

Technical Pre-Qualification Requirement for

Secondary air damper power cylinder

1. The vendor shall be an established Secondary air damper power cylinder with double acting (henceforth referred as SADC) manufacturer having adequate Design, Engineering, Manufacturing, inspection and testing facilities and shall furnish technical backup documents for the proof of above requirements.
2. The SADC offered shall be from the existing regular manufacturing range of the supplier. Vendor shall provide the manufacturing catalogue or general reference list for the offered SADC along with offer.
3. The supplier shall have experience of having supplied SADC with accessories for temperature service, dusty, corrosive & highly polluted atmospheric conditions or for the application of similar severity as specified in the enquiry. Supplier shall submit documents in proof of the same.
4. Proven track record is required. As a proof for this pre-qualifying requirement point, vendor should submit:
Minimum ONE end user certificate for the satisfactory operational performance of their supplied SADC with accessories meeting or exceeding the specification requirements.

(OR)

Minimum TWO purchase orders meeting or exceeding the requirements as per the enquiry specification

5. In case of ordering, the vendor shall have the responsibility for the following and same to be confirmed point wise.
 - i) Vendor should have the component replacement responsibility in case of defect / failure.
 - ii) Experts from vendor's side shall associate in commissioning activities at site, if required.
 - iii) Vendor should ensure the product performance during erection & commissioning.
6. Backup document checklist to meet PQR to the fullest satisfaction of BHEL:

S. No	Document description	Check list
1	Documents to meet Clause (1)	<input type="checkbox"/>
2	Product Catalogues to meet Clause (2)	<input type="checkbox"/>
3	Supply reference document (PO /Inspection Reports) to meet Clause (3)	<input type="checkbox"/>
4	Documents to establish the track record as per Clause (4)	<input type="checkbox"/>
5	Confirmation to clause (5)	<input type="checkbox"/>

Memorandum of Understanding

**M/s BHEL
Trichy – 620 014**

and

(Vendor Code :)

For supplying

SADC

Page 1 of 10

MOU NO : MOU / TPBHEL / SADC REV.01

Date : 01-Jan-2014

Valid upto : 31-Dec-2016

Memorandum of Understanding (MOU) for supplying SADC.

1.0 GENERAL:

1.1.1 This MOU is signed for supplying of **SADC** as per the agreed standardized specification so that these details need not be discussed again and again for future supplies.

1.2 The various aspects covered in this MOU are as follows.

1.2.1 The general points are covered in Section – 1.0 – General.

1.2.2 The specification requirements are covered in Section – 2.0 – Specifications.

1.2.3 The documents to be submitted along with the offer / after placement of Order / Along with the equipment are covered in Section 2.0.

1.2.4 The Inspection / Testing and Packing requirements are covered in Section – 2.0 Testing, Inspection and Packing.

1.2.5 The project specific details / data and if any customer specific requirements shall be covered in Section 3.0 – Project related Information. **DEVIATION ON**

PROJECT RELATED INFORMATION WILL LEAD TO REJECTION OF OFFER.

1.2.6 **If any differences are found between the details given in data sheets and other sections, Data sheet shall be considered as final and the vendors shall meet this requirement for that particular project.**

1.3 Sections 1.0, 2.0 are standard and Section 3.0 alone will be furnished along with enquiry to the vendors for their acceptance.

1.4 It is agreed that no deviations will be taken by the vendors while submitting their offers against future enquiries.

1.5 Since the specifications are standardized and an understanding has been reached, the future enquiries will be floated on “SINGLE BID SYSTEM” only. Hence, if any offer is found with deviations, the same will be totally rejected and will not be considered for further evaluation.

1.6 The validity of this MOU is for TWO years from the date of signing. After the expiry of the period, the same can be extended further with or without any modifications. However, in case any changes are required, the MOU may be amended before the expiry of the validity.

1.7 Pre commissioning spares (if applicable) with price break up as per the list shall be supplied along with the equipment.

1.8 Two years recommended Spares list (vide Section 3.0) with price break up shall be enclosed (if applicable).

1.9 If any special or non-standard tools are required for installation, operation or maintenance, the same shall be supplied along with the equipment.

1.10 Trouble-free operation of the equipment shall be guaranteed for a period of 12 months from the date of commissioning OR 18 months from the date of dispatch whichever is earlier.

1.11 Dispatch clearance will be issued along with PGMA with DU Nos. for the ordered items to vendor after the receipt of acceptable Inspection Report . Vendor agreed to mark the PGMA with DU Nos. in the casing of the packing and in the Packing Slip.

1.12 Since the vendors' works alone is approved by BHEL, it is agreed the vendor will manufacture this item in their own works only and will not off-load the jobs to any other suppliers without the written approval by BHEL.

1.13 All components should be packed in such a way that it should not get damaged during transport.

1.14 BHEL and the Vendor shall have an involvement which will commence at bid stage and follow through the completion and acceptance, thus ensuring total conformity to Purchaser's requirements.

2.0 SPECIFICATIONS

2.1 Scope

This specification covers design, manufacture, inspection, testing and supply of Secondary Air Damper control.

2.2 Codes & Standards:

The equipment shall be designed to meet the latest revisions of the relevant standards and other governing standards as applicable and also meet with the local standards where the equipment is installed.

2.3 Design & Constructional Requirements:

2.3.1 Application:

For driving secondary air dampers in corner fired boiler.

2.3.2 Ambient conditions:

- a. Atmospheric conditions: Dusty, corrosive & highly polluted
- b. Ambient temp. 100 deg C max.
- c. Relative humidity 90% max.

2.3.3 Construction Details

Back plate inclined at 15 degrees to the vertical Plane.

2.3.4 General Requirements:

- a. Supply air pressure : Min 4.5 & Max. 7.0 kg /sq.cm. (g)
(for cylinder & positioner)
- b. Control signal air pressure : 0.2 to 1.0 kg /sq.cm. (g) (3 to 15 psig)
or 4-20 mA as applicable
- c. Positioner : Reverse acting. (shall be field reversible)
with 4 gauges (one signal, one supply & two output)
- d. Positioner type : Pneumatic/Electro-pneumatic
- e. Rate of piston movement : 9mm/sec plus/minus 1mm/sec
(shall be field adjustable)
- f. Control characteristics :Linear. Provide Extra cams for square and
square root characteristics to be supplied.
 - i. Accuracy + / - 1.0 % of full scale
 - ii. Dead band + / - 0.1 % of full scale
 - iii. Hysteresis + / -0.5 % of full scale
 - iv. Repeatability + / - 0.3 % of full scale:
 - v. Sensitivity + / - Better than 0.5 % of full scale
- g. Air connections : 1/4" NPT(F) for supply & signal air
respectively.
- h. Pneumatic piping : Stainless steel tubes

- i. Air consumption : Vendor to specify.
- j. Airsets : Air filter regulator set with max set pressure of 7 Kg/sq.cm shall be offered. Air set shall have one output pressure gauge.
- k. Airlock valves : Provide self reset airlock relays for stay put
When air failure
- l. Materials of construction : Vendor shall specify specific grades of material offered by them.
 - i. Cylinder Barrel-Seamless steel Pipe.
 - ii. Barrel Inside coating-hard chrome plating
 - iii. Piston- carbon steel
 - iv. Piston Rod- Stainless steel/chrome moly steel
 - v. with hard chrome plating
 - vi. Piston rod bearing- leaded tin bronze
 - vii. Piston Seals- viton
 - viii. Wiper Seals- viton
 - ix. Gaiter- vendor to specify
- m. Piston Rod End Size :Male Threaded with Lock Nut
- n. Painting :Anti - corrosive epoxy resin.
- o. All equipment & accessories shall be weatherproof, water / oil tight to NEMA 4 & 13, suitable for outdoor installation & 100 deg C ambient.
- p. Marking on pressure gauges shall be in kgs /sq.cm(g).
- q. The power cylinders and accessories shall be piped up together.
- r. Following details shall be furnished by the suppliers along with offer:
 - i. Spares recommended for commissioning.
 - ii. Spares recommended for two years trouble free operation.
 - iii. Unit weight of cylinder with accessories.
 - iv. Dimensional layout drawing.
 - v. Catalogues for all equipment.
- s. Following documents shall be furnished by the vendor along with the supplies.
 - i. Material test certificates.
 - ii. Operational test certificates.
- t. The air cylinder shall be marked permanently with paint, Project Name and BHEL material code (indent No:)
- u. The air cylinders shall be packed in separate wooden boxes with seaworthy packing for export jobs & land-worthy packing for inland jobs.

- v. O&M Manuals: 5 sets of manuals required with following details are to be supplied:
 - i. Catalogues of main equipment and all accessories with reference no. indicated. Internal parts shall be clearly identified and marked.
 - ii. Recommended spares for commissioning.
 - iii. Recommended spares for two years trouble free service.
 - iv. Dimensional layout drawing. (All accessories shall be shown, including piping diagram. Disposition and dimensions shall be in line with BHEL drg. as applicable for the cylinder size)
 - v. Trouble shooting guide
 - vi. Full description on construction and operation

2.3.5 Variants of SADC

Vendor shall submit for data sheets and dimensional drawings for each of the following variants. Vendor shall confirm against each size of SADC that can be offered meeting the requirements of all above clauses of the specification.

Sl.no	SADC size Bore X Stroke	BHEL Drawing no.	Rev
1	4"X4"	4-45-000-00655	03
2	4"X4"	4-45-000-01405	01
3	2.5"X5"	4-45-000-01806	00
4	2.5"X5"(without ALV)	4-45-000-01881	00

BHEL will specify the SADC size and positioner type in the enquiry. Vendor shall select the corresponding power cylinder and accessories.

All relevant documents will be approved while signing this MOU. The approval will have validity same as that of this MOU.

2.3.6 Material of Construction and Accessories

	MOC	Vendor to furnish considering all sizes
1	Cylinder Barrel-Seamless steel Pipe	
2	Barrel Inside coating-hard chrome plating	
3	Piston- carbon steel	
4	Piston Rod- Stainless steel/chrome moly steel with hard chrome plating	
5	Piston rod bearing- leaded tin bronze	
6	Piston Seals- viton	
7	Wiper Seals- viton	
8	Gaiter	
	ACCESSORIES	Make & Model
9	Air Set make	
10	Air Lock valve	
11	Pneumatic positioner make	
12	Electro-Pneumatic positioner make	

DATA SHEET

Project Name : DVC CHANDRAPURA 2X250 MW
 Customer No. : R2/4261 AND R2/4262
 Enquiry No. / P.O.No. :
 Material code : L426114520001001, L426114520001002, L426214520001001,
 L426214520001002


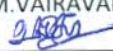
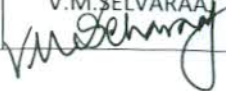
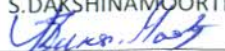
SNo	Description	BHEL Specification	Vendor confirmation
01	Application	Driving Secondary air damper	
02	Construction	Trunnion mounted (But without swivel base and pin) Suitable for outdoor mounting. Back plate inclined at 15 deg to the vertical plane. heavy duty without cushioned ends with gaiter	
03	Operating medium	Compressed air at 3.5 -7 Kg/sq.cm(g)	
04	Duty cycle	Continuous (modulating)	
05	Angle of movement of driven lever	75 degrees	
06	Cylinder bore & stroke	4" X 4"	
07	Ambient	100 deg. C	
08	Relative humidity	90% max	
09	Atmospheric conditions	Dusty, corrosive & polluted	
10	Supply air pressure	4.5 min 7 max kg/sq.cm(g)	
11	Control signal	0.2 to 1 kg/sq.cm(g)	
12	Positioner	Direct acting (Must be possible to change to reverse loading)	
12.1	Positioner Type	Pneumatic or Electro-Pneumatic	
13	Rate of movement	9 mm/sec +/- 1mm/sec Field adjustable	
14	Control characteristics	Linear	
		Extra cam for square	
		Extra cam for square root	
		Accuracy ± 1% of FS	
		Dead band ± 0.1% of FS	
		Hysteresis ±0.5% of FS	
		Repeatability±0.3% of FS	
		Sensitivity ±0.5% of FS	
15	Air connections	Suitable for ¼" OD tubing	
16	Pneumatic piping	Vendor to confirm spec	
17	Air consumption	Vendor to specify	
18	Air set	Set pressure	
		Output gauge	

19	Air lock valves	Self reset airlock relay	
20	Materials of construction	Vendor to specify grade for all materials	
	Cylinder barrel	Seamless c.s. pipe	
	Barrel inside coating	Hard chrome/polished	
	Piston	Carbon steel	
	Piston Rod	SS/Cr-Mo steel w/t HC plating	
	Piston rod bearing	Leaded Tin Bronze	
	Piston seals	Viton	
	Wiper seals	Viton	
	Gaiter	Vendor to specify	
21	Piston rod end size		
21.1	Trunnion & Hole Dim.		
22	Painting	Epoxy	
23	Disposition drawing		
24	Enclosure	NEMA4	
25	Pressure Gauge marking	Kg/sqcm(g)	
26	All accessories piped up	Vendor to confirm	
27	Details submitted for	Commissioning spares	
		2 Years Spares	
		Unit weight (kgs)	
		Dimensional drawing	
		Catalogues	
28	Inspection documents with supplies	Material test certificates Operational test cert.	
29	Marking	Vendor to confirm	
30	Packing	Sea worthy / Land worthy	
31	O&M Manuals	To be furnished for power cylinder & accessories	



CONTROLS AND INSTRUMENTATION/QA/FB

STANDARD QUALITY PLAN FOR PNEUMATIC ACTUATOR (POWER CYLINDER) (OPEN / CLOSE AND REGULATING TYPE)

REV	DATE	PREPARED	REVIEWED	APPROVED	REVISION HISTORY	
00	14/05/1993	Sd/-	Sd/-	Sd/-	Initial release.	
01	16/06/1997	Sd/-	Sd/-	Sd/-	Format revised	
02	21/06/2002	Sd/-	Sd/-	Sd/-	Department name changed, CTQ requirements added & general revisions	
03	08/01/2004	Sd/-	Sd/-	Sd/-	Revised to include the Comments / feedback of internal discussion	
04	14/09/2010	Sd/-	Sd/-	Sd/-	Format changed. Revised as per feedbacks from QC and Engineering during discussion	
05	16/05/2017	V.AVINASH 	RM.VAIRAVAN 	V.M.SELVARAJ 	S.DAKSHINAMOORTHY 	Revised to update the standards. Endurance test definition given in detail.



Sl. No	Component & Operation	Characteristics	Class	Type of Check	Quantum of check		Ref Doc. & Acceptance STD	Format of record	AGENCY			Remarks
					M	B/ C			M	B	C	
A	Raw materials & Brought Out items inspection											
1	cylinder	a. Material	Major	CHEM	OSPL	-	P.O Specification	TC/LGB	V	V	-	
		b. dimension	Major	MEAS	100%	-	Mfr. standard	LGB	P	-	-	
		c. Finish	Major	MEAS	100%	-	Mfr. standard	LGB	P	-	-	
2	Piston rod, Piston Cylinder caps, Piston rings	a. Material	Major	CHEM	OSPL	-	P.O Specification	TC/LGB	V	V	-	
		b. dimension	Major	MEAS	100%	-	Mfr. standard	LGB	P	-	-	
		c. Finish	Major	MEAS	100%	-	Mfr. standard	LGB	P	-	-	
3	"o" ring	a. Material	Major	CHEM	OSPL	-	P.O Specification	TC/LGB	V	V	-	
		b. dimension	Major	MEAS	100%	-	Mfr. standard	LGB	P	-	-	
4	House & Cover	a. Material	Major	CHEM	OSPL	-	Mfr. standard	TC/LGB	V	V	-	
		b. dimension	Major	MEAS	100%	-	Mfr. standard	LGB	P	-	-	
5	Air filter regulator	a. Make & Type	Major	PHYS	100%	-	P.O Specification/ Data sheet	LGB	P	V	-	
		b. Dimension of Process Connection, Filter size	Major	MEAS	100%	-	P.O Specification/ Data sheet	LGB	P	-	-	
		c. Pressure gauge range	Major	PHYS	100%	-	P.O Specification/ Data sheet	LGB	P	-	-	
		d. Calibration / accuracy test, Functional test	Major	PHYS	100%	-	Mfr. standard	LGB	P	v	-	
6	Limit switch	a. Make & Type	Major	PHYS	100%	-	P.O Specification/ Data sheet	LGB	P	v	-	
		b. Functional Check	Major	ELEC	100%	-	Mfr. standard	LGB	P	-	-	
7	Air lock relay	a. Make & Type	Major	PHYS	100%	-	P.O Specification/ Mfr. standard	LGB	P	-	-	
		b. Functional Check	Major	PHYS	100%	-	Mfr. standard	LGB	P	-	-	
8	Solenoid valve	a. Make & Type	Major	PHYS	100%	-	P.O Specification/ Data sheet	LGB	P	v	-	
		b. Functional Check	Major	ELEC	100%	-	Mfr. standard	LGB	P	-	-	
		c. Hydro test	Major	MECH	100%	-	Mfr. standard	TC/LGB	v	-	-	



Sl. No	Component & Operation	Characteristics	Class	Type of Check	Quantum of check		Ref Doc. & Acceptance STD	Format of record	AGENCY			Remarks
					M	B/ C			M	B	C	
9	Positioner (applicable only for regulating Type)	a. Make & Type	Major	VISU	-do-	-	P.O Specification/ Data sheet	LGB	P	V	-	Performance to be Checked during complete assembly testing
		Calibration / Hysteresis and accuracy test	Major	VISU	-do-	-	P.O Specification/ Data sheet	LGB	P	V	-	
10	Position feedback transmitter (applicable only for regulating Type)	a. Type	Major	VISU	100%	-	P.O Specification/ Data sheet	LGB	P	V	-	
		b. Functional type	Major	VISU	100%	-	P.O Specification/ Data sheet	LGB	P	V	-	
B	In-Process Inspection											
1	Routine test	a. Physical Verification of Mounting & Finish	Major	PHYS	100%	20%	P.O Specification/ Data sheet	IR	P	W	-	
		b. Dimensional Check including process connections	Major	MEAS	100%	20%	P.O Specification/ Data sheet	IR	P	W	-	
		c. Linkage Rod dimension	Major	MEAS	100%	20%	Drawing	IR	P	W	-	
		d. Verification of BOM	Major	PHYS	100%	20%	Data sheet	IR	P	W	-	
		e. Stroking length & Operating time	Critical	PHYS	100%	20%	Data sheet	IR	P	W	-	
		f. No load test	Critical	PHYS	100%	20%	Mfr. standard	IR	P	W	-	
		g. Pressure resistance test	Critical	PHYS	100%	Sample / size	Mfr. standard	IR	P	W	-	
		h. Response time test	Critical	PHYS	Sample / size	Sample / size	Mfr. standard	IR	P	W	-	
		i. Functional & Performance test (sensitivity , Repeatability, Accuracy & Hysteresis)	Major	MECH	100%	20%	P.O Specification/ Data sheet	IR	P	W	-	
		j. PFT feedback/functional verification	Major	MECH	100%	20%	P.O Specification/ Data sheet	IR	P	W	-	



Sl. No	Component & Operation	Characteristics	Class	Type of Check	Quantum of check		Ref Doc. & Acceptance STD	Format of record	AGENCY			Remarks
					M	B/ C			M	B	C	
		k. Positioner - functional check	Major	MECH	100%	20%	P.O Specification/ Data sheet	IR	P	W	-	
		l. Stay put device operation	Critical	VISU	100%	20%	P.O Specification/ Data sheet	IR	P	W	-	
		m. Solenoid valve- coil voltage, duty cycle & coil insulation Resistance Test	Major	VISU	100%	20%	P.O Specification/ Data sheet	TC/ COC	V	V	-	Applicable for Open / close type
		n. Air filter element size in microns	Major	VISU	100%	20%	P.O Specification/ Data sheet	COC	V	V	-	
		o. Manual operation check	Major	MECH	100%	20%	P.O Specification/ Data sheet	IR	P	W	-	
2	Type test	a. Load test	Critical	PHYS	One of design		Mfr. standard	TC	V	V	-	
		b. Durability test	Critical	PHYS	One of design		Mfr. standard	TC	V	V	-	In each Torque Range Refer Note :11



C.NOTES:

1.LEGENDS:

MECH	:	Mechanical	MEAS	:	Measurement
ELEC	:	Electrical	LGB	:	Log Book
CHEM	:	Chemical	TC	:	Test certificate
VISU	:	Visual	IR	:	Inspection Report
PHYS	:	Physical	COC	:	Certificate of compliance
OSPL	:	One sample per lot			

2. The vendor at their works shall arrange all testing facilities. Tests for which facilities are not available are to be carried out at recognized National Test Houses like ETDC/CIL/NPL/ERTL etc., at vendor cost.
3. Through Log Book / any other documents available at the vendor's works, it shall be possible to correlate the finished products with raw material and in process stage checks/ inspection carried out.
4. All Measuring and Testing Instruments shall be periodically calibrated by the Laboratory accredited by NABL and certificate shall be provided during inspection.
5. All Test certificates/ Report shall be submitted to GSECL/DCPL for verification.
6. Type test certificate shall not be earlier than 5 years from the date of Purchase enquiry.
7. BHEL approved specification , drawing and data sheet shall be used

8. Vendor to given tentative inspection program in advance and confirm exact date two weeks in advance for arranging inspection.

9. Packing shall be as per the "PACKING PROCEDURE" indicated in the specification.

10. Inspection / verification will be carried out by BHEL / Authorized Inspection Agency at vendor works.

11.Durability Test: The number of stroking cycles shall be conducted as below:

Torque Range	No. of cycles to be conducted
0-50kgm	250000
50-200kgm	200000
200-1000kgm	100000

One Cycle consist of nominal 90 degree angular travel in both the directions (90 degree to open and 90 degree to close). For angular other than 90 degree, the endurance shall be agreed between the purchaser and manufacture / supplier. This test shall be conducted on any one size (Bore x Dia) of Power Cylinder.



An ISO 9001
Company

Bharat Heavy Electricals Limited
(High Pressure Boiler Plant)
Tiruchirappalli-620 014, Tamil Nadu, India
Dept: MATERIALS MANAGEMENT/BOI

Annexure – T- Additional Terms and Conditions

The terms and condition mentioned in this document are applicable for this enquiry. Bidders shall furnish pointwise confirmation/details.

Description of the Equipment:	SADC Power cylinder
Projects	DVC Chandrapura Unit 7 & 8 R&M Project
BHEL Tender No. & Date	1802200024 dt 14.02.2022
Name of the firm (Bidder)	:
Address	:
Contact details	<p><u>Contact person 1</u> Name: Designation: Office Phone: Mobile: e-mail:</p> <p><u>Contact person 2</u> Name: Designation: Office Phone: Mobile: e-mail:</p>

To be filled by bidder

Sl. No.	Terms and conditions	Vendor's confirmation
1.	<p><u>Technical:</u></p> <p>Bidder shall comply the specification requirements and shall submit the duly filled in specifications along with supporting document as per BHEL Specification. Any clarifications/deviations to the specification requirements are to be clearly indicated. Hidden deviations indicated elsewhere in the offer will not be evaluated.</p> <p>Applicable Technical specifications:</p> <p>MOU/TPBHEL/SADC REV.01.</p> <p>Applicable Quality Plan: QA:CI:STD:QP:42 Rev 05</p> <p>No deviation format to be submitted along with your offer.</p>	
2.	<p><u>Pre-qualification requirement:</u></p> <p>Offer shall be considered only if bidder is meeting Tender Prequalification requirement. Vendor to comply with Pre-Qualification requirement of the tender and submit along with their technical bid - the credentials and other</p>	

	documents as indicated in the PQR in the format prescribed. Otherwise their offer will get rejected.	
3.	<p><u>CUSTOMER APPROVAL</u></p> <p>Vendor offers will be considered for price bid opening subject to fulfilment of techno commercial suitability and vendor approval by end customer before price bid opening.</p> <p>Vendor firms not approved by end customer shall submit supporting documents/Credentials for taking up with end customer for their approval.</p>	
4.	Inspection by BHEL/ BHEL approved TPIA/Customer.	
5.	<p><u>Firm Price:</u></p> <p>The quoted / finalised rates shall be Firm till execution of the supplies. Offer with PVC clause will not be considered.</p>	
6.	<p><u>Payment term</u></p> <p>“100% direct EFT payment after 60 days from the date of receipt & acceptance of material at our stores.”</p> <p>For MSE vendors, Payment term shall be as per MSME act.</p> <p>No deviation is permitted. Any deviation in the above payment term, any other conditions in payment term or any other payment term may not be accepted and the offers of such vendors are liable for rejection.</p>	
7.	<p><u>Delivery terms:</u></p> <p>FOR BHEL Trichy Stores basis</p> <p>The quote shall be on respective destination basis, inclusive of Packing & forwarding and Freight charges to your account.</p> <p>Transit Insurance is under BHEL scope.</p>	
8.	<p><u>TENDER FINALIZATION:</u></p> <p>Tender will be finalized on total package basis and on TWO part bid basis.</p> <p>Evaluation shall be on total landed cost to BHEL on FOR destination basis.</p>	
9.	<p><u>Guarantee / Warranty Period:</u></p> <p>18 months from the date of supply or 12 months from date of commissioning, whichever is earlier.</p>	
10.	<p><u>Repair & replacements:</u> Within the guarantee period vendor has to replace / rectify the defective/ damaged items on free of cost within a reasonable time of reporting from our end.</p>	
11.	<p><u>Loading Criteria:</u></p>	

	Guarantee / Warranty Period: No Deviation is permitted. If still vendor offered any deviation on the Guarantee / warranty period, it may lead to rejection of offer.	
12.	Kindly Indicate the HSN Code for all items	
13.	<p><u>Delivery Period:</u></p> <p>Delivery shall be</p> <p>DVC Chandrapura Unit 7 - 90 days from Document approval DVC Chandrapura Unit 8 -120 Days from Document approval Spares -150 Days from Document approval</p> <p>Manufacturing clearance for Main supply and spares for each Package will be provided unit wise based on Documents approval from Customer /BHEL and site erection schedule.</p> <p>Material shall be dispatched after obtaining dispatch clearance from BHEL. Delivery period mentioned anywhere else in the bid document is for indicative purpose.</p>	
14.	<p><u>Document Submission:</u></p> <p>In case of PO placements, required documents have to be submitted for approval within 15 days from the date of PO & reply for any further clarification has to be within 4 days. Any delay beyond the above specified period will be considered during LD calculation.</p>	
15.	<p><u>Liquidated damages:</u></p> <p>a) Time is the essence of the contract.</p> <p>b) The ordered items shall be delivered as per the delivery period mentioned in the Purchase Order.</p> <p>c) In case the supplier supplies the ordered items beyond the delivery period specified, Liquidated Damages -LD - as detailed below will be levied from the supplier without prejudice to any other relief /compensation available to BHEL, Tiruchirappalli under any other condition of the contract/applicable legal provisions.</p> <p>d) Failure to dispatch the materials in the time as per the delivery quoted in our Purchase Order(PO) would make the supplier liable to an unconditional LD at the rate of 0.5% of the undelivered portion per week of the delay or part thereof subject to a maximum of 10% of Purchase order value.</p> <p>e) Any deviation from the above LD clause, loading will be applied to the extent to which it is not agreed by the bidder (at offered value).</p> <p>f) Under GST regime, BHEL has to discharge GST liability on LD recovered from suppliers. Hence applicable GST shall also be recoverable from suppliers on LD amount. Debit note will be issued by BHEL for this amount, indicating the respective supply invoice number.</p> <p>g) Invoice date/Bill of Lading date/Airway Bill date/Lorry way bill date/Railway Receipt date/E way bill date, whichever is later will be considered for LD calculation.</p>	

16.	<p><u>Risk purchase clause:</u> In the event of any successful Tenderer's failure to fulfil any of the tender / Contract obligations including supply of whole or any part of the ordered items as per Contract / Agreement, BHEL has the right to terminate the contract and purchase from elsewhere, at the risk and cost of the defaulted supplier, either the whole of the goods or any part which the supplier has failed to deliver or dispatch within the time stipulated in the contract or if the same were not available, the best and nearest available substitute thereof. The supplier shall be liable for the additional expenditure/difference in Cost, if any, including consequential losses which BHEL may sustain by reason of risk purchase in addition to the applicable LD as per the Purchase order/contract.</p> <p>a) The decision of BHEL with regard to the additional expenditure / difference in cost and consequential losses incurred by BHEL shall be final and binding on the supplier.</p> <p>b) The amount recoverable under risk purchase shall be recovered from the defaulted supplier in all or any of the following manners:</p> <ul style="list-style-type: none"> • from dues available in the form of Bills payable to defaulted supplier, SD, BGs against the same contract. • from the dues payable to defaulted supplier against other contracts in the same Region/Unit /any other region/unit <p>c) In-case recoveries are not possible with any of the above available options, Legal action shall be initiated for recovery against defaulted supplier.</p> <p>d) Withdrawal of offer after price bid opening or varying the same in any manner within the validity period, but before the placement of order will be liable for suitable action for suspension of further business with the vendor as per BHEL corporate procedures.</p> <p>e) Abridged version of extant 'Guidelines for suspension of business dealings with suppliers/ contractors' has now been uploaded on www.bhel.com on "supplier registration page" at the following link: http://www.bhel.com/vender_registration/vender.php (Guidelines for suspension of business dealings with suppliers/ contractors).</p>	
17.	<p><u>Validity:</u> 90 days minimum from techno commercial bid opening (Part-1). Any Deviation with respect to validity your offer will not be considered. Ensure your quoted rates will have 90 days' minimum validity from techno commercial bid opening. The delay in technical clarification beyond four days will be subsequently added to the validity period, Revised Price Bids will not be encouraged.</p>	
18.	<p>Documents are to be submitted along with technical bid (Part-1)</p> <ol style="list-style-type: none"> 01. Covering letter 02. Unpriced offer. 03. Filled technical specification and BHEL datasheets. 04. Filled BHEL Terms and condition sheet (Annexure-A) 05. Filled in PQR along with supporting documents. 06. GA Drawing 07. Self-Certification as per Make in India clause 08. MSE Certificates (if applicable) <p><u>Note:</u> All the pages of documents are to be signed and sealed by authorized signatory of the company. Any query during enquiry stage</p>	

	shall be replied within two days failing which offer may be rejected as non-responsive.	
19.	<p><u>Inspection and testing requirements:</u></p> <p>Inspection and testing requirements are to be carried out as per the specification and BHEL/Customer approved Drawing (All documents shall be submitted within 15 days from the date of PO for our approval), Technical spec & QP and all test certificates are to be submitted in complete set.</p> <p>Inspection notice period: For TPI inspector visit to vendor works, a minimum of 3 working days' notice period.</p>	
20.	Supplier shall mention their GSTN registration number in all their invoices and invoices shall be in the format as specified/prescribed under GST laws. Invoices shall necessarily contain Invoice number (in case of multiple numbering system is being followed for billing like SAP invoice no, commercial invoice no etc., then the Invoice No which is linked/uploaded in GSTN network shall be clearly indicated), item description as per PO, Quantity, Rate, Value, applicable taxes with nomenclature (like IGST, SGST, CGST & UTGST) separately, HSN/ SAC Code, etc.	
21.	All invoices shall bear the HSN Code for each item separately (Harmonized System of Nomenclature)/ SAC code (Services Accounting Code).	
22.	<p>Invoices will be processed only upon completion of statutory requirement and further subject to following:</p> <ul style="list-style-type: none"> • Vendor declaring such invoice in Form GST ANX-1 • Receipt of Goods or Services and Tax invoice by BHEL 	
23.	As the continuous uploading of tax invoices in GSTN portal (in GST ANX-1) is available for all (i.e. both Small & Large) tax payers under proposed new GST Return System, all invoices raised on BHEL may be uploaded immediately in GST portal on despatch of material /rendering of services. The supplier shall ensure availability of Invoice in GST portal before submission of invoice to BHEL. Invoices will be admitted by BHEL only if the invoices are available in GSTN portal (in BHEL's GST ANX-2).	
24.	In case of discrepancy in the data uploaded by the supplier in the GSTN portal or in case of any shortages or rejection in the supply, then BHEL will not be able to avail the tax credit and will notify the supplier of the same. Supplier has to rectify the data discrepancy in the GSTN portal or issue credit note or debit note (details also to be uploaded in GSTN portal) for the shortages or rejections in the supplies or additional claims, within the calendar month informed by BHEL.	
25.	In cases where invoice details have been uploaded by the vendor but failed to remit the GST amount to GST Department (Form PMT-08 or Form GST RET-01 to be submitted) within stipulated time, then GST paid on the invoices pertaining to the month for which GST return not filed by the vendor will be recovered from the vendor along with the applicable interest (currently 24% p.a) and all subsequent bills of the vendor will not be processed till filing of the GST return by the vendor	
26.	In case GST credit is denied to BHEL due to non-receipt or delayed receipt of goods and/ or tax invoice or expiry of timeline prescribed in GST law for availing such ITC, or any other reasons not attributable to BHEL, GST amount claimed in the invoice shall be disallowed to the vendor.	

27.	Where any GST liability arising on BHEL under Reverse Charge (RCM), the vendor has to submit the invoices to BHEL well within the timeline prescribed in GST Law, to enable BHEL to discharge the GST liability. If there is a delay in submission of invoice by the vendor resulting in delayed payment of GST by BHEL along with Interest, then such Interest payable or paid shall be recovered from the vendor.	
28.	Under GST regime, BHEL has to discharge GST liability on LD recovered from suppliers/contracts. Hence applicable GST shall also be recoverable from suppliers/contractors on LD amount. For this Tax Invoice will be issued by BHEL indicating the respective supply invoice number.	
29.	GST TDS will be deducted as per Section 51 of CGST Act 2017 and in line with Notification 50/2018 – Central Tax dated 13.09.2018. GST TDS certificate which will be generated in GST portal subsequent to vendor accepting the TDS deduction in the GST portal, will be issued to the vendor.	
30.	A declaration to the effect that all invoice particulars are/were uploaded in the GSTN network/ portal & all tax liability as per GST rules and regulations have been and will be discharged, shall be mentioned in the invoice. If not mentioned in the invoice, a separate declaration shall be submitted as per the requirement of BHEL	
31.	<p><u>BILL PROCESSING METHOD:</u></p> <p>“Supplier has to ensure the full quantity of material delivery within given PO delivery date to process the bill for payment. In case supplier fails to deliver full quantity within delivery date, bills received after PO delivery date will be processed after final despatch of the total pending supply. Further, bills will be clubbed and forwarded for payment processing as a single bunch”.</p>	
32.	<p><u>MSE VENDOR:</u></p> <p><i>i. If L1 vendor is an MSE vendor entire project package will be ordered on L1 vendor.</i></p> <p><i>ii. If a Non MSE vendor is coming as L1, then L1 prices will be counteroffered on MSE vendor who is quoting price within the price band L1+15% and if they are agreeing, purchase order will be awarded for full/complete supply of total tendered value to MSE.</i></p> <p><i>iii. If more than one MSE vendors are available in the L1+15% price band then lowest of the MSE vendor will be selected for counteroffering. If lowest MSE vendor is not accepting it will be counteroffered to the next MSE vendor in the price band and so on.</i></p> <p><i>iv. Finally if none of the MSE vendor in the price band is not accepting it will be ordered on L1 non MSE vendor.</i></p> <p>Payment for MSE Indigenous vendors will be as per MSMED Act, 2006</p> <p>MSE suppliers can avail the intended benefits only if they submit <i>Udyam Registration certificate.</i></p>	

	Non submission of such documents will lead to consideration of their bid at par with other bidders. No benefit shall be applicable for this enquiry, in case of any deficiency in the above required documents or in case the documents are not submitted before price bid opening.	
33.	<u>Make in India:</u> As per the clause no 4 as defined in Public Procurement (Preference to Make in India), Order 2017 dated 04.06.2020 issued by DPIIT, purchase preference is not applicable for local suppliers in this enquiry.	
34.	<u>ARBITRATION & CONCILIATION:</u> Except as provided elsewhere in this Contract, in case amicable settlement is not reached between the Parties, in respect of any dispute or difference; arising out of the formation, breach, termination, validity or execution of the Contract; or, the respective rights and liabilities of the Parties; or, in relation to interpretation of any provision of the Contract; or, in any manner touching upon the Contract, then, either Party may, by a notice in writing to the other Party refer such dispute or difference to the sole arbitration of an arbitrator appointed by Head of the BHEL Unit/Region/Division issuing the Contract. The Arbitrator shall pass a reasoned award and the award of the Arbitrator shall be final and binding upon the Parties. Subject as aforesaid, the provisions of Arbitration and Conciliation Act 1996 (India) or statutory modifications or re-enactments thereof and the rules made thereunder and for the time being in force shall apply to the arbitration proceedings under this clause. The seat of arbitration shall be (the place from which the contract is issued). The cost of arbitration shall be borne as per the award of the Arbitrator. Subject to the arbitration in terms of Clause above, the Courts at TRICHY shall have exclusive jurisdiction over any matter arising out of or in connection with this Contract. Notwithstanding the existence or any dispute or differences and/or reference for the arbitration, the contractor shall proceed with and continue without hindrance the performance of its obligations under this contract with due diligence and expedition in a professional manner except where the Contract has been terminated by either Party in terms of this Contract. In case of contract with Public Sector Enterprise (PSE) or a Government Department, the following shall be applicable: In the event of any dispute or difference relating to the interpretation and application of the provisions of the Contract, such dispute or difference shall be referred by either Party for arbitration to the sole arbitrator in the Department of Public Enterprises to be nominated by the Secretary to the Government of India in-charge of the Department of Public Enterprises. The Arbitration and Conciliation Act, 1996 shall not be applicable to arbitration under this clause. The award of the arbitrator shall be binding upon the Parties to the dispute, provided, however, any Party aggrieved by such award may make further reference for setting aside or revision of the award to the Law Secretary, Department of Legal Affairs, Ministry of Law and Justice, Government of India. Upon such reference the dispute shall be decided by the Law Secretary or the Special Secretary or Additional Secretary when so authorized by the Law Secretary, whose decision shall bind the Parties hereto finally and conclusively. The	

	Parties to the dispute will share equally the cost of arbitration as intimated by the Arbitrator.	
35.	<p><u>Suspension of Business Dealings with Suppliers/ Contractors</u></p> <p>The offers of the bidders who are under suspension as also the offers of the bidders, who engage the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL web site www.bhel.com.</p> <p>Integrity commitment, performance of the contract and punitive action thereof:</p> <p>1. Commitment by BHEL</p> <p>BHEL commits to take all measures necessary to prevent corruption in connection with the tender process and execution of the contract. BHEL will during the tender process treat all Bidder(s) in a transparent and fair manner, and with equity</p> <p>2. Commitment by Bidder/ Supplier/ Contractor</p> <p>a The bidder/ supplier/ contractor commit to take all measures to prevent corruption and will not directly or indirectly influence any decision or benefit which he is not legally entitled to nor will act or omit in any manner which tantamount to an offence punishable under any provision of the Indian Penal Code, 1860 or any other law in force in India.</p> <p>b The bidder/ supplier/ contractor will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract and shall adhere to relevant guidelines issued from time to time by Govt. of India/ BHEL</p> <p>c The bidder/ supplier/ contractor will perform/ execute the contract as per the contract terms & conditions and will not default without any reasonable cause, which causes loss of business/ money/ reputation, to BHEL. If any bidder/ supplier/ contractor during pre-tendering/ tendering/ post tendering/ award/ execution/ post-execution stage indulges in mal-practices, cheating, bribery, fraud or and other misconduct or formation of cartel so as to influence the bidding process or influence the price or acts or omits in any manner which tantamount to an offence punishable under any provision of the Indian Penal Code, 1860 or any other law in force in India, then, action may be taken against such bidder/ supplier/ contractor as per extant guidelines of the company available on www. bhel.com and/or under applicable legal provisions. Guidelines for suspension of business dealings is available in the webpage: http://www.bhel.com/vender_registration/vender.php</p>	
36.	<p><u>Fraud Prevention Policy</u></p> <p>Bidder along with its associate /collaborators /sub-contractors /sub-vendors / consultants / service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website http://www.bhel.com and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to their notice.</p>	
37.	<p><u>Resolution of Disputes</u></p> <p>The Parties agree that if at any time (whether before, during or after the arbitral or judicial proceedings), any Disputes (which term shall mean and include any dispute, difference, question or disagreement arising in</p>	

connection with construction, meaning, operation, effect, interpretation or breach of the contract/tender which the Parties are unable to settle mutually), arise inter-se the Parties, the same may, be referred by either party to Conciliation to be conducted through Independent Experts Committee to be appointed by competent authority of BHEL from the BHEL Panel of Conciliators.

The proceedings of Conciliation shall broadly be governed by Part-III of the Arbitration and Conciliation Act 1996 or any statutory modification thereof.

Notes:

1. No serving or a retired employee of BHEL/Administrative Ministry of BHEL shall be included in the BHEL Panel of Conciliators.
2. Any other person(s) can be appointed as Conciliator(s) who is/are mutually agreeable to both the parties from outside the BHEL Panel of Conciliators.

The proceedings of Conciliation shall broadly be governed by Part-III of the Arbitration and Conciliation Act 1996 or any statutory modification thereof and as provided in Annexure X to this Enquiry Conditions.

The Annexure together with its appendices will be treated as if the same is part and parcel hereof and shall be as effectual as if set out herein in these Enquiry Conditions

Except as provided elsewhere in this Contract, in case amicable settlement is not reached between the parties, in respect of any dispute or difference; arising out of the formation, breach, termination, validity or execution of the Contract; or, the respective rights and liabilities of the Parties; or, in relation to interpretation of any provision of the Contract ; or , in any manner touching upon the Contract, then, either Party may , by a notice in writing to other Party refer such dispute or difference to sole arbitration of an arbitrator appointed as per the Arbitration and Conciliation Act, 1996 (India) or statutory modification or re-enactment thereof and the rules made thereunder and for the time being in force .

The Arbitrator shall pass a reasoned award and the award of the Arbitrator shall be final and binding upon the parties. Subject as aforesaid, the provision of Arbitration & Conciliation Act 1996 (India) or statutory modification or re-enactment thereof and the rules made thereunder and for the time being in force shall apply to the arbitration proceeding under this clause.

The seat of arbitration shall be Trichy, Tamil Nadu, India.

The cost of arbitration shall be borne as per the award of the Arbitrator.

Subject to arbitration in terms of clause above, the Courts at Trichy, Tamil Nadu, India shall have exclusive jurisdiction over any matter arising out of or in connection with this Contract.

	<p>Notwithstanding the existence or any dispute or difference and/or reference for the arbitration, the vendor shall proceed with and continue without hindrance the performance of its obligation under this Contract with due diligence and expedition in a professional manner except where the Contract has been terminated by either Party in terms of this Contract.</p> <p>In Case of Contract with Public Sector Enterprise (PSE) or a Government Department, the following shall be applicable: In the event of any dispute or difference relating to the interpretation and application of the provisions of commercial contract(s) between Central Public Sector Enterprises (CPSEs)/Port Trusts inter se and also between CPSEs and Government Departments/Organizations (Excluding disputes concerning Railways, Income Tax, Customs & Excise Departments, such dispute or difference shall be taken up by either party for resolution through AMRCD as mentioned in DPE OM No. 4(1)/2013 –DPE (GM)/FTS-1835 dated 22-05-2018.</p>	
38.	<p><u>PRICE IMPACT:</u> All the technical / commercial details given in the enquiry shall be taken care and offer shall be quoted accordingly. No price impact / implication will be accepted within the validity period.</p>	
39.	<p><u>BHEL reserve the right to inspect the item ordered at any stage at vendor's works and if found not meeting the stipulated conditions, material is liable for rejection</u></p>	
40.	<p><u>OTHER TERMS AND CONDITIONS:</u></p> <ul style="list-style-type: none"> • No revision of prices will be entertained at any circumstances after tenders are opened. • On the due date of tender opening, only the Techno-commercial bids will be opened. Techno-commercial bids will be evaluated by us and clarifications required, if any, will be called from the bidders on technical and commercial points. • If any difference is found in the terms in the Techno-commercial bid and price bid, the terms mentioned in the Techno-Commercial Bid will be considered. • BHEL reserves the right to negotiate or refloat the tender opened, if L1 price is not the lowest acceptable price to BHEL due to inter-alia other reasons. • The correspondence between the bidder and BHEL through Email is considered as valid document Legally though not signed. It is treated as valid confirmations made on behalf of the respective company and comes under the legal ambit of the business transaction and hence binding on both the parties. • If The Due Date Of Tender Opening Happens to be a Holiday, those tenders Will Be Opened On Next Working Day. • The quality of the supplies should strictly conform to technical specifications applicable for the item. The offer should specifically confirm this. • If any quality problem is pointed out by BHEL w.r.t. supplied material, the same shall be settled and corrected immediately by the supplier. If the material cannot be accepted by BHEL, supplier has to replace the material with no extra cost. Collection of rejected material will be sole responsibility of the supplier. • BHEL reserves the right to cancel the tender at any stage without giving any reasons. 	

	<ul style="list-style-type: none">• In the event of our customer order covering this tender being cancelled /placed on hold / otherwise modified, BHEL would be constrained to accordingly cancel / hold / modify the tender at any stage of execution.• BHEL may negotiate the L1 rate, if not meeting our budget / estimated cost. BHEL may re-float the tender opened, if L1 price is not acceptable to BHEL.• BHEL reserves its right to reject an offer due to unsatisfactory past performance by the respective Vendor in the execution of any contract to any BHEL project / Unit.• Any other Techno –Commercial Terms indicated by the vendor in their offer elsewhere will be ignored. BHEL will proceed with tender evaluation as per Annexure A only.• For any clarifications, you may contact to the following Email ID : a) akhildas@bhel.in
Note	<p>For more details please refer to Ref. NIT of BHEL’s website http://www.bhel.com (tender notification page) or from the govt. tender website http://tender.gov.in (Public Sector Units Bharat Heavy Electricals Limited page) or CPP portal https://eprocure.gov.in/eprocure/app.</p> <p><i>Important: All updates, amendments, corrigendum etc., if any will be posted only on the above website as and when required. There will be no publication of the same through any other media.</i></p>

/ On Bidder's office letter pad /
Self-Declaration – ANNEXURE B

Enquiry No.	<u>1802200024</u>
Enquiry Date	<u>14.02.2022</u>

In line with Government public procurement order Number P-45021/2/2017-B.E-II dated 15.06.2017, and further modified order dt. 28.05.2018 & order 04.06.2020 issued by DPIIT

I / We hereby declare that I / We are a “Local Supplier” meeting the requirement of minimum local content (.....%) defined in the above government notification for the goods against above mentioned enquiry Number.

Details of location at which local value addition will be made is as follows:

Door No.	
Street / Address 1	
Street / Address 2	
District	
State	
Country	
PIN Code	

We also understand that the false declarations will be considered as breach of Integrity and liable for action.

For Company Name:

Seal:

Signature:

Date:

Place:

(Please fill all the yellow color field)

Annexure-D

SUB-DELIVERY ENQUIRY DEVIATION FORMAT

	MATERIALS MANAGEMENT / BOI SUB-DELIVERY ENQUIRY DEVIATION FORMAT	
Schedule of deviation to Sub-delivery Enquiry No.	: 1802200024 dt 14.02.2022	
Description	: SADC Power cylinder for DVC Chandrapura Unit 7 & 8 R&M Project	
Technical Specifications Document	: MOU/TPBHEL/SADC REV.01.	
Drawing Nos.	:	
Quality Plan	: QA:CI:STD:QP:42 Rev 05	
Packing Procedure	:	
Document reference	BHEL called for	Firm's
Certified that other than the above deviations, we are accepting all the other specifications and requirements in full to your Enquiry.		
Station :		
Date :	Signature of firm's representative	Firm seal
Note :	1. Deviations should be taken only in the extreme case 2. If necessary, use additional sheets with page control number	