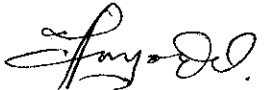
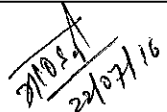


 BHEL-EMRP MUMBAI	TECHNICAL SPECIFICATION (PART-II) FOR MECHANICAL WORKSHOP ITEMS		SPECIFICATION NO. EM-MHPA-2912-12-PTS-02	
			Rev. No	00
	4X180 MW MANGDECHCHU HEP		Rev Date	22/07/2016

PARTICULAR TECHNICAL SPECIFICATIONS

 Vimlanshu Prawal Horo Sr. Engineer	 Mandvi Gupta Manager
PREPARED BY	CHECKED & APPROVED BY

 BHEL-EMRP MUMBAI	TECHNICAL SPECIFICATION (PART-II) FOR MECHANICAL WORKSHOP ITEMS	SPECIFICATION NO. EM-MHPA-2912-12-PTS-02	
		Rev. No	00
	4X180 MW MANGDECHCHU HEP	Rev Date	22/07/2016

Annexure III

Details of Equipment

Bidder must quote the material code number, material description & quantity offered in their quotation /bid, as specified below. Bidder's alternate description can also be given in separate column.

Completeness of Equipment

Each of the equipment listed shall be complete with applicable accessories like power supply main leads, screened guard leads, screened line test leads, earth leads, connectors and clips, leather carrying case, fasteners/washers/nuts/anchoring bolts/etc required for erection and commissioning and any other accessories required for completing the equipment.

Sl.No	Item specification	QAP	Details of Equipment offered by the Bidder	
			Make **	Model & Catalogue No
1	Electrical hand drilling machine (5 Nos.) Each drilling machine shall have drilling capacity of maximum 23mm in steel. The drilling shall have overload protection and two (2) speeds electronic speed control. Each drilling machine shall be supplied with following. i) One (1) set of HSS drills of best quality covering the whole drilling range. ii) One (1) spare drill jar socket, iii) One (1) spare key for drill jar socket, Weight of the machine shall not be more than 5 kgs.	28-2	Bosch Germany, Hitachi Japan, Metabo, Ralli wolf India	
2	Portable magnetic base electrical drilling machine (3 Nos.) Portable magnetic electrical drill machines with variable speed shall be suitable for upto 32 mm diameter drilling capacity complete with all accessories. Each drilling machine shall at least be supplied with: i) One(1) drill chuck of adequate size, ii) One (1) set of Morse Taper covering the drilling range of 2-32 mm, iii) One (1) set of drill bits of best quality covering the whole drilling range of 2 - 32 mm.	28-2 & 28-6	Bosch Germany, Hitachi Japan, Metabo, Ralli wolf India	
3	Concrete Hammer Drilling Machine (2 Nos.) Concrete drill machine shall be provided along with 5 sets each of HSS and carbide tip drill bits suitable for drilling in concrete upto 25 mm.	NA	Bosch Germany, Hitachi Japan, Metabo, Ralli wolf India	

(Pl tick on the offered make)**

QUALITY ASSURANCE PLAN

Page: 28-2

PROJECT : MANGDECHHU H.E. PROJECT, BHUTAN

CLIENT : MANGDECHHU HYDROELECTRIC PROJECT AUTHORITY.

VENDOR NAME & ADDRESS:

NIT/P.O. REFERENCE :

IF

INT : Workshop Equipment- Misc equip

S. NO.	ITEM / COMPONENTS & CHARACTERISTICS	NATURE OF CHECKS	QUANTUM OF CHECKS	REFERENCE DOCUMENTS/ ACCEPTANCE NORMS	RECORD FORMAT	INSP. AGENCY		REMARKS
						Perform	Witness / Verify	
1	Hand Drilling M/c, Portable Magnetic Electrical Drilling M/c, Double Ended Grinding M/c, Power Hacksaw, Pipe Bending M/c Make, Model, Capacity of the Equipment	Visual	100%		TC	3/2	-	TC
2	Electric Motor	Visual	100%	-do-	TC	3/2	-	TC
3	Routine test Control Panel	Measurement	100%	-do-	IR	3/2	-	RR
4	Dimensional Check Functional Test of Relay & Protection Assembly Test Functional Test :- Auto / Manual Mode IR & HV Test Accuracy of the Equipment	Visual	100%	-do-	TC	3/2	-	TC
5	Routine Test	Test	100%	-do-	JIR	3/2	1	CHP
6	Type Test	Test	Sample	-do-	TC	3/2	-	TC

In 'Inspection Agency' column figure 1,2, or 3 to be filled. 1- will indicate 'MHPA', 2- will indicate 'supplier' & 3- will indicate 'sub-supplier'.

In 'Remarks' column following abbreviations shall be used - RR-Review of Records, T.C. - Test Certificate Submission & CHP - Customer Hold Point

test certificates shall be submitted at the time of final inspection.

Signature & Seal
VendorSignature
NHPC (Consultant)Signature
MHPA (Client)

QUALITY ASSURANCE PLAN (MODEL)

Page: 28-8

PROJECT : MANGDECHHU H.E. PROJECT, BHUTAN
 CLIENT : MANGDECHHU HYDROELECTRIC PROJECT AUTHORITY.
 VENDOR NAME & ADDRESS :
 NITP O. REFERENCE :

NAME OF

EQUIPMENT : Workshop Equipment - Drilling Machine

S. NO.	ITEM COMPONENTS & CHARACTERISTICS	NATURE OF CHECKS	QUANTUM OF CHECKS	REFERENCE DOCUMENTS/ ACCEPTANCE NORMS	RECORD FORMAT	INSP. AGENCY		REMARKS
						Perform	Witness	
1	Stationary, Radial and Portable Magnetic Electric Drilling Machine	Visual	100 %	Tech. Spec./ Relevant Standard	TC	3/2	-	TC
2	Make & Model of Drilling Machine	-do-	-do-	-do-	TC	3/2	-	TC
3	Capacity at constant load	-do-	-do-	-do-	TC	3/2	-	TC
4	Electric Motor	Visual	-do-	-do-	TC	3/2	-	TC
a)	Make, Model & Rating	Test	-do-	-do-	TC	3/2	-	TC
b)	Routine test	-do-	-do-	-do-	TC	3/2	-	TC
c)	Type Test	-do-	Sample	-do-	TC	3/2	-	TC
5	Cooling Pump	Visual	100 %	-do-	TC	3/2	-	TC
a)	Routine test	-do-	-do-	-do-	TC	3/2	-	TC
6	Control Panel Component	Visual	-do-	-do-	TC	3/2	-	TC
a)	Make, Model & Rating	Measurement	-do-	-do-	JIR	3/2	1	CHP
7	Dimensional check	-do-	-do-	-do-	JIR	3/2	1	CHP
i)	Overall Dimension	-do-	-do-	-do-	JIR	3/2	1	CHP
ii)	Spindle Speed	-do-	-do-	-do-	JIR	3/2	1	CHP
iii)	Feed Range	-do-	-do-	-do-	JIR	3/2	1	CHP
iv)	Spindle Travel	-do-	-do-	-do-	JIR	3/2	1	CHP
v)	Distance between column face to Spindle centre	-do-	-do-	-do-	JIR	3/2	1	CHP
7	Functional Test of Machine & Control Equipments/accessories	Visual/ Measurement	-do-	-do-	JIR	3/2	1	CHP

1- Inspection Agency column figure 1,2, or 3 to be filled. 1- will indicate 'supplier' & 3- will indicate 'sub-supplier'.
 2- Remarks column following abbreviations shall be used - RR-Review of Records, T.C. - Test Certificate Submission & CHP - Customer Hold Point.
 certificates shall be submitted at the time of final inspection.

Signature
 MHPA (Client)

Signature
 NHPC (Consultant)

Signature & Seal
 Vendor

