

736216/2022/HEP-SWM20905

BHARAT HEAVY ELECTRICAL LIMITED				
UNITS ADDRESS:BHOPAL				
CONTACT PERSON'S NAME / DESIGN./PHONE NO. / E-MAIL				
SPECIFICATION CUM COMPLIANCE CERTIFICATE FOR REFURBISHMENT OF ELECTROPLATING FACILITY				
NOTE:-				
1. Vendor must submit complete information against clause no. 21 (Qualifying Condition). The offer meeting this clause would only be processed.				
2. The "Offered" Column and where applicable, the "Deviations" & "Remarks" Column of this format shall be filled in by the Vendor and submitted along with the				
3. The offer and all documents enclosed with offer should be in English language only.				
NAME & ADDRESS OF THE SUPPLIER:			NAME & ADDRESS OF THE INDIAN AGENT:	
TELEPHONE NOS.:			TELEPHONE NOS.:	
FAX NOS.:			FAX NOS.:	
E-MAIL ADDRESS:			E-MAIL ADDRESS:	

TECHNICALSPECIFICATION					
S.N	DESCRIPTION FOR BHEL REQUIREMENT	Vendor to specify/confirm	Offered	Deviation	Remarks
1	Purpose of the equipment:				
1.1	Refurbishment of the existing PLC controlled automatic Electropolting plant consisting of automatic Zn/Fe line, semiautomatic Ag/Al (double zincating process) line and a combined Ag/Cu and Sn/Cu line along with rectifiers, all other accessories and Effluent Treatment Plant.	Vendor to note & confirm			
2	Scope :				
2.1	The present indent is to refurbish the Electroplating lines keeping existing line setup and transport wagons and scope shall include design, manufacture, testing, calibration, packing, dispatch, retrofitting, commssioning and proving of complete plant	Vendor to specify/confirm			
2.1.1	Replacement/Repair and re-lining of damaged supporting structural members and walking platforms and railings				
2.1.2	Replacement of damaged process tanks 05 nos and rinse tanks 05 nos				
2.1.3	Replacement/Repair of rectifiers 21 nos				
2.1.4	Air agitation blowers-06 nos				
2.1.5	Electrical Control panels with PLC for 3 No. Plating Lines for control of process & Transport Wagons, control consoles, power cables and control wiring along with cable trays				
2.1.6	Replacement of temperature sensors, pneumatic solenoid valves and controllers, voltmeters, ammeters and amp hr meter with data logging				
2.1.7	Exhaust duct system and its downstream process equipment -03 nos				
2.1.8	Demineralized water plant 01 no				
2.1.9	Centrifuge Hot air Dryer for rapid drying of hardware after plating - Capacity – 100 Kgs.				
2.1.10	Replacement of hot air (steam heated) tanks for drying -03 nos				
2.1.11	Retrofit of existing conventional effluent treatment plant to achieve Zero Liquid Discharge and rinse water recycle system to be integrated with existing plant 01 no				
3	TECHNICAL REQUIREMENT:				

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3.1	Operating voltage : 3 phase 415 V, 50 Hz	Vendor to specify/confirm			
3.5	Plating/process tanks shall be fabricated out of 5 mm thick M.S. sheet, suitably reinforced, internally lined with 5 mm thick PVC, suitably reinforced, and 2 mm FRP outside. The tanks will be provided with adequate sized 5 micron filters as required.	Vendor to specify/confirm			
3.6	Rinse tanks shall be fabricated out of 25 mm thick PP sheet, suitably reinforced,	Vendor to specify/confirm			
3.7	Rectifiers shall be of suitable capacity and capable of long life in the corrosive atmosphere The supply to tanks will be through copper busbars and arrangement for varying voltage/current remotely shall be provided	Vendor to specify/confirm			
3.8	Suitable temperature controllers, voltmeters, ammeters and Amp Hr meters shall be provided at tank with data logging wherever required.	Vendor to specify/confirm			
4	High voltage components shall be housed in separate sealed module The sealed High voltage module shall be housed either separately or in the control panel.	Vendor to specify/confirm			
5	Control module and High voltage module shall be connected by control cable of 15 ft length for safety or if the high voltage module is housed in the same cubicle of control panel, safety shall be built in the cubicle for isolation of HT and controls and also for the safety of operating personnel.	Vendor to specify/confirm			
6	Enclosure type :: IP52 or better	Vendor to specify/confirm			
7	Operating temperature : up to 50 Deg.Cel.	Vendor to specify/confirm			
8	Inspection and Testing : Equipment supplied shall be offered for inspection and testing at suppliers works.	Vendor to specify/confirm			
9	Calibration : All equipment shall be calibrated wherever necessary and certificates shall be provided.	Vendor to specify/confirm			
10	<u>SAFETY ARRANGEMENTS:</u>				
	Following safety features in addition to other standard safety features should be provided on the system:				
10.1	1. System should have adequate and reliable safety interlocks to avoid damage to the equipment and the operator due to the malfunctioning or mistakes.	Vendor to specify/confirm			
10.2	2. Statutory Requirement: The Equipment shall conform to the IEC Rules 1956 and other essential provisions for installation and operation of electrical plant and equipment	Vendor to specify/confirm			
11	<u>ENVIRONMENTAL PERFORMANCE OF THE SYSTEM:</u>				
11.1	If any safety / environmental protection enclosure is required, it should be built in the system by the vendor.	Vendor to specify/confirm			
12	<u>ACCESSORIES :</u>				
12.1	Effluent Treatment Plant should be suitable of treating all effluent generated by process with extra capacity of 50%. Effluent water to be recycled to rinse quality and sludge obtained should be dewatered and reasonably dry for handling. There should be no discharge and plant is to be Zero Liquid Discharge	Vendor to specify/confirm			
12.2	DM plant output should be 10 KLPD and output quality 30 mS or better	Vendor to specify/confirm			

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12.3	Lip duct local exhaust on all process tanks with suitable downstream pollution mitigation equipment (Wet Scrubber)	Vendor to specify/confirm			
12.4	Voltage stabiliser , CVT / UPS if recommended should be included in the scope of supply	Vendor to specify/confirm			
13	<u>DOCUMENTATION :</u>				
13.1	Following shall be submitted with the offer				
	1. Compliance statement as per the specifications	Vendor to specify/confirm			
	2. Technical catalogs.	Vendor to specify/confirm			
	3. Data sheet, Bill of material , Write Up of the System/ catalog, Qty.-01 No. alongwith offer	Vendor to specify/confirm			
13.2	Following shall be supplied with the supply				
	1. Four sets of following documents (Hard copies) in English language and 2 CD's comprising all manuals and softwares should be supplied along with the system.	Vendor to specify/confirm			
	2. Operating manuals of Instrument & system	Vendor to specify/confirm			
	3. Maintenance manual with all drawings and electrical circuit diagrams.	Vendor to specify/confirm			
	4. Maintenance , Interface & commissioning manuals for instrument	Vendor to specify/confirm			
	5. Test and Gurantee certificate	Vendor to specify/confirm			
	6. Calibration certificate	Vendor to specify/confirm			
	7. Data sheet,Certified OGA, GA, Bill of material , Write Up of the System/ catalog	Vendor to specify/confirm			
	8. Final acceptance is subjected to furnishing the complete documentation in required volumes in required number of sets.	Vendor to specify/confirm			
	9. All documents to be furnished by the supplier shall be duly certified and signed by the competent authority and all revisions shall be duly recorded.	Vendor to specify/confirm			
	10. Title and written notation shall be in English.	Vendor to specify/confirm			
	11. All copies of test certificates as stipulated shall be on good quality of paper having good and legible printing.	Vendor to specify/confirm			
14	<u>SYSTEM INSPECTION :</u>				
14.1	Inspection at suppliers works before dispatch.	Vendor to specify/confirm			
14.2	Supplier to submit manufacturing / testing QAP for approval.	Vendor to specify/confirm			
15	<u>AMBIENT CONDITIONS & THERMAL STABILITY :</u>				

15.1	Total System and all supplied items should work trouble free and efficiently under following operating conditions and should give specified accuracies. POWER SUPPLY : Voltage : 415 V - 10% + 10 % Frequency : 50 hz + 3 % , -3% No. of phases = 3 Compressed air pressure 4-5 bar Ambient Conditions : temperature = 4 to 50 degree celsius Relative Humidity = 27 % to 95 % max. Location - Indoor Altitude - Less than 1000 meters	Vendor to specify/confirm			
15.2	Thermal Stability of the complete system keeping in view specified Ambient Conditions and accuracy requirements of BHEL components and trouble free operation of the system should be ensured by vendor. (Vendor to confirm that system is suitable for above and details of provisions on the system for the same should be furnished by Vendor)	Vendor to specify/confirm			
16	<u>GUARANTEE :</u>				
16.1	Vendor should submit the gaurantee certificate for 24 months from the date of commissioning of the system.	Vendor to specify/confirm			
17	Training: Training and Demonstration of all features of the equipment & all accessories to the satisfaction of BHEL for their efficient and effective use and impart training to operators for effective use of the equipment.	Vendor to specify/confirm			
18	ERECTION & COMMISSIONING 1.Supplier to take full responsibility for carrying out erection, start up, testing of all supplied equipment. The equipment is to be erected at the site by the supplier with their own manpower, tools & tackles etc. Other erection equipment's like mobile crane, measuring instruments & devices for testing & commissioning of machines should be brought by the supplier on returnable basis. 2.Service requirement like air, water, electricity will be provided by BHEL at one point to be indicated by the supplier in advance. Completed commissioning & demonstration of all the features of machine/equipment to the entire satisfaction of BHEL is the sole responsibility of vendors at BHEL Bhopal work. Complete commissioning, testing including all the test is in the scope of supplier.	Vendor to specify/confirm			
19	Proving : Proving to be done through demonstration / physical inspection of all features, assemblies, subassemblies, control panel, bought out items and all accessories shall be done to the full satisfaction of BHEL representative at BHEL Bhopal	Vendor to specify/confirm			
20	PACKING and Dispatch : The items supplied shall be packed suitably by vendor so as to exclude any possibilities of damage during transportation and storage at site.	Vendor to specify/confirm			
21	QUALIFYING CONDITIONS : 1. All documets will be required at the time of Actual Tender Enquiry (From points 21.1 to 21.3.6) 2.For EOI, Vendor has to Provide Only Authorisation certificate & PO copies Supplied/Quoted Instrument of Same or Higher Rating	Vendor To note and Confirm			

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21.1	1. Vendor to mention the Make In India content (Value addition in India) of the offered machine in percentage (%). Details to be submitted..	Vendor to note. & specify			
21.2	(a) Only those vendors /OEMs should quote who have experience of supplying and commissioning at least one number of similar PLC controlled automatic plant in the past seven years (on the date of opening of Tender) and referred equipment is presently working satisfactorily for more than one year after commissioning (on the date of opening of Tender). The OEMs should have experience of manufacturing such equipment in the past seven years (on the date of opening of Tender) and should submit proof of the same. NOTE: However, such Indian suppliers, who do not meet qualifying criteria 36.2/(a) then the vendor should have supplied at least one similar equipment meeting our qualifying condition, can be considered qualified if they have running Collaboration / Joint Venture / Joint Working Arrangement with foreign partner who meets our qualifying requirements. Indigenous manufacturer shall submit from other foreign partner a back to back guarantee for the performance of the equipment. BHEL reserves the right to assess the OEM with respect to their technical and financial capability. In respect of the Indian Vendors against (b) above, BHEL reserves the right to assess the Indian Vendor & their Foreign Partner with respect to their technical and financial capability.	VENDOR TO NOTE			
21.3	The following information should be submitted by the vendor about the companies where similar equipment (s) have been supplied. This is required from all the vendors for qualification of their offer.				
21.3.1	1. Name of the customer/s / companies where similar machine is installed.	VENDOR TO NOTE			
21.3.2	2. Complete postal address of the customer.	VENDOR TO NOTE			
21.3.3	3. Month & Year of commissioning.	VENDOR TO NOTE			
21.3.4	5. Name and designation of the contact person of the customer.	VENDOR TO NOTE			
21.3.5	6. Phone, FAX no. and email address of the contact person of the customer.	VENDOR TO NOTE			
21.3.6	7. Performance certificate from the customers regarding satisfactory performance of equipment supplied to them (Original Certificate or Through E-mail directly from the customer). The original performance certificate may be returned after verification by BHEL, if required.	VENDOR TO NOTE			
21.3.7	8. BHEL reserves the right to verify information provided by the Vendor at their referred customer's works including capability. It shall be the responsibility of the vendor to facilitate the visit of BHEL's team at their referred customer works. In case the information provided by vendor is found to be false / incorrect, the offer shall be rejected.	VENDOR TO NOTE			