



BHARAT HEAVY ELECTRICALS LIMITED
HEAVY POWER EQUIPMENT PLANT
PURCHASE DEPARTMENT/PUMPS
RAMACHANDRAPURAM, HYDERABAD

Project: 2x660 MW NTPC Talcher

Enquiry:F7A1X51490

Sl.No	Material Code	Material Description	BHEL Drawing/ Spec. - Var.	Quantity	Required Delivery Date	Delivery Period Quoted by Vendor from the date of approved Drawing of QAP whichever occurs later	Delivery Place
1	FP9760352001	SLURRY RC PUMP NTPC TALCHER 14550	FP60352	8	15.03.2025		Site/NTPC Talcher
2	FP9760352052	CONNECTING COUPLINGS 1 NO EACH TYPE	FP60352	1	25.09.2025		Site/NTPC Talcher
3	FP9760352087	THERMOCOUPLE 2 NO EACH TYPE	FP60352	2	25.09.2025		Site/NTPC Talcher
4	FP9760352095	THERMO WELL 2 NO EACH TYPE	FP60352	2	25.09.2025		Site/NTPC Talcher
5	FP9760352079	RTD 2 NO OF EACH TYPE AND LENGTH	FP60352	2	25.09.2025		Site/NTPC Talcher
6	FP9760352060	TRANSMITTERS OF ALL TYPE RANGE and MODEL	FP60352	1	25.09.2025		Site/NTPC Talcher
7	FP9760352044	BEARINGS 2 NO EACH TYPE	FP60352	2	25.09.2025		Site/NTPC Talcher
8	FP9760352036	SEALS	FP60352	3	25.09.2025		Site/NTPC Talcher
9	FP9760352028	CASING LINER	FP60352	2	25.09.2025		Site/NTPC Talcher
10	FP9760352010	IMPELLER ASSEMBLY FOR VAR 01	FP60352	1	25.09.2025		Site/NTPC Talcher

Note:

- 1-Vendor to provide the best delivery period inline with BHEL requirement.BHEL has right to reject/accept the offer based on delievry date.Quoted price includes GST, Packing , Forwarding etc.
- 2-Item shall be supplied as per BHEL Specification.
- 3-The evaluation of the tender shall be on the basis of lowest of " Total cost to BHEL of all items in the enquiry put together".
- 4-This is a domestic open tender. Only indigenou suppliers are allowed. Quoted price shall be on FOR NTPC Talcher site basis.
- 5-The drawings / quality plans as applicable shall be submitted within 14 days from Purchase Order date.
- 6-BHEL ITB is applicable for the tender.
- 7-Offers received through open tender will be evaluated and the technically suitable vendors shall be taken up with customer for their acceptance.The price bids of those vendors, who are approved/accepted by customer shall be opened & the price bids of those vendors, who are not approved/accepted by customer shall not be opened.
- 8-As there is no provision in GeM for any type of loading, any deviation apart from tender terms and conditions will not be considered and shall be ignored.
- 9-PBG of 10% of contract Value is applicable (Warranty period plus 3 Months)
- 10- Reverse Auction is not applicable for subject tender

Annexure-I


RC Pump and Mandatory Spares: NTPC Talcher

Major Activity timelines shall be considered for indigenous purchases

S No	Activity	Agency	Timeline	Acceptance / Remarks
1	PO acknowledgement	Vendor	04 days from the date of receipt of PO	
2	Submission of Motor data to BHEL	Vendor	10 days from the date of receipt of PO	
3	Motor GA drawing provided to vendor by BHEL	BHEL	15 days from the date of motor data received by vendor	
4	First submission of Drawings and QP Rev-00 of RC Pump	Vendor	15 days from the date of Motor Drawing received from BHEL.	
5	commented / approved drawings / data sheets and QP to vendor	BHEL/Customer	15 days from the receipt of Rev-00 submission.	
6	Subsequent submission of revised drawings / data sheets and QP	Vendor	07 days from the receipt of commented drawings / data sheets and QP	
7	Subsequent Approved /commented Drawings and QP to vendor	BHEL/Customer	07 days from the date of receipt of revised drawings / data sheets and QAP.	
8	Raising of Inspection Call	Vendor	07 days before the proposing inspection date. (BHEL will provide approved QP before raising inspection call)	
9	Inspection completion	BHEL Third party inspection agency / Customer	07 days from inspection call date.	
10	Despatch Instructions	BHEL	07 days from the date of receipt of final approved inspection report to BHEL.	
11	Receipt of Material at BHEL stores/ site	Vendor	15 days from Despatch instructions	

Absence of this annexure in NIT will entail non processing of delivery extension cases in case of delay in supplies of goods owing to reason attributable to BHEL.

Vendor's Signature

TD-106 Rev No. 00	Form No.		PRODUCT STANDARD PUMPS HYDERABAD		FP60352																		
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<u>TECHNICAL SPECIFICATION FOR ABSORBER SLURRY RECIRCULATION PUMP</u>																							
<p data-bbox="162 546 251 1554" style="writing-mode: vertical-rl; transform: rotate(180deg);"> COPYRIGHT AND CONFIDENTIAL The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED, It must not be used directly or indirectly in any way detrimental to the interest of the company. </p> <p data-bbox="316 388 673 430">1. Intent of specification</p> <p data-bbox="365 451 1437 588">This specification is intended to cover the design, engineering, manufacturing, inspection and testing at manufacturer's works, packing and delivery to site, supervision of erection and commissioning of Slurry Recirculation pump along with its accessories complete in all respects.</p> <p data-bbox="365 619 1437 724">Each FGD system associated with 250/500/660/800MW unit shall have recirculation pumps located inside Recirculation pump & Oxidation blower house. The pumps shall be suitable for outdoor application. The pumps shall be driven by a constant speed motor.</p> <p data-bbox="365 756 1437 892">The offered pump model shall be proven and must meet the proven-ness criteria indicated at clause 3. The list of deviations/exceptions with respect to the specification shall be submitted as per annexure-4. Deviations not listed in the format shall not be considered. No deviations/exceptions shall be permitted without the approval of purchaser.</p> <p data-bbox="365 924 1437 1060">In case of additional requirement of instrumentation, controls and other accessories/auxiliaries for safe, reliable and trouble-free operation of the pump, necessary reasons for recommendation shall be furnished and the same shall be included in scope of supply with the purchaser's approval.</p> <p data-bbox="316 1102 812 1144">2. Applicable codes and standards</p> <p data-bbox="365 1176 1437 1249">The design, manufacture and performance testing of the pumps as specified herein shall comply with requirement of all applicable codes in particular the following.</p> <table data-bbox="365 1281 1437 1596"> <tr> <td>1. ANSI HI 12.1~12.6:</td> <td>Rotor dynamic Centrifugal slurry pumps</td> </tr> <tr> <td>2. API 682:</td> <td>Shaft sealing system for centrifugal & rotary pump</td> </tr> <tr> <td>3. API 670:</td> <td>Machinery protection system</td> </tr> <tr> <td>4. ANSI B16.5, B16.47:</td> <td>Pipe flanges and flange fittings</td> </tr> <tr> <td>5. ANSI B16.9:</td> <td>Butt weld fittings</td> </tr> <tr> <td>6. ANSI B16.11:</td> <td>Forged steel fittings, socket welded and threaded</td> </tr> <tr> <td>7. ASTM:</td> <td>For various materials & tests</td> </tr> <tr> <td>8. ASME sec VIII div. 1</td> <td></td> </tr> <tr> <td>9. ISO 9906</td> <td>Rotor dynamic pumps hydraulic performance acceptance</td> </tr> </table>						1. ANSI HI 12.1~12.6:	Rotor dynamic Centrifugal slurry pumps	2. API 682:	Shaft sealing system for centrifugal & rotary pump	3. API 670:	Machinery protection system	4. ANSI B16.5, B16.47:	Pipe flanges and flange fittings	5. ANSI B16.9:	Butt weld fittings	6. ANSI B16.11:	Forged steel fittings, socket welded and threaded	7. ASTM:	For various materials & tests	8. ASME sec VIII div. 1		9. ISO 9906	Rotor dynamic pumps hydraulic performance acceptance
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Ref. Doc	Revisions: Refer record of revisions	Prepared: JD	Approved: SK	Date: 28.04.23																			



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3. Provenness Criteria

Slurry Recirculation Pumps for the Wet Limestone based Flue Gas Desulphurization (FGD) System offered by the Bidder shall be only from such manufacturer(s) who has previously designed (either by itself or under collaboration / licensing agreement), manufactured / got manufactured the respective equipment(s) of the type, application and minimum equipment rating as stipulated below such that the respective equipment(s) should have been in successful operation in at least one (1) plant for a period not less than one(1) year:

Documentary evidence as per annexure-3 at clause 23.3, shall be submitted along with the offer

4. Scope of supply

Supplier scope shall include Design, Supply, Engineering Coordination and Supervision of Erecting & Commissioning of slurry recirculation pump, gear box, connecting couplings, baseplate, along with instrumentation and associated sub systems. It shall cover complete recirculation pump unit including sub-systems, start-up spares and special tools and tackles.

Design includes basic and detail engineering, preparation and submission of engineering drawings, calculations, datasheets, quality assurance documents, field quality plans and storage instructions, commissioning procedures, operation & maintenance manuals and performance guarantee test procedures.

Supply includes manufacturing, shop floor testing, stage inspections, final inspections, painting, packing & transportation to site, customer clearance/port clearance and any other statutory clearances/receipts.

Engineering Coordination shall include full responsibility of design integration, inspection and test, installation/startup supervision, functioning and performance of equipment and auxiliaries. Analysis of complete driven equipment, gear, driver including lateral, torsional vibration and train performance. Coordination between driver and driven equipment, seals, oil system, couplings, guards, control and protection system, connecting piping, wiring if any. Submitting train drawings such as general arrangement, foundation, piping, instrumentation etc. even if driver is provided by BHEL. The supplier shall incorporate driver details in all the relevant drawings.

Supervision of Erection & commissioning includes supervision of erection & commissioning, supervision of trial operation, training of customer's O&M Personnel and handing over to customer.

The schematic showing the battery limits of the scope of supply is provided below. Supplier to clearly specify all terminal points in the GA drawing & P&ID and submit it during proposal to confirm scope of supply.



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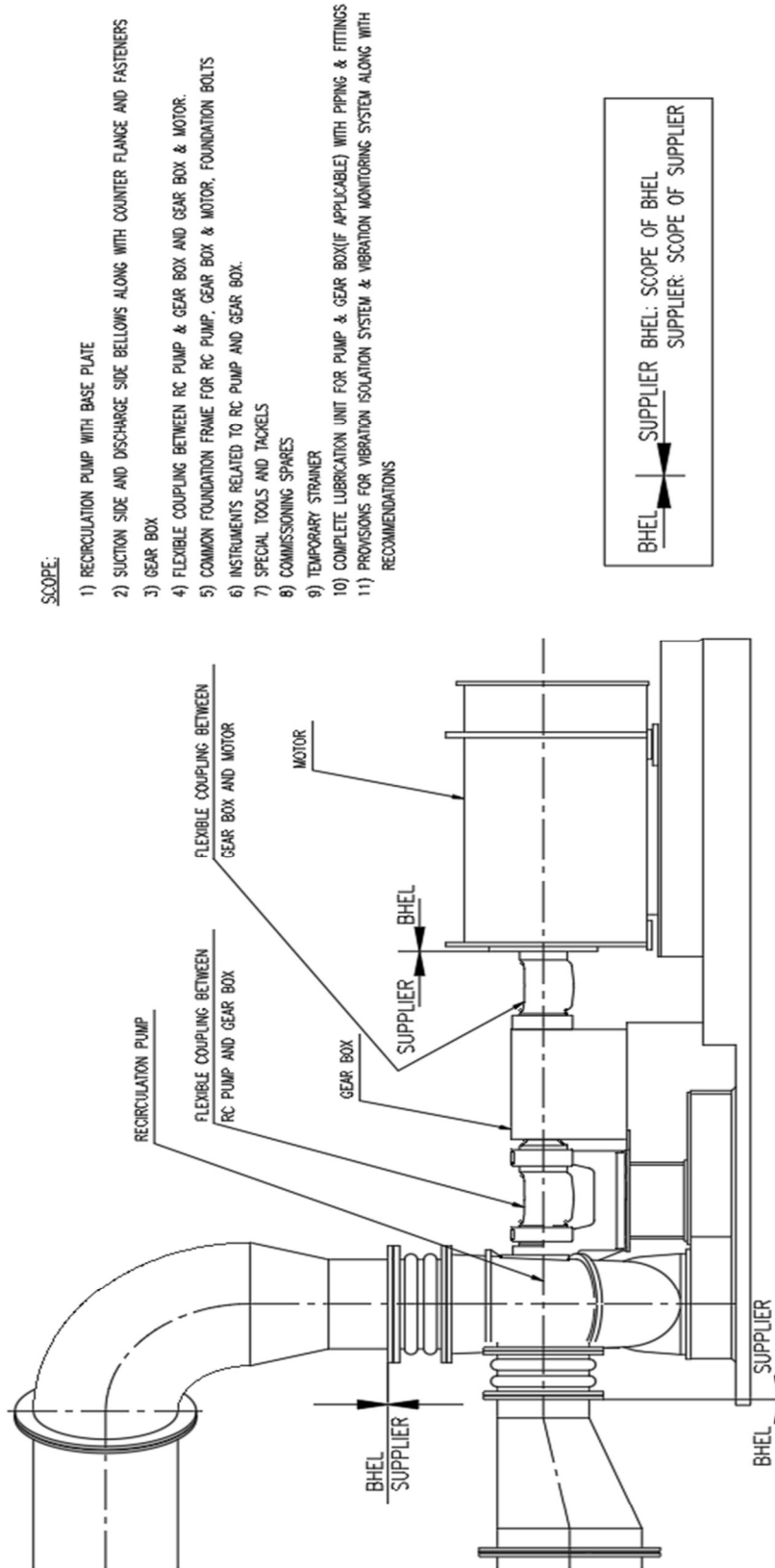
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SCOPE:

- 1) RECIRCULATION PUMP WITH BASE PLATE
- 2) SUCTION SIDE AND DISCHARGE SIDE BELLOWES ALONG WITH COUNTER FLANGE AND FASTENERS
- 3) GEAR BOX
- 4) FLEXIBLE COUPLING BETWEEN RC PUMP & GEAR BOX AND GEAR BOX & MOTOR.
- 5) COMMON FOUNDATION FRAME FOR RC PUMP, GEAR BOX & MOTOR, FOUNDATION BOLTS
- 6) INSTRUMENTS RELATED TO RC PUMP AND GEAR BOX.
- 7) SPECIAL TOOLS AND TACKELS
- 8) COMMISSIONING SPARES
- 9) TEMPORARY STRAINER
- 10) COMPLETE LUBRICATION UNIT FOR PUMP & GEAR BOX(IF APPLICABLE) WITH PIPING & FITTINGS
- 11) PROVISIONS FOR VIBRATION ISOLATION SYSTEM & VIBRATION MONITORING SYSTEM ALONG WITH RECOMMENDATIONS





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5. Variant table

Service	:	Continuous
Installation	:	Indoor
Total number of units	:	2 unit of 660 MW
Total pumps in each unit	:	4
Stand-by pumps per unit	:	1
Total number of working pumps	:	3
Total number of pumps	:	8
Material code	:	FP9760352001

6. Design input data**6.1 Pump operating parameters**

Discharge flow	14,550 m ³ /hr
Total Head developed	19.50 m H
Medium to be handled	Gypsum slurry
Operating Temperature	55°C – 65°C (Normal) 70 deg C (max.)
Type of Recirculation pump	Horizontal, Single stage Centrifugal pump (non-clogging type) Impeller Centrifugal (Non- Clogging) type
Nozzle Orientation	End Suction- Top Discharge
Seal Type	Mechanical seal with external flushing
Duty	Continuous operation
Location	Indoor
Drive type	Motor driven
Acceptable noise level	85 dBA (at 1-meter from pump centreline)
NPSH(A)	10.19 m
Variant	Var. 01



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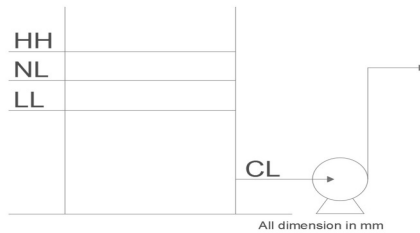
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6.2 Slurry Analysis

Slurry to be handled	Gypsum Slurry
Chloride Content max. (ppm)	<30,000
Specific Gravity at pump suction (t/m3)	1.216 @ design (for motor design)
	1.212 @guarantee Point (for guarantee parameter)
Vapour Pressure at Pump(kg/cm2)	0.716
Viscosity of slurry	0.01 Pa.S
Concentration of Solid	30% wt.
SiO2 Content	4 to 6 g/l
pH	4.0 – 8.0
Slurry Temperature (degC)	57 (normal)
Slurry Temperature (degC)	70 (design) Max
Maximum solid particle size	150 mesh(140 microns)
Normal solid particle size, d 50	325 mesh(43 microns) & fine particles
Variant	Var. 01

6.3 Absorber Tank Level & NPSH

HH	Bottom +	6,000
NL	Bottom +	5,000
LL	Bottom +	4,700
Variant		Var. 01



NPSH	SI Unit	Value
NPSH (A).	m	10.19
Variant		Var. 01



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NPSH Calculation	SI Unit	Value
Discharge Pressure	kg/cm ² G	2.77
Suction Pressure	kg/cm ² G	0.40
Differential Pressure	kg/cm ² G	2.37
Max. Suction Pressure	kg/cm ² G	0.56
NPSH (A).	m	10.19
Variant		Var. 01

* NPSH available is arrived based on following considerations:

- LL level of the tank as 4.7 m.
- Suction line center as 1.2 m from the bottom of absorber Tank.

Note: If suction level changes, NPSH value shall be accordingly arrived by the vendor.

6.4 Flushing water analysis

Constituents	Units	Value
Calcium as CaCO ₃	mg/l	602.5
Magnesium as CaCO ₃	mg/l	175
Sodium as CaCO ₃	mg/l	100
Potassium as CaCO ₃	mg/l	25
Total Cations as CaCO ₃	mg/l	902.5
M-Alkalinity as CaCO ₃	mg/l	455.9
P-Alkalinity as CaCO ₃	mg/l	0
Chlorides as CaCO ₃	mg/l	189.1
Sulphate as CaCO ₃	mg/l	257.5
Total Anions as CaCO ₃	mg/l	902.5
Silica (Reactive) as SiO ₂	mg/l	125
Silica (Colloidal) as SiO ₂	mg/l	25
Iron (Total) as Fe	mg/l	1.5
pH Value	-	7.0-7.8
Turbidity	NTU	50
Total Suspended Solids	ppm	50
Total Dissolved Solids	ppm	1286.3
Organic (As per KMnO ₄ method)	ppm	0.25
TOC	ppm	25

Note :- The C.W system is expected to operate at about 5 cycles of concentration

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6.5 Cooling water analysis

Description	SI Unit	Value
Cooling water inlet temp	DegC	38
Cooling water outlet temp	DegC	< 48
Allowable increase in temp of cooling water	DegC	5 to 10
Inlet pressure of cooling water	bar	3
Pressure drop of cooling water across pump	bar	0.5 (max.)
Variant		Var.01

Clarified water shall be used for CW system and is expected to operate at about COC (mentioned in variant table) with suitable chemical treatment program using acid, scale and corrosion inhibitor dosing. As CW blow down water is tapped from CW system, the water quality of CW blow down shall accordingly be arrived by the bidder.

6.6 Operating methodology of pumps**6.6.1 Operating Description:**

Operating Description of the pumps is as follows. Pumps shall cover this entire operation mode

6.6.1.1 No of FGD Absorbers - 2

6.6.1.2 Four (4) pumps (3 working + 1 standby) are connected to the common header of the recirculation line per absorber

6.6.1.3 Operating modes of this pumps are:

- (1) Sequential startup of the pumps one by one
- (2) Three (03) Pumps in continuous operation per absorber
- (3) Two (02) Pumps in continuous operation per absorber.
- (3) Sequential shut down of the pumps one by one
- (4) Emergency shutdown of maximum three (03) pump at the same time in case of power failure. In this case the discharge valve of the pumps will be fully closed within 60 sec.
- (5) Pump shall endure reverse flow

6.6.1.4 Table-1 Pump Operating condition

Sl.No	Description	Unit	Pump Operating Condition 1	Pump Operating Condition 2
a	No. of Pumps in Continuous Operation per Absorber	No.	3	2
b	Total Flow Rate per Absorber	m ³ /hr	43650	34920
c	Each Pump Capacity	m ³ /hr	14550	17460
d	Pump Head	m	19.5	16.5
e	Pump Efficiency	%	≥ 90%	To be furnished by vendor
f	Shaft Power Consumption	kW	1050	To be furnished by vendor



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6.6.2 Pump Performance (Important): The following are the requirement on the pump performance

- a) The capacity of the pump (Design Condition) shall be 14550 m³/hr. at the pump head of 19.5-meter Height.
- b) The shaft power at the design conditions shall be kept as minimum as possible (overall pump efficiency shall not be less than 90%) and this shaft power shall be guaranteed by the vendor

Note:

- In order to optimize power consumption of FGD system at part load operation, at least one slurry recirculation pump per unit with Variable Frequency Drive (VFD) to be provided.
- Pump Performance curves with VFD at different RPM to be provided by vendor for finalizing the VFD logic.

7. Technical Requirements

- 7.1 All recirculation pumps shall be identical and interchangeable.
- 7.2 The pumps shall be designed for continuous operation. The pump shall be single stage centrifugal type, capable of delivering the rated flow at rated head, duty parameters indicated at clause 6.1.
- 7.3 The pumps shall circulate the operating liquid from the absorber sump to the spray nozzles in the absorber.
- 7.4 The pumps shall be resistant to wear and be equipped with flushing devices to prevent sedimentation. They shall be designed and installed to allow easy replacements, repair and maintenance.
- 7.5 The pump bearing housings shall be equipped with oil level indicators and the collecting equipment for leakage shall made of corrosion resistant material.
- 7.6 All the equipment in scope of supply except wearing parts shall be designed and fabricated/manufactured for a service life of 20 years and at least 18000 hours of un-interrupted operation.
- 7.7 Pump shall be driven by the motor with gearbox.
- 7.8 All the parts coming in contact with the slurry shall be provided with replaceable rubber/elastomer liners suitable to the media handled. The supplier can also offer a Hi-chrome alloy lined pump, Carbon steel/CI lined with high alloyed stainless steel, a



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Silicon Carbide impeller and SiC lining for casing if the Supplier has supplied a similar pump for a previous installation for similar service. The material used by the contractor shall be proven in previous installations.

- 7.9 The pump casing shall be designed to withstand a pressure of 1.5 times the maximum possible pump shut off pressure under maximum suction pressure condition.
- 7.10 Flushing water lines and drains are to be supplied for each pump handling the prevailing water to avoid corrosion even if the pump is out of operation for extended periods.
- 7.11 Pumps must be carefully selected to ensure that the net positive suction head available under all operating conditions will be adequate. The NPSH values are to be referred to the least favorable operating conditions such as lowest atmospheric pressure, lowest level of water on the suction side of the pump and highest temperature of the pumped fluid. An adequate safety margin of normally greater than 1m to the max NPSH required shall be provided at duty point. NPSH(R) at 110% of rated (design) flow shall have margin over NPSH (A).
- 7.12 The Pump flow & head characteristics shall be such that within the operation range the head will continuously increase with decreasing flow. Shut off head being at least 20% higher than the duty point head.
- 7.13 Pumps shall have stable head-capacity characteristics curve from run-off to shut-off. Shut-off head should be minimum 125% of Best Efficiency Point (BEP).
- 7.14 Pumps shall be designed such that they are not damaged during reverse rotation at up to 150% of design RPM, at full discharge head in the event where one pump trips while the other pumps are operational.
- 7.15 Selection of Duty point should preferably be at BEP (Best Efficiency Point). Selection point beyond 105% of BEP is not acceptable. It should be noted that head variation is due to level variation in tank. Pump has to run in the system without compromising the NPSH requirement at lowest water level in tank. Hence, when tanks are filled-up and is at normal water level, pump will operate at the right of BEP, pump's operating zone should be considered accordingly.
- 7.16 A factor for "Froth" should be taken into account for sizing the pump. Supplier from their past experience, may specify the froth factor to be taken into account for FGD

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COPYRIGHT AND CONFIDENTIAL The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED. It must not be used directly or indirectly in any way detrimental to the interest of the company. Ref. Doc		<p>pump. Suction size of the pump should be adequate to take this extra capacity and the same should be reflected in master curve.</p> <p>7.17 External flushing of mechanical seal is required to remove the accumulated particles and all related information such as flow rate, pressure etc. should be mentioned in data sheet.</p> <p>7.18 Pump should have provision for adjusting the axial clearance between casing and impeller for maintaining the performance at best efficiency when there is wear in between impeller and casing.</p> <p>7.19 In case rubber or nonmetallic linings are used, these will be two pieces molded under pressure and adjusted to the screwed metallic clamping which have been welded to the casting.</p> <p>7.20 The pump shall be provided with seals of proven type and shall be designed for minimization of seal water consumption. The shaft shall be supported on heavy duty ball/roller bearings.</p> <p>7.21 The Antifriction bearing of the pumps shall be designed for minimum useful life (L-10) of 14,000 hours of continuous operation (Under the design condition). The thrust bearing will be selected for twice the operating load.</p> <p>7.22 The mechanical seals of cartridge type with self-lubrication sliding ring cartridges are preferable. The static part will be mounted on the seal plate with circumferential ring (O-ring) or another flexible sealing ring. Built in seal design will not be accepted.</p> <p>7.23 The sealing areas shall be designed in such a way so that solids do not precipitate in them and affect the cooling or affect the adjustment and mechanical functioning of the seals. Seals which do not need jet cleaning are preferred.</p> <p>7.24 Flow induced vibration due to pressure pulsations shall be avoided by suitable design.</p> <p>7.25 Material shall be selected considering urea and ammonia constituents in the atmosphere.</p> <p>7.26 Impeller shall be balanced. Shaft runout shall be checked.</p> <p>7.27 Allowable limits of foundation vibration shall be indicated in foundation drawing and general arrangement drawings.</p> <p>7.28 The allowable vibration levels shall be indicated in the inspection procedure at shop and shall be demonstrated. The maximum vibration level shall be within permissible level as per the relevant internationally accepted standard.</p> <p>7.29 Noise and Vibration level shall be specified in test procedure document and supplier shall be responsible for the values at the shop test as well as site.</p>		



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8. Constructional features**8.1 Casing**

- 8.1.1 The pump casing shall be split type for ease of maintenance and shall be designed such that the impeller and shaft can be withdrawn from the casing without disturbing the main pipework and valves carrying the pumped fluid and also without disturbing/removing the motor.
- 8.1.2 The casing and flanges shall be designed to withstand the 1.5 times the maximum shut-off pressure developed by the pump at the pump operating temperature.
- 8.1.3 Pressure casing shall be designed with a corrosion allowance (ASTM G46 & ASTM G48) to meet all the technical requirements, taking into account the Operating Parameters.
- 8.1.4 Lifting provision of pump as a whole and individual casing halves should be provided.
- 8.1.5 The casing material shall be Carbon steel / C.I with rubber lining or Silicon carbide or, Hi chrome or highly alloyed stainless steel or any equivalent. The material used by the contractor shall be proven in previous installations.
- 8.1.6 For replaceable rubber liner, hardness of rubber should be of Shore hardness- SA 65 (+/-) 5. Rubber should be of Type and Class as defined by ASTM D-2000 which is suitable for uninterrupted operation of 5 years (minimum). Guarantee to the affect shall be provided.
- 8.1.7 All the wear parts of the pump shall be guaranteed for a minimum wear life of not less than 14000 hrs.
- 8.1.8 Renewable wear rings shall be provided at points of minimum running clearances.

8.2 Impeller

- 8.2.1 Impeller material shall be either Hi Chrome or a Silicon Carbide impeller or equivalent, guided by operating parameters taking into account the corrosion and erosion effect of the indicated slurry parameters.
- 8.2.2 Miller number for the material should be justified for that pumping medium as per ASTM G75-95 as well as the corrosion effect of pumping medium.
- 8.2.3 Base material for rubber-lined impeller should be capable of handling speed as specified in the respective clause without affecting adhesion of lining.
- 8.2.4 Impeller tip speed shall be as per vendor's experience. And Impeller shall have air bleed holes to eliminate any air accumulation around the shaft seal.
- 8.2.5 Full diameter of the impellers for the pump body shall not be quoted for. By installation of a new impeller a head increase of minimum 5% shall be possible.
- 8.2.6 Impeller shall have a mandatory wear life of min. 14000 hours.



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8.3 Seals

- 8.3.1 Pump shall be supplied with mechanical seal. All mechanical seals, regardless of type or arrangement, shall be of the cartridge design.
- 8.3.2 The Mechanical Seals shall be so arranged that assembly/disassembly of seals can be carried out without any disruption to plant operation.
- 8.3.3 Design the mechanical seals chamber to have sufficient room to lubricate and cool the seal faces with its own slurry.
- 8.3.4 Seal shall have provision for periodical flushing to rinse the seal face off leaked slurry.
- 8.3.5 Flushing water requirement, either continuous or intermittent, quantity, pressure & duration to be indicated in data sheet.
- 8.3.6 Seal shall have zero visible leakage. However, quantity of leakage, if unavoidable, pump should have a provision of collecting and draining the same to nearby pit without corroding the pump frame.
- 8.3.7 Mechanical seals shall be fitted and installed in the pump before shipment and shall be clean. Seal shall have provision for locking during transit and when not in operation. Mechanical seals vent/drain holes shall be plugged during shipping
- 8.3.8 Intention of the specification is not to specify Type of Seal, Seal design, spring configuration, Seal configuration, Balanced or Unbalanced type etc. Pump manufacturer to decide the same along with seal manufacturer.
- 8.3.9 Seal life has to be guaranteed, taking into consideration all its components for 14000 hrs. If the seals fail before the completion of guaranteed period, the same should be replaced free of cost by the Supplier.

8.4 Shaft and Shaft Sleeve

- 8.4.1 Pump shaft shall be sized to transmit the maximum possible output from the motor.
- 8.4.2 The pump shaft to be so dimensioned that the maximum permissible torque of the shaft is higher than the maximum transmissible torque.
- 8.4.3 Pumps shall operate smoothly throughout the speed range up to their operating speeds. The first coupled critical speed must be at least 20% higher than the maximum operating speed. The determination of the shaft diameter and the distance between two consecutive bearings must include a sufficiently large safety margin to satisfy this condition.
- 8.4.4 Shafts shall be conservatively designed to transmit maximum power required and to assure rigidity. Shafts shall be machined and ground to close tolerances and shall be tapered to permit easy assembly & withdrawal of the seals and bearings.
- 8.4.5 Shaft shall run in high precision heavy duty roller bearings.
- 8.4.6 The shaft shall be finished to close tolerance at the rotor, coupling and bearing diameters.
- 8.4.7 Shaft shall be made of carbon steel. No exposed part of the shaft shall come in contact with the medium handled.
- 8.4.8 Shaft sleeve should be CD4M Cu ASTM A-743 or equivalent. Sleeve should have this as a guaranteed value/parameter to prevent wear and corrosion of mating surface. Manufacture to indicate the diameter in data sheet.
- 8.4.9 Shaft shall have a keyed joint at impeller hub. Threaded connection between impeller and shaft is not acceptable.



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8.5 Coupling

- 8.5.1 The HT drive motor is excluded from the scope of supply. However, the Supplier shall supply coupling between pump & gear box, coupling between gear box & motor along with gear box.
- 8.5.2 Couplings shall be of flexible membrane type.
- 8.5.3 Couplings shall be dynamically balanced as per ISO 1940 G2.5. Balancing shall be done before slotting the key ways.
- 8.5.4 Couplings shall be suitable for accommodating axial movements and parallel offsets. The maximum permissible axial and parallel misalignment to be indicated in the coupling drawings.
- 8.5.5 Construction of the coupling shall be such that in case of membrane failure, no component of the coupling shall fly off while the equipment is in rotation
- 8.5.6 Membrane element shall be independently replaceable without requiring the replacement of the spacer.
- 8.5.7 All the nuts and bolts shall be with metric threads.
- 8.5.8 The Couplings shall be provided with adapter plates on both ends of spacer assembly, to facilitate removal of spacer assembly without dismantling the membrane packs
- 8.5.9 Gaging Screws shall be provided for Transportation and Installation of coupling. These Screws must be accessible from outside when the Coupling is fully assembled.
- 8.5.10 All the couplings shall be provided with over load washers designed adequately
- 8.5.11 A notch of 30x15x3 mm shall be provided on the periphery of each coupling hub for speed measurement.
- 8.5.12 Coupling halves shall be machine matched to ensure accurate alignment. Couplings and gears must have a rated capacity of at least 120% of the maximum potential power transmission requirement.
- 8.5.13 All rotating parts such as coupling shall be covered with suitable protective guards. Guards shall be easily removable type. If weight of the coupling is heavy (>40 kgs), provision of tapped hole should be incorporated in right place of hub to handle the same effortlessly.

8.6 Base plate

- 8.6.1 Base plate shall be provided for pump, gearbox & Motor and the same shall be rigidly constructed, adequately braced and provided with finish pads for mounting the equipment.
- 8.6.2 Base plate for pump, gearbox and Motor shall be in the scope of the Supplier and the details of the Motor will be furnished to the Supplier to provide Motor mounting bolts.
- 8.6.3 Base plate must have provision for jacking the driver and driven equipment in both directions of base plate for alignment. Similarly, provision must be provided for alignment of shaft in vertical plane.
- 8.6.4 Pump manufacturer is to supply base plate along with Foundation bolt & Nut, shims/spacers, "Taper wedge" and the necessary fastener for Pump and Motor with



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- Base plate. Even if Motor is excluded from their scope, necessary fastener for motor foot with base plate will remain in pump scope of supply in order to avoid any problem.
- 8.6.5 Base plate must be provided with a trough, material of which must be compatible to pumping liquid. Leaked liquid collected in trough, can be systematically routed to designated point.
 - 8.6.6 Base plate must be stress-relieved for any residual welding stress and certificate to that effect is to be submitted as per inspection requirement.

8.7 Bearings

- 8.7.1 The bearings may be ball, roller or sleeve bearing. The bearings shall be designed to take the necessary radial load as well as the net axial thrust. Bearings shall be lubricated properly and sized for an operating life of 14,000 hours on the basis of maximum load. Bearing lubrication provided shall be such that visual inspection of lubricant level is possible.
- 8.7.2 The bearings shall be of automatic oil lubricated type or sump oil lubricated. Bearing Temperature transmitter shall be provided with local monitoring of the bearing metal temperature. In case, external cooling water is required, flow, pressure, etc. shall be specified.
- 8.7.3 Bearing housings shall be designed such that they can be replaced without removing the pump or motor from its mounting. Supplier shall inform the bearing withdrawal length for suitable selection of coupling. Bearing housings shall be effectively protected against the ingress of water, pumped fluid and dust by suitable nonferrous deflectors.
- 8.7.4 Bearing temperature transmitter shall be provided with local monitoring of the bearing metal temperature of pump. Bearing temperature Transmitter shall provide signals to FGD DCS for continuous monitoring.
- 8.7.5 Lubricating oil will be the responsibility of pump manufacturer. Hence, manufacturer has to make arrangement of first fill of oil at installation, and at commissioning stage. Quantity of oil and its grade is to be indicated in Drawing and Operation Manual.

8.8 Gearbox

- 8.8.1 Pump shall be driven by a gear box and shall have a service factor of 2 or better.
- 8.8.2 Gear Box shall be designed for continuous duty.
- 8.8.3 Gear Box design shall be such that it shall not impose any axial or radial forces either on pump bearings or on motor bearings.
- 8.8.4 Gear Box shall be in accordance with AGMA-420 or 421 or any internationally accepted standard.
- 8.8.5 Gearing shall be enclosed in an oil and dust proof gear case made of close grained cast iron or fabricated steel. The gear case shall be horizontally split. The gear case shall be of rigid construction to provide permanent alignment of rotating parts. The



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arrangement shall be such that it will be possible to fit gear case cover without disturbing the alignment of the shaft, gear and pinion


- 8.8.6 Gear Box shall be provided with integral piping for lubrication and cooling. One terminal point each for oil inlet and oil return, CW inlet and CW outlet in the form of ANSI flange, with counter flange bolts, gasket and nuts shall be provided.
- 8.8.7 If Gearbox requires cooling water, volume and pressure of cooling water is to be indicated in Technical Data Sheet. Cooling water data for gearbox cooling:
 - 8.8.7.1 Inlet temperature: 38 DegC
 - 8.8.7.2 Maximum Allowable Temperature increase: 10 DegC at the outlet
 - 8.8.7.3 Inlet Pressure: 4 to 6 bar
 - 8.8.7.4 Maximum Allowable Pressure Drop: $\leq 1.0 \text{ Kg/cm}^2$.
- 8.8.8 Cooling water flow switch and sight glass shall be provided to monitor the flow of cooling water to Gearbox for each pump.
- 8.8.9 If heat exchanger is provided to cool gearbox then Temperature gauges and pressure gauges upstream and downstream, tube and shell side to be provided for each pump.
- 8.8.10 All RTD connections shall be terminated to Junction Box. Junction Box shall be provided along with Gear Box with 20% spare terminals.
- 8.8.11 Each bearing shall be provided with one Duplex 3-wire RTD. Temperature Transmitters (TT) shall be provided for each RTD. TT shall be mounted on gauge board, to be fixed to the gear box by the vendor. All RTD and their TT connections shall be terminated to Junction Box. Label shall be provided for each TT to indicate the purpose.

8.9 Accessories

- 8.9.1 Expansion Joints
 - 8.9.1.1 Expansion Rubber expansion Joints shall be provided at suction and discharge of each pump.
- 8.9.2 Pressure Gauges
 - 8.9.2.1 Pressure Gauges shall be provided at suction & discharge of each pump. Pressure gauges of class 1.6 or better must be used. Pressure instrument for measurement of steady pressure at varying conditions shall operate in a band centered on 60% of its maximum range. Pressure gauges shall have a dial size of 160 mm.
- 8.9.3 Provision for Vibration Monitoring:
 - 8.9.3.1 Suitable provision/pads for mounting vibration sensors shall be provided on gearbox and pump. Suitable provision for mounting Key phase sensor shall be provided on pump and gearbox shaft or on gearbox and motor coupling. For each bearing there shall be provisions for Two (02) No's of Vibration sensors (X and Y Axis) for vibration measurement. Provisions shall be provided in line with API 670 Vth Edition

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<div style="display: flex; justify-content: space-between;"> <div style="width: 15%; border-right: 1px solid black; padding-right: 5px;"> <p style="writing-mode: vertical-rl; transform: rotate(180deg);"> COPYRIGHT AND CONFIDENTIAL The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED. It must not be used directly or indirectly in any way detrimental to the interest of the company. Ref. Doc </p> </div> <div style="width: 85%; padding-left: 10px;"> <p>Standard These provisions shall be covered suitably. Details to be provided along with the offer.</p> <p>8.9.4 Temperature elements:</p> <p>8.9.4.1 Temperature elements wherever provided shall be duplex 4 wire type RTDs.</p> <p>8.9.4.2 All RTD connections along with signal cables shall be terminated to Junction Box. Junction Box shall be provided along with Gear Box & Pump with 20% spare terminals.</p> <p>8.9.4.3 Triple redundancy shall be supplied for parameters concerning the safe operation of the pump, Double redundancy shall be supplied for interlock and alarm signals.</p> <p>8.10 Pump Control</p> <p>8.10.1 Each pump shall be provided with required instrumentation and electrical accessory devices mounted and connected in a control cabinet.</p> <p>8.10.2 Provisions shall be made for the interface between the local cabinet and the DCS such that the operation of the pumps can be controlled from the control console in the FGD Control room.</p> <p>8.10.2.1 <u>Alarm Signal</u></p> <p>8.10.2.1.1 Bearing temperature high</p> <p>8.10.2.1.2 Gearbox cooling water flow low (if applicable)</p> <p>8.10.2.1.3 Bearing temperature sensor for alarm when “Bearing Temperature high” shall be supplied by Supplier.</p> <p>8.10.2.1.4 Cooling water flow switch for initiating alarm when “Cooling water flow low” shall be supplied by Supplier (if applicable).</p> <p>9. General Requirements</p> <p>9.1 Metric unit shall be used in the drawings and any displays on the equipment. Unit of pressure shall be in dual scales of kPa and kg/cm² (G). For instance the pressure gauges should have dual unit’s indication.</p> <p>9.2 Descriptions in the drawings, documents and in the displays shall be in English.</p> <p>9.3 The equipment shall be designed to withstand the corrosive and moist environment in which these are proposed to operate.</p> <p>9.4 Noise level produced by the rotating equipment shall not exceed 85 dB measured at a distance of 1.0 meters from the source in any direction and 1.5m above operating floor. Predicted sound pressure levels for the pump drive assemblies shall be submitted as part of the proposal data.</p> <p>9.5 The overall vibration level shall be as per ISO 10816.</p> <p>9.6 The equipment shall be suitable for stable continuous operation.</p> <p>9.7 Service life: Entire pump except wearing parts shall be designed and fabricated for a minimum service life of 30 years of operation or 200,000 full load operating hours whichever is longer.</p> <p>9.8 Corrosion allowance: Corrosion allowance for entire equipment shall be in accordance with latest applicable international standard ASTM G46 & ASTM G48.</p> <p>9.9 Unless otherwise specified, flanges shall be in accordance with ANSI B16.5 Class 150 or ANSI B16.47 Class 150 or DIN EN 1092-2 PN 10 Class. Counter flanges along with suitable gaskets and fasteners shall be provided for all terminal points.</p> </div> </div>				

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<div style="display: flex; justify-content: space-between;"> <div style="width: 15%; border-right: 1px solid black; padding-right: 5px;"> <p style="text-align: center;">COPYRIGHT AND CONFIDENTIAL</p> <p>The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED. It must not be used directly or indirectly in any way detrimental to the interest of the company.</p> <p style="text-align: right;">Ref. Doc</p> </div> <div style="width: 85%; padding-left: 5px;"> <p>9.10 Name plate: All equipment shall be provided with nameplates indicating the item number and service name. Name plates shall be of 304 Stainless steel plate and placed at a readily visible location. Nameplate of main equipment shall have enough information, which will be confirmed during engineering phase. Stainless steel nameplates for all instruments and valves shall be provided.</p> <p>9.11 Rotation arrows shall be cast in or attached with stainless steel plate on each item of rotation equipment at a readily visible location.</p> <p>9.12 Unless otherwise specified, all equipment items where the weight exceeds 15 kg shall be provided with suitable lifting lugs, ears or ring bolts or tapped holes for lifting rings. Minimum shock factor for lifting lugs shall be minimum 2.0. The position of lifting lugs and reference dimension shall be shown on GA and/or outline drawings. NDT shall be conducted for lifting lugs. When any spreader bars are required for lifting and laydown, the Supplier shall provide spreader bar with equipment.</p> <p>9.13 Equipment shall be fabricated as skid mount design as much as practical to minimize erection at the site.</p> <p>9.14 The position of earth lugs shall be shown on the GA and/or outline drawing.</p> <p>9.15 Foundation bolts shall be provided with double nuts.</p> <p>9.16 Supplier shall provide allowable vibration level on foundation in foundation drawings and general arrangement drawings.</p> <p>9.17 If the driver/driven equipment train is in the resonance condition or any vibration problems occur, the Supplier shall solve the problems in a timely manner.</p> <p>9.18 The Supplier shall have responsibility for vibration control of the equipment train at the site and the unit's satisfactory performance, even if the foundation, driver are provided by the BHEL.</p> <p>9.19 Supplier to quote for the Initial Spare parts (Mandatory Spares) for equipment.</p> <p>9.20 Supplier shall provide the mating flanges with the necessary gaskets.</p> <p>9.21 All the surfaces of the carbon steel should have rust preventive coating durable for at least 18 months for storage from day of shipping.</p> <p>9.22 Supplier to indicate the weights of components for handling.</p> <p>9.23 The list of all Bought out items with makes and country of origin to be mentioned along with offer to be submitted.</p> <p>9.24 Quality Plan to be submitted along with the offer.</p> <p>9.25 Cost towards the participation in discussions/meetings, providing technical assistance during technical discussions/meetings with customer for approval of</p> </div> </div>				

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surfaces from oxidation. Each container, box, crate or bundle shall be reinforced with steel strapping in such a manner that breaking of one strap will not cause complete failure of packaging. The packing shall be of best standard to withstand rough handling and to provide suitable protection from tropical weather while in transit and while awaiting erection at the site.

10.4 Equipment and materials in wooden cases or crates shall be properly cushioned to withstand the abuse of handling, transportation and storage. Packing shall include preservatives suitable to tropical conditions. All machine surfaces and bearings shall be coated with oxidation preventive compounds. All parts subject to damage when in contact with water shall be coated with suitable grease and wrapped in heavy asphalt or tar impregnated paper.

10.5 Crates and packing material used for shipping will become the property of end customer.

10.6 Packaging or shipping units shall be designed within the limitations of the unloading facilities of the receiving ports and the ship used. It shall be the Supplier's responsibility to investigate these limitations and to provide suitable packaging and shipping to permit transportation to site.

10.7 Packing (tare) shall be part of the equipment cost and shall not be subject to return. The packing should ensure integrity and cohesiveness of each delivery batch of equipment during transportation. In case of equipment assemblies and unit's delivery in the packing of glass, plastics or paper the specification of packing with the material and weight characteristics are to be indicated.

10.8 Each package should have the following inscriptions and signs stenciled with an indelible ink legibly and clearly:

- 10.8.1 Destination
- 10.8.2 Package Number
- 10.8.3 Gross and Net Weight
- 10.8.4 Dimensions
- 10.8.5 Lifting places
- 10.8.6 Handling marks and the following delivery marking

10.9 Each package or shipping units shall be clearly marked or stenciled on at least two sides as follows.

NAME OF THE PROJECT:

AREA:, INDIA

EPC CONTRACTOR: BHARAT HEAVY ELECTRICALS LIMITED, INDIA

10.10 Each case shall contain a packing list in waterproof material or protected by shellac or varnish to prevent obliteration in transit, showing the detailed contents of the package. When any technical documents are supplied together with the shipment of materials no single package shall contain more than one set of such documents. Shipping papers shall clearly indicate in which packages the technical documents are contained.

10.11 The case number shall be written in the form of a fraction, the numerator of which is the serial number of the case and the denominator the total number of case in which a complete unit of equipment is packed.

10.12 Wherever necessary besides usual inscriptions the cases shall bear special indication such as "Top", "Do not turn over", "Care" , "Keep Dry" etc. as well as indication of

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the center of gravity (with red vertical lines) and places for attaching slings (with chain marks)

10.13 Marking for Safe handling: To ensure safe handling, packing case shall be marked to show the following:

10.13.1 Upright position

10.13.2 Sling position and center of Gravity position

10.13.3 Storage category

10.13.4 Fragile components (to be marked properly with a clear warning for safe handling)



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11. Supervision of Erection and Commissioning

- 11.1 The erection of Recirculation Pumps will be done by owner as per Erection & commissioning Manual and check List. However, the Supplier shall make one visit per boiler for the supervision of erection, pre-commissioning & post- commissioning check-up, start-up, testing and trial runs of all the items covered under the scope of supply.
- 11.2 There will be one visit per boiler. Supplier shall include 10 working days per visit. Per day cost of visit shall be furnished separately. This shall be considered for evaluation of offer. Separate service order shall be issued for each visit.
- 11.3 TA/DA, boarding and lodging shall be borne by the Supplier.

12. Exclusions


The following shall be exclusions in the scope:

- 12.1 Supply of main drive Motor.
- 12.2 Civil foundations.
- 12.3 Vibration monitoring system including sensors.

13. Inspection and Testing

13.1 Minimum Testing requirements to be considered are as below:

- 13.1.1 Hydrostatic test is to be conducted at 150% of design pressure for duration of 30 minutes at ambient temperature.
- 13.1.2 Impeller shall be balanced.
- 13.1.3 Vibration levels measured on the non-rotating parts shall not exceed the zone limit "B" as defined in ISO 10816 at steady conditions and shall not exceed the zone limit "C" as defined in ISO 10816 at transient conditions.
- 13.1.4 List of Non-Destructive test over and above the material test are as follows:
 - 13.1.4.1 Casing: Material test, Magnetic particle (MPI), DP and Hydro test as applicable
 - 13.1.4.2 Impeller- DPT and MPI as applicable
 - 13.1.4.3 Shaft- Ultrasonic (UT), DPT and MPI
 - 13.1.4.4 Sleeve- DP and Hardness test/ Manufacturer's recommendation
 - 13.1.4.5 Mechanical Seal- Manufacturer's recommendation.
 - 13.1.4.6 Base Plate- Stress relieving of weld if applicable.
 - 13.1.4.7 Replaceable Rubber liner- Shore Hardness, Class and Type certificate
- 13.1.5 Once mounting is finished, performance test will be conducted on each pump to determine the characteristic curves. The mechanical running & performance testing shall be performed & witnessed.
- 13.1.6 NPSH Test, Vibration test and Noise level test shall be witnessed at shop.
- 13.1.7 For surfaces with rubber lining Welding shall be visually inspected to verify the absence of rough area and unacceptable transition between surfaces which prevent

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COPYRIGHT AND CONFIDENTIAL The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED. It must not be used directly or indirectly in any way detrimental to the interest of the company. Ref. Doc		<p>the adequate adherence of rubber. The acceptance criteria shall be as per latest standard.</p> <p>13.1.8 For surfaces with rubber lining, degree of cleaning shall be visually checked before the application of the coating. There must be no area with oxidation, dirt or partially or generalized corrosion defects.</p> <p>13.1.9 Test certificates shall be issued for each lot of raw material used in the coating, corresponding to specific weight and traction resistance.</p> <p>13.1.10 For surfaces with rubber lining, adherence test shall be conducted on production samples. Adherence test shall be conducted on the actual surface through hammering. In order to verify the absence of air packets (or) surface without adherence.</p> <p>13.1.11 For surfaces with rubber lining, Coating thickness shall be checked at 100%. A High voltage porosity test will be conducted on 100 % of the coated surface.</p> <p>13.2 General Inspection requirements to be considered are as below:</p> <p>13.2.1 Supplier shall furnish written copies of shop production, fabrication and quality test procedures and drawings to be used for review by BHEL/end customer prior to manufacture. Inspection of above mentioned tests by BHEL representative at Supplier's works is envisaged.</p> <p>13.2.2 The Supplier shall furnish performance test procedure along with standard. The test procedure shall be submitted for approval by BHEL.</p> <p>13.2.3 Out of total Recirculation Pumps, One Number of Recirculation Pump will be inspected at the Supplier's works before dispatch or where the test facilities are available.</p> <p>13.2.4 The Supplier shall conduct performance test for the remaining pumps and submit the reports.</p> <p>13.2.5 A dynamic balancing certificates stating that the impeller has been balanced dynamically shall be sent to BHEL within one (1) week of the successful completion of balancing.</p> <p>13.2.6 Acceptance tolerance of actual versus guaranteed performance for capacity, head, efficiency and power absorbed shall be as per applicable standard.</p> <p>13.2.7 Vibration levels shall be measured during shop running/performance tests.</p> <p>13.2.8 Contract shaft seals shall be used during shop tests, unless the seal design is unsuitable for the shop-test condition.</p> <p>13.2.9 Recirculation pumps shall not be released for shipment, until shop tests data and performance tests curves have been approved by BHEL/end customer.</p> <p>13.2.10 Supplier should furnish performance guarantee as per applicable standard, guarantee for the design, manufacture, material and safe operation of the equipment.</p> <p>13.2.11 BHEL shall witness the test at Supplier's works and a notice of minimum three (3) weeks shall be given for attending the inspection.</p> <p>13.2.12 Supplier to arrange all calibrated gauges, Instruments during inspection.</p> <p>13.2.13 Mechanical running and the performance test shall be carried out. Supplier to inform in advance the Motor rating for the shop test and inspection.</p> <p>13.2.14 The performance test may be carried out using water at shop and shall be converted to the design condition.</p>		



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14. Painting

The paint schedule is not yet specified by end customer, this will be specified shortly during execution of the project.

15. Spares, Tools & Tackles

15.1 Start-up & Commissioning Spares

Start-up & Commissioning Spares shall be part of the main supply of the Recirculation pumps. Start-up & commissioning spares are those spares which may be required during the start-up and commissioning of the equipment/system. Supplier shall provide an adequate stock of such start up and commissioning spares for the equipment erection and commissioning. The spares must be available at site before the equipment is energized. These start-up & commissioning spare part list shall not be included in "Initial Spare Parts List".

15.2 Recommended Spares

Suppliers shall also furnish the recommended spares list along with the offer. Supplier shall provide a "Recommended Spare Parts List" which shall comprise of all items of the Initial Spare Parts List as well as other spares required for long term routine/planned and breakdown maintenance. Supplier shall indicate all details for each item of aforesaid Recommended Spare Parts List, such as Supplier's/ Original equipment manufacturers (OEM's) name and location, drawings, normal delivery period, quantity, service life, Supplier's/OEM's serial numbers and price etc. The format and content of the final spare parts list shall be agreed in the basic/detailed engineering phase. Then the final spare parts list shall be submitted by the Supplier to BHEL for approval not later than eighteen (18) months prior to the Scheduled Commercial Operation Date (COD) of the 1st Unit. The Supplier shall name OEM/ three (3) vendors with complete address for each of the spare parts.

Supplier shall quote for the "Recommended Spare Parts List", however it shall not be considered for L1 evaluation, but these spares items shall remain available for order anytime during the first two (2) years commencing from COD of first unit, at the initial unit prices quoted in the offer as adjusted pursuant to the indexation mechanism approved by end customer. However, the end customer shall have the freedom to decide at its sole discretion to purchase spare parts either from OEM (according to quoted unit price as stated above) or directly from sub-vendors or from any other source.

15.3 Mandatory Spares:

Supplier to quote for below mentioned mandatory spares with break up price.



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- 15.3.1 Impeller assembly - 1 no
- 15.3.2 Casing liners-If applicable – 1 no.
- 15.3.3 Seals - 4 nos
- 15.3.4 Bearings - 1 no
- 15.3.5 Complete Casing– 1 no
- 15.3.6 Gearbox- 1 no
- 15.3.7 Pressure gauge- 1 no. of each type
- 15.3.8 Temp Transmitter- 1 no. of each type

Supplier shall quote for the “Mandatory Spares Part List”, and it will be considered for L1 evaluation. Mandatory spare parts items shall not be mixed with the supply of the main equipment parts. Spares shall be sent in pre-decided lots in containers/secure boxes, distinctly marked in red color with boldly written “S” mark on each face of the containers. The packing shall be sufficient for a minimum of 10 years storage in a dry weatherproof building.

All spares shall be strictly inter-changeable with the pump parts. All the mandatory spares shall have same specification and quality plan.

15.4 Special Tools & Tackles

Any special tools & tackles required for disassembly, assembly or maintaining the pumps, shall be included in the quotation and furnished as part of the initial supply of the machine. List of special tools & tackles shall be decided by Supplier as per his proven practice. They shall be packaged in separate boxes with lugs and marked as “Special Tools”. Moreover levers and eyebolts for the removal of parts to be serviced shall be included in the supply of each individual equipment.



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16. Performance Guarantee

All performance tests for Recirculation pumps shall be carried out in accordance with any latest international codes/standards.

- 16.1** Supplier shall furnish Performance guarantee for the design, manufacture, material, safe and trouble-free operation of the Recirculation pump and its accessories.
- 16.2** Capacity and its associated head of the pump to be guaranteed.
- 16.3** The Supplier shall ensure a design of the equipment to achieve an average target availability of 90%.
- 16.4** All the wear parts of the pump shall be guaranteed for a minimum wear life of not less than 14000 hrs.
- 16.5** Scheduled Maintenance (Minor Overhauls): Recommended intervals between maintenance outages shall be >25000 hours operation.
- 16.6** Scheduled Maintenance (Major Overhauls): Recommended intervals between maintenance outages shall be >75000 hours operation.
- 16.7** Noise level-≤85 dB (A) at 1m horizontal distance from equipment/enclosures and 1.5m above operating floor is to be guaranteed.
- 16.8** Vibration levels measured on the non-rotating parts shall not exceed the zone limit “B” as defined in ISO 10816 at steady conditions and shall not exceed the zone limit “C” as defined in ISO 10816 at transient conditions.
- 16.9** Acceptance tests to be carried out as per the procedure defined by the Supplier which shall be submitted for BHEL/end customer approval.
- 16.10** In the event of unsuccessful performance test, Supplier shall take necessary remedial action at his cost and the performance test shall be repeated.

17. Bid Evaluation Criteria for Power Consumption

17.1 Power Guarantee

Supplier to specify the guaranteed Shaft power per Pump operating at the duty point in their offer

17.2 Bid evaluation criteria for power consumption:

Power consumption quoted by Supplier shall be limited to the ceiling value specified below.

Ceiling value for Shaft power of Recirculation pump (refer variant table)

In case, Guaranteed Shaft power offered by the Supplier exceeds the ceiling value specified above, his bid price will be loaded for excess power consumption as per the formula given below.

Adjustment factor for excess power consumption in USD = (GPC-CV) X PL X No’s of Working pumps (as per variant table)

GPC- Guaranteed Shaft Power Consumption quoted by Supplier in KW

CV- Ceiling Value for Shaft Power Consumption

PL- Power Loading @ 4060 USD/KW

Exchange rate as applicable on price bid opening date will be considered.

No Price advantage apart from NIL Power Loading will be given if Guaranteed Power consumption offered is less than the ceiling value.



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18. Liquidated Damages for Power Consumption

If actual shaft Power Consumption during prove out (or) PG Test operating at the duty point exceeds the value guaranteed by the Supplier, liquidated damages for shortfall in performance shall be deducted from contract price as per the formula given below
 Liquidated damage deductible in USD per pump = (GPC-APC) X P X No's of Working pumps (as per variant table), where

- GPC- Guaranteed Shaft Power Consumption quoted by Supplier in KW
- APC- Actual Shaft Power Consumption in KW
- P- Penalty @ 4060 USD per KW

19. Warranty

19.1 The warranty period shall be 24 months from the date of commissioning or 36 months from the date of supply whichever is earlier.

The warranty period shall be extended by the period during which the goods are not in compliance. If the delivery is found to be non-complaint, bidder shall replace, repair or re-execute the as requested by BHEL. If the bidder defaults on his obligations, buyer has the right to proceed to replace, repair or re-execute at the bidder's expense.

A warranty period as described above shall apply afresh to replaced, repaired or re-executed parts of a delivery.

19.2 In case of failure of the equipment to meet the guarantee, BHEL/end customer reserves the right to reject the equipment. However, BHEL/end customer reserves the right to use the equipment until new equipment supplied by Supplier meets the guaranteed requirement .



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20. First fill of Consumables

20.1 Supplier's scope shall also include supply and filling of all consumable items for operation up to COD including top up requirements at the time of issuance of PAC/declaration of COD. All lubricants proposed for the plant operation shall be suitable for all operating and environmental conditions that will be met on site consistent with good maintenance procedures as instructed in the maintenance manuals.

20.2 Detailed specifications for the lubricating oil, grease, other consumables if any, including items qualities and quantities required per month of the plant operation shall be furnished. On completion of erection, complete list of bearings/equipment giving their location and identification marks shall be furnished to end customer along with lubrication requirements. For each type and grade of lubricant recommended, Supplier shall list at least three equivalent lubricants manufactured by alternative companies.

21. Conflict

Supplier's equipment shall be designed for and shall meet the service, performance and minimum level of quality requirements specified. Supplier shall be solely responsible for advising end customer in writing of any conflicts between the specifications and Supplier's design, including performance and levels of quality. Supplier agrees that its obligations, liabilities and warranties shall not be diminished or extinguished due to its meeting the requirements of the Specification.



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22. Documentation

22.1 Documents to be submitted along with the offer

The Supplier shall submit all documents, drawings, diagrams and all such information, which are necessary to fully understand the offer for techno – commercial evaluation. The following information shall be furnished along with duly filled-in Technical Data sheets at Annexure I and guarantee schedule furnished at Annexure-II.

- 22.1.1 Sectional Assembly, P&ID diagram
- 22.1.2 Performance curve
- 22.1.3 Terminal point details.
- 22.1.4 General Arrangement with civil loads and pocket details.
- 22.1.5 Rotor GD2 (kg-m2)
- 22.1.6 Connecting coupling technical data.
- 22.1.7 Torque Vs Speed curve
- 22.1.8 Calculation of Motor rating, Bearing capacity and coupling selection.
- 22.1.9 Bill of material along with ASTM or its equivalent materials.
- 22.1.10 Overall space and headroom requirement during Erection, maintenance of pump.
- 22.1.11 Erection, Operation & Maintenance manual with lubrication schedule
- 22.1.12 Procedure for shop / site performance tests
- 22.1.13 Time schedule for delivery.
- 22.1.14 Quality Assurance Plan.
- 22.1.15 Make of all bought out items.
- 22.1.16 Deviation list
- 22.1.17 Spares list.
- 22.1.18 Hoist / Crane requirement.
- 22.1.19 Reference list of similar projects executed.
- 22.1.20 List of proposed makes and vendors
- 22.1.21 Training program and schedule for BHEL & customer personnel
- 22.1.22 Equipment maintenance schedules

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<p style="writing-mode: vertical-rl; transform: rotate(180deg);">COPYRIGHT AND CONFIDENTIAL The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED. It must not be used directly or indirectly in any way detrimental to the interest of the company. Ref. Doc</p> <p>22.2 Documents to be submitted after award of contract The Successful Supplier shall submit necessary data, documents and drawings for review, approval with requirements specified here under. However as minimum the following shall be submitted.</p> <ul style="list-style-type: none"> 22.2.1 Duly filled technical datasheet. 22.2.2 General arrangement drawings indicating dimension and civil loading details. 22.2.3 Motor Data. 22.2.4 Recommended repair procedure etc. 22.2.5 Operation and maintenance manuals. 22.2.6 Assembly & Dis-assembly sequence shall be submitted as a separate document prior to the submission of the Operation and Maintenance Manual. 22.2.7 Erection schedule and component list. 22.2.8 Successful Supplier shall submit Calculation for HT Motor power requirement for sizing HT Motor within 2 weeks from the date of ordering. 22.2.9 The following performance curves of the pump shall be submitted: <ul style="list-style-type: none"> 22.2.9.1 Flow v/s Head 22.2.9.2 Flow v/s NPSH 22.2.9.3 Flow v/s Efficiency 22.2.9.4 Flow v/s power consumption 22.2.9.5 Torque vs. speed curve for Motor selection 22.2.10 The system-resistance point at different loads shall be indicated in the above performance curves. <p>Drawings that are reviewed will be returned to Supplier with a transmittal letter with any comments and / or questions marked on the drawings or noted in the letter. All comments and questions must be resolved before a resubmission of drawings / documents. BHEL reserves the right to return drawings unprocessed to Supplier if there exists any evidence that Supplier has not acknowledged all comments and questions.</p> <p>All necessary GA drawings, sections, sub-assembly drawings, specifications of main and sub components and necessary set of operation & maintenance manual as asked by BHEL/end customer must be furnished by Supplier in soft and hard copy forms. For all documents softcopy format shall be searchable pdf, however in addition all drawings, diagrams like P&IDS shall be supplied in ACAD or other editable format and all lists in Excel format. Further break up of technical documents will be discussed during finalization of the purchase contract.</p> <p>Unless agreed otherwise, Ten (10) hard copies and five (05) sets of electronic copies of all documents are to be submitted in the English language. Electronic Copies shall be submitted in primary original data format (e.g. DOC, XLS, DWG) as well as in a printable non-proprietary document format (e.g. PDF). P&IDs & drawings shall be submitted as DWG files and PDF files. Supplier to ensure submission of hard copies as per end customer requirement for all engineering drg/doc and for all subsequent revisions along with a soft copy through email to concerned project team. All the engineering related information shall be furnished in soft form to BHEL.</p>			



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Variant Table

S.NO	ITEM DESCRIPTION	QUANTITY	UNIT	MATERIAL CODE	APPLICABLE VAR. No
1	IMPELLER ASSEMBLY	1 No of Each Type	EA	FP9760352010	Var. 01
2	CASING LINERS (Where Replaceable liners are provided)	2 No of Each Type	EA	FP9760352028	Var. 02
3	SEAL	3 Sets of each type	SET	FP9760352036	Var. 03
4	BEARINGS, 2 NO. EACH TYPE AND SIZE	2 Nos of Each Type	EA	FP9760352044	Var. 04
5	CONNECTING COUPLING (Pump and Gearbox & Motor and Gearbox)	1 no of each type	SET	FP9760352052	Var. 05
6	TRANSMITTERS OF ALL TYPES AND MODEL NO. (FOR MEASUREMENT OF PRESSURE, DIFFERENTIAL PRESSURE, FLOW, LEVEL, TEMP, ETC.). THIS SHALL INCLUDE MAGNETIC/ EL	10% OR 1 NO. OF EACH TYPE AND MODEL, WHICHEVER IS MORE.	SET	FP9760352060	Var. 06
7	RTD'S INSTRUMENTS	10% OR 2 NOS. OF EACH TYPE AND LENGTH, WHICHEVER IS MORE	SET	FP9760352079	Var. 07
8	THERMOCOUPLES	10% OR 2 NOS. OF EACH TYPE AND LENGTH, WHICHEVER IS MORE	SET	FP9760352087	Var. 08
9	THERMO WELL FOR ABOVE APPLICATIONS	10% OR 2 NOS. OF EACH TYPE AND LENGTH, WHICHEVER IS MORE	SET	FP9760352095	Var. 09

Note to supplier regarding mandatory spares:

- Supplier shall clearly indicate with a P&ID, drawings, various instruments used in the scope of supply and the highlight the mandatory spares diagrammatically to avoid any ambiguity. Supplier shall contact the purchaser in case of ambiguity, prior to submitting the offer. Revision/ Alteration after bid submissions shall not be considered.
- Casing liners shall be a complete replacement of liners in the supplied pump, if applicable.
- Set of seals shall include Mechanical seal, oil seals, wear rings at impeller location, oil thrower & oil guards in the entire scope of supply.
- Set of Transmitters along with accessories shall include all the transmitters and its accessories where ever used in the entire scope of supply.
- Temperature elements with Thermowell shall include all temperature elements where ever used in the entire scope of supply.
- Local gauges along with accessories shall include all local gauges where ever used in the entire scope of supply.



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23. ANNEXURES**23.1 Annexure-1, Technical Data Sheet**

S.No	Description	Data
1	GENERAL	
a.	Client	: Indicated in variant table.
b.	Project	: --do--
c.	End Customer	: --do--
d.	Location	: --do--
e.	Service	: --do--
f.	Installation	: --do--
g.	No of pumps for each unit	: --do--
h.	No of stand-by pumps per unit	: --do--
i.	Total number of pumps	: --do--
2	MANUFACTURER DETAILS	
a.	Model	: *
b.	Type	: Centrifugal (non- Clogging)
c.	Type of Driver	: Motor with Gearbox
3	OPERATING CONDITION	
a.	Medium to be handled	: Indicated in variant table.
b.	Maximum solid particle size	: --do--
c.	Normal solid particle size, d 50	: --do--
d.	Concentration of chloride	: --do--
e.	Viscosity of slurry	: --do--
f.	Concentration of slurry	: --do--
g.	Specific gravity of slurry	: --do--
h.	pH of slurry	: --do--
4	PERFORMANCE DATA	
a.	Capacity	m ³ /hr : *
b.	Head	M : *
c.	Pump efficiency	% : *
d.	BKW Normal / Maximum	KW : *
e.	Motor rating	KW : *
f.	Motor Speed	rpm : *
g.	Gear box Loss	% : *
h.	Differential pressure (inclusive of losses)	Kg/cm2 : *
i.	Speed Maximum/ Normal/Minimum	rpm : *
j.	Noise level	dB(A) : *
k.	Performance curve	: *

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5**CONSTRUCTION DATA**

a.	Manufacturer		:	
b.	Model No.		:	*
c.	Suction Rating / Size		:	*
d.	Discharge Rating / Size		:	*
e.	Type of rotor		:	*
f.	Size of rotor Dia	mm	:	*
g.	Journal bearing: Type / Size:		:	*
h.	Thrust bearing: Type / Size:		:	*
i.	Bearing cooling required		:	Yes / No - Supplier to confirm
j.	Cooling water required		:	Supplier to confirm the quantity
k.	Type of drive		:	With Gearbox
l.	Shaft seal		:	Mechanical
m.	Size / Code		:	*
n.	Type of coupling		:	*
o.	Service factor		:	*
p.	GD ² at drive shaft end		:	*
q.	Rotation viewed from coupling end		:	Clock wise / Counter clock wise
r.	Coupling type		:	Yes / No - Supplier to confirm
s.	Coupling make		:	*
t.	Base plate common to pump, Gearbox, bearing housing, coupling & Motor		:	Yes / No - Supplier to confirm
u.	Total weight	kg	:	*
v.	Maximum Erection weight	kg	:	*

6**MATERIALS**

a.	Casing		:	*
b.	Impeller		:	*
c.	Shaft		:	*
d.	Shaft Seal		:	*
e.	Base frame		:	*



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7 INSPECTION AND TESTING

a. Material Test certificates required for : Casing, Impeller, shaft, shaft sleeve	:	[R] [O]
b. DPT & MPI Test for impeller as applicable	:	[R] [O]
c. Ultrasonic & Liquid penetrant test for shaft	:	[R] [O]
d. Dimensional & visual inspection	:	[R] [W]
e. Mechanical running test for 4 hrs.	:	[R] [W]
f. Vibration test at rated speed	:	[R] [W]
g. Performance test	:	[R] [W]
h. Balancing test of Impeller	:	[R] [O]
i. Noise level test	:	[R] [W]
j. NPSH Test	:	[R] [W]
k. Hydrostatic Test	:	[R] [W]
[R]: Required, [W]: Witnessed by BHEL/ end customer, [O]: Observed		

*: Supplier to provide

SIGNATURE OF SUPPLIER -----

NAME -----

DESIGNATION -----



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23.2 Annexure-2, Schedule of guarantees

S.No	Description	Data
1.	Rated capacity of pump m ³ /hr	:
2.	Total head at design capacity m	:
3.	Guaranteed shaft power consumption at rated capacity & head kW	:
4.	Noise level at a distance of 1.0 meter from the equipment at site and 1.5 m above operating floor dB(A)	:
5.	Maximum vibration (peak to peak amplitude at site) microns	:
6.	Equipment Availability (%)	:
7.	Pump Efficiency (%)	:
8.	Life of Pump wear parts including, Casing liners, bearing etc. Hours	: ≥14000 hours operation
9.	Scheduled Maintenance (Minor Overhauls): Recommended intervals between maintenance outages hours	: >25000 hours operation.
10.	Scheduled Maintenance (Major Overhauls): Recommended intervals between maintenance outages shall be hours	: >75000 hours operation.

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NAME -----

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23.3 Annexure-3, Reference list (at least two power plant details)

S.No	Project Name , Customer & Plant capacity	Coal fired Yes/No	Wet Limestone Based FGD Yes/No	Model	Capacity m ³ /hr.	Head m	Speed rpm	Year of Commissioning	Qty
1									
2									
3									

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23.4 Annexure-4, List of Deviations

S.No	Clause No	Page No	Description of Deviation

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23.5 Annexure-5**23.5.1 Documents to be submitted along with offer**

S.No.	Description	No of copies With proposal
1.	Duly signed Specification	1
2.	Price Sheet	1
3.	Anchor Plan & Civil foundation Loading details	1
4.	Data Sheet	1
5.	Performance curve, Motor T-S curve	1
6.	Pro-forma Packing List	1
7.	Manufacturing Time	1
8.	Approximate weight of each skid	1
9.	Reference plant details	1
10.	Required Electric power & other Utility List	1
11.	Deviation List	1
12.	General Assembly Drawing	1
13.	Pump and Motor Sizing Calculation	1
14.	Cross-sectional Drawing	1
15.	Sub-Vendor List	1
16.	Scope of Supply	1
17.	Quality Plan	1
18.	Spare List (Mandatory, Recommended)	1
19.	Start-up & Commissioning Spares	1
20.	List of Special Tools	1
21.	Delivery Schedule	1
22.	Test Arrangement & Test procedure	1
23.	Hoist/Crane requirement	1
24.	P & I Diagram	1
25.	Catalogue	1
26.		

SIGNATURE OF SUPPLIER

NAME

DESIGNATION

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23.5.2 Documents to be submitted after award of contract

S.No.	Description	No of copies After award of contract	Delivery Time
1.	Utility Consumption	1	2 weeks after contract
2.	Foundation Data including Anchor plan	1	2 weeks after contract
3.	Performance curve	2	2 weeks after contract
4.	General arrangement drawing	1	1 month after contract
5.	Cross section detail drawing	1	1 month after contract
6.	Data Sheet	1	2 weeks after contract
7.	Lubricating oil list	1	2 months after contract
8.	Special tools list	1	2 months after contract
9.	Installation and assembly procedure	1	4 months after contract
10.	Inspection and Test Procedure	1	1 month after contract
11.	Inspection & Test record	1	In 2 weeks after test
12.	Inspection Certificate	1	In 2 weeks after test
13.	Sub vendors List	1	2 weeks after contract
14.	Manufacturing Schedule	1	2 weeks after contract
15.	Progress report	1	Every month
16.	Pro-forma Packing List	1	2 months prior to shipping
17.	Approximate weight of pump	1	2 months after contract
18.	Required Electric power	2	2 weeks after contract
19.	Pump and Motor Sizing Calculation	1	2 weeks after contract
20.	Material Test Certificates	2	In 2 weeks after test
21.	Pre Commissioning Check List	2	4 months after contract
22.	Scope of Supply	2	2 weeks after contract
23.	Quality Plan	4	1 month after contract
24.	Operation and Maintenance Manual	Hardcopies and soft copies as mentioned	4 months after contract
25.	Spare List (Mandatory, Recommended)	1	1 month after contract
26.	Start-up & Commissioning Spares	2	1 month after contract
27.	List of Special Tools	1	1 month after contract

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S.No.	Description	No of copies After award of contract	Delivery Time
28.	Delivery Schedule	1	2 weeks after contract
29.	Test Arrangement & Test procedure	2	1 month after contract
30.	T-S curve	2	2 weeks after contract
31.	P & I Diagram	2	2 weeks after contract
32.	Catalogue	2	2 weeks after contract
33.	3D model of Slurry Recirculation pump with accessories (including integral tubing) in editable format	1	4 weeks after contract

SIGNATURE OF SUPPLIER -----
NAME -----
DESIGNATION -----

(To be executed on Non- Judicial Stamp Paper for an appropriate value.
To be stamped as an agreement)

(For Suppliers on Unit's / Division's PMD)

ANNEXURE-II

Framework Confidentiality Agreement Cum Undertaking

This Agreement made on this the _____ day of (month) _____ 20 ____ (“Effective Date”) by and between M/s. BHARAT HEAVY ELECTRICALS LIMITED, having registered office at “BHEL House”, Siri Fort, New Delhi – 110049 (India), acting through its _____ Unit (hereinafter may be referred to as “BHEL” or “the company”).

And

M/s. _____ (address) _____
represented by authorized representative Sri _____ (herein after referred to as the “Supplier”).

The supplier and the company may, unless the context otherwise requires, hereinafter be collectively referred to as “Parties” or singly as the “Party”.

RECITALS

Whereas, BHEL is engaged in the design, engineering, manufacturing, construction, testing, commissioning and servicing of a wide range of products, systems and services for the core sectors of the economy, viz. Power, Transmission, Industry, Transportation, Renewable energy, Oil & Gas and Defence and providing associated services to varied customers in relation to which BHEL / its affiliates own valuable information of a secret and confidential nature.

Whereas the Company may, in connection with contract(s) (as defined hereunder) placed or to be placed upon the supplier, or otherwise, from time to time, make available, Technical Information as is defined hereunder.

And Whereas BHEL is willing to provide such Technical Information to the Supplier from time to time and the Supplier understands and acknowledges that such Technical Information is valuable for the Company and as such is willing to protect confidentiality of such information, subject to the terms and conditions set out hereunder.

Now therefore, in view of the foregoing premises and in consideration of the mutual covenants and agreements hereinafter set forth, the parties agree as under:

1. Definitions:

Unless the context so requires, in this Agreement, the following terms will bear the meaning ascribed to the said term in this clause.

- A. **“Contract”** means the contract entered into with a supplier and includes a Purchase Order, or a Work Order for procurement of any goods or for provision of any services.
- B. **“Effective Date”** means the date of this Agreement as mentioned in the preamble of this Agreement.
- C. **“Supplier”** includes a Contractor or a Vendor of the Company whether for supplying of goods or for providing any services under a Contract or both.
- D. **“Technical Information”** includes Drawings, and / or Product Standards and / or Specifications and / or Corporate / Plant Specifications and / or Technological Process Sheets and / or Technical Data Sheets and / or Jigs & Fixtures and / or Pattern & Dies and / or Special Gauges and / or Tools etc. Belonging to or wherein the Company has acquired from a third party a right of user and includes any improvement thereto from time to time whether carried out by the Company or by the Suppliers.
- E. **“Intended Purpose”** means the purpose for which the Technical Information is provided to the supplier under or in connection with a contract.
- F. **“Improvement”** includes any modification made to, or adaptation of, the Technical Information which enhances or is calculated to enhance the performance (Whether in terms of effectiveness or in terms of efficiency or both) of the product and / or the service to be provided by the Supplier under a Contract.

2. This Agreement shall come into force / deemed to have come into force, as the case may be, on the Effective Date; or, on the first date when the Technical Information or any part thereof is provided by BHEL to the supplier; whichever is earlier.

3. **Agreement deemed to be incorporated in each contract:** Unless and to the extent otherwise stipulated in the Contract, the conditions of this Agreement are deemed to be incorporated in all Contracts which may be entered into between the Company and the Supplier. Further, unless otherwise stipulated, the obligations under this Agreement are and will be independent of the obligations under the Contracts and such obligations of the Supplier hereunder will remain of full effect and validity notwithstanding that the period of validity of the Contract has expired by efflux of time stipulated therein; or, the contract has been discharged by performance or breach; or, the termination of the Contracts for any reason whatsoever.

4. **Ownership:**

4.1 The Company may, from time to time, make available to the Supplier, Technical Information on a non-exclusive basis by way of loan.

4.2 The Supplier acknowledges and agrees that all Technical Information and copies thereof that are or may be provided by the Company to the Supplier, are and shall remain the property of

BHEL or that of the concerned entity from whom BHEL has obtained the Technical Information and such Technical Information are and shall constitute trade secrets of the BHEL. Nothing in this Agreement or in any disclosures made hereunder by or on behalf of the Company shall be construed as granting upon the Supplier any patent, copyright or design or any other intellectual property rights of whatsoever description that subsists or may hereinafter exist in the Technical Information. Furthermore, nothing in this Agreement or in any disclosures made hereunder by or on behalf of the Company shall be construed as granting upon the supplier any license or right of use of such patent, copyright or design or any other intellectual property rights of whatsoever description which may now or hereafter exist in the Technical Information except for use of the Technical Information strictly in accordance with this Agreement and the contract and / or as directed in writing by the Company, solely for the Intended Purpose under the Contract.

4.3 Neither party is obligated by or under this Agreement to purchase from or provide to the other party any service or product and that any such purchase / sale of any product and / or service by one party to the other party will be governed by the Contract if any, that may be entered into by and between the Company and the Supplier.

4.4 The Supplier is / has been made well aware and acknowledges that the Technical Information being / which may be shared with it by the Company has been either generated by the Company by incurring huge investment and cost or obtained from foreign collaborators under Technical Collaboration Agreement (TCA) with stringent confidentiality conditions.

4.5 The supplier agrees and undertakes to adhere to confidentiality requirements as applicable to BHEL under a TCA and also ensure that the confidentiality requirements are adhered to by all its concerned employees or sub-contractors /suppliers (where permitted to be engaged by BHEL). Any damages, losses, expenses of any description whatsoever, arising out of or in connection with a breach of the confidentiality requirements under a TCA owing to any act or omission on the part of the supplier or its employees or sub-contractors / suppliers that is claimed by a foreign collaborator from the Company shall be wholly borne by the Supplier and it shall keep BHEL fully indemnified in this behalf. The demand by the Company shall be conclusive upon the Supplier who shall thereupon forthwith pay to the Company without demur, dispute or delay the amount as demanded without demanding any further proof thereof.

4.6 The Supplier agrees and undertakes that unless so decided and advised by the Company in writing all rights / title to any Improvement to the Technical Information shall vest in the Company. The Supplier undertakes and agrees to inform forthwith to the Company of any such Improvement made to the Technical Information and transfer all drawings / documents or other materials connected with such Improvement to the Company and also agrees to fully cooperate with the Company for protecting the Company's interests in such Improvements

in the Technical Information including but not limited to obtaining necessary protection for the intellectual property rights in such improvement, if so desired by the Company. If a question arises whether a modification amounts to improvement to the Technical Information, the same shall be decided by the Company and such decision shall be final and binding upon the supplier.

5. Use and Non – Disclosure:

5.1 Unless otherwise stipulated by the Company, all Technical Information made available to the supplier, by the Company shall be treated as Confidential irrespective of whether the same is marked or otherwise denoted to be Confidential or not.

5.2 The Supplier undertakes and agrees that the Technical Information in its possession shall be held in strict confidence and will be used strictly in accordance with this Agreement and solely for the Intended Purpose under the Contract. Use of the Technical Information for any other purpose other than Intended Purpose is prohibited.

5.3 In particular, the Supplier shall not use Technical Information or any Improvement in its possession for the manufacture or procurement of the product(s) or components or parts thereof or use the Technical Information or any portion thereof or any modification or adaptation thereof in any form to provide any product and / or service to any third party, without the prior written consent of the Company.

5.4 The Supplier shall not disclose any of such Technical Information to any third party without the prior written consent of the Company. The Supplier agrees that without prior written consent of the Company, the supplier shall not disclose to a third party about the existence of this Agreement, or of the fact that it is / was in possession of or has experience in the use of any Technical Information nor shall the Supplier share in any manner whatsoever, with a third party, the name or details of any Contract(s) awarded by the Company to it or performed by the Supplier or the scope of work thereof or share any document or correspondence by and between the Company and the supplier in or in connection with this Agreement or such Contract(s). Notwithstanding what is stated elsewhere, the overall responsibility of any breach of the confidentiality provisions under this Agreement shall rest with the Supplier.

5.5 This Supplier undertakes and agrees not to make copies or extracts of and not to disclose to other any or all of the Technical Information in its possession, except as follows:

(a) The Supplier may disclose the Technical Information to such of its officers and employees strictly to the extent as is necessary for such officer or employee for the Intended Purpose, provided that the Confidential Information (or copies thereof) disclosed shall be marked

clearly as the confidential and proprietary information of Company and that such officers and employees shall similarly be bound by undertakings of confidence, restricted use and non-disclosure in respect of the Technical Information. The Supplier shall be responsible for any breach of such confidentiality provisions by such officers and employees.

- (b) With the prior written consent of Company, the supplier may disclose for the Intended Purpose such Technical Information as is provided for in such consent to such of its professional advisers: consultants, insurers and subcontractors who shall be similarly bound by undertakings of confidence, restricted use and non-disclosure in respect of such Technical Information.
- (c) The Supplier shall not be prevented to make any disclosure required by (i) order of a court of competent jurisdiction or (ii) any competent regulatory authority or agency where such disclosure is required by law, provided that where the supplier intends to make such disclosure, it shall first consult Company and take all reasonable steps requested by it to minimize the extent of the Technical Information disclosed and to make such disclosure in confidence and also shall cooperate with the Company in seeking any protective order or any other remedy from proper authority in this matter.

6. Exceptions:

The Obligations of the Supplier pursuant to the provisions of this agreement shall not apply to any Confidential Information that:

- a) was / is known to, or in the possession of the Supplier prior to disclosure thereof by the Company;
- b) is or becomes publicly known, otherwise than as a result of a breach of this agreement by the Supplier.
- c) is developed independently of the Disclosing party by the Supplier in circumstances that do not amount to a breach of the provisions of this Agreement or the Contract;
- d) is received from a third party in circumstances that do not result in a breach of the provisions of this Agreement.

- 7. The Obligation of maintaining confidentiality of the Technical Information on each occasion, shall subsist for the entire duration during which the Technical Information / equipment is in possession of the Supplier and shall thereafter subsist for a further period of _____ years from the date when the complete Technical Information has been returned in portions on different dates, the period of ____ years will be reckoned from the date when the last portion of the Technical Information has been returned. Notwithstanding the expiry of the confidentiality obligation, the obligation of the Supplier under clause 5.4 shall continue to subsist for a further period of _____ years.

8. Warranties & Undertakings:

- a) The Supplier undertakes to ensure the due observance of the undertakings of confidence, restricted use and non-disclosure by its persons to whom it discloses or releases copies or extracts of the Technical Information.
- b) The Supplier shall keep the Technical Information or improvement made therein properly segregated and not mix up the same with any other material / documents belonging to him / it or to any other third party.
- c) The Supplier further undertakes that he / it shall not hypothecate or give on lease or otherwise alienate or do away with any of the Technical Information and / or equipment of the Company, made available to him / it, and undertakes that he / it shall hold the same as a trustee, in capacity of custodian thereof and use / utilise the same solely for the purpose of executing the contract awarded by the Company.
- d) The Supplier further undertakes that he / it shall return all the equipment and / or Technical Information as far as practicable in the same condition in which the same was made available to him / it by the Company together with any Improvement thereon and the documents connected with such Improvement, to the Company forthwith upon completion of the scope of work or contract for which such Technical Information was provided by the Company to it or as directed by the Company together with a confirmation by way of an affidavit or in such manner as directed by the Company that it has not retained any equipment and / or Technical Information / improvement thereof. In case any such equipment and / or Technical Information or thereof shall remain in his possession or is not capable of being returned, the retention and use of such Technical Information or improvement thereto shall continue to be governed by this Agreement.
- e) The Supplier undertakes to indemnify the Company for all the direct, indirect and / or consequential losses, damages, expenses whatsoever including any consequential loss of business, profits suffered by the Company owing to breach by the Supplier of its obligations under this Agreement and / or the confidentiality requirements, if any, contained in the Contract and that the Supplier hereby agrees that the decision of the Company in all such or any such matter/s shall be final and binding on the Supplier. On mere written demand of the Company, the Supplier shall forthwith and without demur or delay pay to the Company any such sum as determined by the Company as the amount of loss or damage or expense which has been suffered by the Company. The Supplier agrees that the Company shall be entitled to withhold and appropriate any amount payable to the Supplier under any Contract then existing between the Company and the Supplier, in case the Supplier fails to make payment, in terms of the written demand, within 7 days thereof. Without prejudice to the forgoing actions, in respect to any breach of this Agreement, the Company shall be entitled to take

any other action against the Supplier as per applicable laws, the Contract, Company's applicable policies, guidelines rules, procedures, etc.

9. Without prejudice to any other mode of recovery as may be available to the Company for recovery of the amount determined as due as per Clause 9 (f) hereinabove, the Company shall have a right to withhold, recovery and appropriate the amount due towards such losses, damages, expenses, from any amount due to the Supplier in respect of any other Contract (s) placed on him / it by any department / office / unit/ division of the said Company.

10. Arbitration & Conciliation:

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, penalty deduction, validity or execution of the Contract; time extension, 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 . Sole arbitrator to be appointed by Head of the Unit - BHEL, HPEP.

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 Sangareddy / Hyderabad, Telangana. The language of arbitration shall be English and the documents shall be submitted in English.

The cost of arbitration shall initially be borne equally by the Parties subject to the final apportionment of the cost of the arbitration in the award of the Arbitrator.

Subject to the arbitration in terms of clause 46 of ITB (clause 27 of ATC GeM), the courts at Sangareddy, Telangana State 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.

ARBITRATION FOR CONTRACT WITH PUBLIC SECTOR ENTERPRISE (PSE) OR A GOVERNMENT DEPARTMENT

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

CONCILIATION CLAUSE FOR CONDUCTING CONCILIATION PROCEEDINGS UNDER THE BHEL CONCILIATION SCHEME, 2018: 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 connection with construction, meaning, operation, effect, interpretation or breach of the agreement, contract or the Memorandum of Understanding, penalty deduction, time extension), 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 and as provided in Procedure in http://www.bhel.com/index.php/story_details?story=2454 . The Procedure together with its Formats will be treated as if the same is part and parcel hereof and shall be as effectual as if set out herein in this ITB

11. Governing Law & Jurisdiction:

This agreement shall be construed and interpreted in accordance with the laws of India and shall have exclusive jurisdiction of Sangareddy/Hyderabad courts, Telangana, India.

SIGNATURE

WITNESSES

1

Name:

Address:

2

Name:

Address:

Clause on IP in the tender

Integrity Pact (IP)

- (a) IP is a tool to ensure that activities and transactions between the Company and its Bidders/ Contractors are handled in a fair, transparent and corruption free manner. Following Independent External Monitors (IEMs) on the present panel have been appointed by BHEL with the approval of CVC to oversee implementation of IP in BHEL.

SI	IEM	Email
1.	Shri Otem Dai, IAS (Retd.)	iem1@bhel.in
2.	Shri Bishwamitra Pandey, IRAS (Retd.)	iem2@bhel.in
3.	Shri Mukesh Mittal, IRS (Retd.)	iem3@bhel.in

- (b) The IP as enclosed with the tender is to be submitted (duly signed by authorized signatory) along with techno-commercial bid (Part-I, in case of two/ three part bid). Only those bidders who have entered into such an IP with BHEL would be competent to participate in the bidding. In other words, entering into this Pact would be a preliminary qualification.
- (c) Please refer Section-8 of IP for Role and Responsibilities of IEMs. In case of any complaint arising out of the tendering process, the matter may be referred to any of the above IEM(s). All correspondence with the IEMs shall be done through email only.

Note:

No routine correspondence shall be addressed to the IEM (phone/ post/ email) regarding the clarifications, time extensions or any other administrative queries, etc on the tender issued. All such clarification/ issues shall be addressed directly to the tender issuing (procurement) department's officials whose contact details are provided below:

Details of contact person(s):

(1)

Name:Narendra Kumar
Deptt: Purchase/Pumps
Address: BHEL Hyderabad
Phone: (Landline/ Mobile)
_____04023182440_
Email: narendrakmr@bhel.in
Fax: _____

(2)

Name:Nandgopal
Deptt: _Purchase/Pumps
Address: __BHEL Hyderabad
Phone: (Landline/ Mobile) _2440
Email: 9483944073
Fax: _____

INTEGRITY PACT

Between

Bharat Heavy Electricals Ltd. (BHEL), a company registered under the Companies Act 1956 and having its registered office at "BHEL House", Siri Fort, New Delhi – 110049 (India) hereinafter referred to as "The Principal", which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the ONE PART

and

_____, (description of the party along with address), hereinafter referred to as "The Bidder/ Contractor" which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the OTHER PART

Preamble

The Principal intends to award, under laid-down organizational procedures, contract/s for

_____. The Principal values full compliance with all relevant laws of the land, rules and regulations, and the principles of economic use of resources, and of fairness and transparency in its relations with its Bidder(s)/ Contractor(s).

In order to achieve these goals, the Principal will appoint Independent External Monitor(s), who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

Section 1 – Commitments of the Principal

- 1.1 The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:-
 - 1.1.1 No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
 - 1.1.2 The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.
 - 1.1.3 The Principal will exclude from the process all known prejudiced persons.
- 1.2 If the Principal obtains information on the conduct of any of its employees which is a penal offence under the Indian Penal Code 1860 and Prevention of Corruption Act 1988 or any other statutory penal enactment, or if there be a substantive suspicion in this regard, the Principal will inform its Vigilance Office and in addition can initiate disciplinary actions.

Section 2 – Commitments of the Bidder(s)/ Contractor(s)

- 2.1 The Bidder(s)/ Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.
 - 2.1.1 The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to the Principal or to any of the Principal's employees involved

in the tender process or the execution of the contract or to any third person any material, immaterial or any other benefit which he / she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.

- 2.1.2 The Bidder(s)/ Contractor(s) will not enter with other Bidder(s) into any illegal or undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
- 2.1.3 The Bidder(s)/ Contractor(s) will not commit any penal offence under the relevant IPC/ PC Act; further the Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
- 2.1.4 The Bidder(s)/ Contractor(s) 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.
- 2.2 The Bidder(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

Section 3 – Disqualification from tender process and exclusion from future contracts

If the Bidder(s)/ Contractor(s), before award or during execution has committed a transgression through a violation of Section 2 above, or acts in any other manner such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s)/ Contractor(s) from the tender process or take action as per the separate "Guidelines on Banning of Business dealings with Suppliers/ Contractors". framed by the Principal.

Section 4 – Compensation for Damages

- 4.1 If the Principal has disqualified the Bidder from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent Earnest Money Deposit/Bid Security.
- 4.2 If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to section 3, the Principal shall be entitled to demand and recover from the Contractor liquidated damages equivalent to 5% of the contract value or the amount equivalent to Security Deposit/Performance Bank Guarantee, whichever is higher.

Section 5 – Previous Transgression

- 5.1 The Bidder declares that no previous transgressions occurred in the last 3 years with any other company in any country conforming to the anti-corruption approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.
- 5.2 If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

Section 6 – Equal treatment of all Bidders/ Contractors/ Sub-contractors

- 6.1 The Bidder(s)/ Contractor(s) undertake(s) to obtain from all subcontractors a commitment consistent with this Integrity Pact and report Compliance to the Principal. This commitment shall be taken only from those sub-contractors whose contract value is more than 20 % of Bidder's/ Contractor's contract value with the Principal. The Bidder(s)/ Contractor(s) shall continue to remain responsible for any default by his Sub-contractor(s).
- 6.2 The Principal will enter into agreements with identical conditions as this one with all Bidders and Contractors.
- 6.3 The Principal will disqualify from the tender process all bidders who do not sign this pact or violate its provisions.

Section 7 – Criminal Charges against violating Bidders/ Contractors /Sub-contractors

If the Principal obtains knowledge of conduct of a Bidder, Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the Vigilance Office.

Section 8 –Independent External Monitor(s)

- 8.1 The Principal appoints competent and credible Independent External Monitor for this Pact. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.

- 8.2 The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the CMD, BHEL.
- 8.3 The Bidder(s)/ Contractor(s) accepts that the Monitor has the right to access without restriction to all contract documentation of the Principal including that provided by the Bidder(s)/ Contractor(s). The Bidder(s)/ Contractor(s) will grant the monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his contract documentation. The same is applicable to Sub-contractor(s). The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/ Contractor(s) / Sub-contractor(s) with confidentiality.
- 8.4 The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the contract provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.
- 8.5 As soon as the Monitor notices, or believes to notice, a violation of this agreement, he will so inform the Management of the Principal and request the Management to discontinue or take corrective action, or heal the situation, or to take other relevant action. The Monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.
- 8.6 The Monitor will submit a written report to the CMD, BHEL within 8 to 10 weeks from the date of reference or intimation to him by the Principal and, should the occasion arise, submit proposals for correcting problematic situations.
- 8.7 The CMD, BHEL shall decide the compensation to be paid to the Monitor and its terms and conditions.
- 8.8 If the Monitor has reported to the CMD, BHEL, a substantiated suspicion of an offence under relevant IPC / PC Act, and the CMD, BHEL has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Office, the

Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.

8.9 The number of Independent External Monitor(s) shall be decided by the CMD, BHEL.

8.10 The word 'Monitor' would include both singular and plural.

Section 9 – Pact Duration

9.1 This Pact begins and shall be binding on and from the submission of bid(s) by bidder(s). It expires for the Contractor 12 months after the last payment under the respective contract and for all other Bidders 6 months after the contract has been awarded.

9.2 If any claim is made / lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified as above, unless it is discharged/ determined by the CMD, BHEL.

Section 10 – Other Provisions

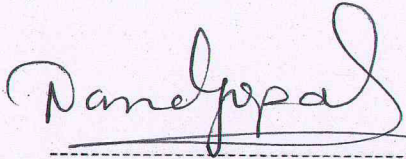
10.1 This agreement is subject to Indian Laws and jurisdiction shall be registered office of the Principal, i.e. New Delhi.

10.2 Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.

10.3 If the Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.

10.4 Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.

10.5 Only those bidders/ contractors who have entered into this agreement with the Principal would be competent to participate in the bidding. In other words, entering into this agreement would be a preliminary qualification.



నంద గోపాల్ నంద గోపాల్
NANDGOPAL
Sr. Manager / Purchase Pump
వీ.ఎం.ఐ.పి.ఎ. నందగోపాల్, హైదరాబాద్-32, BHEL-HPEP, HYD-32.
For & On behalf of the Principal
(Office Seal)

For & On behalf of the Bidder/ Contractor
(Office Seal)

Place---Hydrabad---

Date-----

Witness: ^{Narendra} Narendra Kumar

(Name & Address) _____

BHEL Hydrabad.

Witness: _____

(Name & Address) _____



(Attachment to Enquiry No. XXXXXXXXXXXX Due on Date XX.XX.XXXX for submission by 11.00 hrs to open from 14.00 hrs.)		
INSTRUCTIONS TO BIDDER (ITB)		
NOTE: Bidder to confirm in affirmative by typing "YES" or "Applicable Data" in the response column. Deviations, if any shall be recorded in deviations/comments column (Separate sheet can be attached if needed). Non deviatable clauses are indicated as "NON DEVIATABLE".		
Sl. No.	DETAILED TERMS & CONDITIONS	BIDDER RESPONSE (YES/NO) / DEVIATIONS / COMMENT
1	SCOPE OF SUPPLY:	
	Signed & Sealed offers are invited for the Scope of Supply of goods or services or both as detailed in the enquiry. Relevant enclosures/supporting documents / catalogue, if any shall be enclosed to the technical offer.	
2	DEFINITIONS	
A	'The Buyer' means BHEL-HPEP, Ramachandrapuram, Hyderabad-502 032 of Bharat Heavy Electricals Limited (A Govt. of India Undertaking) incorporated under the companies Act having its registered office at BHEL House, Siri fort, New Delhi-110049, India and shall be deemed to include its successors and assigns. It may also be referred to as BHEL.	
B	'The Bidder' means the persons, firm, company or organization on whom the Purchase order is placed and shall be deemed to include the bidder's successors, representatives, heirs, executors and administrator as the case may be. It may also be referred to as Contractor, supplier or bidder.	
C	'Contract' shall mean and include the Purchase order incorporating various documents viz., Notice Inviting Tender (NIT), Offer, Letter Of Intent/Acceptance (LOI/LOA), Instruction to Bidders (ITB) and Special Conditions of Contract (SCC), specifications, inspection/quality plan, schedule of prices and quantities, drawings, if any, enclosed by Bidder/ provided by the Buyer or his authorized nominee and the samples or patterns if any to be provided under the provision of the contract. In case of any inconsistency or contradiction between any of the documents, the order of precedence shall be Purchase Order, LOI/LOA followed by Minutes Of Meeting (MOM), NIT, SCC, ITB.	
D	'Parties to the contract' shall mean the bidder and the buyer as named in the main body of the Purchase Order.	
E	'Goods/Material' shall include Works and Services which are incidental or consequential to supply.	
3	GENERAL INSTRUCTIONS:	
A	Mode of submission of offer shall be as indicated in SCC	Non Deviatable
B	The quotation should be neatly typed and free from over writing/ erasures. Any correction or addition must be authenticated. The offer including annexures and brochures should be submitted in English / Hindi. All Pages of Techno Commercial Bids (Main Pages), ITB, SCC should be signed and Stamped. If there is a conflict in case of bilingual submission, the submission in English will be final. Prices shall be quoted both in figures and words. In case of any discrepancy in value, the prices quoted in words shall be considered for evaluation and establishing L1 Status. Any discount / revised offer / bids submitted by a bidder on his own shall be considered, provided it is received on or before the due date and time of offer / bid submission (Part-1). Conditional discounts shall not be considered for evaluation of tenders.	Non Deviatable
C	Incomplete offers are liable for rejection.	Non Deviatable
D	Bidders to please note that the Terms & conditions contained in this document and SCC are to be read fully before submission of quotations.	Non Deviatable
E	Bidders are advised to comply with ITB and SCC, should there be any deviations (where deviations are permitted), it shall be entered in the deviation column. BHEL reserves the right to reject such offers or load the bid suitably for evaluation.	Non Deviatable
F	Offers shall be submitted directly, only by the bidder or by their authorized representative / agent and the offer should be in line with the regulatory guidelines (i.e. A valid Agency agreement between principal bidder and agent / representative shall be attached and the agreement shall cover the scope of services rendered by Agent, Agency Commission and any other information called for as per the regulatory guidelines). OEM / Mill details shall be provided if bidder is not a manufacturer. Bid envelopes shall bear the name of Bidder. In case of submission through authorized representative/agent, the name of representative/agent should also be mentioned apart from bidder name.	Non Deviatable
G	Offer received after the specified time and date of submission will be rejected. No further correspondence shall be entertained.	Non Deviatable
H	Unsolicited offers will not be considered.	Non Deviatable
4	OTHER PARTICULARS (Please indicate applicable data)	
A	Name of the Bid currency (freely tradable foreign currency for imports and Indian Rupees for indigenous purchase).	
B	Name of the Port of loading and Port of Discharge (applicable to imports).	



5	BID SUBMISSION PROCEDURE FOR CONVENTIONAL TENDER:	
A	For Single Part Bids:	
	The complete bid shall be submitted in a single sealed cover superscribing the Tender number and due date, addressed to Sr DGM/CMM, Vendor Complex, BHEL, Hyderabad and sent by appropriate mode to above address or dropped in tender box located at vendor complex on or before the specified time and date of submission of offers, preferably in the bidder's envelope. E- mail bids shall be sent to mail ID pricebid_hyd@bhel.in only as an attachment.	Non Deviatable
B.	For two-Part Bids:	
i	<p>The offer is to be submitted in two parts viz., Techno-commercial Bid - (Part-I), with all technical specification & scope including bill of material etc., Earnest Money Deposit (EMD)(wherever applicable) and unpriced bid with all applicable Commercial Terms and Conditions, rates of agency commission, duties, taxes and other charges, Signed and Stamped ITB and SCC, <u>except the price</u>, shall be kept in a separate sealed cover, superscribing enquiry No. (Techno-Commercial Bid) and due date AND Price Bid (Part-II), containing ONLY the price (including agency commission, if any) and the applicable duties/taxes/other charges shall be kept in a separate sealed cover superscribing Enquiry no. (Price bid) & due date.</p> <p>Both the above covers (Part –I & II) shall be kept in a Third cover superscribing Enquiry no. & due date.</p> <p>Bidder can also submit offer through email. Technical offer to be submitted to mail ID technicalbid_hyd@bhel.in, and price bid to be submitted to mail ID pricebid_hyd@bhel.in only as an attachment. Interchanging the information in the mails may lead to rejection of the offer. Bidder shall have no claim on e-mail offers sent to any other e-mail ID.</p> <p>In case of e-mail offers, the mail subject should contain Enquiry Number, Due date and Bidder name. Bidder address including contact details shall be mentioned in the content of the mail. Without these details, the offer is liable for rejection.</p> <p>All techno commercial terms & conditions mutually agreed prior to price bid opening shall prevail and supersede any terms and conditions specified otherwise in price bid.</p>	Non Deviatable
ii	The bidders whose bids are techno commercially not accepted will be informed and EMD shall be returned wherever submitted.	
iii	Bidders will be allowed to submit the impact on their quoted prices due to changes in technical scope, specifications, and commercial terms/conditions as specified in NIT which in the opinion of BHEL , warrant changes in prices.	Non Deviatable
C	Bids shall be opened on due time and date in the presence of bidders who may like to be present. Only one representative of each bidder shall be permitted to attend the bid opening. Only the price bids of bidder (in case of two part bid) whose techno commercial bids are accepted will be opened later on a specified date.	Non Deviatable
6	DELIVERY TERMS	
A	Indigenous Purchase	
	<p>a. Terms of Delivery for dispatches to BHEL Hyderabad (HPEP) shall be FOR Destination.</p> <p>b. Terms of Delivery for Direct Dispatch (DD) items shall be Ex Works.</p> <p>i. In case specified in SCC that insurance is in customer/BHEL scope, price quoted shall include Freight charges up to Destination.</p> <p>ii. Otherwise, price quoted shall include Freight and Insurance upto Destination. However, beneficiary for insurance shall be BHEL.</p>	
B.	Imports	
	The goods shall be delivered on FCA capital airport basis in case of freight by Air and CIP basis in case of freight by Sea.	
7	Documentation for Payment	
A	Indigenous Purchase	
	<p>Following documents shall be submitted immediately on dispatch of material to BHEL HPEP / Site</p> <p>a. Original Tax Invoice (Refer ITB clause no 11 for Tax Compliance)</p> <p>b. Packing List - clearly showing number of packages, gross weight and net weight.</p> <p>c. Test/Warranty/Guarantee certificates, O&M Manual (If specified in SCC)</p> <p>d. Insurance intimation/declaration certificate</p> <p>e. Pre-dispatch Inspection report /Third Party Inspection Certificates.</p> <p>f. Consignee copy of LR signed & stamped by Customer/Site representative for DD Items</p> <p>g. e-waybill</p> <p>h. Any other documents as specified in SCC.</p> <p>Softcopies of the above documents shall be uploaded in Pradan portal https://hpep.bhel.com/mm immediately after dispatch of the material.</p>	Non Deviatable

B	<p>Imports</p> <p>i) Bidder shall inform BHEL the readiness of material along with packing details 30 days in advance from the date of delivery. For Hazardous cargo/DG cargo, supplier must provide the following documents prior to handing over shipment to freight forwarder, wherever freight is in BHEL scope:</p> <ol style="list-style-type: none">1. Valid MSDS2. DGD certificate with appropriate UN numbers.3. Labelling and marking on DG cargo along with photo of packaging.4. Self-declaration for consignment5. Packaging Certificate as per DG Standards6. TSA Approved Truckers details to be provided to forwarder at the time of shipment <p>In addition to the above, supplier should ensure to comply all IATA DG regulations, if any new requirement is added in future.</p> <p>ii). Bidder shall also upload the soft copy of the dispatch documents consisting of BL / AWB, Invoice, delivery note, packing list, country of origin & Test certificates and other documents as specifically indicated in the SCC in PRADAN Portal (https://hpep.bhel.com/mm) within Five days from the B/L date for sea shipment and One day from AWB date for Air shipment and sent to email ids: mssea@bhel.in, msair@bhel.in, cmmfe@bhel.in.</p> <p>iii) AWB/BL must contain the information of BHEL GST no., and PAN no.</p> <p>iv) Air Shipments: Bidder shall ensure the following</p> <ol style="list-style-type: none">a) Port of discharge -- Mumbai/Chennai/Hyderabad (as indicated in SCC).b) Consignee shall be BHEL, Hyderabad. Material shall be air freighted through cargo mode only and not through Courier.c) Upon handing over the cargo to the forwarder, bidder shall ensure the acknowledgement receipt with wordings "Cargo handed over in sound condition for Air freighting". Note: Warehouse receipt will not be considered for penalty calculations.d) In case of CIF/ shipments, bidder shall also inform BHEL the information about discharge port agent details and cargo arrival information within one day from the date of Shipment.e) Following dimensions of single package may be noted.<ol style="list-style-type: none">i). Maximum dimension of the cargo(ODC) -- 125" x 88" x 63"ii). Maximum weight of the cargo -- 3.5 MT.If any package dimension or weight exceeds the above set limits, it will be treated as Over Dimension Cargo (ODC) or Over Weight Cargo and bidder shall inform BHEL 30 days in advance to the delivery date to enable BHEL to finalize the freight forwarder.f). If package falls under Hazardous category, bidder shall communicate BHEL 30 days in advance period with document support. <p>v) Sea Shipments:- bidder shall ensure the following</p> <ol style="list-style-type: none">a). Port of discharge -- Nhavaseva/Mumbai/Chennai.b). Place of Delivery / Final Destination for CIP shipments - Nhavaseva CFS / Chennai CFS.c). In case of FOB shipments, bidder shall handover the material to BHEL nominated forwarder and obtain the cargo receipt.d). If the material cannot be containerized in 20 or 40 GP containers, an advance information of 30 days prior to the delivery date shall be communicated to BHEL for necessary arrangements and finalisation of freight forwarder.e). For CIP shipments<ol style="list-style-type: none">1. In case of FCL shipments, Detention free period must be 14 days.2. Bidder shall also inform BHEL the information about discharge port agent details and cargo arrival information within 5 days from the date of Shipment.3. No charges for the services rendered till place of destination will be payable by BHEL. In case liner / forwarder insist for charges, not in the scope of BHEL, the same will be adjusted from bidder account.4. In case of CIF shipments -- Bidder must select a forwarder/liner whose discharge port published tariff for THC and other services is available. Any charges over and above the published tariff will not be borne by BHEL or will be adjusted from the bidder's bill.5. bidder must insure the cargo for 110% of material value including the freight amount. <p>(vi). Recovery charges for non-submission of documents: - Bidder shall submit all the required documents to BHEL as prescribed in the Purchase order and NIT.</p> <p>If BHEL incurs any charges such as Penalty, demurrage, container detention, wharfage, storage, Ground rent etc., due to non - compliance / non - submission of documents prescribed in Purchase Order/ NIT/Letter of credit, the same shall be recovered from the bidder as under:</p> <ol style="list-style-type: none">1. EUROPE/USA/Black Sea/ Far East/Middle East/South East sector <p>A. For FOB Sea Consignments:-</p> <p>Penalty for late submission / negotiation of documents beyond 14 days shall be as under:</p>		
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Sl. no	Period (From Date of Bill of Lading)	Recoverable Charges		Recoverable Charges per day per container	
		LCL Break per day	per week/ bulk cargo	20FT Container	40FT Container
i	Upto 14th day	Nil		Nil	Nil
ii	15th day onward	USD 10		USD 110	USD 200

B. For CIP Sea Shipments: -
Bidder shall provide rates for detention charges after free period at the time of offer itself in case of engagement of 20FT Container and 40FT category. In case of late presentation of documents to the bank recovery will be effected from the Bidder as per the rates quoted by the Bidder at the time of offer in this regard.
In case of Break bulk cargo and LCL, Demurrage charges shall be recovered at the rate of USD 1 per Ton per day and storage charges at the rate of USD 10 per week respectively shall be charged as late presentation charges.

(vii) Description of items in invoice, packing list, BL / AWB or LR shall be same as PO item description. Bidders shall ensure that invoice shall contain PAN nos. of both bidder and BHEL along with other tax related numbers. BHEL PAN AAACB4146P and BHEL TAN HYDB00086C Any other additional documents sought by the statutory authorities, the same shall be produced by the bidder on priority basis.

(viii) Bidder shall provide package details including number of packages, gross weight, net weight etc.

(ix) The bidder shall provide the following documents at the time of submission of offer:
a) No Business Connection in India declaration issued by the bidder as per the format specified. (or)
b) (i) No Permanent Establishment in India declaration issued by the bidder as per the format specified.
(ii) Tax Residence Certificate issued by the bidder's tax authorities.
(iii) Form 10F, as attached in Annexure V, to be issued by the bidder.
c) In case the bidder has a Business Connection in India as per Section 9 of Income Tax Act or significant economic presence in India as per rule 11 UD of IT Act or Permanent Establishment in India as per Article 5 of Double Taxation Avoidance Agreement between India and the bidder's country, the bidder shall provide a withholding tax order issued by the Indian Income Tax authority for recovery of applicable tax.

8	Delivery Schedule		
	The tendered goods shall be delivered within the period stipulated in NIT/ SCC as accepted. Inordinate delay/early supply are liable for rejection/ Hold on payment.		Non Deviatable
9	Pricing Terms		
	Quoted price shall be inclusive of Packing & Forwarding and shall remain firm and valid during the execution of PO. Offers with PVC will be rejected outright except in cases where specifically called for in the SCC.		Non Deviatable
10	PRICE VALIDITY :		
	Unless otherwise specified, offer shall be valid for a period of 90 days from the date of bid opening (Technical bid /part-I in case of two part bid). However the prices quoted for spare parts of the Main equipment shall be kept valid for a period as specified in SCC.		Non Deviatable
11	Taxes & Duties (RATE TO BE INDICATED by the bidder against the space provided)		

A	<p>Indigenous Purchase</p> <p>i) Only valid GST registered bidders will be considered for the tender. The GSTIN of the bidder should be clearly mentioned in the offer.</p> <p>ii) If bidder is exempted from GST registration under any provision of the GST Law, a declaration with due supporting documents should be furnished for considering the offer.</p> <p>iii) Bidder to quote the applicable taxes in the following manner:</p> <ul style="list-style-type: none"> - Harmonized System of Nomenclature (HSN) of Goods - Services Accounting Code(SAC) of Services. - IGST/CGST/SGST/UTGST: Rate of Tax to be quoted as extra in % against the space provided <p>iv) Bidders to ensure correct applicability of IGST/CGST/SGST/UTGST based on the Inter / Intra state movement of goods/services.</p> <p>v) In case Bidder has opted for GST Composition Scheme, the same may be stated explicitly both in their technical and price bids. An undertaking to the effect that any change in the status of the bidder will be intimated.</p> <p>vi) Any other taxes & duties not covered anywhere above may be indicated separately.</p> <p>Taxes deducted at source:</p> <ul style="list-style-type: none"> - TDS as per the extant statutes shall be deducted. - In case bidder does not provide PAN details, higher rate of tax shall be deducted as per the Act. - Concessional certificates, if any, should be provided well in time for lower deduction of tax. 		Non Deviatable
	<p>Terms & Conditions to be complied</p> <p>1. All invoices (incl. Credit Notes, Debit Notes) to contain BHEL HPEP GSTIN ie 36AAACB4146P1ZG. Invoices submitted should be in the format as specified under GST Law. All details as mentioned in Invoice Rules including Dealer GST registration number (GSTIN), invoice number with date of issue, quantity, rate, value, taxes with nomenclature – CGST, SGST, UGST, IGST mentioned separately, HSN Code / SAC Code etc.</p> <p>2. Reimbursement of GST amount will be made only upon completion of the following:</p> <ol style="list-style-type: none"> i. Bidder declaring such invoice in their GSTR-1 Return/ IFF ii. Receipt of Goods or Services and Submission of Tax invoice by BHEL iii. The tax invoice is reflected in the GSTR2B of BHEL, HPEP (buyer). Payment of GST will be made only if it is matching with data uploaded by the Bidder in GST portal. <p>3. In case of discrepancy in the data uploaded by the bidder in the GSTN portal vis-a-vis the tax invoice or in case of any shortages or rejection in the supply, then BHEL will not be able to avail the tax credit. The same would be available in PRADAN Portal for the bidder's information. Bidder 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 for processing of such invoices.</p> <p>4. In cases where invoice details have been uploaded by the bidder but failed to remit the GST amount to GST Department within stipulated time, then GST on the invoices in default will be recovered from the bidder along with the applicable interest.</p> <p>5. In case GST credit is delayed/denied to BHEL due to non/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, such GST amount will be recoverable from bidder along with interest levied/leviable on BHEL.</p> <p>6. GST TDS deducted as per GST Act, is uploaded in GSTN portal along GSTR7. Bidders can directly download the GST TDS Certificate from the GSTN Portal.</p> <p>7. Bidders to note that Rules & Regulations pertaining to E-way bill system are to be strictly adhered to, as and when notified by Govt. authorities.</p> <p>8. Vendors who fall under the E-Invoice regulations, i.e., having an annual turnover of Rs. 10 crores (Rs 5 crore w.e.f 01.08.2023) in the previous year shall issue e-invoice in line with Rule 48(4) of CGST Rules failing which GST amount will not be reimbursed to the vendor even if the other requirements are fulfilled.</p> <p>9. In case the vendor is exempted by the GST department under the Rule 48(4) of CGST Rules from issuing E-invoice, a declaration as prescribed in the Notification 17/2022 - Central Tax dated 01-08-2022 shall be provided on the invoice.</p> <p>10. Vendors who do not fall under the E-Invoice regulations, i.e., whose annual turnover is less than Rs. 10 crores (Rs 5 crore w.e.f 01.08.2023) in the previous year have to give an undertaking indemnifying BHEL that the vendor is not falling under the E-invoice requirement category and that in case of any breach of this E-invoicing requirement, the vendor indemnifies BHEL of any consequences that may arise due to such a breach.</p> <p>11. No GST shall be levied on liquidated damages / penalty.</p>		
B.	<p>Foreign Purchase (Imports)</p>		



	<p>The offered price shall be inclusive of all the Taxes and duties as applicable in country of export / country of dispatch for the quoted price. Taxes deducted at source: a. In case of goods or services subject to Income tax in India, such tax as per the extant statute shall be recovered. b. In case bidder does not provide necessary documents for beneficial taxation (Refer clause 7-B-(ix) a-c of ITB), the TDS deduction shall be at the maximum percentage stipulated as per the provisions of Income Tax Act.</p>		Non Deviatable
12 Payment Terms: Unless otherwise specified in SCC, following shall be the terms of Payment.			
A	<p>Indigenous: a. Micro & Small Enterprises (MSEs) - 100% Direct EFT payment within 45 days b. Medium Enterprises - 100% Direct EFT payment within 60 days c. Non MSME Bidders - 100% direct EFT Payment within 90 Days Note A. Above due date is reckoned from the date of Receipt of material or 15 days from the date of submission of complete set of documents as per PO whichever is later. Payment will be made on acceptance of Material. B. MSEs (covered under MSME Act) need to register and renew periodically and update the same with BHEL C. The taxes that are reimbursed are limited to applicable taxes as on the Purchase Order delivery date or the amount actually paid whichever is less. D. Adherence to the above time schedule of payment is contingent upon Bidder complying with GST provisions and availment of Input Tax Credit by BHEL before the date of payment. E. In case of packaged items, 10% of supply value will be retained till completion of total supplies. F. Bidders to comply with clause 11 on GST requirements G. MSE benefits are not applicable to Traders/Wholesalers registered as MSEs</p>		
B	<p>Imports: i) 100% payment (less Indian Agency Commission, if any) shall be through Wire Transfer with a credit period of 60 days - Cash Against Documents (CAD) ii) In case Bidder opts for Letter of Credit payment, the LC Usance period shall be 90 days with respective bank charges to respective accounts and loading of 0.50% iii) Indian Agency commission if payable and so specified in the Purchase order shall be paid in Indian Rupees, considering the SBI TT selling exchange rate, as on the date of payment after successful completion of the contract.</p>		
C	<p>Conditions for LC: a. LC validity period will be 90 days and for any extension, applicable charges will be to bidder's account. b. LC will be opened after successful completion of pre dispatch inspection prior to the scheduled / agreed delivery date. LC will be opened within 15 bank working days from the date of request.</p>		Non Deviatable
D	<p>Conditions for both Indigenous & Foreign Bidders: a. In case Bidders insist for lesser Credit period and BHEL accepts, a loading of 0.60% for every 15 days reduction will be applicable. b. In case PBG as required is not furnished, Payment will be released deducting the BG amount, which will be paid after expiry of warranty period against submission of supplementary claim. c. Payment does not imply in any respect whatsoever a waiver of Buyer's right to performance of the Order. Buyer is entitled to set off claimable debts against claimable liabilities with the bidder by means of a setoff Note.</p>		Non Deviatable
E	<p>Wherever EMD is applicable, the EMD will be paid back to unsuccessful bidders within fifteen days after award of the contract. Successful bidder's EMD will be retained till submission of Performance Bank Guarantee (PBG). Tender Fee wherever applicable is not refundable. No interest shall be payable by BHEL on earnest money or security deposit or any money due to the contractor by BHEL.</p>		Non Deviatable

13	Penalty clause:		
	<p>In the event of delay in supply /part-supply of goods, Penalty as detailed below is leviable</p> <p>a. Penalty of 0.5% per week or part there of shall be levied, limited to a max of 10% (ten percent) of delayed portion value / order value (as specified in SCC).</p> <p>b. Penalty applicable for delay in documentation is as per SCC.</p> <p>c. Date Reckoned for Penalty</p> <ul style="list-style-type: none"> - Indigenous Orders with delivery terms FOR HPEP: C Note date. - Indigenous Orders (Others): Date of e-waybill. - Imports: For CIP/CIF Orders: IGM date - Imports: For FOB Orders: AWB / BL date - Imports: For FCA/Ex Work Orders: Date of acknowledgement from Freight Forwarder. <p>d. In case of Deviation to above Penalty clause, loading applicable to the extent to which not agreed by Bidder.</p> <p>e. Timelines as mentioned in the Annexure 1 will be considered for reckoning delivery.</p> <p>Penalty amount so determined along with applicable GST (for Indigenous orders) thereon shall be recovered.</p> <p>Imposition, recovery or settlement of this penalty shall not affect BHEL's right to performance, compensation and termination of the order.</p>		
14	Excess materials supplied beyond tolerance limit as specified in PO will not be paid and bidder may raise credit note for the excess/unaccepted material as per GST law.		Non Deviatable
15	Rejected materials , if any, shall be collected by the bidder within 90 days of such communication to the bidder. Beyond this period the bidder forfeits their right to the materials.		Non Deviatable
16	<p>Guarantee / Warranty Period:</p> <p>Wherever required, and so provided in the specifications/SCC/Purchase Order, the bidder shall guarantee that the goods supplied shall comply with the specifications laid down, for materials, workmanship and performance.</p> <p>a. Guarantee period shall be 12 months from the date of commissioning or 18 months from the date of supply whichever is earlier.</p> <p>b. In case erection & commissioning is involved, guarantee period shall be 12 months from the date of commissioning.</p> <p>c. In case of equipment bought as a package which are intended to be incorporated in installations or systems, the guarantee period shall be 12 months from the date of commissioning of such equipment.</p> <p>The guarantee period shall be extended by the period during which the goods are not in compliance. If the delivery is found to be non-complaint, bidder shall replace, repair or re-execute the as requested by BHEL. If the bidder defaults on his obligations, buyer has the right to proceed to replace, repair or re-execute at the bidder's expense. A guarantee period as described above shall apply afresh to replaced, repaired or re-executed parts of a delivery.</p> <p>Loading for deviation:</p> <p>In case warranty specified in SCC is over and above the period mentioned in b & c above; loading will be 1% per annum for the deviation in warranty end period, on the contract value. Expected commissioning period is as indicated in SCC.</p>		Non Deviatable
17	<p>PERFORMANCE BANK GUARANTEE (PBG) (Applicable in case mentioned in SCC)</p> <p>In case enquiry specifically spells out PBG requirement, PBG is to be submitted by Bidder in requisite format as per Annexure VII.</p> <p>Further detailing on PBG as specified in SCC.</p> <p>The PBG shall be for the performance of the goods and shall remain binding not withstanding such variations, alterations or extensions of item as may be made, give, conceded or agreed to between the Bidder and BHEL under these Terms and conditions or otherwise.</p>		Non Deviatable
<p>NOTE: Deviations (Commercial as well as Technical) from the tender specifications and conditions are generally not acceptable. However, deviation if any, shall be brought out clearly with proper justification in the offer. The deviation, if considered by BHEL, shall be loaded for comparison, while evaluating the offer. If a bidder unconditionally withdraws any deviation before price bid opening, the same shall not be loaded. Loading criteria in respect of major commercial conditions where deviations if any are accepted shall be as per clause No.18.</p> <p>The Bidders may specifically note the following.</p>			
18	Evaluation and Loading Criteria:		

- i) Evaluation Currency for this tender shall be "INR".
- ii) Evaluation of prices shall be done item-wise unless otherwise specified in the SCC.
- iii) Evaluation shall be on the basis of delivered cost, i.e. "Total Cost to BHEL" w.r.t the finalized technical scope and commercial conditions (after considering incidence of applicable taxes and duties and loading).
- iv) In the course of evaluation, if more than one Bidder happens to occupy L1 status, effective L1 will be decided by soliciting discounts from the respective L1 Bidders. In case more than one Bidder happens to occupy the L1 status even after soliciting discounts, the L1 Bidder shall be decided by a toss/draw of lots, in the presence of the respective L1 Bidders or their representatives. Ranking will be done accordingly. BHEL decision in such situations shall be final and binding.

INDIGENOUS

- a. Bidder shall ensure to indicate the applicable taxes against each line item, failing which the same will be considered as inclusive/NIL.
- b. Ex-works offers received (as against FOR Destination mentioned in enquiry) shall be loaded by 2% of Ex-works value.
- c. GST and any other charges quoted will be added to the base price. However, in case input credit is available for GST (SGST, CGST/IGST), the same shall be excluded for arriving at "Total Cost to BHEL"

IMPORTS

For evaluation of offers in foreign currency, exchange rate (TT selling rate of State Bank of India) as on the date of bid opening (Part-I, in case of two-part bids) shall be considered. If the relevant day happens to be a bank holiday, then the forex rate as on the previous bank (SBI) working day shall be taken.

In case of foreign Bidders, the quoted CIP price shall be loaded by the following factors to arrive at "Total Cost to BHEL":

- Import duty as applicable on the date of Part-I bid opening.

- Loading will be as per the table below

	Ex Works	FOB/FC A	CIF/CFR	CIP
Foreign Inland freight and insurance	2%			
Marine freight and marine insurance	3%	3%		
Destination Port handling charges	0.50%	0.50%	0.50%	
clearing charges & inland freight and insurance	2%	2%	2%	2%

COMMON LOADING FOR IMPORTS & INDIGENOUS that will be added for arriving the "Total Cost to BHEL"

- A. Loading on Deviated Penalty clause shall be 10% or to the extent to which the bidder has opted for deviation.
- B. Loading for payment terms as per clause 12 of ITB
- C. Loading for deviation in Warranty & PBG as per clause 16,17.

- 19** Procurement directly from the manufacturers/ suppliers shall be preferred. However, no agent shall be allowed to represent more than one manufacturer/ supplier in the same tender. Moreover, either the agent could bid on behalf of the manufacturer/ supplier or the manufacturer / supplier could bid directly but not both. In case bids are received from both from the manufacturer/ supplier and the agent, bid received from the agent shall be ignored.
- 20** **RIGHT OF REJECTION /NON- PLACEMENT OF PO:** BHEL reserves the right to accept or reject any or all bid/s in full or part without assigning any reason whatsoever.
- 21** **INTEGRITY PACT**
Bidders shall have to enter into Integrity Pact with BHEL as per Annexure VI - for Tender value of rupees two crores and above and shall be signed by the authorized signatory along with the offer, failing which Bidder's offer will be rejected.
- 22** **Public Procurement**
- A** **Make in India**
For this Procurement, the local content to categorize a bidder as a Class I local bidder / Class II local bidder / Non-Local bidder and purchase preference to Class I local bidder, is as defined in Public Procurement (Preference to Make in India) order No P-45021/2/2017-PP(BE-II) dated 04-06-2020 issued by DPIIT as amended from time to time. Proforma for self-certification for minimum local content and auditor's certification is given in Annexure III.
- B** 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 competent authority. GOI website <https://www.mea.gov.in/> to be referred for latest details of competent authority and exemptions . Proforma for self-certification for compliance is given in Annexure IV.
- C** **Startups:**
For Start-ups duly registered with DPIIT (Copy of certificate to be provided), condition of prior turnover and prior experience in Public Procurement may be relaxed subject to meeting of Quality and Technical Specifications. Startups are exempt from paying EMD.
- 23** **Benefits earmarked for Purchase from Micro & Small Enterprises (MSEs) – Indigenous Purchase**
- A** All Micro and Small Enterprises (MSEs) as defined in MSE Procurement Policy are exempt from Paying EMD. NSIC/UDYAM registered bidders shall submit NSIC/UDYAM Certificate along with bid documents. Date to be reckoned for determining the deemed validity will be the last date of Technical bid submission. Non- submission of such document will lead to consideration of their bid, at par with other bidders and MSE status of such bidders shall be shifted to Non- MSE Category till the bidder submits these documents.

B	In tender, MSEs quoting price within price band of L1+15% shall also be allowed to supply a portion of requirement by bringing down their price to L1 price in a situation where L1 price is from someone other than a MSE and such MSE shall be allowed to supply at least 25% of total tendered value. In case of more than one such MSE, the supply shall be shared proportionately. Out of these 25% minimum 3% shall be earmarked for MSEs owned by women and 6.25% for MSEs owned by SC/STs who submit the relevant documents.
C	If an enterprise falling under MSME category as defined in the Act, graduates to a higher category from its original category or beyond the purview of the Act, it shall continue to avail all non-tax benefits of its original category notified by the Ministry of Micro, Small and Medium Enterprise for a period of three years from the date of such graduation to the higher category.
D	BHEL HPEP is registered with RXIL (TReDS) platform. MSME bidders are requested to get registered with RXIL (TReDS) platform to avail the facility as per the GOI guidelines.
24	Inspection Measuring and Test Equipment (IMTE) used by the Bidder/ Contractor or sub-contractor shall be calibrated, maintained and controlled. Calibration shall be valid and IMTE maintained in sound condition during usage.
25	ISO-9001, ISO14001 & OHSMS 45001 shall be complied.
26	If BHEL registered supplier is not quoting against this NIT, supplier shall send regret letter positively with valid reasons for not participating. Repeated lack of response on the part of supplier may lead to deletion of such registered supplier from BHEL's approved supplier's list as per BHEL SEARP Guidelines.
27	<p>Risk Purchase clause: In case bidder fails/delays to supply whole or part of the ordered items or supplies defective items or fails to fulfil any other terms and conditions given in Purchase Order/Contract, BHEL has the right to terminate the order/contract or withdraw balance scope of work/supply and make the purchase of such material / services from elsewhere at the risk and cost of the defaulted bidder. The bidder is 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 order/contract. Non-performance of contract attracts penal provisions in line with BHEL guidelines for Suspension of Business Dealings (SBD).</p>
28	Any other terms and conditions of the bidder attached / referred against the tender enquiry will not be considered.
29	All drawings, patterns and tools supplied by BHEL or made at BHEL's expense are BHEL's property. These cannot be used or referred to any other party and must be used only in the execution of BHEL's orders.
30	Any amount payable by the bidder under any of the conditions of this contract shall be liable to be adjusted against any amount payable to the bidder under any other work / contract awarded by BHEL HPEP or any other BHEL Units. This is without prejudice to any other action as may be deemed fit by BHEL.
31	The bids of the bidders who are on the banned list and also the bids of the bidders, who engage the services of the banned firms, will be rejected. The list of firms banned by BHEL is available on BHEL web site: www.bhel.com
32	Ordering and confirmation of order
	<p>The bidder shall send the order acceptance within one week from the date of LOI/Purchase order or such other period as specified/agreed by the Buyer. Buyer reserves the right to revoke the order placed if the order confirmation differs from the original order placed. Buyer shall be legally bound, only if agreed for any deviation explicitly in writing. The acceptance of deliverables or supplies by Buyer as well as payments made in this regard shall not imply acceptance of any deviations. The Purchase order will be deemed to have been accepted if no communication to the contrary is received within one week (or the time limit as specified /agreed by the Buyer) from the date of P.O. Buyer, is at liberty to send signed P.O. through electronic media such as e-mail and the receipt of which shall be treated as receipt of order.</p>
33	Execution
	The whole contract is to be executed in the most workman like manner, substantial and approved as per the contracted terms.
34	Progress Report
	<p>The bidder shall render such report as to the progress of work and in such form as may be called for by the Buyer from time to time. The submission and acceptance of such reports shall not prejudice the rights of the buyer in any manner. Bidder shall communicate to BHEL immediately, the change of address, ownership, contact person(s), the mobile numbers and e-mail of the dealing person concerned. Milestones shall be periodically updated by bidder through PRADAN Portal (https://hpep.bhel.com/mm/). Non updation will adversely affect service rating of bidder performance.</p>
35	Non-disclosure Obligations

	<p>Drawings, technical documents or other technical information received by one party shall not without the consent of the other party, be used for any other purpose than that for which they were provided. They may not, without the consent of the submitting party, otherwise be used or copied, reproduced, transmitted or communicated to third parties. All information and data contained in general product documentation, whether in electronic or any other form, are confidential and binding only to the extent that they are by reference expressly included in the contract.</p> <p>The bidder shall, as per agreed date/s but not later than the date of delivery, provide free of charge any information and/or drawings which are necessary to permit the Buyer to erect, commission, operate and maintain the product. Such information and drawings shall be supplied as specified in technical specification.</p> <p>All intellectual properties, including designs, drawings and product information etc. exchanged during the formation and execution of the contract shall continue to be the property of the submitting party.</p> <p>The bidder shall provide Buyer with all information pertaining to the delivery in so far as it could be of importance to Buyer. The bidder shall not reveal confidential information to its own employees not involved with the tender/contract and its execution and delivery or to third parties, unless Buyer has agreed to this in writing beforehand. The bidder shall not be entitled to use the Buyer's name in advertisements and other commercial publications including website without prior written permission from Buyer.</p> <p>In the event of violation of the confidentiality as agreed, BHEL will take legal action as deemed fit. Non-disclosure agreement to be entered as per Annexure- II wherever applicable.</p>
36	Inspection and Testing
A	The goods and stores shall be manufactured by approved quality system and each part/component may be inspected and tested by the Buyer prior to shipment and shall comply with relevant requirements. Buyer has the right to inspect at any stage during manufacture/ delivery.
B	<p>Buyer or his authorized representative shall be entitled at all reasonable times during execution to inspect, examine and test at the bidder's premises the material and workmanship of all stores to be supplied under the contract, and if the part of the stores are being manufactured at other premises, the bidder shall obtain for buyer or his authorized representative permission to inspect, examine and test as if the said stores are being manufactured at the bidder's premises. Such inspection, examination and testing, if made shall not release the bidder from any obligation under the contract.</p> <p>For indigenous bidders all costs related to first inspection request shall be borne by the buyer and the cost of subsequent inspections due to non-readiness of material/rework/ rejections shall be borne by the bidder. In case of imports all inspection charges including third party inspections if any shall be borne by the bidder. The cost of inspection staff/third party specified by the Buyer shall be borne by bidder unless otherwise specifically agreed. If the contract provides for tests on the premises of the bidder or any of his sub-contractor/s, bidder shall be responsible to provide such assistance, labor, materials, electricity, fuels, stores, apparatus, instruments as may be required and as may be reasonably demanded to carry out such tests efficiently. Cost of any type test or such other special tests shall be borne by the bidder unless otherwise specifically agreed in the contract. The Bidder shall give the authorized representative of the buyer reasonable notice in writing of the date on and the place at which any stores will be ready for inspection/ testing as provided in the Contract. Annexure – I, may strictly be complied with for the time lines. Any delay in submission of the documents by the bidder will not alter the delivery date.</p>
37	Quality and Condition of the Deliverables
	The bidder shall be responsible for compliance with applicable technical, safety, quality, environmental requirements and other regulations in relation to products, packaging and raw and ancillary materials.
38	Packaging and Dispatch
	<p>The bidder shall package the deliverables safely and carefully and pack them suitably in all respects considering the peculiarity of the material for normal safe transport by sea/air/rail/road to its destination suitably protected against loss, damage, corrosion in transit and the effect or tropical salt laden atmosphere. The packages shall be provided with fixtures/hooks and sling marks as may be required for easy and safe handling by mechanical means. Special packaging conditions/ environmental conditions as defined in the NIT shall be fully complied.</p> <p>Each package must be marked with consignee name, address, P.O. number, Package Number, gross weight & net weight, dimensions (Lx B x H) and bidder's name. The packing shall allow for easy removal and checking of goods on receipt and comply with carrier's conditions of packing or established trade practices. Packing list for goods inside each package with P.O. item No. & quantity must also be fixed securely outside the box to indicate the contents. If any consignment needs special handling instruction, the same shall be clearly marked with standard symbols/instructions. Hazardous material should be notified as such and their packing, transportation and other protection must conform to relevant regulations.</p>
39	Contract variations; Increase or decrease in the scope of supply
	<p>Buyer may vary the contracted scope during execution due to exigencies of project requirement.</p> <p>If the bidder is of the opinion that the variation has an effect on the agreed price or delivery period, Buyer shall be informed of this immediately in writing along with technical details, and in the event of additional work, submit a quotation with regards to the price and period involved, as well as the effect this additional work will have on the other work to be performed by the bidder. Wherever unit rates are available in the contract, the same shall be applied to such additional work. The bidder shall not perform additional work before buyer has issued written instructions/amendment to the purchase order to that effect. The work which the bidder should have or could have anticipated in terms of delivering the service (s) and functionality (ies) as described in this agreement should be executed by the bidder without any price implication.</p> <p>In case of no change in the scope / technical specifications, bidder shall endeavor to keep the material ready and intimate the same to BHEL within the contractual delivery date, failing which, the delay if any will be attributed to supplier, and any upward price variation thereof for delivery at a later date is not admissible.</p>
40	Rejected/Short shipments/ warranty/guarantee replacements
	In case of any short shipment during initial supply which is subsequently dispatched by the bidder or any guarantee / warranty replacements shall be dispatched on "DDP-Delivered duty paid BHEL stores" basis for imported items and "FOR-BHEL Stores/designated destination" basis for indigenous items.
41	Export Administration Regulations
	If a delivery includes such technology and / or supply that is subjected to the export regulations the bidder shall obtain due permissions, approvals, license etc.
42	Force Majeure

	<p>The bidder shall not be considered in default if delay occurs due to causes beyond their control such as Acts of God, Natural calamities, Fire, Frost, Flood, Civil War, civil commotion, riot, Government Restrictions.</p> <p>Only those causes that have duration of more than seven days shall be considered cause of force majeure. Notification to this effect duly certified by local chamber of commerce/statutory authorities with supporting documents shall be given by the bidder to BHEL by registered letter/courier service immediately without loss of time.</p> <p>In the event of delay due to such causes the delivery schedule shall be extended for a length of time equal to the period of Force Majeure or at the option of BHEL the order may be cancelled. Such cancellation would be without any liability whatsoever on the part of BHEL.</p> <p>In the event of such cancellation the bidder shall refund any amount advanced or paid to the bidder by BHEL and deliver back any material issued to him by BHEL and release facilities, if any provided by BHEL.</p>
43	Non-waiver of Defaults
	If any individual provision of the contract is invalid, the other provisions shall not be affected.
44	Settlement of Disputes
	<p>Except as otherwise specifically provided in the contract, all disputes concerning questions of the facts arising under the contract, shall be decided by the Buyer, subject to written appeal by the bidder to the buyer, whose decision shall be final.</p> <p>Any disputes of differences shall to the extent possible be settled amicably between the parties thereto, failing which the disputed issues shall be settled through arbitration</p> <p>The bidder shall continue to perform the contract, pending settlement of disputes(s).</p>
45	Conciliation clause
	<p>CONCILIATION CLAUSE FOR CONDUCTING CONCILIATION PROCEEDINGS UNDER THE BHEL CONCILIATION SCHEME, 2018: 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 connection with construction, meaning, operation, effect, interpretation or breach of the agreement, contract or the Memorandum of Understanding, penalty deduction, time extension), 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.</p> <p>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 Procedure in http://www.bhel.com/index.php/story_details?story=2454 . The Procedure together with its Formats will be treated as if the same is part and parcel hereof and shall be as effectual as if set out herein in this ITB</p>
46	ARBITRATION (WITH SOLE ARBITRATOR)
	<p>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, penalty deduction, validity or execution of the Contract; time extension, 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 . Sole arbitrator to be appointed by Head of the Unit - BHEL , HPEP .</p> <p>The Arbitrator shall pass a reasoned award and the award of the Arbitrator shall be final and binding upon the Parties.</p> <p>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 Sangareddy / Hyderabad, Telangana. The language of arbitration shall be English and the documents shall be submitted in English.</p> <p>The cost of arbitration shall initially be borne equally by the Parties subject to the final apportionment of the cost of the arbitration in the award of the Arbitrator.</p> <p>Subject to the arbitration in terms of clause 45, the courts at Sangareddy, Telangana State shall have exclusive jurisdiction over any matter arising out of or in connection with this contract.</p> <p>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.</p>
	ARBITRATION FOR CONTRACT WITH PUBLIC SECTOR ENTERPRISE (PSE) OR A GOVERNMENT DEPARTMENT
	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 0M No 4(1)/2013-DPE(GM/FTS 1835 dated 22-05-2018
47	Applicable Laws and jurisdiction of Courts
	This agreement shall be construed and interpreted in accordance with the laws of India and shall have exclusive jurisdiction of Sangareddy/Hyderabad courts, Telangana, India.
48	BHEL-Fraud prevention policy shall be adhered to.
	<p>The Bidder along with its associate/ Collaborators/ Sub-contractors/ sub-bidders/ 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> <p>List of nodal officers is hosted on BHEL Hyderabad website https://hpep.bhel.com/.</p>
49	Suspected Cartel Formation
	The Bidder declares that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder(s). This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process. In case , the Bidder is found having indulged in above activities, suitable action shall be taken by BHEL as per extant policies / guidelines .
50	Conflict of Interest:
	"A bidder shall not have conflict of interest with other bidders. Such conflict of interest can lead to anti-competitive practices to the detriment of Procuring Entity's interests. The bidder found to have a conflict of interest shall be disqualified. A bidder may be considered to have a conflict of interest with one or more parties in this bidding process, if:



- a) they have controlling partner (s) in common; or
b) they receive or have received any direct or indirect subsidy/ financial stake from any of them; or
c) they have the same legal representative/agent for purposes of this bid; or
d) they have relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the bid of another Bidder; or
e) Bidder participates in more than one bid in this bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all bids in which the parties are involved. However, this does not limit the inclusion of the components/ sub-assembly/ Assemblies from. one bidding manufacturer in more than one bid; or
f) In cases of agents quoting in offshore procurements, on behalf of their principal manufacturers, one agent cannot represent two manufacturers or quote on their behalf in a particular tender enquiry. One manufacturer can also authorize only one agent/dealer. There can be only one bid from the following:
1. The principal manufacturer directly or through one Indian agent on his behalf; and
2. Indian/foreign agent on behalf of only one principal; or
g) A Bidder or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the contract that is the subject of the Bid; or
h) In case of a holding company having more than one independently manufacturing units, or more than one unit having common business ownership/management, only one unit should quote. Similar restrictions would apply to closely related sister companies. Bidders must proactively declare such sister/ common business/ management units in same/ similar line of business. "

Note: Purchase officer has to fill Annexure-I while sending enquiry

BANK GUARANTEE FOR PERFORMANCE SECURITY

Bank Guarantee No:

Date:

To

NAME

& ADDRESSES OF THE BENEFICIARY

Dear Sirs,

In consideration of the Bharat Heavy Electricals Limited ¹ (hereinafter referred to as the 'Employer' which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns) incorporated under the Companies Act, 1956 and having its registered office at _____ through its Unit at.....(name of the Unit) having awarded to (Name of the Vendor / Contractor / Supplier) having its registered office at _____² hereinafter referred to as the 'Contractor/Supplier', which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns), a contract Ref No.....dated³ valued at Rs.....⁴ (Rupees -----)/FC.....(in words.....) for⁵ (hereinafter called the 'Contract') and the Contractor having agreed to provide a Contract Performance Guarantee, equivalent to% (.... Percent) of the said value of the Contract to the Employer for the faithful performance of the Contract,

we,, (hereinafter referred to as the Bank), having registered/Head office at and inter alia a branch at being the Guarantor under this Guarantee, hereby, irrevocably and unconditionally undertake to forthwith and immediately pay to the Employer a maximum amount Rs ----- (Rupees -----) without any demur, immediately on a demand from the Employer, . Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. _____.

We undertake to pay to the Employer any money so demanded notwithstanding any dispute or disputes raised by the Contractor/ Supplier in any suit or proceeding pending before any Court or Tribunal relating thereto our liability under this present being absolute and unequivocal.

The payment so made by us under this Guarantee shall be a valid discharge of our liability for payment thereunder and the contractors/supplier shall have no claim against us for making such payment.

We thebank further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract and that it shall continue to be enforceable till all the dues of the Employer under or by virtue of the said Contract have been fully paid and its claims satisfied or discharged.

We BANK further agree with the Employer that the Employer shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Contract or to extend time of performance by the said Contractor/Supplier from time to time or to postpone for any time or from time to time any of the powers exercisable by the Employer against the said Contractor/Supplier and to forbear or enforce any of the terms and conditions relating to the said Agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Contractor/Supplier or for any forbearance, act or omission on the part of the Employer or any indulgence by the Employer to the said Contractor/Supplier or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving us.

The Bank also agrees that the Employer at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Contractor and notwithstanding any security or other guarantee that the Employer may have in relation to the Contractor's liabilities.

This Guarantee shall remain in force upto and including.....⁶ and shall be extended from time to time for such period as may be desired by Employer.

This Guarantee shall not be determined or affected by liquidation or winding up, dissolution or change of constitution or insolvency of the Contractor/Supplier but shall in all respects and for all purposes be binding and operative until payment of all money payable to the Employer in terms thereof.

Unless a demand or claim under this guarantee is made on us in writing on or before the⁷we shall be discharged from all liabilities under this guarantee thereafter.

We, BANK lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Employer in writing.

Notwithstanding anything to the contrary contained hereinabove:

- a) The liability of the Bank under this Guarantee shall not exceed.....⁸
- b) This Guarantee shall be valid up to⁹

c) Unless the Bank is served a written claim or demand on or before _____¹⁰ all rights under this guarantee shall be forfeited and the Bank shall be relieved and discharged from all liabilities under this guarantee irrespective of whether or not the original bank guarantee is returned to the Bank.

We, _____ Bank, have power to issue this Guarantee under law and the undersigned as a duly authorized person has full powers to sign this Guarantee on behalf of the Bank.

For and on behalf of
(Name of the Bank)

Dated.....

Place of Issue.....

¹ NAME AND ADDRESS OF EMPLOYER I.e Bharat Heavy Electricals Limited

² NAME AND ADDRESS OF THE VENDOR /CONTRACTOR / SUPPLIER.

³ DETAILS ABOUT THE NOTICE OF AWARD/CONTRACT REFERENCE

⁴ PROJECT/SUPPLY DETAILS

⁵ BG AMOUNT IN FIGURES AND WORDS

⁶ VALIDITY DATE

⁷ DATE OF EXPIRY OF CLAIM PERIOD

⁸ BG AMOUNT IN FIGURES AND WORDS.

⁹ VALIDITY DATE

¹⁰ DATE OF EXPIRY OF CLAIM PERIOD

Note:

1. Units are advised that expiry of claim period may be kept 2/3 months after validity date.

2. In Case of Bank Guarantees submitted by Foreign Vendors-

a. **From Nationalized/Public Sector / Private Sector/ Foreign Banks (BG issued by Branches in India)** can be accepted subject to the condition that the Bank Guarantee should be enforceable in the town/city or at nearest branch where the Unit is located i.e. Demand can be presented at the Branch located in the town/city or at nearest branch where the Unit is located.

b. **From Foreign Banks (wherein Foreign Vendors intend to provide BG from local branch of the Vendor country's Bank)**

b.1 In such cases, in the Tender Enquiry/ Contract itself, it may be clearly specified that Bank Guarantee issued by **any of the Consortium Banks only** will be accepted by BHEL. As such, Foreign Vendor needs to make necessary arrangements for issuance of Counter- Guarantee by Foreign Bank in favour of the Indian Bank (BHEL's Consortium Bank). It is advisable that all charges for issuance of Bank Guarantee/ counter- Guarantee should be borne by the Foreign Vendor. The tender stipulation should clearly specify these requirements.

- b.2** In case, Foreign Vendors intend to provide BG from Overseas Branch of our Consortium Bank (e.g. if a BG is to be issued by SBI Frankfurt), the same is acceptable. However, the procedure at **sl.no. b.1** will required to be followed.
- b.3** The BG issued may preferably be subject to Uniform Rules for Demand Guarantees (URDG) 758 (as amended from time to time). In case, of Foreign Vendors, the BG Format provided to them should clearly specify the same.
- b.4** The BG should clearly specify that the demand or other document can be presented in electronic form.

PERFORMANCE SECURITY

- To ensure due performance of the contract, Performance Bank Guarantee (PBG) or Security Deposit (SD), hereafter referred as performance security is to be obtained from the successful bidder awarded the contract.
- The total amount of Performance Security is ten percent (10%) of the contract value.

- **Modes of deposit:**

a) Performance security may be furnished in the following forms:

(i) Local cheques of Scheduled Banks (subject to realization)/ Pay Order/ Demand Draft/ Electronic Fund Transfer in favour of BHEL.

(ii) Bank Guarantee from Scheduled Banks / Public Financial Institutions as defined in the Companies Act. The Bank Guarantee format should have the approval of BHEL.

(iii) Fixed Deposit Receipt issued by Scheduled Banks / Public Financial Institutions as defined in the Companies Act (FDR should be in the name of the Contractor, a/c BHEL).

(iv) Securities available from Indian Post offices such as National Savings Certificates, Kisan Vikas Patras etc. (held in the name of Contractor furnishing the security and duly endorsed/ hypothecated/ pledged, as applicable, in favour of BHEL).

(v) Insurance Surety Bond.

(Note: BHEL will not be liable or responsible in any manner for the collection of interest or renewal of the documents or in any other matter connected therewith)

b) In case of GTE tenders, the performance security should be in the same currency as the contract and must conform to Uniform Rules for Demand Guarantees (URDG 758) - an international convention regulating international securities.

- Performance Security is to be furnished by a specified date (14 (fourteen) days after notification of the award) and it should remain valid for a period of 60 (sixty) days beyond the date of completion of all contractual obligations of the supplier, including warranty obligations.



BHARAT HEAVY ELECTRICALS LIMITED

HEAVY POWER EQUIPMENT PLANT

PUMPS- PURCHASE DIVISION

RAMACHANDRAPURAM, HYDERABAD

PRE-QUALIFICATION REQUIREMENTS - FINANCE

PRODUCT: RC PUMP AND MANDATORY SPARES

PROJECT: 1x800 MW North Chennai FGD

CRITERIA FOR EVALUATION - FINANCIAL

Average annual financial turnover during the last Three Financial Years should not be less than as mentioned below:

Notes:-

- The Average annual Financial turnover during last 03 (three) years, ending of the previous financial year, should be at least **INR 1,50,00,000/-** and positive net worth as per latest balance sheet. The bidder has to submit financial accounts comprising of Audit report, Balance Sheet, Profit & Loss A/c Statement and Notes/Schedules pertaining to Turnover/Sales/Revenue, certified by Chartered Accountant for the last three years as on tender due date to review the above criteria.
- Foreign bidder is to submit a latest certificate from reputed third party business rating agency like Dun & Bradstreet, Credit reform etc. in addition to the documents mentioned at point (a) above for review of above criteria. The certificate thus produced will explicitly mention the turnover in terms of equivalent Indian Rupees.
- Other Income shall not be considered for arriving at Annual Turnover/Sales. For evaluation purpose, only revenue from operations shall be considered.

Vendor Sign & Stamp

BHARAT HEAVY ELECTRICALS LIMITED
RAMACHANDRAPURAM:: HYDERABAD-502032

PUMPS ENGINEERING DEPARTMENT
TECHNICAL PRE-QUALIFICATION REQUIREMENTS

Item: SLURRY RECIRCULATION PUMP (WET LIMESTONE BASED FGD SYSTEM)

PROCEDURE FOR EVALUATION OF OFFERS FOR OPEN TENDERS

The offers will be submitted as two part bid system i.e., Techno –commercial offer including PQR (Part-1) and price offer (Part-2).

Initially, only techno – commercial offer will be opened for scrutiny.

Offers will be evaluated as follows:

(A) Techno – commercial offer (Part-1):

- 1) The Pre-qualification requirements and credentials as per the table in Annexure-1 will be evaluated and only those offers passing this evaluation will be considered.
 - (a) For the items, which are not listed in the customer approved vendor list, the offers passing the BHEL PQR evaluation only will be considered for Technical evaluation.
 - (b) For the items, which are listed in the customer approved vendor list, the credentials of those vendors not figuring in the customer approved list will be further forwarded to our end customer for their approval. The offers of those vendors who will be approved by customer only will be considered for Technical evaluation.
- 2) Technical scrutiny of Offers: The offers meeting the PQR and technical requirements will only be considered for further processing.

(B) Price offer (Part -2) :

The price bids shall be opened of those vendors only who will be approved by BHEL/customer as per above.


(JAISRI DEOQAM)


अविनाश एस. जॉन कुजूर
Avinash S John Kujur
उप महाप्रबंधक / पम्पस अभियांत्रिकी
Dy. General Manager / Pumps Engineering
बी.एच.ई.एल. हैदराबाद, BHEL, HYD-32

Annexure-1

S.No	REQUIREMENT	ACCEPTANCE	REMARKS
1.	Pump supplied earlier with flow and head parameters same or higher than the project specific parameters.	Supply of similar or higher Rating pumps for Wet limestone based FGD system to at-least two thermal power stations, and which are in satisfactory operation for a minimum period of two year each prior to Jan-19.	a. Reference List of supplies made so far. b. Un-priced PO copies of the two reference supplies. c. End-user certificates of the two reference stations.
2.	Design/Engineering capability for designing of suitable pump based on parameters indicated in BHEL specification.	Vendors must have an exclusive R & D division or collaboration.	a. Details of R&D facility or Collaboration document to be furnished.
3.	Manufacturing facilities	Vendor must have in-house manufacturing facility or tie-up a third party having experience in similar work with prior experience with similar or higher rating pump components.	a. Detail list of manufacturing facility shall be furnished. b. Documents shall be furnished in case of tie-up with third party
4.	Testing facilities	Vendor must have testing facility for testing similar or higher rating pumps.	a. Detail list of Test facilities available shall be furnished. b. Sample test reports to be furnished.
5.	Inspection agency details for earlier supplies.	Lloyds / TUV/NTPC / BHEL or BHEL TPIA	a. Copies of certificates shall be furnished
6.	Service after Sales & Supply of spare parts	Technical experts to meet the after sales service requirements for the supplied equipment at project sites.	a. Details of prior experience related to technical expertise to be furnished.

NOTE: The Suppliers not meeting the above criteria OR not submitted the above required documents will be disqualified.


(JAISRI DEDGAM)


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BHARAT HEAVY ELECTRICALS LIMITED
HEAVY POWER EQUIPMENT PLANT
PURCHASE DEPARTMENT/PUMPS
RAMACHANDRAPURAM, HYDERABAD

Project: 2x660 MW NTPC Talcher
Enquiry:F7A1X51490

Sl.No	Material Code	Material Description	BHEL Drawing/ Spec. - Var.	Quantity	Unit Price Without GST	Total Price Without GST
1	FP9760352001	SLURRY RC PUMP NTPC TALCHER 14550	FP60352	8		
2	FP9760352052	CONNECTING COUPLINGS 1 NO EACH TYPE	FP60352	1		
3	FP9760352087	THERMOCOUPLE 2 NO EACH TYPE	FP60352	2		
4	FP9760352095	THERMO WELL 2 NO EACH TYPE	FP60352	2		
5	FP9760352079	RTD 2 NO OF EACH TYPE AND LENGTH	FP60352	2		
6	FP9760352060	TRANSMITTERS OF ALL TYPE RANGE and MODEL	FP60352	1		
7	FP9760352044	BEARINGS 2 NO EACH TYPE	FP60352	2		
8	FP9760352036	SEALS	FP60352	3		
9	FP9760352028	CASING LINER	FP60352	2		

10	FP9760352010	IMPELLER ASSEMBLY FOR VAR 01	FP60352	1		
		Total Price Without GST				
		Total Price With GST				

Sl.No.	Annexure-C for Commercial Terms and Conditions Enquiry:F7A1X51490	SUPPLIER COMMENTS: REQUESTED TO OFFER EITHER CONFIRMED OR ACCEPTED OR REMARKS IF ANY DEVIATION IS TAKEN
1	Terms of Delivery and Location : FOR Destination: Destination for all items are site/Talcher(Indigeneous) (Cost, Packing, Forwarding ,Freight , Supervision of Erection and commissioning charges etc., are in Supplier's scope i.e. included in the quoted prices.), non acceptance of terms of delivery is laible to rejection.Transit Insurance is in BHEL Scope. Evaluation will be done on grand total Package basis and Total cost to BHEL.	Non-Devaitable
2	Delivery Period:To mention clearly the exact delivery period from date of approved QAP or drawing whichever occurs later. Any delay in submission of documents and approval from BHEL/Customer will be calculated as per Annexure-I and PO amendment will be provided accordingly.	
3	Terms of payment:No Payment term Deviation is acceptable.	
4	Performance bank Guarantee(PBG) / Performance Security of 10% of Order Value to be furnished by vendor within 14 (fourteen) days after notification of the award and it should remain valid for a period of 60 (sixty) days beyond the date of completion of all contractual obligations of the supplier, including warranty obligations (24 Months from PAC date) .	
6	Clientele List: Supplier to submit detailed clientele list with their full address including detail of contact person with phone no., fax no. & e-mail ID	
7	QP: Specific conformation to Submission of manufacturer/vendor quality plan for our review and approval.	
8	Guarantee Certificate :As per Technical Specification/ITB13, whcnever occurs later.	
9	Warranty :The warranty period shall begin on the date of taking over by end customer or date of issuance of the provisional acceptance certificate for the unit (whichever occurs first) and shall end after twenty-four (24) months. Provided that the successful Supplier shall extend the provisions of this warranty to cover all repaired and replacement parts furnished under the warranty obligations hereunder, subject to the warranty period for the same being for a period of 24 months from the date on which replacement or renewal work is completed.	
10	Firm Price: Prices shall be kept firm till completion of supplies and acceptance of materials at BHEL Project Site.	
11	Contact details of bidders: Contact persons Name/Designation/Mobile No/Email ID/Fax No/Phone No.etc. should be furnished.	
12	Pointwise conformation/acceptance or comments to our technical specification is must and Each page shall be signed BY THE BIDDER and affixed the official seal.	
13	Risk Purchase Clause:Supplier Confirmation is Required.Non acceptance to risk purchase clause may leads to rejection of offer. Hence bidders are requested to accept risk purchase clause and no clarification on this will be entertained.	
14	Vendor shall duly filled and submit the MII local content delcaration form as given in the tender.(For the tender value of more than 10 Cr, MII declaration should be certified by CA) Latest MII /MSME procurement circular issued by GoI and BHEL Corporate is applicable. MII declaration should be inline with the condition (if any) in which BHEL will get the vendor approval from customer.	
15	In case of MSE supplier, Vendor to submit the MSE certificate printed after April 1st'2024 from Udyam portal.	
16	Erection and Commissioning to be carried out within 15 days from the date of intimation received from BHEL.E&C payment will be initiated as per BHEL payment term after completion of Erection and Commisiong at site and submission of Job completion certificate only.	
17	Customer approved suppliers are applicable for the tender. The price bids of those vendors, who are approved/accepted by customer shall be opened & the price bids of those vendors, who are not approved/accepted by customer shall not be opened.	
18	Reverse Auction is not applicable for the tender.	
19	Packing shall be as per BHEL Packing schedule / approved drg. This shall be ensured to take care tarnsit / handling / transhipment in Road / Sea / Air. Photographs are to be submitted for BHEL review before despatching the material as per contract conditions.	
20	In case of any technical or commercial clarification/ deviation, vendor to submit separate sheet for clarification/deviation mentioning the tender document cluse numbers. Vendor is requested to clarify all technical/commercial clarification before technical bid opening	
21	For any pre-bid query please mail to narendrakmr@bhel.in, nandgopal@bhel.in,devasari@bhel.in	