SWITCH/TORQUE SWITCH OPERATION	METAL (NOT FIBRE GEARS). SELF-LOCKING TO PREVENT DRIFT UNDER TORQUE SWITCH SPRING PRESSURE WHEN MOTOR IS DE-ENERGIZED.	
	SIZING	OPEN/CLOSE AT RATED SPEED AGAINST DESIGNED DIFFERENTIAL PRESSURE AT 90% OF RATED VOLTAGE. FOR ISOLATING SERVICE THREE SUCCESSIVE OPEN-CLOSE OPERATIONS OR 15 MINS. WHICHEVER IS HIGHER. FOR INCHING /REGULATING SERVICE - 150 STARTS/HR MINIMUM.	
HANDWHEEL	* REQUIRED	☒ YES ☐ NO	
	* ORIENTATION	☐ TOP MOUNTED ☐ SIDE MOUNTED	
	* TO DISENGAGE AUTOMATICALLY DURING MOTOR OPERATION.		
ELECTRIC ACTUATOR	ACTUATOR MAKE/MODEL	BIDDER TO SPECIFY	
	MOTOR MAKE / MODEL / TYPE / RATING (KW)	BIDDER TO SPECIFY	
	@ MOTOR TYPE	SQUIRREL CAGE INDUCTION MOTOR, STARTING CURRENT LIMITED TO SIX TIMES THE RATED CURRENT-INCLUSIVE OF I.S. TOLERANCE	
	ACTUATOR APPLICABLE WIRING DIAGRAM	☒ ENCLOSED (BIDDER TO CONFIRM) A: ☐ DRG. NO. 3-V-MISC-24227 R00 B: ☐ DRG. NO. 3-V-MISC-24550 R00 C: ☐ DRG. NO. 3-V-MISC-24283 R00 D: ☐ DRG. NO. 4-V-MISC-90271 R11 E: ☐ For Thyristor based Integral starter, Bidder/Vendor to furnish wiring diagram	
	COLOUR SHADE	☒ BLUE (RAL 5012) ENAMEL ☐	
	PAINT TYPE (## Refer Notes)	☐ ENAMEL ☐ EPOXY ☐	
	SHAFT RPM	BIDDER TO SPECIFY	
	OLR SET VALUE	BIDDER TO SPECIFY	
	@ STARTING / FULL LOAD CURRENT	BIDDER TO SPECIFY	
	NO. OF REV FOR FULL TRAVEL	BIDDER TO SPECIFY	
	@ PWR SUPP TO MTR / STARTER	415V +/- 10 % , 3PH,3 W, AC 50 HZ +/- 5 %	
	@ CONTROL VOLTAGE REQUIREMENT	TO BE DERIVED FROM THE POWER SUPPLY TO THE STARTER ☐ 230 V ☒ 110 V AC/24V DC	

	SPECIFICATION FOR MOTORISED VALVE ACTUATOR			
	REV. NO.	00	DATE:	01.08.2014
SHEET	2	OF	4	
Data Sheet A & B				
DATA SHEET-A (TO BE FILLED BY PURCHASER)			DATA SHEET-B (TO BE FILLED-UP BY BIDDER)	
	MOTOR BEARING WITH 2 EARTH TERMINALS	DOUBLE SHIELDED, GREASE LUBRICATED ANTI FRICTION		
	@ ENCLOSURE CLASS OF MOTOR	IP 67 FOR OUTDOOR & IP 55 FOR INDOOR(TOTALLY ENCLOSED SELF VENTILATED)		
	@ INSULATION CLASS	CLASS-F TEMP. RISE LIMITED TO CLASS-B		
	@ WINDING TEMP PROTECTION	☒ THERMOSTAT (3 Nos., 1 IN EACH PHASE) ☐		
	SINGLE PHASE / WRONG PHASE SEQUENCE PROTECTION	REQUIRED		
INTEGRAL STARTER	INTEGRAL STARTER	☒ REQUIRED ☐ NOT REQUIRED		
	TYPE OF SWITCHING DEVICE	☒ CONTACTORS ☐ THYRISTORS		
	TYPE	☒ CONVENTIONAL ☐ SMART (NON-INTRUSIVE)		
	IF SMART	(NOT APPLICABLE)		
	a) SERIAL LINK INTERFACE	☐ INTEGRAL ☐ FIELD MOUNTED		
	b) SERIAL LINK PROTOCOL	☐ FOUNDATION FIELD-BUS ☐ PROFI-BUS ☐ DEVICE NET ☐		
	c) SERIAL LINK MEDIA	☐ TWISTED PAIR Cu-CBL ☐ CO-AXIAL Cu-CBL ☐ OFC		
	d) HAND HELD PROGRAMMER	☐ REQUIRED ☐ NOT REQUIRED		
	e) TYPE OF HAND HELD PROGRAMMER	☐ BLUETOOTH ☐ INFRARED ☐		
	f) MASTER STATION	☐ REQUIRED ☐ NOT REQUIRED		
	g) MASTER STN INTRFACE WITH DCS	☐ MODBUS ☐ TCP/IP		
	h) DETAILS OF SPECIAL CABLE	☐ ENCLOSED ☐ NOT REQUIRED		
	STEP DOWN CONT. TRANSFORMER	☒ REQUIRED		
	OPEN / CLOSE PB	☒ REQUIRED ☐ NOT REQUIRED		
	STOP PB	☒ REQUIRED ☐ NOT REQUIRED		
	INDICATING LAMPS	☒ REQUIRED ☐ NOT REQUIRED		
	LOCAL REMOTE S/S	☒ REQUIRED ☐ NOT REQUIRED		
	STATUS CONTACTS FOR MONITORING	☒ REQUIRED ☐ NOT REQUIRED		
	INTEGRAL STARTER DISTURBED SIGNAL	REQUIRED (O/L RELAY OPERATED, CONT./POWER SUPPLY FAILED, S/S IN LOCAL, TORQUE SWITCH OPTD. MID WAY)		
	INTERPOSING RELAY/OPTO COUPLER (Applicable for Integral Starter)	TYPE OF ISOLATING DEVICE	☒ INTERPOSING RELAY ☐ OPTO COUPLER ☐ EITHER	
QUANTITY		☒ 2 Nos. ☐ 3 Nos.		
DRIVING VOLTAGE		☒ 20.5 – 24V DC ☐ V DC		
DRIVING CURRENT		☒ 125mA MAX ☐ mA MAX		
LOAD RESISTANCE		☒ > 192 ohms - <25 k ohms ☐ > ohms - < ohms		
TORQUE SWITCH (Not Applicable for Smart Actuator) (\$\$ Refer Notes)	MFR & MODEL NO.	BIDDER TO SPECIFY		
	OPEN / CLOSE	☒ 1 No. ☐ 2Nos. / ☒ 1 No. ☐ 2Nos		
	CONTACT TYPE	2 NO + 2 NC		
	RATING	5A 240V AC AND 0.5A 220V DC		
	CALIBRATED KNOBS(OPEN&CLOSE TS)	REQUIRED FOR SETTING DESIRED TORQUE		
	ACCURACY	+3% OF SET VALUE		
LIMIT SWITCH (Not Applicable for Smart Actuator) (\$\$)	MFR & MODEL NO.	BIDDER TO SPECIFY		
	OPEN : INT : CLOSE	☐ 1 No. ☒ 2 Nos.	☐ 1 No. ☒ 2Nos.	
	CONTACT TYPE	2 NO + 2 NC		



SPECIFICATION FOR MOTORISED VALVE ACTUATOR

REV. NO.	00	DATE: 01.08.2014
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Data Sheet A & B

DATA SHEET-A
(TO BE FILLED BY PURCHASER)

DATA SHEET-B
(TO BE FILLED-UP BY BIDDER)

Refer Notes)	RATING (AC / DC)	5A 240V AC AND 0.5A 220V DC	
Limit switches shall be silver plated with high conductivity and non-corrosive type. Contact rating shall be sufficient to meet the requirement of control system subject to a minimum of 60 V, 6 VA rating. Protection class shall be IP 55.			

POSITION TRANSMITTER	POSITION TRANSMITTER (For inching duty applications)	☒ REQUIRED ☐ NOT REQUIRED	
	MFR & MODEL NO.	BIDDER TO SPECIFY	
	TYPE	☐ ELECTRONIC (2 WIRE) R/I CONVERTER ☒ ELECTRONIC (2 WIRE) CONTACTLESS INDUCTIVE TYPE, EXTERNAL 24 V DC OPERATED ,SUITABLE FOR STABILISED 4-20 mA SIGNAL	
	SUPPLY	☒ 24V DC ☐	
	OUTPUT	☒ 4-20mA	
	ACCURACY	± 1% FS	
SPACE HEATER	@SPACE HEATER	REQUIRED	
	@ POWER SUPPLY (NON INTEGRAL)	230V AC, 1 PH., 50 Hz	
	@ POWER SUPPLY (INTEGRAL)	POWER SUPPLY DERIVED FROM MAIN POWER SUPPLY AVAILABLE AT ACTUATOR END.	
	@ RATING		
TERMINAL BOX	ACTUATOR/MOTOR TERMINAL BOX	REQUIRED	
	ENCL CLASS ACTUATOR/MOTOR T.B.	☒ IP 68 @ ☐	
	@ EARTHING TERMINAL	REQUIRED	
	PLUG & SOCKET (9 PIN) (FOR COMM, LS/TS FEED BACK, PoT)	☒ REQUIRED ☐ NOT REQUIRED ☒ 2 NOS. PRE WIRED ☐	
CABLE GLANDS	@ POWER CABLE GLAND	SIZE:	
	@ SPACE HEATER CABLE GLAND	SIZE:	
	OTHER CONTROL CABLE GLANDS-1	☐ 1No. for BFV of CW PUMP (Cable size 2Px1.5mm ²)	
	OTHER CONTROL CABLE GLANDS-2	QUANTITY & SIZE :	



SPECIFICATION FOR MOTORISED VALVE ACTUATOR

REV. NO.	00	DATE: 01.08.2014
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Data Sheet A & B

**DATA SHEET-A
(TO BE FILLED BY PURCHASER)**

**DATA SHEET-B
(TO BE FILLED-UP BY BIDDER)**

WEIGHT	TOTAL WEIGHT (ACTUATOR + ACCESSORIES)	BIDDER TO SPECIFY	_____ Kg.
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NOTES:

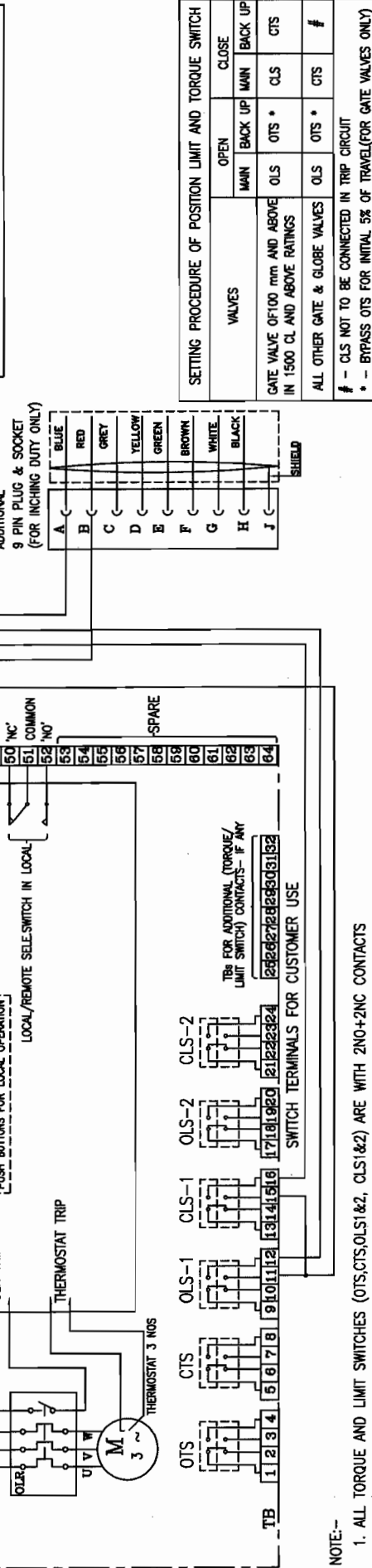
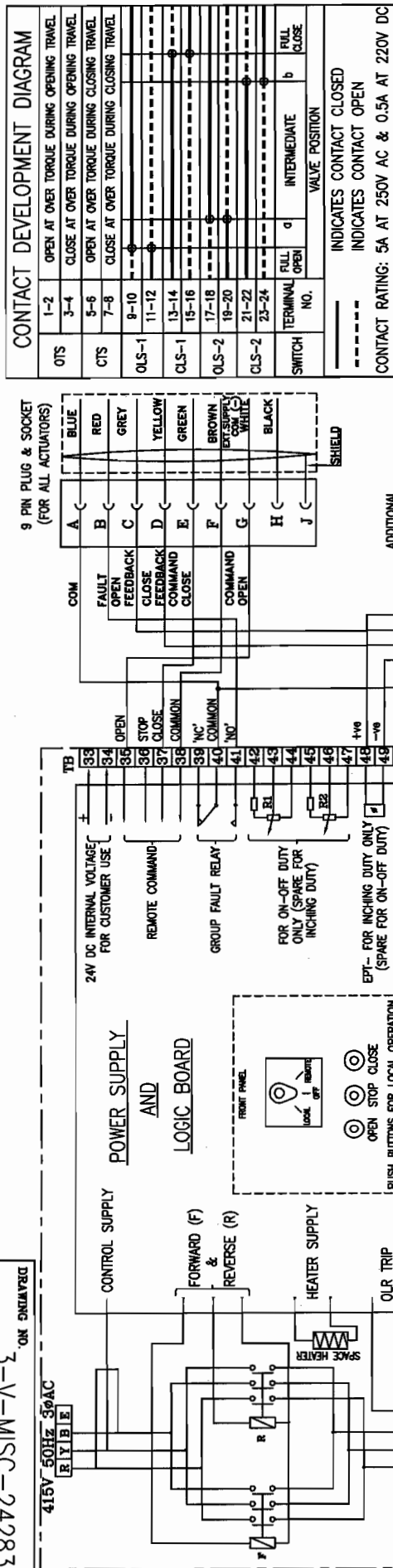
- SCOPE:** DESIGN, MANUFACTURE, INSPECTION, TESTING AND DELIVERY TO SITE OF ELECTRIC ACTUATOR FOR INCHING OR OPEN / CLOSE DUTY.
- CODES & STANDARDS:** DESIGN AND MATERIALS USED SHALL COMPLY WITH THE RELEVANT LATEST NATIONAL AND INTERNATIONAL STANDARD. AS A MINIMUM, THE FOLLOWING STANDARDS SHALL BE COMPLIED WITH:
IS-9334, IS-2147, IS-2148, IS-325, IS-2959, IS-4691 AND IS-4722
- TEMPERATURE RISE SHALL BE RESTRICTED TO 70 DEG. C FOR AMBIENT TEMPERATURE OF 50 DEG C.
- CABLE GLANDS OF DOUBLE COMPRESSION TYPE, BRASS MATERIAL SHALL BE PROVIDED.
- THE TORQUE SWITCHES SHALL BE PROVIDED WITH MECHANICAL LATCHING DEVICE TO PREVENT OPERATION WHEN UNSEATING FROM THE END POSITIONS. THE LATCHING DEVICE SHALL UNLATCH AS SOON AS THE VALVE LEAVES THE END POSITION. IF SUCH PROVISION IS NOT POSSIBLE, THE TORQUE SWITCHES SHALL BE BYPASSED BY END-POSITION LIMIT SWITCHES WHICH OPENS ON VALVE LEAVING END POSITION. THESE LIMIT SWITCHES ARE ADDITIONAL TO THE NUMBER OF LIMIT SWITCHES SPECIFIED ELSEWHERE.
- THE MOTOR SHALL OPERATE SATISFACTORILY UNDER THE +/- 10% SUPPLY VOLTAGE VARIATION AT RATED FREQUENCY, -5% TO +3% VARIATION IN FREQUENCY AT RATED SUPPLY VOLTAGE, SIMULTANEOUS VARIATION IN VOLTAGE & FREQUENCY THE SUM OF ABSOLUTE PERCENTAGE NOT EXCEEDING 10%.
- THE MOTOR SHALL BE SUITABLE FOR DIRECT ON LINE STARTING.
- \$\$ TORQUE SWITCH & LIMIT SWITCH SHALL ACT INDEPENDENT OF EACH OTHER. TANDEM OPERATION IS NOT ACCEPTABLE.**
- ## EPOXY PAINT IS RECOMMENDED FOR COASTAL AREAS.**
- IT SHALL BE POSSIBLE TO OPERATE THE ACTUATOR LOCALLY. LOCKABLE LOCAL/REMOTE SELECTION SHALL BE PROVIDED ON THE ACTUATOR.
- POSITION INDICATOR SHALL BE PROVIDED FOR 0 TO 100 % TRAVEL
- WIRING SHALL BE SUITABLE VOLTAGE GRADE COPPER WIRE.

	PREPARED BY	CHECKED BY	APPROVED BY	VENDOR COMPANY SEAL
NAME	Madhav gupta	Mayank kesharwani	Bharat Singh	NAME
SIGNATURE				SIGNATURE
DATE	01.08.2014	01.08.2014	01.08.2014	DATE

NOTES* = TO BE FILLED BY MPL (LEAD AGENCY). @ = TO BE FILLED BY ES

ALL DIMENSIONS ARE IN MILLIMETRES. FOR TOLERANCES OF UNTOLEANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP / QP.

DRAWING NO. 3-V-MISC-24283



CONTACT DEVELOPMENT DIAGRAM

OTS	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24
CTS												
OLS-1												
CLS-1												
OLS-2												
CLS-2												
TERMINAL NO.												
SWITCH												

INDICATES CONTACT CLOSED
INDICATES CONTACT OPEN

CONTACT RATING: 5A AT 250V AC & 0.5A AT 220V DC

SETTING PROCEDURE OF POSITION LIMIT AND TORQUE SWITCH

VALVES	OPEN	BACK UP	CLOSE
GATE VALVE OF 100 mm AND ABOVE IN 1500 CL AND ABOVE RATINGS	OLS	OTS *	CLS
ALL OTHER GATE & GLOBE VALVES	OLS	OTS *	CLS

- CLS NOT TO BE CONNECTED IN TRIP CIRCUIT
* - BYPASS OTS FOR INITIAL 5% OF TRAVEL (FOR GATE VALVES ONLY)

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT

ELECTRICAL VALVE ACTUATORS (AC) WITH INTEGRAL STARTERS FOR NTPC PROJECTS (DRAWN FOR INTERMEDIATE POSITION OF VALVES)

BHARAT HEAVY ELECTRICALS LTD.
UNIT: HIGH PRESSURE BOILER PLANT, TRUCHERAPALLY-680014.

385-121

DEPT. VL. CODE

SCALE NTS

WEIGHT (KG.)

REFERENCE INFORMATION

NO. OF TIMES

REV. DATE ALTERED CHD & APPD

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

WIRING DIAGRAM (TERMINAL PLAN)

FOR ACTUATOR WITH INTEGRAL STARTER WITH PLUG & SOCKET FOR NTPC PROJECTS

3-V-MISC-24283

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Size A3

- NOTE:-**
1. ALL TORQUE AND LIMIT SWITCHES (OTS, CTS, OLS1 & 2, CLS1 & 2) ARE WITH 2NO+2NC CONTACTS. '1NO+1NC' IS TERMINATED IN TBS 1-24, REMAINING CONTACTS ARE FOR INTERNAL USE. ANY SPARE CONTACTS WHICH ARE NOT USED INTERNALLY ARE TO BE TERMINATED IN TBS 25-32
 2. CTS - TORQUE SWITCHES FOR CW ROTATION (CLOSE)
 3. OTS - TORQUE SWITCHES FOR CCW ROTATION (OPEN)
 4. OLS-1, OLS-2 - LIMIT SWITCHES FOR POSITION OPEN
 5. CLS-1, CLS-2 - LIMIT SWITCHES FOR POSITION CLOSE
 6. EPT - ELECTRONIC POSITION TRANSMITTER (CONTACTLESS TYPE, FOR INCHING DUTY)
 7. R1-R2-POTENTIOMETER 2 x 100 OHMS (FOR ON-OFF DUTY)
 8. FOR COMMANDS & EPT EITHER INTERNALLY GENERATED 24 VDC OR EXTERNAL SUPPLY OF 24VDC CAN BE USED
 9. M - MOTOR 3φ 415V 50 Hz AC SUPPLY
 10. TORQUE SWITCH BYPASS WITH LIMITSWITCH BOTH ON OPEN & CLOSE DIRECTION TO BE DONE INTERNALLY.

	COMPLIANCE SHEET BUTTERFLY VALVE- STEAM SERVICE 3X660MW NORTH KARANPURA STPP	SPECIFICATION NO. PE-TS-405-100-M016	
		SECTION : II	
		REV. NO.: 00	DATE: 07.01.2020
		Sheet 1 of 1	

I hereby comply/not comply (*) to all the requirements of this technical specification in totality.

*** In case the bidder does not comply to the technical specification, the deviations shall be explicitly listed in the technical deviation sheet of GCC. Deviations listed in technical deviation sheet shall only be considered.**

Name of Bidder / Authorized Representative :-

Designation :-

Signature :-

Company Seal :-

Date :-

PARTICULARS OF BIDDER / AUTHORISED REPRESENTATIVE				
NAME	DESIGNATION	SIGNATURE	DATE	

	PRE - QUALIFYING REQUIREMENTS	DOCUMENT NO: PE-TS-405-000-M058
		REVISION NO: 01 DATE: 05-09-2020
		SHEET: 1 of 3

Project: 3X660MW NORTH KARANPURA STPP

Package: BUTTERFLY VALVES (STEAM SERVICE)

CRITERIA FOR EVALUATION (TECHNICAL):

1. Technical Pre-Qualifying Requirements:

1.1 The bidder should have designed, in-house manufactured, tested, inspected and supplied valves and traps (as mentioned below) for use in a power plant or for similar application.

a. Butterfly valves (Steam service)

Minimum size of 1600NB with material of construction as CCS (grade WCB) and min. #75B of AWWA-C504.

1.2 The item(s) mentioned in point 1.1 should have performed successfully for at least one year. To establish meeting this requirement, the bidder shall conform to any one of the following clauses:

- (i) Execution of two purchase orders for different End-users with the item(s) performing successfully for one (1) year from date of commissioning to the date of bid submission as defined by BHEL-PEM in NIT. Different projects of a customer shall be considered as different End-users.
- (ii) Minimum one (1) repeat contract from two (2) different Purchasers (i.e. 2 Nos of Purchase orders from each purchaser). A contract shall be considered as repeat, when the second contract is given by the same purchaser after lapse of minimum one (1) year from supply completion of first contract.
- (iii) Execution of one (1) purchase order as per sl. no. (i) above from one End-user and one (1) repeat contract from another Purchaser as per sl. No. (ii) above.
- (iv) Three (3) repeat contracts from one (1) Purchaser. Second and third repeat contract shall be after lapse of minimum one (1) & two (2) years respectively from supply completion of first contract.

1.3 The bidder to furnish the following documents, as applicable, in support of the above:

- a) For point 1.2(i): Performance certificates from End-user (duly signed & dated) specifying that the product is performing successfully for one (1) year from date of commissioning along with correlated purchase order(s).
- b) For point 1.2 (ii) & (iv): Purchase order(s), Material dispatch clearance certificate (MDCC)/ Material receipt certificate (MRC)/Lorry receipt (LR) / Invoice.

PREPARED BY:	REVIEWED BY:	APPROVED BY:
NAME: APOORVA SHARMA DESIGNATION: DY.MGR DEPT.:PS-PEM/ MPL	NAME: SANJAY KUMAR DESIGNATION: Sr. DGM DEPT.: PS-PEM/ MPL	NAME:BK AGARWAL DESIGNATION: DH(MPL)

	PRE - QUALIFYING REQUIREMENTS	DOCUMENT NO: PE-TS-405-000-M058
		REVISION NO: 01 DATE: 05-09-2020
		SHEET: 2 of 3

1.4 In addition to above, vendor should have the following facilities for different size(s) of butterfly valve (Steam Service) as per BHEL requirement as mentioned in Datasheet-A of technical specification: a) Capability of designing and manufacturing of the item(s). b) In-house testing facilities for carrying out tests as per relevant standards & Quality plan. In case, the in-house testing facilities are not available, then bidder shall furnish undertaking that test(s) will be carried out from govt. approved lab or test house recognized by reputed customers. Bidder to submit supporting documents (purchase order copies, Certificate indicating capacity and details/undertaking of manufacturing & testing facilities) for point (a) & (b) above. 1.5 To establish business continuity, bidder is required to submit at least two (2) Purchase order for minimum size of 1200NB butterfly valves (Steam Service) in last 3 (three) years prior to the date of bid submission as defined by BHEL-PEM in NIT for each category. 2.0 Bidder to also comply with general points mentioned below: 2.1 Offers of the JV companies/ Joint Bidders/ bidders having collaboration/ licensing agreement/ MOU/ Indian subsidiaries shall be evaluated as follows: a) If bidder happens to be an Indian subsidiaries of foreign OEM, then the credentials of the foreign OEM can also be considered for meeting PQR. b) If bidder happens to be the Joint Venture Company, then the credentials of any of JV partners can be also considered for meeting PQR. c) If bidder happens to be the having valid collaboration agreement/ MOU/ licensing agreement with some other company, then the credentials of collaborator/ MOU partner/ licensing company can also be considered for meeting PQR. Note: If bidder(s) qualifies on the basis of credentials of his principal/ JV partner/ Collaborator/ joint bidder etc., then the principal/ JV partner/ Collaborator/ MOU partner/ joint bidder shall be responsible for overall design vetting and warranty/ guarantee of the package. The scope matrix clearly defining their respective roles including design vetting, manufacturing of critical component, E&C etc. and warranty/ guarantee shall be submitted along with the offer. 2.2 Bidder to note that the arrangement for bidding (joint bid partners/ collaborator/ MOU partner/ licensing company etc.) once offered to BHEL as a part of bidding documents cannot be changed till the execution of contract.

PREPARED BY: NAME: APOORVA SHARMA DESIGNATION: DY.MGR DEPT.:PS-PEM/ MPL	REVIEWED BY: NAME: SANJAY KUMAR DESIGNATION: Sr. DGM DEPT.: PS-PEM/ MPL	APPROVED BY: NAME:BK AGARWAL DESIGNATION: DH(MPL)
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	PRE - QUALIFYING REQUIREMENTS	DOCUMENT NO: PE-TS-405-000-M058
		REVISION NO: 01 DATE: 05-09-2020
		SHEET: 3 of 3

2.3	Consideration of offer shall be subject to customer's approval of bidders, if applicable.
2.4	Bidder to submit all supporting documents in English. If documents submitted by bidder are in language other than English, a self-attested English translated document should also be submitted.
2.5	Notwithstanding anything stated above, BHEL reserves the right to assess the capabilities and capacity of the bidder/collaborators to perform the contract, should the circumstances warrant such assessment in the overall interest of BHEL.
2.6	After satisfactory fulfilment of all the above criteria/ requirement, offer shall be considered for further evaluation as per NIT and all the other terms of the tender.
2.7	Bidder to ensure that Third Party/customer issued certificates being submitted as proof of PQR qualification should have verifiable details of document/ certificate issuing authority such as name & designation of issuing authority and its organization contact number and email-id etc. In case the same found not available, purchaser has right to reject such document from evaluation.

PREPARED BY:	REVIEWED BY:	APPROVED BY:
NAME: APOORVA SHARMA DESIGNATION: DY.MGR DEPT.:PS-PEM/ MPL	NAME: SANJAY KUMAR DESIGNATION: Sr. DGM DEPT.: PS-PEM/ MPL	NAME:BK AGARWAL DESIGNATION: DH(MPL)

**BHEL-PEM, NOIDA****SPECIAL CONDITIONS OF CONTRACT (SCC) REV 00****3X660MW NTPC NORTH KARPANURA STPP (EPC)**

1. **Project Name** : 3X660MW NTPC NORTH KARPANURA STPP (EPC)
2. **Consignee Address** : CONSTRUCTION MANAGER/BHEL SITE
NTPC NORTH KARPANURA STPP, (3X660MW)
NEAR TANDWA TOWN, DISTT. : CHATRA
JHARKHAND
- Notes :** 1) Consignee address in LR should be strictly as per above.
2) Vendor to note that to effect "Sale in Transit", BHEL shall issue "Delivery Note" to the Transporter for transferring the ownership from BHEL to the customer (NTPC). Delivery Note shall be carried by transporter along with other dispatch documents.
3. **Buyer and Paying Authority** : **A) For Inter-state sales (where CST is applicable):**
1) BHEL-PEM, Noida for those packages for which PO is placed by PEM.
2) BHEL-PSER, Kolkata for those packages for which PO is placed by BHEL-PSER.
B) For Intra-state sales (where VAT is applicable):
Paying Authority shall be same as referred above. However, Buyer Authority shall be informed later.
Detail requirements are enclosed as Annexure-I which are to be followed strictly.
4. **Mode of Dispatch** : As per GCC. For Road dispatch, it is Vendor's responsibility to ensure availability of trucks well in advance for dispatch of material to meet contractual delivery requirement.
5. **Road Permit Requirement** : Required
6. **Transit Insurance** : In BHEL Scope (Policy details shall be provided **LATER**).
Prior Dispatch intimation shall be issued to Insurance Company about the value of consignment, dispatch details, along with one set of documents consisting of LR / RR copy, Packing List/ Challan indicating the items dispatched (with their weights). A copy of above should be sent to the following:
a) BHEL Site office (Address same as Consignee address)
b) BHEL-PEM, Plot no 25, Sec 16-A, Noida 201301 (**For Supply Packages**)
c) BHEL-PSER, Kolkata (**For Turnkey Packages**)
7. **BHEL-PEM TIN NO.** : 09765702874 (To be used for PO issued by BHEL-PEM)
8. **BHEL-PSER, TIN NO.** : 19200936019 (To be used for PO issued by BHEL-PSER, Kolkata)
9. **Unloading at Site** : 1) **For Supply Packages:** In the scope of BHEL Site.
(The Supplier shall furnish LR wise Gross Wt. of the consignment for the purpose of handling the consignment by BHEL Site Contractor)
Please note that unloading of materials at Site sometimes may take 3-4 days. Transporters to be advised suitably before dispatch of materials in this regards.
2) **For Turnkey Package:** In the scope of Vendor.
10. **Storage at Site** : 1) **For Supply Packages:** In the scope of BHEL Site.
2) **For Turnkey Package:** In the scope of Vendor.
11. **Movement of Material Within Site** : 1) **For Supply Packages:** In the scope of BHEL Site.
2) **For Turnkey Package:** In the scope of Vendor.
12. **Inspection Agency** : Inspection of packages shall be carried out by agency as per below Inspection category of packages:
1) **Cat-I:** Inspection shall be done jointly or separately by NTPC and BHEL .
2) **Cat-II:** Inspection shall be done by BHEL only.
3) **Cat-III:** Certificate of Compliance shall be furnished by Vendor.
Please note, for Cat I & II items BHEL reserve the right to carry inspection by themselves or through nominated third party. For Inspecting Agency for various items, vendor may refer to Quality Plan.
13. **Material Dispatch Clearance Certificate (MDCC) Issuing Agency** : For Cat-I item, MDCC shall be issued by NTPC and it's the responsibility of vendor to arrange MDCC from them, and **original MDCC** shall be attached with Invoice by Vendor for claiming payment from BHEL. For Cat- II & Cat-III items, MDCC shall be issued by BHEL

14. **Dispatch Documents Required (to be furnished by)** : **A) For customer billing by PEM, the supplier shall provide the following documents to BHEL-PEM in 4 sets :**
- 1) Copy of Vendor Invoice (Original VAT Invoice required in case of VAT).
 - 2) Original LR
 - 3) Copy of Packing List indicating Quantity/ Gross weight/ Net weight and NTPC approved BBU item no. wherever applicable against each item dispatched.
 - 4) MDCC (Original NTPC MDCC, if applicable)
 - 5) CHP issued by NTPC – Original (if applicable)
 - 6) Insurance intimation copy
 - 7) Test certificate/Inspection Reports- Original (for Cat II & Cat III Packages)
- B) For Vendor payments documents mentioned in GCC shall be applicable. However, original money receipt for Freight payment is not required.**
15. **Dispatch Markings** : Each package/Drum delivered under the Contract shall be marked by Supplier as per details listed below and such marking must be distinct and in English language.
- 1) Name and address of the consignee (as given in Sl. no 2)
 - 2) Dispatched by: (Vendor name) : A/c BHEL PEM, Noida or BHEL-PSER,Kolkata as the case may be.
 - 3) LR No
 - 4) Package No / Total Package No eg: 1 of N, 2 of N; where N=Total no of packages in a particular consignment.
 - 5) Type of Supply: **"Main equipment supply"/ "Mandatory Spares "/ "Commisioning Spares"** as the case may be.
- Besides above, necessary packing shall bear a special marking "TOP" "BOTTOM","DO NOT TURN OVER","KEEP DRY","HANDLE WITH CARE", etc.
16. **Taxes & Duties** : a) All Bidders to note that this is a **Mega ICB Project** which qualifies for deemed export benefits & other benefits under Mega Power project policy of Government of India. Applicable documents such as **Project Authority Certificate (PAC)** will be issued. For this Project, **Zero % Custom Duty (against PAC)** shall be applicable on the Import Contents of the supplier.
- b) The Bidder to indicate the Import contents if any i.e. list of the imported item, Currency of Import and Country of Import including CIF value in their offers. BHEL shall inform, the availability of CIF value for a particular package including ceiling limit, if any, in NIT. Bidder has to pass on the benefit of availing Zero % custom duty in price offered to BHEL.
- c) All bidders to note being a Mega ICB Project, Excise Duty shall not be included in their prices to BHEL as per the nature of the project. PAC shall be issued to main vendor for their self-manufactured item only, to avail benefit of Nil ED. Concessional CST presently 2 % against Form 'C' & 'EI/E2' or VAT as applicable is to be considered in their quoted prices. Concessional CST/ VAT shall be considered for evaluation of offers to arrive at the L1 bidder. The benefit of Nil Excise duty and concessional CST must be passed on to BHEL in their offer.
- The benefit of Nil Excise duty and concessional rate of CST must be passed on to BHEL in their offer.
- VAT on intra-state dispatch shall be paid subject to conditions specified in Annexure- Entry tax:-** If any, shall be payable by ultimate customer(NTPC) directly to sales tax authority. Hence the same should not be considered in the offer.
17. **Final Drawings/ Documents Submission** : Final documentation submission shall be as per GCC. Numbers of copies required to be submitted is as under:
1. As built/ Final Drawing: 8 Sets (Hard Copy)+4 Nos.(CD)
 2. O&M Manuals: 6 Sets(Hard Copy)+ 4 Nos.(CD)
 3. PG test Report: 6 Sets (Hard Copy)+ 4 Nos.(CD)
 4. QA Documents : 4 Sets (Hard Copy)+ 4 Nos.(CD)

	Prepared by	Checked by	Reviewed by	Vetted by Finance	Approved by
Name:	Sumit Agrawal	Sandeep Kumar	PK Gupta	Swati Rosh	SB Naithani
Designation:	Sr. Engr./PGIII	Sr. Mgr-PGIII	AGM-PGIII	Sr. AO	DH/MSX&P/PG-III
Signature:					
Date:	3/9/14	3/9/2014	3/9/14	3/9/2014	3/9/2014

vetted for taxes & duties Swati



ANNEXURE - I

BHEL-PEM, NOIDA

3X660MW NTPC NORTH KARANPURA STPP (EPC)

Requirements to be fulfilled for Intra-State Sales

In order to avail the benefit of input tax credit available to BHEL in case of VAT leviable on intra-state transaction between BHEL and vendor, & to fulfill the compliances as per requirements of applicable State's VAT law, the following modality shall be applicable:

BHEL has identified a nodal agency in each State to take care of VAT compliances in the State in which project is located. For the subject project nodal agency shall be: **Inform Later**

Nodal agency is defined as Buyer and BHEL/ PEM shall be paying agency in such cases, where VAT is applicable.

Vendors' original tax invoice for intra State transactions is one of the important documents for availing Input Tax credit. In this regard the following may be noted by all vendors for strict compliance:

- 1) As a general rule, a tax invoice must be original, must contain vendor's TIN No with full address, invoice no & date, product description with unit rate, quantity, value, VAT rate, VAT amount, gross value of bill, **buyer i.e. BHEL's address with TIN**, (as given above) special marking like "Original" and/or "valid for input credit"/ Buyer can take credit against this" etc. as per applicable State VAT law.
- 2) Please note that BHEL's address and TIN to be mentioned in vendors tax invoice shall be **principal place of business & applicable TIN of nodal agency of BHEL, as given above. In no case the vendors, invoices shall be addressed to BHEL PEM nor shall they contain PEM TIN.** However for payment purposes, the invoice must mention BHEL-PEM Noida/BHEL PSER-Kolkata, as paying authority (as applicable).
- 3) As original tax invoice of vendors is to be furnished to nodal unit for assessment/VAT audit purposes, another one Original invoice is required to be submitted by vendors for retaining with PEM bank payment voucher.
- 4) Where the supplies are made from within the same state where the project is located, the vendor has to provide VAT invoice for such supplies even if the price quoted is all inclusive.
- 5) Original tax invoice along with extra copy of Original Tax invoice in line with respective state VAT law shall be essential document to be submitted by vendor for claiming payment.
- 6) Vendor shall also furnish a certificate/statement/document as prescribed under applicable State VAT law. Please note that some of the States requires additional certificate/documents e.g. Haryana requires certificate in form C-4 in addition to original tax invoice.
- 7) Please note that reimbursement/payment of VAT shall be subject to furnishing of Vat compliant tax invoice and other certificate/document as per applicable State VAT law.
- 8) Tax invoice must show Vat rate & VAT amount separately and in no case all inclusive prices is to be shown in the tax invoice since input credit is not admissible in case VAT is not indicated separately.
- 9) In case vendor is unable to furnish Vat compliant tax invoice & other certificate/document, VAT shall not be reimbursed by BHEL.


31/9/14


31/09/2014

Guidelines for Remote Inspection of PEM BOIs

1) OBJECTIVE:

To lay down the procedure for carrying out Remote Inspection of Bought-out Items (BOIs) for PEM suppliers wherever applicable.

2) SCOPE: It will cover suppliers for packages of PEM BOIs for various project requirements. Invitation is sent to the suppliers for remote inspection on applications like MS Teams, Webex, etc. by BHEL.

3) MINIMUM REQUIREMENTS AT SUPPLIER'S WORKS:

1. Uninterrupted internet services
2. Good internet bandwidth (Min 100 Mbps)
3. Good resolution camera (2 nos) – one preferably CCTV (static at one place) and one hand hold (moving)
4. Smart phone with minimum 8MPi camera front and back both with optical zoom facility suitable for using web applications like Webex, MicroSoft (MS) Teams, etc.
5. Computer and Scanner with good resolution
6. Digital signatures of supplier's Quality Engineer
7. Availability of web applications like Webex, MicroSoft (MS) Teams, as required.
8. All Test certificates, internal test reports, calibration reports, etc. for the items offered for inspection.
9. Availability of the above to be submitted to BHEL two days in advance before inspection.
10. Dedicated team from supplier side for facilitating inspection requirements.
11. For ensuring proper visibility, the suggested Portable lighting sources (torch/ electric LED bulb of minimum 15 W) with no glare is to be ensured at offered job, location for remote inspection/testing. This is to be verified before start of the inspection.
12. The GPS location co-ordinates or any method to locate inspection location shall be captured indicating the location of the Vendor-Premises of remote inspection/testing.

4) PROCEDURE:

1. Supplier will raise the inspection call in BHEL - CQIR portal.
 2. Supplier shall ensure availability of minimum requirements at supplier's works as mentioned above at point 3.
 3. Before starting the inspection, the supplier shall submit the documents (TCs, internal test reports and calibration certificates as per approved QAP) two days before the date of inspection for review by BHEL and supplier shall coordinate with BHEL and if found satisfactory, inspection shall be considered for remote.
 4. Prior to commencement of remote inspection, a pre inspection meeting shall be organized by BHEL inspector with supplier to ascertain the readiness for remote inspection.
- 5) During inspection, supplier shall share the location on Google maps for verifying the address of the manufacturer. Location may be captured by BHEL as screenshot.
1. Inspection shall be on the basis of approved Quality Plans and associated reference documents mentioned.
 2. For witnessing inspection, supplier shall bring the mobile video camera near to the surface of the equipment or as per requirement of the inspector for clarity in viewing the test/ equipment which shall be the responsibility of supplier. Supplier shall ensure that proper lighting is available during live video streaming.
 3. Before start of the inspection, inspector shall ensure that all instruments shall have valid calibration report. Supplier shall ensure use of digital instruments preferably for inspection to the extent possible.
 4. Details of supplier's dedicated team handling the remote inspection shall also be incorporated in the CQIR.
 5. All details of inspection/ testing referred documents shall be mentioned in the CQIR. Recording of remote inspection shall be maintained by the BHEL inspector and this recording (unedited) shall be maintained at BHEL system for a minimum period of 3 years or till the warranty period whichever is later.

6. PEM (Engineering) shall accord final technical clearance, in case of any deviation in inspected item noticed during inspection.
 7. Inspection shall be conducted by PEM-Q&BE assigned inspector along with PEM-Engg (if required). CQIR shall be prepared and maintained by PEM-Q&BE.
 8. PG will issue MDCC on the basis of acceptance of inspected items along with accepted packing photographs as per contract provisions.
-
- 6) **UNDERTAKING BY VENDOR:** Material inspected through remote inspections is meeting all technical requirements of BHEL. In case of any discrepancy from the above procedure/ material inspected, if found later, vendor will replace the materials without any cost implication to BHEL.
 - 7) Vendor shall provide the signed and stamped of the above guidelines to BHEL as a token of acceptance.

डा. टी. वी. सोमनाथन, आई.ए.एस.

सचिव (व्यय)

Dr. T. V. Somanathan, I.A.S.

Secretary (Expenditure)



सत्यमेव जयते



एक कदम स्वच्छता की ओर

भारत सरकार
वित्त मंत्रालय
व्यय विभाग

Government of India
Ministry of Finance
Department of Expenditure
नार्थ ब्लॉक, नई दिल्ली-110001
North Block, New Delhi-110001
Tel. : 23092929, 23092663
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D.O.F.No.6/18/2019- PPD

28th July, 2020

Dear Shri Sailesh,

As you are aware the General Financial Rules (GFRs), 2017 have been amended inserting Rule 144 (xi) which empowers Department of Expenditure to impose restrictions, including prior registration or screening on procurement from bidders from a country or countries on grounds of Defence of India and National Security. The amended Rule provides that no public procurement shall be made in violation of such restrictions. Pursuant to the above, Order (Public Procurement No. 1) and Order (Public Procurement No. 2) were issued vide F.No.6/18/2019-PPD dated 23.7.2020. A clarification was issued in Order (Public Procurement No. 3).

2. Though the GFRs ordinarily do not apply to public sector enterprises, in this instance, as they relate to national security, the orders have consciously been made applicable to all Central Public Sector Enterprises as well. It is, therefore, requested that necessary instructions may be issued by your Department reiterating the applicability of orders stated in Paragraph 1 of this letter to all Central Public Sector Enterprises.

3. Copies of the Orders are attached for ease of reference.

With regards,

Encl: As above

Shri Sailesh, IAS

Secretary,

Department of Public Enterprises,

160, Udyog Bhawan,

New Delhi: 110011

Copy to: Cabinet Secretary – for information

Yours sincerely,

(T.V. Somanathan)

we may issue
instructions today

29/7

F.No.6/18/2019-PPD
Ministry of Finance
Department of Expenditure
Public Procurement Division

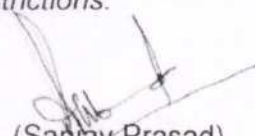
161, North Block,
New Delhi
23rd July, 2020

Office Memorandum

Subject: Insertion of Rule 144 (xi) in the General Financial Rules (GFRs), 2017

Rule 144 of the General Financial Rules 2017 entitled 'Fundamental principles of public buying', has been amended by inserting sub-rule (xi) as under:

Notwithstanding anything contained in these Rules, Department of Expenditure may, by order in writing, impose restrictions, including prior registration and/or screening, on procurement from bidders from a country or countries, or a class of countries, on grounds of defence of India, or matters directly or indirectly related thereto including national security; no procurement shall be made in violation of such restrictions.


(Sanjay Prasad)
Joint Secretary (PPD)
Email ID: js.pfc2.doe@gov.in
Telephone: 011-23093882

To,
(1) Secretaries of All Ministries/ Departments of Government of India
(2) Chief Secretaries/ Administrators of Union Territories/ National Capital Territory of Delhi

F.No.6/18/2019-PPD
Ministry of Finance
Department of Expenditure
Public Procurement Division

161, North Block,
New Delhi
23rd July, 2020

Order (Public Procurement No. 1)

Subject: Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs), 2017

Attention is invited to this office OM no. 6/18/2019-PPD dated 23rd July 2020 inserting Rule 144 (xi) in GFRs 2017. In this regard, the following is hereby ordered under Rule 144 (xi) on the grounds stated therein:

Requirement of registration

1. Any bidder from a country which shares a land border with India will be eligible to bid in any procurement whether of goods, services (including consultancy services and non-consultancy services) or works (including turnkey projects) only if the bidder is registered with the Competent Authority, specified in **Annex I**.
2. This Order shall not apply to (i) cases where orders have been placed or contract has been concluded or letter/notice of award/ acceptance (LoA) has been issued on or before the date of this order; and (ii) cases falling under **Annex II**.

Transitional cases

3. Tenders where no contract has been concluded or no LoA has been issued so far shall be handled in the following manner: -
 - a) *In tenders which are yet to be opened, or where evaluation of technical bid or the first exclusionary qualificatory stage (i.e. the first stage at which the qualifications of tenderers are evaluated and unqualified bidders are excluded) has not been completed: No contracts shall be placed on bidders from such countries. Tenders received from bidders from such countries shall be dealt with as if they are non-compliant with the tender conditions and the tender shall be processed accordingly.*
 - b) *If the tendering process has crossed the first exclusionary qualificatory stage: If the qualified bidders include bidders from such countries, the*

entire process shall be scrapped and initiated *de novo*. The *de novo* process shall adhere to the conditions prescribed in this Order.

- c) As far as practicable, and in cases of doubt about whether a bidder falls under paragraph 1, a certificate shall be obtained from the bidder whose bid is proposed to be considered or accepted, in terms of paras 8, 9 and 10 read with para 1 of this Order.

Incorporation in tender conditions

- 4. In tenders to be issued after the date of this order, the provisions of paragraph 1 and of other relevant provisions of this Order shall be incorporated in the tender conditions.

Applicability

- 5. Apart from Ministries / Departments, attached and subordinate bodies, notwithstanding anything contained in Rule 1 of the GFRs 2017, this Order shall also be applicable
 - a. to all Autonomous Bodies;
 - b. to public sector banks and public sector financial institutions; and
 - c. subject to any orders of the Department of Public Enterprises, to all Central Public Sector Enterprises; and
 - d. to procurement in Public Private Partnership projects receiving financial support from the Government or public sector enterprises/ undertakings.
 - e. Union Territories, National Capital Territory of Delhi and all agencies/ undertakings thereof

Definitions

- 6. "Bidder" for the purpose of this Order (including the term 'tenderer', 'consultant' 'vendor' 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.
- 7. "Tender" for the purpose of this Order will include other forms of procurement, except where the context requires otherwise.
- 8. "Bidder from a country 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

9. "Beneficial owner" for the purpose of paragraph 8 above will be as under:

- (i) 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(s), 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 the 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;

- (ii) 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;

- (iii) 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 of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;

- (iv) Where no natural person is identified under (i) or (ii) or (iii) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;

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(v) In case of a 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.

10. "Agent" for the purpose of this Order is a person employed to do any act for another, or to represent another in dealings with third persons.

Sub-contracting in works contracts

11. In works contracts, including turnkey contracts, contractors shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority. The definition of "contractor from a country which shares a land border with India" shall be as in paragraph 8 above. This shall not apply to sub-contracts already awarded on or before the date of this Order.

Certificate regarding compliance

12. A certificate shall be taken from bidders in the tender documents regarding their compliance with this Order. If such certificate given by a bidder whose bid is accepted is found to be false, this would be a ground for immediate termination and further legal action in accordance with law.

Validity of registration

13. 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.

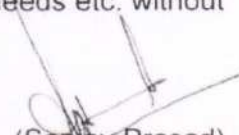
Government E-Marketplace

14. The Government E-Marketplace shall, as soon as possible, require all vendors/ bidders registered with GeM to give a certificate regarding compliance with this Order, and after the date fixed by it, shall remove non-compliant entities from GeM unless/ until they are registered in accordance with this Order.

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Model Clauses/ Certificates

15. Model Clauses and Model Certificates which may be inserted in tenders / obtained from Bidders are enclosed as **Annex III**. While adhering to the substance of the Order, procuring entities are free to appropriately modify the wording of these clauses based on their past experience, local needs etc. without making any reference to this Department.


(Sanjay Prasad)
Joint Secretary (PPD)
Email ID: js.pfc2.doe@gov.in
Telephone: 011-23093882

To

- (1) Secretaries of All Ministries/ Departments of Government of India for information and necessary action. They are also requested to inform these provisions to all procuring entities.
- (2) Secretary, Department of Public Enterprises with a request to immediately reiterate these orders in respect of Public Enterprises.
- (3) Secretary DPIIT with a request to initiate action as provided under Annex I
- (4) Chief Secretaries/ Administrators of Union Territories/ National Capital Territory of Delhi

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Annex I: Competent Authority and Procedure for Registration

- A. The Competent Authority for the purpose of registration under this Order shall be the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT)*.
- B. The Registration Committee shall have the following members*:
- i. An officer, not below the rank of Joint Secretary, designated for this purpose by DPIIT, who shall be the Chairman;
 - ii. Officers (ordinarily not below the rank of Joint Secretary) representing the Ministry of Home Affairs, Ministry of External Affairs, and of those Departments whose sectors are covered by applications under consideration;
 - iii. Any other officer whose presence is deemed necessary by the Chairman of the Committee.
- C. DPIIT shall lay down the method of application, format etc. for such bidders as stated in para 1 of this Order.
- D. On receipt of an application seeking registration from a bidder from a country covered by para 1 of this Order, the Competent Authority shall first seek political and security clearances from the Ministry of External Affairs and Ministry of Home Affairs, as per guidelines issued from time to time. Registration shall not be given unless political and security clearance have both been received.
- E. The Ministry of External Affairs and Ministry of Home Affairs may issue guidelines for internal use regarding the procedure for scrutiny of such applications by them.
- F. The decision of the Competent Authority, to register such bidder may be for all kinds of tenders or for a specified type(s) of goods or services, and may be for a specified or unspecified duration of time, as deemed fit. The decision of the Competent Authority shall be final.
- G. Registration shall not be granted unless the representatives of the Ministries of Home Affairs and External Affairs on the Committee concur*.
- H. Registration granted by the Competent Authority of the Government of India shall be valid not only for procurement by Central Government and its agencies/ public enterprises etc. but **also for procurement by State Governments and their agencies/ public enterprises etc. No fresh registration at the State level shall be required.**

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- I. The Competent Authority is empowered to cancel the registration already granted if it determines that there is sufficient cause. Such cancellation by itself, however, will not affect the execution of contracts already awarded. Pending cancellation, it may also suspend the registration of a bidder, and the bidder shall not be eligible to bid in any further tenders during the period of suspension.
- J. For national security reasons, the Competent Authority shall not be required to give reasons for rejection / cancellation of registration of a bidder.
- K. In transitional cases falling under para 3 of this Order, where it is felt that it will not be practicable to exclude bidders from a country which shares a land border with India, a reference seeking permission to consider such bidders shall be made by the procuring entity to the Competent Authority, giving full information and detailed reasons. The Competent Authority shall decide whether such bidders may be considered, and if so shall follow the procedure laid down in the above paras.
- L. Periodic reports on the acceptance/ refusal of registration during the preceding period may be required to be sent to the Cabinet Secretariat. Details will be issued separately in due course by DPIIT.

[*Note:

- i. In respect of application of this Order to procurement by/ under State Governments, all functions assigned to DPIIT shall be carried out by the State Government concerned through a specific department or authority designated by it. The composition of the Registration Committee shall be as decided by the State Government and paragraph G above shall not apply. However, the requirement of **political and security clearance as per para D shall remain and no registration shall be granted without such clearance.**
- ii. Registration granted by State Governments shall be valid only for procurement by the State Government and its agencies/ public enterprises etc. and shall not be valid for procurement in other states or by the Government of India and their agencies/ public enterprises etc.]

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Annex II: Special Cases

- A. Till 31st December 2020, procurement of medical supplies directly related to containment of the Covid-19 pandemic shall be exempt from the provisions of this Order.
- B. *Bona fide* procurements made through GeM without knowing the country of the bidder till the date fixed by GeM for this purpose, shall not be invalidated by this Order.
- C. *Bona fide* small procurements, made without knowing the country of the bidder, shall not be invalidated by this Order.
- D. In projects which receive international funding with the approval of the Department of Economic Affairs (DEA), Ministry of Finance, the procurement guidelines applicable to the project shall normally be followed, notwithstanding anything contained in this Order and without reference to the Competent Authority. Exceptions to this shall be decided in consultation with DEA.
- E. This Order shall not apply to procurement by Indian missions and by offices of government agencies/ undertakings located outside India.

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Annex III

Model Clause /Certificate to be inserted in tenders etc.

(While adhering to the substance of the Order, procuring entities and GeM are free to appropriately modify the wording of the clause/ certificate based on their past experience, local needs etc.)

Model Clauses for Tenders

- 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.
- 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 country 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;

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- 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 of 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;
 5. In case of a 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. *[To be inserted in tenders for Works contracts, including Turnkey contracts]* The successful bidder shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority.

Model Certificate for Tenders (for transitional cases as stated in para 3 of this Order)

"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I hereby certify that this bidder is not from such a country and is eligible to be considered."

Model Certificate for Tenders

"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that this bidder is not from such a country or, if from such a country, has been registered with the

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Competent Authority. I hereby certify that this bidder fulfills all requirements in this regard and is eligible to be considered. [Where applicable, evidence of valid registration by the Competent Authority shall be attached.]"

Model Certificate for Tenders for Works involving possibility of sub-contracting

"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub-contracting to contractors from such countries; I certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority and will not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority. I hereby certify that this bidder fulfills all requirements in this regard and is eligible to be considered. [Where applicable, evidence of valid registration by the Competent Authority shall be attached.]"

Model Certificate for GeM:

"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that this vendor/ bidder is not from such a country or, if from such a country, has been registered with the Competent Authority. I hereby certify that this vendor/ bidder fulfills all requirements in this regard and is eligible to be considered for procurement on GeM. [Where applicable, evidence of valid registration by the Competent Authority shall be attached.]"

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F.No.6/18/2019-PPD
Ministry of Finance
Department of Expenditure
Public Procurement Division

161, North Block
New Delhi
23rd July, 2020

Order (Public Procurement No. 2)

Subject: Exclusion from restrictions under Rule 144 (xi) of the General Financial Rules (GFRs), 2017 –regarding.

In Order (Public Procurement No. 1) dated 23rd July 2020, orders have been issued requiring registration of bidders from a country sharing a land border with India in order to be eligible to bid in public procurement.

2. Notwithstanding anything contained therein, it is hereby clarified that the said Order will not apply to bidders from those countries (even if sharing a land border with India) to which the Government of India has extended lines of credit or in which the Government of India is engaged in development projects.

3. Updated lists of countries to which lines of credit have been extended or in which development projects are undertaken are given in the website of the Ministry of External Affairs.


(Sanjay Prasad)
Joint Secretary (PPD)
Email ID: js.pfc2.doe@gov.in
Telephone: 011-23093882

To,

- (1) Secretaries of All Ministries/ Departments of Government of India for information and necessary action. They are also requested to inform these provisions to all procuring entities.
- (2) Secretary, Department of Public Enterprises with a request to immediately reiterate these orders in respect of Public Enterprises.
- (3) Chief Secretaries/ Administrators of Union Territories/ National Capital Territory of Delhi

F.No.6/18/2019-PPD
Ministry of Finance
Department of Expenditure
Public Procurement Division

161, North Block,
New Delhi
24th July, 2020

Order (Public Procurement No. 3)

Subject: Clarification to Order (Public Procurement No.1) dated 23rd July 2020

Attention is invited to paragraph 3(b) of the Order (Public Procurement No.1), under the heading "Transitional provisions" which reads as follows:

- b) *If the tendering process has crossed the first exclusionary qualificatory stage:* If the qualified bidders include bidders from such countries, the entire process shall be scrapped and initiated *de novo*. The *de novo* process shall adhere to the conditions prescribed in this Order.

It is hereby clarified that for the purpose of paragraph 3 (b), "qualified bidders" means only those bidders who would otherwise have been qualified for award of the tender after considering all factors including price, if Order (Public Procurement No. 1) dated 23rd July 2020 had not been issued.

2. If bidders from such countries would not have qualified for award for reasons unconnected with the said Order (for example, because they do not meet tender criteria or their price bid is higher or because of the provisions of purchase preference under any other order or rule or any other reason) then there is no need to scrap the tender / start the process de novo.

3. The following examples are given to assist in implementation of the Order.

Example 1: Four bids are received in a tender. One of them is from a country which shares a land border with India. The bidder from such country is found to be qualified technically by meeting all prescribed criteria and is also the lowest bidder. In this case, the bidder is qualified for award of the tender, except for the provisions of the Order (Public Procurement No. 1) dated 23rd July. In this case, the tender should be scrapped and fresh tender initiated.

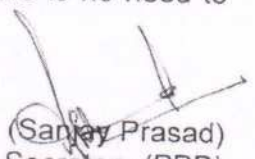
Example 2: The facts are as in Example 1, but the bidder from such country, though technically qualified is not the lowest because there are other technically qualified bidders whose price is lower. Hence the bidder from such country would not be

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qualified for award of the tender irrespective of the Order (Public Procurement No. 1) dated 23rd July 2020. In such a case, there is no need to scrap the tender.

Example 3: The facts are as in Example 1, but the bidder from a country which shares a land border with India, though technically qualified, is not eligible for award due to the application of price preference as per other orders/ rules. In such a case, there is no need to scrap the tender.

Example 4: Three bids are received in a tender. One of them is a bidder from a country sharing a land border with India. The bidder from such a country does not meet the technical requirements and hence is not qualified. There is no need to scrap the tender.


(Sanjay Prasad)
Joint Secretary (PPD)
Email ID: js.pfc2.doe@gov.in
Telephone: 011-23093882

To,

- (1) Secretaries of All Ministries/ Departments of Government of India for information and necessary action. They are also requested to inform the clarification to all procuring entities.
- (2) Secretary, Department of Public Enterprises with a request to immediately circulate this clarification among Public Enterprises.
- (3) Chief Secretaries/ Administrators of Union Territories/ National Capital Territory of Delhi



Ministry of External Affairs
Government of India



English 

[Home](#) > [List of Countries to which LoC has been extended w.r.t. Order \(Public Procurement no.2\) 23 July 2020](#)

List of Countries to which LoC has been extended w.r.t. Order (Public Procurement no. 2) dated 23 July 2020

Sr. No.	Country
South Asia (4 countries)	
1	Bangladesh
2	Maldives
3	Nepal
4	Sri Lanka
South East Asia (4 countries)	
5	Cambodia
6	Lao PDR
7	Myanmar
8	Vietnam
Asia (3 countries)	
9	Mongolia

10	Iran
11	Syria
Russia and CIS (3 countries)	
12	Belarus
13	Russia
14	Uzbekistan
Africa (41 countries)	
15	Angola
16	Benin
17	Burkina Faso
18	Burundi
19	Cameroon
20	Central African Republic
21	Chad
22	Comoros
23	Cote d'Ivoire
24	D.R.Congo
25	Djibouti
26	Eritrea
27	Eswatini (Swaziland)
28	Ethiopia
29	Gabon
30	Gambia
31	Ghana

32	Guinea
33	Guinea Bissau
34	Kenya
35	Lesotho
36	Liberia
37	Madagascar
38	Malawi
39	Mali
	Mali & Senegal (combined LOC)
40	Mauritania
41	Mauritius
42	Mozambique
43	Niger
44	Nigeria
45	R. Congo
46	Rwanda
47	Senegal
48	Seychelles
49	Sierra Leone
50	Sudan
51	Tanzania
52	Togo
53	Uganda

54	Zambia
55	Zimbabwe
	Ecowed Bank of Investment and Development (EBID)
56	Bolivia
57	Cuba
58	Guyana
59	Honduras
60	Jamaica
61	Nicaragua
62	Suriname
Pacific Island countries (2 countries)	
63	Fiji Islands
64	Papua New Guinea
Total (64 countries) US \$ 30.595 billion	



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Working hours at Headquarters 9:00 A.M. To 5:30 P.M.



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Government of India



English 

[Home](#) > [List of Countries in Which Development Grant Projects](#)

List of countries in which development grant projects are undertaken w.r.t. Order (Public Procurement No. 2) dated 23 July 2020

Sr. No.	Country
1	Afghanistan
2	Antigua & Barbuda
3	Argentina
4	Armenia
5	Azerbaijan
6	Bangladesh
7	Barbados
8	Belize
9	Benin
10	Bhutan
11	Bolivia
12	Botswana

13	Burkina Faso
14	Burundi
15	Cambodia
16	Cameroon
17	Cape Verde
18	Central African Republic
19	Chad
20	Commonwealth of Dominica
21	Comoros
22	Cook Islands
23	Costa Rica
24	Cote d'Ivoire
25	Democratic Republic of the Congo
26	Djibouti
27	Ecuador
28	Egypt
29	Equatorial Guinea
30	Eritrea
31	Ethiopia
32	Federated States of Micronesia
33	Fiji Islands
34	Gabon
35	Gambia
36	Ghana

37	Grenada
38	Guinea
39	Guinea-Bissau
40	Guyana
41	Haiti
42	Jamaica
43	Jordan
44	Kazakhstan
45	Kenya
46	Kingdom of Lesotho
47	Kiribati
48	Kyrgyzstan
49	Lao PDR
50	Lebanon
51	Liberia
52	Libya
53	Madagascar
54	Malawi
55	Maldives
56	Mali
57	Marshall Islands
58	Mauritania
59	Mauritius
60	Mongolia

61	Morocco
62	Mozambique
63	Myanmar
64	Namibia
65	Nauru
66	Nepal
67	Niger
68	Nigeria
69	Niue
70	Palau
71	Palestine
72	Panama
73	Papua New Guinea
74	Peru
75	Republic of Congo
76	Rwanda
77	Saint Kitts & Nevis
78	Saint Lucia
79	Saint Vincent & the Grenadines
80	Samoa
81	Sao Tome and Principe
82	Senegal
83	Seychelles
84	Sierra Leone

85	Solomon Islands
86	Somalia
87	South Africa
88	South Sudan
89	Sri Lanka
90	Sudan
91	Suriname
92	Swaziland
93	Syria
94	Tajikistan
95	Tanzania
96	The Bahamas
97	The Commonwealth of Dominica
98	Timor Leste
99	Togo
100	Tonga
101	Trinidad & Tobago
102	Turkmenistan
103	Tuvalu
104	Uganda
105	Ukraine
106	Uzbekistan
107	Vanuatu
108	Vietnam

109	Zambia
110	Zimbabwe



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Working hours at Headquarters 9:00 A.M. To 5:30 P.M.

PROJECT: 3x660 MW NORTH KARANPURA STPP
PACAKGE: - BUTTERFLY VALVES(STEAM SERVICE)
ANNEXURE -III (TO) INSTRUCTIONS TO PACKING LIST

For faster verification of bills, successful bidder to submit detailed Bill of Material (BOM) at the time of drawings/ documents submission after placement of PO. Each item of the BOM to be uniquely identified with item code no. or item Sl. No. Supplier to ensure that all items which will find separate mention in the packing list are covered in this detailed BOM.

Supplier to also give the following undertaking in the BOM:

“The BOM provided herewith completes the scope (in content and intent) of material supply under PO No. Dated Any additional material which may become necessary for the intended application of the supplied items/package will be supplied free of cost in most reasonable time.

Packing List must indicate:

- a) Packing size
- b) Gross weight and net weight of each package
- c) Contents of the package with cross reference to BOM item code no. / Sl. No.
- d) Quantity of each items separately.

The packing list must cover all the BOM items.

Supplier to give following undertaking in the packing list:

The Packing list provided herewith is as per BOM approved under PO No. -----

Letter head of CA/ Statutory auditor / Cost auditor (>Rs. 10 Cr value)

Ref:

Date:

To,

Bharat Heavy Electricals Limited

PEM, PPEI Building, Plot No 25,

Sector -16A, Noida (U.P)-201301

Subject: - Certification regarding local content

Reference: Tender Enquiry No-.....

Name of Package:

Dear Sir,

We hereby certify that items of(package name).....for.....(Project Name/Rate Contract).....offered by M/s(bidder's name)..... having its registered works at has local content of%.

Further, M/s(bidder's name)..... meets the requirement of minimum local content in line with clause no..... of NIT no..... dated..... and the Public Procurement (Preference to Make in India), Order 2017 dated-15.06.2017, 28.05.2018 & 29.05.2019.

Thanking You.

For (CA/Cost Firm Name with FRN & Seal)

Chartered/Cost Accountants

(name of Member)

(Membership no.)

(UDIN no.)

Letter head of Company (<Rs. 10 Cr value)

Ref.....

Date.....

To,

Bharat Heavy Electricals Limited

PEM, PPEI Building, Plot No 25,

Sector -16A, Noida (U.P)-201301

Subject: - Certification regarding local content

Reference: Tender Enquiry No-.....

Name of Package:

Dear Sir,

We hereby certify that items offered by us of(package name).....for.....(Project Name/Rate contract)..... meets the requirement of minimum local content in line with Cl. No..... of NIT No..... dated..... and the Public Procurement (Preference to Make in India), Order 2017 dated-15.06.2017, 28.05.2018 & 29.05.2019.

We further confirms that details of location at which the local value addition is made will be our registered works at(address of the works)

Yours very truly

..... (authorized signatory of company)

..... (firm name)

authorized signatory
of company