

SECTION - X**R & M OF MAI PH - I SHP (4 X 500 KW)****Schedule of Quantities and Prices**

[Rupees in Lakhs]

Sl. No.	Description of Work/Item	Unit	Quantity	Rate	Amount
1)	Complete Overhauling,repairing, renovation and modernisation works of Hydro-turbines sets alongwith its associated auxiliary and ancillary equipments as required including.				
	i) Realignment of the shafts of turbines.				
	ii) Balancing of runners of turbines.	Job	4		
	(iii) Replacement of Instruments and Safty devices and Indication instruments.				
2)	Complete Overhauling,repairing, renovation and modernisation works of Governors alongwith its associated auxiliary and ancillary equipments of all the 4 (four)units as required including repair of defunct auto operation system, rectification of mechanical protection system, Problems in Oil pressure units, problems in belts, replacement of all control and safety devices, indication instruments etc.	Job	4		
3)	Providing new Thrust and Journal Pad (T&J) bearing in all the 4(four) units complete as required.	Sets	4		
4)	Providing of new Economiser assembly for all the4(four) units complete as required.	Sets	4		
5)	Providing hydraulically operated butter fly valve alongwith its associated auxilliary and ancillary equipments complete as required capable of handling rated discharge of gross head and suitable for fixing on existing penstocks.	Sets	4		
6)	Providing of temperature and speed sensing devices for all 4(four) units complete as required.	Sets	4		
7)	Providing Synchronous generators, 625 KVA, 415Volts,0.8 PF,50 HZ, Class 'F' Insulation, Brushless, Self Excited with all required terminal Equipmnet including all acessories complete as required suitable in all respects for coupling with existing turbine sets	Sets	2		
8)	Complete Overhauling,repairing, renovation of 2(two) Nos. existing AC Generators along with its associated auxilliary and ancillary equipments as required.	Sets	2		
9)	Complete repairing/ renovation of one no. excitation unit (SEU)	No.	1		

[Rupees in Lakhs]

Sl. No.	Description of Work/Item	Unit	Quantity	Rate	Amount
10)	Providing Generator/ Turbine Control Panels including protection, metering, control system, all indicating instruments, switches etc with synchronising panel suitable for synchronising all the units with one another and for synchronising Mai Ph-I with Mai Ph-II & Tago SHP and with the grid.	Lot	1		
11)	Providing outdoor 33KV VCB complete with all accessories, auxilliary and ancilliary items / equipments like 33 KV CTs and PTs etc. as required i/c breaker control panel with all indicating metering and protection instruments, suitable for remote operation from Control Room.	Sets	2		
12)	Spares of turbine, generators, governor, SEU for 10 years of troublefree operation as per Clause 3.6 of Section - III.(Supporting list of spares with quantities and itemwise rates to be enclosed)	Lot	1		
13)	300 AH, 48 volts Nickel Cadmium Battery Set complete with all accessories	Lot	1		
14)	Providing 48/110 Volts, 300 AH automatic boost and trickle charger with DC Distribution Panel complete with necessary safety and indication instruments	Set	1		
15)	Lightening protection of the Power House.	Job	1		
16)	Fire Fighting equipment.	Lot	1		
17)	Mandatory tools as per Clause 3.7 of Section - III.(Lists with rates to be provided)	Set	1		
18)	Lighting in Power House, switchyard and appurtenant works.	Job	1		
19)	Replacement of damaged, missing, derated items (other than as mentioned above) in the switchyard and power house i/c checking of all insulators, LAs, GOAB Sets, DO Fuse Units, hardware, cables, individual earthings and their replacement if required and painting of all equipments, switchyard structure etc.	Lump Sum			
20)	Providing earthing mat in the switchyard and connecting all existing and new earthings to it.	Lot	1		
21)	Any other works, parts, accessories, spares items etc. not enumerated above but required for successful overhauling, renovation, modernisation works and recomissioning of the project as a whole in complete shape to achieve designed generating capacity and efficient operation of the whole system in the power house and switchyard.	Job	1		

[Rupees in Lakhs]

Sl. No.	Description of Work/Item	Unit	Quantity	Rate	Amount
22)	Carrying out required maintenance of 3 (three) Nos. step up transformers in the switchyard i/c dehydration and filtration/replacement of transformer oil and replacement of defective parts, providing of necessary protection & safety devices, painting etc. as required.	Job	1		
23)	Dismantling, for repair & renovation works, reerection, testing and commissioning of EM equipments as required after overhauling / renovation and demonstration of designed generating capacity of the four units individually and together i/c to and fro transportation as required.	Job	1		

TOTAL
