

Annexure I

TECHNICAL SPECIFICATION & SCOPE OF SUPPLY

Name of Vendor

Note:- Confirmation/comments on the conditions given below are mandatory.

S. NO.	DESCRIPTION FOR BHEL REQUIREMENT	Details	Vendor's comment		
			Offered	Deviation	Remarks
1.0	APPLICATION BRIEF				
1.1	15 HP, 150 mm dia three phase Submersible Pump Set for bore well with min 50 mm outlet, flat cable 3 core 6 sqmm with one starter and GI Pipe. (One Set)	Vendor to confirm			
2.0	SPECIFICATION & SCOPE OF SUPPLY				
2.1	PUMP (Qty - 1 No) 				
2.1.1	Type of pump	Multistage Bore well (submersible) Pump			
2.1.2	Application/Process fluid	Ground water of bore well			
2.1.3	Discharge/flow	250 LPM (min.)			
2.1.4	Head	160 Meter			
2.1.5	Pump shaft	Stainless Steel / Chrome Steel			
2.1.6	Discharge head	Above ground			
2.1.7	Finish Rotor	Copper / (Copper + Steel)			
2.1.8	Diffuser	Bronze/ SS / Cast Iron(CI) / Noryl 			

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2.1.9	Sleeves	Stainless Steel / Chrome Steel			
2.1.10	Impeller	Stainless Steel / Chrome Steel			
2.1.11	Motor & Pump shaft	Stainless Steel / Chrome Steel			
2.1.12	Motor body, pump bowl	Cast Iron (CI) / SS			
2.1.13	Shaft lubrication	Water lubrication			
2.1.14	The pump impeller shall be dynamically & hydraulically balanced to prevent vibration and shall be smoothly finished on all surfaces to minimize friction losses.	Vendor to confirm			
2.1.15	The vertical adjustment of impellers shall be possible by means of adjustment method and impellers run freely.	Vendor to confirm			
2.1.16	Discharge line NRV	CI			
2.1.17	Pump motor coupling	Stainless Steel / Chrome Steel			
2.1.18	Minimum submergence	Motor + 2 feet			
2.1.19	No. of stages	Min. 10 Nos			
2.2	Driver/ Motor				
2.2.1	Drive motor	Vendor to confirm			
2.2.2	Duty	Continuous			
2.2.3	Degree of protection	IP 65 or above			

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2.2.4	Available supply	415 ± 5% V AC, 50 Hz, 3 Phase			
2.2.5	Motor power	17.5 HP			
2.3	FLAT Submersible cable (Non hygroscopic) (Qty – 430 mtr)				
2.3.1	Type	Flat Submersible cable			
2.3.2	No of Cores & size	3 core, 6.0 sqmm			
2.3.3	Type of Core	Copper			
2.3.4	Voltage	1.1 kV			
2.3.5	Make	Finolex / Polycab / L&T / KEI / KSB			
2.4	MOTOR STARTER PANEL & CONTROL CIRCUIT FOR ABOVE QUOTED MOTOR-PUMP SET (One set)				
2.4.1	Starter Control Panel (CRCA steel powder coated enclosure :Rigid structure) With heavy duty 4 pole contactor type , overload relay type, Auto start switch, Analog VA meter, RYB LED indicator, Motor ON & trip LED indicator, Triple pole 'C' curve MCB (63 amp) for short circuit protection, rotary switch for current & voltage each	Star Delta			
2.4.2	Relay Range	Suitable for 15 HP pumpset			
2.4.2	Make	L&T / C&S / BCH / Siemens/ ABB			

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2.5	50 MM DIA NB, GI PIPE (TUBE) MEDIUM QUALITY WITH ONE END FITTED WITH HEAVY DUTY PROTECTION RING AND OTHER END FITTED WITH SOCKETED (Qty – 210 mtr)				
2.5.1	IS Code	Pipe: - IS:1239 (Part-I) (Latest Revision/ amendment) Medium class, ISI Mark at every meter interval. Socket :- IS: 1879 (latest revision/amendment)			
2.5.2	THREADING	Both end threaded conf. to IS : 554 (Latest Revision/amendment)			
2.5.3	STANDARD LENGTH OF EACH PIPE	6 Metre			
2.5.4	COATING	Galvanized as per IS : 4736 (Latest Revision/ amendment)			
2.5.5	MAKE	Jindal/Khandelwal/ Swastik/Zenith/Tata			
3.0	PRE QUALIFICATION CRITERIA				
3.1	Only Original Equipment Manufacturer of pump of any type and/or motor of any type or his authorized dealer/distributor/trader shall submit the offer along with valid authorization, Valid relevant papers shall be submitted by the vendor in support of his above said status as a manufacturer or authorized dealer/distributor/trader of the manufacturer	Vendor to specify <i>[Signature]</i> 21/02/19			

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3.2	Only those vendors who have successfully supplied similar item(s) during last 3 years reckoned from the last date of the month previous to the one in which the tender shall be opened shall qualify. Supporting documents such as PO copy and invoice copy and/or challan copy shall, in this regard, be submitted by the vendors along with techno-commercial bids. Similar item(s) shall mean pump(s) of any type and/or motor(s) of any type. Procurement directly from manufacturer shall be preferred. However, if the manufacturer insists on engaging services of his authorized dealer/distributor/trader as an agent, such an agent shall not be allowed to represent more than one manufacturer in the same tender. Moreover, either such an agent could bid on behalf of the manufacturer or the manufacturer could bid directly but not both in the same tender. In case bids are received from the manufacturer and also from his agent, bid received from the agent shall be ignored.				
4.0	DOCUMENTATION: Two sets of following documents in English language shall be supplied along with the supply.				
4.1	Cross sectional drawing and part list.	Vendor to confirm			
4.2	Construction details with material of construction	Vendor to confirm			
4.3	Technical data sheet	Vendor to confirm			
4.4	Performance curves and test data	Vendor to confirm			

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4.5	Test certificates of pump shall be provided with supply.	Vendor to confirm			
4.6	Electrical data including controls & wiring diagrams shall be provided with supply.	Vendor to confirm			
4.7	Operation and maintenance manuals with part list, part numbers and assembly drawings with supply.	Vendor to confirm			
5.0	PACKING				
5.1	All the items supplied shall be suitably packed to avoid any damage/loss in transit and packing list shall be provided at the time of dispatch.	Vendor to confirm			
6.0	INSPECTION & PERFORMANCE TESTING				
6.1	Inspection and acceptance of item(s) shall be done at BHEL, Bhopal.	Vendor to confirm			
7.0	GUARANTEE/WARRANTEE				
7.1	The manufacturers/suppliers shall provide guarantee/warranty for all the items (pump sets including of motors, flat cable, G.I Pipe, accessories and electrical panels) with respect to design, material, construction and against any manufacturing defects for a period of 18 months from the date of dispatch or 12 months from the date of commissioning whichever is later.	Vendor to confirm			
7.2	The manufacturer should provide free after sales service and free replacement of parts against manufacturing defect during the guarantee/warranty period.	Vendor to confirm			
8.0	GENERAL				

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8.1	It is not the intent to specify completely herein all the details of the equipment. Nevertheless, the equipment shall be complete and operative in all respects and shall conform to highest standard of engineering, design & workmanship.	Vendor to confirm			
8.2	Any material or accessory which may not have been specifically mentioned but which is necessary or usual for satisfactory and trouble free operation and maintenance of the equipment shall be furnished without any extra charge.				
8.3	The supplier shall supply all brand new equipment, material and accessories as specified herein with such modification and alteration as agreed upon in writing after mutual discussion with BHEL	Vendor to confirm			
	Note:- 'Brand new' means 'Conspicuously new, particularly unused' <i>SK</i>				
8.4	The L1 bidder shall be decided on overall lowest bid inclusive of pump set, starter panel and cables and GI pipe.				