



BHARAT HEAVY ELECTRICALS LIMITED
PROJECT ENGINEERING MANAGEMENT, NOIDA

Date-1-Jul-23

CORRIGENDUM-3

PROJECT	:	4X270 MW BHADRADRI TPS-FGD
PACKAGE	:	ELECTRIC HOIST
BID No. (Through GeM)	:	GEM/2023/B/3526232 Dtd. 03.06.2023
SUBJECT	:	DUE DATE EXTENSION UP TO 03.00 P.M, 10.07.2023

Type of Corrigendum			
Technical Corrigendum -	<input type="checkbox"/>	Commercial Corrigendum -	<input checked="" type="checkbox"/>

In reference to the above mentioned tender enquiry for ELECTRIC HOIST package.

Please note the following.

1. Due date of offer submission has extended from **03.07.2023, 03:00 P.M. to 10.07.2023, 03:00 P.M.**
Bid opening shall be done at 03.30 P.M. on due date.
2. AMMENDMENT-1 FOR TECHNICAL SPECIFICATION NO. PE-TS-440-563-A002 having List of drawing documents and submission/re-submission schedule and other details are attached herewith.

All the other terms and conditions of the tender enquiry remain unchanged.

Yours faithfully,

For and on behalf of BHEL



AMMENDMENT-1
FOR
TECHNCIAL SPECIFICATION NO.
PE-TS-440-563-A002

ANNEXURE-V

A: DRAWINGS/ DOCUMENTS TO BE SUBMITTED AFTER AWARD OF CONTRACT

The successful bidder shall submit the following drawings / documents during detail engineering for customer's approval /information:

Sl. No.	BHEL DRG.NO	DRAWING TITLE	SUBMISSION SCHEDULE
1	PE-V0-440-563-A202	GA Drawing for Electric Hoist, DSL arrangement and painting details	REV-0 WITHIN 30 DAYS FROM PO. BHEL WILL COMMENT ON R0 WITHIN 18 DAYS FROM RECEIPT. REV-1 TO BE SUBMITTED BY VENDOR WITHIN 7 DAYS. BHEL WILL FURNISH APPROVAL IN 18 DAYS FROM RECEIPT.
2	PE-V0-440-563-A210	Mechanism Sizing Calculation	
3	PE-V0-440-563-A219	Schematic Circuit Diagram including cable schedule and panel diagram	

Following documents shall be submitted by vendor for information –

Sl. No.	BHEL DRG.NO	DRAWING TITLE
1	PE-V0-440-563-A206	O & M Manual
2	PE-V0-440-563-A207	Packing list
3	PE-V0-440-563-A208	Erection procedure

Note:

1. MANDATORY SPARES SHALL BE IN FORM OF BBU
2. INCOMPLETE DRAWINGS/DOCUMENTS SHALL NOT BE TREATED AS SUBMITTED.
3. SQP ATTACHED IN SPECIFICATION TO BE FOLLOWED. VENDOR SHALL SUBMIT SIGNED & STAMPED COPY OF THE SAME.
4. MAKE OF BOIS SHALL BE FURNISHED BY VENDOR SHALL BE REVIEWED.

B.0 DOCUMENT MANAGEMENT SYSTEM

1.0 Bidder to note that BHEL reserves the right for drawing/document submission through web based Document Management System. Bidder would be provided access to the DMS for drawing/document approval and adequate training for the same. Detailed methodology would be finalized during the kick-off meeting. Bidder to ensure following at their end.

- Internet explorer version – Minimum Internet Explorer 7.
- Internet speed – 2 mbps (Minimum preferred).
- Pop ups from our external DMS IP (124.124.36.198) should not be blocked.
- Vendor's Internal proxy setting should not block DMS application's link (<http://124.124.36.198/wrenchwebaccess/login.aspx>)

**AMMENDMENT-1****FOR****TECHNCIAL SPECIFICATION NO.****PE-TS-440-563-A002****C.0 NO.OF DRAWINGS/DOCUMENTS FOR SUBMISSION**

S. No	Description	TSGENCO								Consultant			Equipment Vendor	Remarks
		Director Projects	Director Technical	CE/Civil Thermal Projects Hyd.	CE/ TPC-I, Hyd	CE/ O&M/	SE/ Civil	SE/E&M /	DE Constr.		HYD	BTPS		
A	Letter Of Intent or Contract Documents	1	1	1	S	1	2	2	1	1	1	1	2	
B	Vendor Drawings													
1.	Preliminary	1	1	1	2	1	1	2	2	12	1	-	S	
2.	Return preliminary with comments	-	-	1	2	1	1	1	1	S	1	-	1	
3.	Final and any revision thereof													
	a. Civil	1	1	6+1T	1	1	6+1T	1	-	2+1T	1	1	S	
	b. E&M	1	1	1	6+1T	1	1	6+1T	1	2+1T	1	1	S	
C.	Design Drawings													
1.	Preliminary													
	a. Civil	1	1	2	1	1	2	1	1	4	1	1	S	
	b. E&M	1	1	1	2	1	1	2	1	4	1	1	S	
2.	Released for construction													
	a. Civil	1	1	2	1	1	6	1	1	1	1	2	S	
	b. E&M	1	1	1	1	2	1	6	1	1	1	2	S	
3.	Return marked 'As built'													
	a. Civil	-	-	1	-	-	1	-	-	1	1	S	1	
	b. E&M	-	-	-	1	-	-	1	1	1	1	S	1	
4.	As built drawings													
	a. Civil	-	-	1+1T	-	2+1T	5+1T	-	1	1+1T	-	1	S	
	b. E&M	-	-	1	2+1T	2+1T	-	5+1T	1+1T	1+1T	-	1	S	

S. No	Description	TSGENCO								Consultant			Equipment Vendor	Remarks
		Director Projects	Director Technical	CE/Civil Thermal Projects Hyd.	CE/ TPC-I, Hyd	CE/ O&M/	SE/ Civil	SE/E&M /	DE Constr.		HYD	BTPS		
D	Progress Report Monthly													
1.	Equipment vendor	1	1	1	2	1	1	2	1	1	1	1	S	
2.	Consultant	1	1	2	2	1	1	2	1	S	1	1	Nil	
E	Test & Inspection Reports													
1.	Equipment manufacturer													
	a. Civil	1	1	1	2	1	1	1	-	11	1	1	S	
	b. E&M	1	1	-	2	1	-	1	1	11	1	1	S	
2.	Consultant	1	1	-	2	1	-	1	1	S	-	1	-	
F	Instruction Manuals/Data Books													
1.	Equipment manufacturer													
	a. Civil	1	1	1+1T	1	1	6+1T	1	1	2+1T	1	1	S	
	b. E&M	1	1	-	3+1T	1	-	6+1T	2	3+1T	1	1	S	
2.	Consultant	1	1	-	10+1T	1	-	15+1T	-	S	1	1	Nil	
G	Consultant	1	1	1	8+1T	1	1	2	1	1	1	1	S	
H	Design Calculations	1	1	1	8+1T	1	1	2	1	1	1	1	S	
I	Final consulting Engineering Report	1	1	1	10	1	1	2	1	S	1	1	Nil	

S – Source, T – Transparency & Soft Copy on CD,

TSGENCO : Telangana State Power Generation Corporation Limited

Director, Projects, Hyd : Director/ Projects, TSGENCO, Vidyut Soudha, Hyderabad – 500 082


Note:

a) Bidder to note that all the drawings and documents shall also be submitted on CD's (compact disc) in following software.

- I. All the drawings shall be prepared in AutoCAD.
- II. All the documents shall be prepared MS word / EXCEL.
- III. PDF files for all drawings/documents shall also be submitted.


Manufacturer's Name & Address:		STANDARD QUALITY PLAN					CUSTOMER :							
		ITEM: WIRE ROPE TYPE ELECTRICAL HOISTS UP TO 15T			SQP NO:			PROJECT :						
					REVISION		00	PACKAGE :						
					DATE		June 2023	CONTRACTOR :						
SL. NO.	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	Format of RECORD		AGENCY			REMARKS
					M	C/N					M	C	N	
1.	2.	3.	4.	5.	6.		7.	8.	9.	D	10.			11.

A. RAW MATERIAL														
A.1	MS PLATES FOR HOIST STRUCTURE, GEAR BOX, & ROPE DRUM (IF FABRICATED)	CHEMICAL & MECHANICAL PROPERTIES	MAJOR	CHEMICAL & MECHANICAL	1 SAMPLE / HEAT		IS 2062 E250 GR- A/ BR APPROVED DRAWING/DATA SHEET		MTC/ LAB TEST REPORT	√	P	V	V	In the absence of correlated TC Lab testing shall be done.
		ULTRASONIC TEST OF PLATES (For Thk>25mm)	MAJOR	NDT	100%	100%	ASTM A 435	ASTM A 435	IR	√	P	V	V	
A.2	PIPE FOR ROPE DRUM (IF SEAM LESS PIPE IS USED)	CHEMICAL & MECHANICAL PROPERTIES & ACID ETCHING	MAJOR	CHEMICAL & MECHANICAL	1 SAMPLE / HEAT/SIZE		ASTM A106 GR A/B APPROVED DRAWING/DATA SHEET		MTC/IR/ LAB TEST REPO	√	P	V	V	In the absence of correlated TC Lab testing shall be done..
		ULTRASONIC TEST FOR SEAMLESS PIPE (For Thk>25mm)	MAJOR	UT	100%	100%	ASTM E-213	ASTM E-213	IR	√	P	V	V	
A.3	FORGINGS / ROLLED BARS FOR GEARS, PINIONS & WHEELS	CHEMICAL & MECHANICAL PROPERTIES	MAJOR	CHEMICAL & MECHANICAL	1 SAMPLE / HEAT/SIZE		APPROVED DRAWING/DATA SHEET.		MTC/ LAB TEST REPORT	√	P	V	V	In the absence of correlated TC Lab testing shall be done.
		ULTRASONIC TEST	MAJOR	NDT	100%	100%	ASTM A 388	REFER NOTE-1	IR	√	P	V	V	ONLY FOR DIA/THICKNESS 40 MM & ABOVE
B. BOUGHT OUT ITEMS														
B.1	HOOKS	MAKE & DIMENSIONS	MAJOR	VISUAL	100%	100%	IS 15560/ AS PER APPROVED BOI LIST		TC	√	P	V	V	
		CHEMICAL & MECHANICAL	MAJOR	CHEMICAL & MECHANICAL	1 SAMPLE / HEAT/SIZE		IS 1875/APPROVED DATA SHEETS /DRAWINGS.		IR	√	P	V	V	
		PROOF LOAD TEST	MAJOR	MECHANICAL	100%	100%	IS-15560/IS 3815/APP. DRG./DS	IS-15560/IS 3815/APP. DRG./DS	IR	√	P	V	V	
		UT FOR INNER DEFECTS	CRITICAL	NDT	100%	100%	ASTM A 388	REFER NOTE-1	IR	√	P	V	V	On shank portion only

MANUFACTURE/ SUB-CONTRACOTR	BHEL	LEGEND :	CUSTOMER
STAMP & SIGNATURE		'D' : RECORDS IDENTIFIED WITH TICK (√) SHALL BE ESSENTIALLY INCLUDED BY MANUFACTURER IN QA DOCUMENTATION 'M' : MANUFACTURER/ SUBCONTRACTOR 'B' : BHEL/ THIRD PARTY 'C' : CUSTOMER INDICATE 'P' PERFORM 'W' WITNESS AND 'V' DOCUMENT REVIEW	NAME & SIGN OF APPROVING AUTHORITY & SEAL


Manufacturer's Name & Address:		STANDARD QUALITY PLAN					CUSTOMER :							
		ITEM: WIRE ROPE TYPE ELECTRICAL HOISTS UP TO 15T			SQP NO:		PROJECT :							
					REVISION	00	PACKAGE :							
					DATE	June 2023	CONTRACTOR :							
SL. NO.	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	Format of RECORD		AGENCY			REMARKS
					M	C/N					M	C	N	
1.	2.	3.	4.	5.	6.		7.	8.	9.	D	10.			11.

		DPT TEST BEFORE & AFTER PROOF LOAD TEST	CRITICAL	NDT ON MACHINED SURFACE	100%	100%	ASTM E-165	NO DEFECTS	IR	√	P	V	V	
B.2	WIRE ROPES	MAKE ,TYPE & IDENTIFICATION	MAJOR	VISUAL	100%	100%	AS PER APPROVED BOI LIST		MTC	√	P	V	V	
		DIMENSION, BRAKING STRENGTH, CONST.	MAJOR	REVIEW	100%	100%	IS-2266 / APPROVED DRAWING/DATA SHEET		MTC	√	P	V	V	
B.3	PULLEY/SHEAVE	CHEMICAL, MECHANICAL VISUAL DIMENSION	MAJOR	REVIEW	100%	100%	APPROVED DRAWING/DATA SHEET/MFG STD		MTC/IR/LAB REPORT	√	P	V	V	In the absence of correlated TC Lab testing shall be done.
B.4	MOTOR<30 KW	MAKE/TYPE/RATING, ROUTINE TEST	MAJOR	VISUAL, REVIEW	100%	100%	APPROVED DRAWING/DATA SHEET/ AS PER APPROVED BOI LIST		MTC	√	P	V	V	
B.5	GEAR BOX	MAKE / TYPE / RATING / REDUCTION RATIO/ BACKLASH & TOOTH CONTACT	MAJOR	VISUAL	100%	100%	APPROVED DRAWING/DATA SHEET/ AS PER APPROVED BOI LIST/ MFG STD		IR	√	P	V	V	
		NO LOAD RUN TEST (NOISE LEVEL, TEMP.RISE, OIL LEAKAGE, VIBRATION)	MAJOR	VISUAL	100%	100%	NOISE LEVEL < 85 db TEMP. RISE= AMB+20 °C NO OIL LEAKGE APPROVED DRAWING/DATA SHEET		IR	√	P/V	V	V	
B.6	BRAKE	MAKE / TYPE / RATING	MAJOR	VISUAL	100%	100%	APPROVED DRAWING / DATA SHEET / AS PER APPROVED BOI LIST		MTC/IR	√	P	V	V	
		ROUTINE TEST	MAJOR	REVIEW	100%	100%			MTC	√	P	V	V	
B.7	LIMIT SWITCH, RELAY, CONTACTOR, TRANSFORMER/ PUSH BUTTON /TERMINAL BLOCK, SELECTOR SWITCH, INDICATION LAMP /SFU	MAKE/TYPE/RATING	MAJOR	VISUAL	100%	100%	APPROVED DRAWING / DATA SHEET / AS PER APPROVED BOI LIST		IR	√	P	V	V	
B.8	CABLES - LT POWER / CONTROL	MAKE / TYPE / RATING	MAJOR	VISUAL	100%	100%	APPROVED DRAWING / DATA SHEET / AS PER APPROVED BOI LIST		MTC/IR	√	P	V	V	
		ROUTINE TEST	MAJOR	REVIEW	100%	100%			MTC	√	V	V	V	
B.9	VVVF DRIVE (AS APPLICABLE)	MAKE / TYPE / RATING	MAJOR	VISUAL	100%	100%	APPROVED DRAWING / DATA SHEET /		MTC/IR	√	P	V	V	

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STAMP & SIGNATURE			


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					M	C/N					M	C	N			
1.	2.	3.	4.	5.	6.		7.	8.	9.	D	10.			11.		

B.10	CONTROL PANEL & PANDENT STATION BOX	ROUTINE TEST	MAJOR	REVIEW	100%	100%	AS PER APPROVED BOI LIST			√	P	V	V	
		MAKE/TYPE/RATING	MAJOR	VISUAL	100%	100%	APPROVED DRAWING / DATA SHEET / AS PER APPROVED BOI LIST		IR	√	P	V	V	
		SHEET /GLAND PLATE THICKNESS, PAINT SHADE, DFT, ADHESION	MAJOR	VISUAL	100%	100%			IR	√	P	V	V	
C IN PROCESS INSPECTION														
C.1	ROLLING & WELDING OF ROPE DRUM(IF FABRICATED)	WPS, PQR & WPQ	MAJOR	REVIEW	100%	100%	AS PER ASME SEC-IX		QW 481-84	√	P	V	V	REFER NOTE -2
		ROLLING & WELD PREPARATION	MAJOR	VISUAL & MEASURE	100%	100%	AS PER DRAWING.		IR	√	P	V	V	
		NDT TEST ON WELD	MAJOR	DPT	100%	10%	ASTM E 165	ASME SECTION VIII DIV-1 APPENDIX-8 CL.NO.8.4	IR	√	P	V	V	
		RT OF BUTT WELD JOINTS(IF APPLICABLE)	CRITICAL	RT	100%	100%	ASME SEC-V	ASME SEC-VIII, DIV-1	IR	√	P	V	V	RT FILM REVIEWED BY CLIENT DURING FINAL INSPECTION
C.2	ROPE DRUM , PULLEY & HOOK SHANK (AFTER FINAL MACHINING)	VISUAL & DIMENSION	MAJOR	VISUAL & MEASURE	100%	100%	MANUFACTURE DRAWING		IR	√	P	V	V	
		NDT ON MACHINE SURFACE	MAJOR	DPT	100%	100%	ASTM E 165	ASME SECTION VIII DIV-1 APPENDIX-8 CL.NO.8.4	IR	√	P	V	V	
C.3	TROLLEY STRUCTURE	WELD SOUNDNESS DIMENSIONS	MAJOR	DPT & VISUAL & MEASUREMENT	100%	100%	ASTM E 165	ASME SECTION VIII DIV-1 APPENDIX-8 CL.NO.8.4	IR	√	P	V	V	
C.4	GEAR & PINIONS, WHEELS (AFTER FINAL MACHINING)	NDT ON MACHINE SURFACE	MAJOR	DPT	100%	100%	ASTM E 165	ASME SEC-VIII, DIV-1 APPEND.8 CL. 8.4	IR	√	P	V	V	
C.5	STRESS REVIEVING OF GEAR BOXES (IF FABRICATED)	SR OF GEAR BOX CASING	MAJOR	SR>25mm Thick	100%	100%	ASME SEC. VIII DIV I UCS 56	ASME SEC. VIII DIV I UCS 56	SR REPORT	√	P	V	V	

MANUFACTURE/ SUB-CONTRACOTR	BHEL	LEGEND :	CUSTOMER
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					M	C/N					M	C	N			
1.	2.	3.	4.	5.	6.		7.	8.	9.	D	10.			11.		

D	FINAL INSPECTION													
D.1	COMPLETE ASSEMBLED HOIST ALONG WITH ACTUAL CONTROL PANEL, VVFD & PUSH BUTTON (AS APPLICABLE)	VISUAL & DIMENSION	MAJOR	VISUAL & MEASURE	100%	100%	IS:3938/ APPROVED DRAWING / DATA SHEET	IR	√	P	W	V		
	NO LOAD TEST & FULL LOAD TEST	CURRENT DRAWN, SPEED OF HOIST ENCHING OPERATION, INTERLOCKING SEQUENCE OPEARTION	MAJOR	VISUAL & MEASURE	100%	100%	IS:3938/ APPROVED DRAWING / DATA SHEET	IR	√	P	W	V		
	OVERLOAD TEST AT 125%	HOLDING CAPACITY OF BRAKES	MAJOR	VISUAL	100%	100%	IS:3938/ APPROVED DRAWING / DATA SHEET	IR	√	P	W	V		
D.2	CONTROL PANEL	VISUAL, MAKE, VERIFICATION & DIMENSION	MAJOR	VISUAL & MEASURE	100%	100%	IS:3938/ APPROVED DRAWING / DATA SHEET	IR	√	P	W	V		
		INGRESS PROTECTION BY PAPER INSERTION METHOD	MAJOR	VISUAL	100%	100%	IS:3938/ APPROVED DRAWING / DATA SHEET	IR	√	P	W	V		
		HV/IR	MAJOR	MEASURE	100%	100%	IS:3938/ APPROVED DRAWING / DATA SHEET	IR	√	P	W	V		REFER NOTE -4
		PAINT SHADE, DFT	MAJOR	VISUAL & MEASURE	100%	100%	IS:3938/ APPROVED DRAWING / DATA SHEET	IR	√	P	W	V		
D.3	PAINTING OF HOIST	VISUAL,DFT, MEASUREMENT & PAINT SHADE	MAJOR	VISUAL & MEASUREMENT	100%	100%	APPROVED DRAWING / DATA SHEET	IR	√	P	V	V		
D.4	PACKING	PACKING SOUNDNESS	MAJOR	VISUAL	100%	100%	APPROVED DOCUMENT/ PACKING SPECIFICATION	IR	√	P	V	V		
NOTES:														
1.	BACK WALL ECHO SHALL BE SET AT 100% OF FULL SCREEN HEIGHT AT THE BAR USING NORMAL PROBE OF 2MHZ TO 4 MHZ. AT THIS SENSITIVITY LEVEL A DEFECT ECHO >20% FSH IS NOT ACCEPTABLE. ALSO LOSS OF BWE >20% IS NOT ACCEPTABLE.													
2	WPS, PQR & WELDER QUALIFIED BY BHEL/ CUSTOMER/ APPROVED TPIA ARE ACCEPTABLE.													

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1.	2.	3.	4.	5.	6.		7.	8.	9.	D	10.			11.

3.	MOTOR POWER RATING LESS THAN 30KW: ACCEPTANCE OF MOTOR LESS THAN 30KW IS BASED ON COC OF THE MANUFACTURER & THE CONTRACTOR CONFIRMING AS FOLLOWS: "IT IS HEREBY CONFIRMED THAT THE ABOVE MENTIONED MOTOR / MOTORS WAS/ WERE MANUFACTURED TAKING CARE OF CUSTOMER SPECIFIC REQUIREMENTS (IF SPECIFIED) REGARDING AMBIENT TEMPERATURE, VOLTAGE & FREQUENCY VARIATION, HOT STARTS, PULL OUT TORQUE, STARTING KVA/KW, TEMP. RISE, DISTANCE BETWEEN CENTRE OF STUD & GLAND PLATE AND TESTED IN ACCORDANCE WITH APPROVED DRAWING /DATA SHEETS."
4.	HV TEST ON CONTROL PANELS WILL BE DONE ISOLATING VVVF DRIVE AND OTHER ELECTRONIC PARTS. HV TEST AT 2 KV FOR POWER & 1.5 KV FOR CONTROL CIRCUIT.
5.	NDT (AS APLICABLE) AS PER CUSTOMER APPROVED MQP.
6.	VENDOR TO FOLLOW STANDARD BOI LIST (doc no. PE-VL-MAX-563-A002) ENCLOSED IN SEPARATE SHEETS

MANUFACTURE/ SUB-CONTRACOTR	BHEL	LEGEND :	CUSTOMER
STAMP & SIGNATURE		'D' : RECORDS IDENTIFIED WITH TICK (✓) SHALL BE ESSENTIALLY INCLUDED BY MANUFACTURER IN QA DOCUMENTATION 'M': MANUFACTURER/ SUBCONTRACTOR 'B': BHEL/ THIRD PARTY 'C': CUSTOMER INDICATE 'P' PERFORM 'W' WITNESS AND 'V' DOCUMENT REVIEW	NAME & SIGN OF APPROVING AUTHORITY & SEAL



ELECTRIC HOIST
MAKES OF SUB VENDORS ITEMS

SPECIFICATION NO. PE-VL-MAX-563-A002

Rev-0

June 2023

SR. NO.	ITEM	SUPPLIERS	PLACE	REMARKS
1.	STEEL	SAIL		
		TATA STEEL		
		JINDAL		
		ARCELOR MITTAL NIPPON STEEL INDIA (ESSAR)		
2.	HOOKS	STEEL FORGING & ENGG. CO.,	KOLKATA	
		SMRITI FORGING	KOLKATA	
		KARACHIWALA		UP TO 25T CAPACITY
3.	GEAR COUPLINGS	ALLIANCE		
		FLEX-TRANS (formerly known as HICLIFF)		
		SAHARA		
		NUTECH		
4.	WIRE ROPE	OEM		
		USHA MARTIN		
		FORT WILLIAMS		
5.	BEARINGS	BHARAT WIRE ROPES		
		SKF		
		FAG		
		TATA		
6.	MOTORS	NBC		
		SIEMENS		
		NGEF (up to 15KW)		
		CROMPTON		
		KIRLOSKAR		
		BHARAT BIJLI		
		MARATHON		
		ABB		
7.	BRAKES	LHP		
		ELECTROMAG		
		SPEED-O- CONTROL		
		BCH		FOR DCEM BRAKES ONLY
		KAKKU		
8.	CONTACTOR	PETHE		
		SIEMENS		
		L&T		
		SCHNEIDER (Earlier TELE MECHANIQUE)		
9.	OVER LOAD RELAYS	BCH		
		SIEMENS		





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		L&T		
		ABB		
		SCHNEIDER (Earlier TELE MACHANIQUE)		
10.	HRC FUSES	SIEMENS		
		L&T		
		ENGLISH ELECTRIC		
		GE POWER		
		EATON (BUSSMANN)		
11.	ISOLATING SWITCH	ABB		
		SIEMENS		
		L&T		
		CONTROL & SWITCH GEAR		
12.	SWITCH FUSE UNITS	ABB		
		SIEMENS		
		L&T		
		CONTROL & SWITCH GEAR		
13.	TIME DELAY RELAYS	ABB		
		L&T		
		SIEMENS		
		BCH		
		SCHNEIDER (Earlier TELE MACHANIQUE)		
14.	TRANSFORMERS	INDCOIL		
		LOGICSTAT		
		KAPPA		
		AUTOMATIC ELECTRIC		
		PRECISE ELECTRICALS		
		SILKAAN ELECTRIC MFG. CO. LTD.		
		SOUTHERN ELECTRIC		
		NEC		
15.	CABLE LUGS (HEAVY DUTY)	DOWELLS		
		UML ENGINEERS	KOLKATA	
		JAINSON		
16.	PVC POWER CABLES	APAR INDUSTRIES LTD.	MUMBAI	
		CORDS CABLE INDUSTRIES LTD.	NEW DELHI	
		DIAMOND POWER INFRASTRUCTURE LTD	VADODARA	
		GOYOLENE FIBRES (INDIA) PVT.LTD	MUMBAI	





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		GOVIND CABLE INDUSTRIES	KOLKATA	
		GUPTA POWER INFRASTRUCTURE LIMITED	BHUBNESWAR	
		HAVELLS INDIA LIMITED	NOIDA	
		KEI INDUSTRIES LTD.	NEW DELHI	
		KRISHNA ELECTRICAL INDUSTRIES LTD	GWALIOR	
		KEC INTERNATIONAL LIMITED	MUMBAI	
		MANSFIELD CABLES COMPANY LTD.	NOIDA	
		NICCO CORPORATION LTD.	KOLKATA	
		PARAMOUNT COMMUNICATIONS LTD.	NEW DELHI	
		POLYCAB WIRES PVT. LTD.	MUMBAI	
		RADIANT CORPORATION PRIVATE LIMITED	HYDERABAD	
		RAVIN CABLES LIMITED	MUMBAI	
		SUYOG ELECTRICALS LTD.	VADODARA	
		SRIRAM CABLES PVT. LTD.	NEW DELHI	
		SCOT INNOVATION WIRES AND CABLES PVT. LTD.	SOLAN	
		SAM CABLES & CONDUCTORS (P) LTD	UDHAM SINGH NAGAR	
		THERMO CABLES LTD	HYDERABAD	
17.	PVC CONTROL CABLES	ADVANCE CABLE TECHNOLOGIES (P) LTD	BANGALORE	
		APAR INDUSTRIES LTD., CMI LTD	MUMBAI	
		CMI LIMITED	FARIDABAD	
		CORDS CABLE INDUSTRIES LTD	NEW DELHI	
		CRYSTAL CABLE INDUSTRIES LTD	KOLKATA	
		DELTON CABLES LTD	NEW DELHI	
		DIAMOND POWER INFRASTRUCTURE LTD	VADODARA	
		ELKAY TELELINKS LTD	NEW DELHI	
		GEMSCAB INDUSTRIES LTD	NEW DELHI	
		GOVIND CABLE INDUSTRIES	KOLKATA	
		GUPTA POWER INFRASTRUCTURE LIMITED	BHUBNESWAR	
		HAVELLS INDIA LIMITED	NOIDA	





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		INCOM CABLES (P) LTD	NEW DELHI	
		KEI INDUSTRIES LTD	NEW DELHI	
		KRISHNA ELECTRICAL INDUSTRIES LTD	GWALIOR	
		KEC INTERNATIONAL LIMITED	MUMBAI	
		MANSFIELD CABLES COMPANY LTD	NOIDA	
		NICCO CORPORATION LTD	KOLKATA	
		PARAMOUNT COMMUNICATIONS LTD	NEW DELHI	
		POLYCAB WIRES PVT. LTD	MUMBAI	
		RAVIN CABLES LIMITED	MUMBAI	
		SUYOG ELECTRICALS LTD	VADODARA	
		SPECIAL CABLES PVT. LTD	NEW DELHI	
		SCOT INNOVATION WIRES AND CABLES PVT. LTD	SOLAN	
		SAM CABLES & CONDUCTORS (P) LTD	UDHAM SINGH NAGAR	
		SPM POWER & TELECOM PVT. LTD	HYDERABAD	
		TORRENT CABLES LTD	AHMEDABAD	
		THERMO CABLES LTD	HYDERABAD	
		TIRUPATI PLASTOMATICS PVT. LTD	JAIPUR	
		UNIVERSAL CABLES LTD	SATNA	
18.	TRAILING CABLES	NICCO	KOLKATA	
		UNIVERSAL	SATNA	
		INCAB		
		ICL	NEW DELHI	
		APAR INDUSTRIES LTD	MUMBAI	
		CMI LTD	FARIDABAD	
		KEI INDUSTRIES LTD	NEW DELHI	
		SUYOG ELECTRICALS LTD	VADODARA	
19.	XLPE POWER CABLES	APAR INDUSTRIES LTD	MUMBAI	
		CORDS CABLE INDUSTRIES LTD	NEW DELHI	
		CRYSTAL CABLE INDUSTRIES LTD	KOLKATA	
		DIAMOND POWER INFRASTRUCTURE LTD	VADODARA	
		GEMSCAB INDUSTRIES LTD	NEW DELHI	
		GOVIND CABLE INDUSTRIES	KOLKATA	





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		GUPTA POWER INFRASTRUCTURE LIMITED	BHUBNESWAR	
		HAVELLS INDIA LIMITED	NOIDA	
		KEI INDUSTRIES LTD	NEW DELHI	
		KRISHNA ELECTRICAL INDUSTRIES LTD	GWALIOR	
		KEC INTERNATIONAL LIMITED	MUMBAI	
		MANSFIELD CABLES COMPANY LTD	NOIDA	
		PARAMOUNT COMMUNICATIONS LTD	NEW DELHI	
		POLYCAB WIRES PVT. LTD	MUMBAI	
		RAVIN CABLES LIMITED	MUMBAI	
		SUYOG ELECTRICALS LTD	VADODARA	
		SPECIAL CABLES PVT. LTD	NEW DELHI	
		SCOT INNOVATION WIRES AND CABLES PVT. LTD	SOLAN	
		SRIRAM CABLES PVT. LTD	NEW DELHI	
		TORRENT CABLES LTD	AHMEDABAD	
		THERMO CABLES LTD	HYDERABAD	
		TIRUPATI PLASTOMATICS PVT. LTD	JAIPUR	
20.	XLPE CONTROL CABLES	APAR INDUSTRIES LTD	MUMBAI	
		CABLE CORPORATION OF INDIA LTD	MUMBAI	
		CRYSTAL CABLE INDUSTRIES LTD	KOLKATA	
		DIAMOND POWER INFRASTRUCTURE LTD	VADODARA	
		GEMSCAB INDUSTRIES LTD	NEW DELHI	
		HAVELLS INDIA LIMITED	NOIDA	
		KEI INDUSTRIES LTD	NEW DELHI	
		KRISHNA ELECTRICAL INDUSTRIES LTD	GWALIOR	
		KEC INTERNATIONAL LIMITED	MUMBAI	
		PARAMOUNT COMMUNICATIONS LTD	NEW DELHI	
		POLYCAB WIRES PVT. LTD	MUMBAI	
		RADIANT CORPORATION PRIVATE LIMITED	HYDERABAD	
		RAVIN CABLES LIMITED	MUMBAI	
		SUYOG ELECTRICALS LTD	VADODARA	
		SRIRAM CABLES PVT. LTD	NEW DELHI	





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		TORRENT CABLES LTD	AHMEDABAD	
		UNIVERSAL CABLES LTD	SATNA	
21.	CABLE GLAND	COMMET		
		SUNIL&CO		
		ARUP ENGINEERING		
		JAINSON		
		DOWELL		
22.	PUSH BUTTONS	SIEMENS		
		L&T		
		BCH		
		SCHNEIDER		
23.	LIMIT SWITCHES	SPEED-O-CONTROL		
		ELECTROMAG		
24.	PENDENT PUSH BUTTON STATION	OEM		
25.	INDICATING LAMPS	TECKNIC		
		BCH		
		SIEMENS		
		STANDARD		
26.	MCB	MDS		
		INDO COPP		
		STANDARD		
		SIEMENS		
		L&T		
		ABB		
		SCHNEIDER		
27.	PANELS	OEM		
		RITTAL		
		PYROTECH		
28.	RESISTANCE BOXES	ENAPROS		
		OEM		
		SAFEX FIRE SERVICES LTD		
		UNITED FIRE EQUIPMENTS PVT. LTD		
		ZENITH FIRE SERVICES (INDIA) PVT LTD		
29.	VVVF	YASKAWA		
		ABB		
		SIEMENS		
		SCHNIEDER		
		FUJI ELECTRIC		
		MITSUBISHI ELECTRIC		





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		CG POWER & INDUSTRIAL SOLUTIONS LTD		
30.	SHROUDED DSL	SUSHEEL		
		STROMAG		
31.	LOAD CELL	IPA		
		SARTORIUS		
32.	GEAR BOX	OEM		* = Applicable for Geared Motors only
		ELECON ENGINEERS		
		SHANTI GEARS		
		PBL*		
		NAW*		
		NORD*		
		SEW*		
		BONGFILIOLI*		

