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	Sadhana Engineering Corporation Thane Maharashtra	FRP TYPE CABLE TRAYS.	Approved
	Sintex Industries Ltd Kalol Gujarat		Approved
	Spectra Industries Ltd Thane Maharashtra	MS Angles only	Approved
	Steel Authority of India Limited Trichy Tamil Nadu		Approved
UPS	Autometers Alliance Limited Noida Uttar Pradesh	Online UPS from 1 kVA to 250 kVA (Single Phase - 230 V & Three Phase - 415 V)	Credentials to be submitted
LT POWER and CONTROL CABLE ✓	Cords Cable Industries Ltd Alwar Rajasthan	lt pvc(power and control)	Approved
	Delton Cables Ltd. Faridabad Haryana	SCREENED CABLE , HF CABLE	Approved
	Finecab Wires & Cables Pvt Ltd Medak Andhra Pradesh MSME	lt pvc(power and control)	Approved
	Gemscab Industries Limited Alwar Rajasthan	HT XLPE Power cable upto 33 kV	Approved
	Havells India Ltd Alwar Rajasthan	LT PVC XLPE (power and control) & HT XLPE Cables(upto 33kV)	Approved
	KEI Industries Ltd. Bhiwadi Rajasthan	(it ht pvc xlpe & ehv upto 132 kV) power and control	Approved
	Nicco Corporation Ltd 24 Pargana (N) West Bengal	LT HT PVC XLPE (POWER & CONTROL)	Approved
	Paramount Communications Ltd. Rewari Haryana	HT Power cable(up to 33kV)	Approved
	Polycab Wires Pvt Ltd Daman Daman & Diu	LT HT PVC XLPE (POWER & CONTROL)	Approved
	Universal Cables Ltd Satna Madhya Pradesh	LT HT EHV PVC XLPE (power & control)	Approved

ANNEXURE

KTPS-VII-Approved Additional Vendors List for BHEL PEM

Lr.No.CEE/111/KTPS-VII(1X800MW)/Vendors/D.No.139/15, Dt.29.06.2015

PACKAGE CATEGORY = Mech. System Engg				
S.N O	Package Name	S.N O	Vendor Name	TSGENCO REMARKS
1	DEBRIS FILTER	1	GEA BGR ENERGY SYSTEM INDIA LTD.	Approved
		2	Northern Heavy Industries Group Co. Ltd.,China	Not Approved
		3	QINGDAO HUATAI ELECTRIC EQUIPMENT CO. Ltd.	Not Approved
		4	TAPROGGE GMBH	Approved
PACKAGE CATEGORY = Mechanical Auxiliary				
2	WEIGH BRIDGE	1	IPA Private Ltd.,	Approved
		2	TECHNO SCALE INDUSTRIES,	Approved
		3	STATWEIGH INDIA (P) LTD.	Approved
3	OXYGEN DOSING SYSTEM	1	ENPRO INDUSTRIES PVT.LTD.	Approved
		2	MR SYSTEMS	Approved
		3	MPT GMBH	Approved
		4	POWER PIPING COMPANY	Approved
		5	PSI ENGINEERING SYSTEMS (P) LTD.	Approved
		6	Positive Metering Pumps (I) Pvt. Ltd.	Not Approved
		7	Rockwin Flowmeter India Pvt. Ltd.	Approved
		8	SWELORE ENGG. PVT. LTD	Not Approved
		9	TECHNO CONSULTANTS	Approved
		10	TECHNOSTRENGTH PVT. LTD.	Not Approved
		11	V.K PUMP INDUSTRIES PVT LTD	Approved
PACKAGE CATEGORY = Control & Instrumentation				
4	SIGHT FLOW INDICATORS	1	B.K.EQUIPMENTS PVT.LTD.	Approved
		2	BLISS ANAND PVT. LTD.	Approved
		3	FLOWTECH INSTRUMENTS SERVICES	Approved
		4	INSTRUMENTATION ENGINEERS PVT LTD	Approved
		5	SIGMA INSTRUMENTS COMPANY	Already Approved in PC-Aux Boiler
		6	SCIENTIFIC DEVICES (BOMBAY) PVT LTD,	Not Approved
		7	TELACE EQUIPMENT PVT.LTD.	Approved

To be added

ANNEXURE

KTPS-VII - Approved Additional vendor list For BHEL-Hyderabad

Lr.No.CEE/111/KTPS-VII(1X800MW)/Vendors/D.No.139/15, Dt.29.06.2015

11	LUBE OIL PUMP ASSEMBLY(SCREW TYPE) [Pump along with Motor]	DELTA PD PUMPS PVT LTD, Mumbai	Approved
12	EOP Pump(Centrifugal type)	FLOWERVE SANMAR LTD.,Chennai	Approved
		KIRLOSKAR EBARA PUMPS LIMITED, Pune	Approved
		KSB PUMPS LIMITED, Pune	Approved
		SULZER PUMPS INDIA LTD., Chennai	Approved
13	SIMPLEX FILTER	EPE PROCESS FILTERS & ACCUMULATORS, Hyderabad	Approved
		HYDAC TECHNOLOGY GMBH, Germany	Approved
		BOLL & KIRCH FILTERBAU GMBH.,	Approved
		HYDAC (INDIA) PVT. LTD., Maharashtra	Approved
		PALL EUROPE LTD. Great Britain	Approved
		PALL INDIA PVT. LTD.,Mumbai	Not Approved
14	OPEN TYPE TRANSMITTER RACK	KRSNA INDUSTRIES, Hyderabad	Not Approved
		PANAM CONTROLS, Secunderabad	Approved
		NAGARJUNA FABRICATORS, Hyderabad	Approved
		GEM PRESSURE SYSTEMS (INDIA), Secunderabad	Approved
CONTROL & INSTRUMENTATION ITEMS			
1	PRESSURE GAUGES	FORBES MARSHALL (HYD) PVT LIMITED, Hyderabad	APPROVED
		BAUMER TECHNOLOGIES, Mumbai	APPROVED
		GAUGES BOURDON INDIA, Navi Mumbai	APPROVED
		A.N. INSTRUMENTS PVT. LTD.,Chennai	APPROVED
2	DIFFERENTIAL PRESSURE INDICATOR / GAUGES	BAUMER TECHNOLOGIES,Mumbai	APPROVED
		GAUGES BOURDON INDIA, Navi Mumbai	APPROVED
		SWITZER PROCESS INSTRUMENTS, Chennai	APPROVED
3	PRESSURE AND DIFFERENTIAL PRESSURE SWITCHES	GAUGES BOURDON INDIA, Navi Mumbai	APPROVED
4	PR. & DIFF. PR. TRANSMITTERS (ELECTRONIC - SMART)	EMERSON PROCESS MGT (I) PVT LTD, Secunderabad	APPROVED
		ABB LIMITED,Hyderabad	APPROVED
		FUJI ELECTRIC SYSTEMS CO. LTD., ANDHERI (EAST) MUMBAI	APPROVED
		YOKOGAWA INDIA LIMITED, Bangalore	APPROVED
5	HART COMMUNICATOR UNIVERSAL TYPE	EMERSON PROCESS MGT (I) PVT LTD Secunderabad	APPROVED
		ABB LIMITED, Hyderabad	APPROVED
		FUJI ELECTRIC SYSTEMS CO. LTD.,Tokyo	APPROVED
		YOKOGAWA INDIA LIMITED, Bangalore	APPROVED

[Signature]
Chief Engineer/TPC (I/C)

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KTPS-VII - Approved Additional vendor list For BHEL-Hyderabad

Lr.No.CEE/111/KTPS-VII(1X800MW)/Vendors/D.No.139/15, Dt.29.06.2015

6	RESISTANCE TEMPERATURE DETECTORS (RTD & THERMOCOUPLES)	GOA INSTRUMENTS INDUSTRIES	NOT APPROVED
		PYRO ELECTRIC INSTRUMENTS GOA, MAPUSA	APPROVED
		TECHNO INSTRUMENTS, GANDHI NAGAR	NOT APPROVED
		BAUMER TECHNOLOGIES, ANDHERI EAST, MUMBAI	APPROVED
		THERMAL INSTRUMENT INDIA, DIST SINDHUDURG Maharashtra	NOT APPROVED
		TEMPSONS INSTRUMENTS (I) PVT.LTD., UDAIPUR	NOT APPROVED
7	THERMOMETERS (BIMETALLIC)	GOA INSTRUMENTS INDUSTRIES	APPROVED
		ASHCROFT INDIA PVT. LTD-Gujarat, GANDHINAGAR	APPROVED
		NUOVA FIMA SPA	NOT APPROVED
		H.GURU INSTRUMENTS(S.I)PVT.LTD, Bangalore	APPROVED
		BAUMER TECHNOLOGIES, VAPI	APPROVED
		GAUGES BOURDON INDIA, Navi Mumbai	APPROVED
8	THERMOMETERS (GAS FILLED)	ASHCROFT INDIA PVT. LTD.-Gujarat	APPROVED
		H.GURU INSTRUMENTS(S.I)PVT.LTD, Bangalore	APPROVED
		BAUMER TECHNOLOGIES, VAPI	APPROVED
		GAUGES BOURDON INDIA, Navi Mumbai	APPROVED
9	THERMOWELLS	CARLO DYNATECH INDUSTRIES, Patancheru	NOT APPROVED
		GOA INSTRUMENTS INDUSTRIES, Goa	APPROVED
		ASHCROFT INDIA PVT. LTD.-Gujarat	APPROVED
		MICRO PRECISION PRODUCTS (P) LTD., Haryana	NOT APPROVED
		H.GURU INSTRUMENTS(S.I)PVT.LTD, Bangalore	APPROVED
		PRECISION ENGINEERING INDS., Mumbai	APPROVED
		THERMAL INSTRUMENT INDIA, Maharashtra	NOT APPROVED
		TOSHNIWAL INDUSTRIES PVT. LTD., Ajmer	APPROVED
		INDUSTRIAL INSTRUMENTATION, Kolkata	APPROVED
10	TEMPERATURE TRANSMITTER	EMERSON PROCESS MGT (I) PVT LTD	APPROVED
		ABB LIMITED, HYD	APPROVED
		YOKOGAWA INDIA LIMITED, Bangalore	APPROVED
		MOORE CONTROLS PVT LTD.Pune	NOT APPROVED

[Signature]
29/6/15
Chief Engineer/TPC (I/C)

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KTPS-VII - Approved Additional vendor list For BHEL-Hyderabad

Lr.No.CEE/111/KTPS-VII(1X800MW)/Vendors/D.No.139/15, Dt.29.06.2015

11	LIQUID LEVEL GAUGES	BLISS ANAND PVT. LTD.,Haryana	NOT APPROVED
		CESARE BONETTI S.P.A, Milano	APPROVED
		PRATOLINA INSTRUMENTS PVT.LTD., Mumbai	NOT APPROVED
		CHEMTROLS SAMIL (I) PVT. LTD.Mumbai	APPROVED
		NISAN SCIENTIFIC PROCESS, Mumbai	APPROVED
		GAUGES BOURDON INDIA, Mumbai	APPROVED
		ASIAN INDUSTRIAL VALVES AND, Chennai	NOT APPROVED
		LEVCON INSTRUMENTS(P) LTD, Kolkata	APPROVED
12	GUIDED WAVE RADAR LEVEL TRANSMITTER	MAGNETROL INTERNATIONAL N.V.	APPROVED
		ABB LIMITED, NASHIK	APPROVED
		PUNE TECHTROL PVT LTD, Pune	APPROVED
		SAAB ROSEMOUNT TANK GUAGING, Pune	APPROVED
13	LUBE OIL CONTROL VALVE (SELF REGULATING TYPE)	SAMSON AG MESS- UND REGELTECHNIK	APPROVED
		NUOVO PIGNONE SRL.BARI	APPROVED
		SAMSON CONTROLS PVT LTD.,PUNE	APPROVED
		EMERSON PROCESS MANAGEMENT, Chennai	APPROVED
14	CONTROL VALVES (PNEUMATIC ACTUATED)	INSTRUMENTATION LTD, Palakakd	APPROVED
		KOSO FLUID CONTROLS PVT. LTD.-Palakkad	APPROVED
		EMERSON PROCESS MANAGEMENT, Chennai	APPROVED
		SEVERN GLOCON INDIA, Chennai	APPROVED
15	AIR FILTER REGULATORS	VELJAN HYDRAIR PVT. LTD. Hyderabad	APPROVED
		ABB LIMITED, Hyderabad	APPROVED
		J R U CONTROL PVT LTD., Chennai	NOT APPROVED
16	SAFETY RELIEF VALVES	BHEL-HPBP-TRICHY	APPROVED
17	DC STARTER CUBICLES	LARSEN & TOUBRO LIMITED, Hyderabad	APPROVED
		C AND S ELECTRIC LIMITED, New Delhi	Credentials shall be furnished.
		INDUSTRIAL CONTROLS &, Mumbai	Credentials shall be furnished.
18	FRP JUNCTION BOXES	BALIGA LIGHTING EQUIPMENT PVT. LTD., Chennai	APPROVED
		DEVI POLYMERS PVT. LTD., Chennai	APPROVED
		HENSEL ELECTRIC INDIA PVT. LTD., Chennai	APPROVED
<u>PULVERIZERS</u>			
1	KNIFE GATE VALVE & ACCESSORIES	ASHWATHI CONTROLS PVT. LTD. AHEMDABAD	Approved
		GENERAL ENGINEERING CONSORTIUM, BANGALORE	Approved
		M/s. Bray Controls India Private Limited- Chennai	Approved
		BACHMANN INDUSTRIES INDIA LTD.	Approved

[Signature]
 Chief Engineer/TPC(II/C)

ANNEXURE

KTPS-VII (1x800 MW)- Approved Additional Vendor list for BHEL-TBG
Lr.No.CEE/111/KTPS-VII(1X800MW)/Vendors/D.No.139/15, Dt.29.06.2015

S. No.	Material	BHEL PROPOSED SUPPLIER	TSGENCO REMARKS
1	400kV CURRENT TRANSFORMER	BHEL,BHOPAL	Approved
2	400kV CAPACITIVE VOLTAGE TRANSFORMER	BHEL,BHOPAL	Approved
3	SUBSTATION AUTOMATION SYSTEM	BHEL,BHOPAL	Approved
4	CONTROL & PROTECTION PANEL	BHEL,BHOPAL	Approved
5	DISC INSULATORS & HARDWARES	BHEL,EPD,BANGALORE	Approved
6	AIR CONDITIONING EQUIPMENT ✓	Acrovent Systems Pvt. Ltd. Kolkata West Bengal	Not Approved
		C.DOCTOR & COMPANY PVT LTD Kolkata West Bengal	Not Approved
		Comfort Systems New Delhi Delhi	Not Approved
		Fedders Lloyd Corporation Ltd Noida Uttar Pradesh	Approved
		Frick India Ltd Faridabad Haryana	Not Approved
		Sterling & Wilson Ltd. Kolkata West Bengal	Not Approved
7	ALUMINUM TUBE	Alom Extrusions Kolkata West Bengal	Not Approved
		M/s Alom Extrusions Ltd. Balasore Orissa	Not Approved
		Sudal Industries Ltd Nashik Maharashtra	Not Approved
8	Battery Charger ✓	CHLORIDE POWER SYSTEMS & SOLUTIONS LTD Kolkata West Bengal	Not Approved
		Danish Pvt. Ltd. Jaipur Rajasthan	Not Approved
		Dubas Engineering Pvt Ltd Bangalore Karnataka	Not Approved
		Servilink Engineers Pvt Ltd Vadodara Gujarat	Not Approved
		Signotron (India) Pvt. Ltd. Kolkata West Bengal	Not Approved
9	LT CABLE ✓ Power	Bruggs Kable Ag	Not Approved
		Cable Corporation of India Ltd. Nashik Maharashtra	Not Approved
		Chandresh Cables Ltd Gandhi Nagar Gujarat	Not Approved
		Diamond Power Infrastructure Limited Vadodara Gujarat	Not Approved
		Gem Cables & Conductors Ltd Medak Andhra Pradesh ✓	Approved
		Gemscab Industries Ltd Alwar Rajasthan ✓	Approved
		Goyolene Fibers (India) Pvt Ltd Mumbai Daman & Diu	Not Approved
		Gupta Power Infrastructure Limited Kashipur Uttarakhandl	Not Approved

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KTPS-VII (1x800 MW)- Approved Additional Vendor list for BHEL-TBG
Lr.No.CEE/111/KTPS-VII(1X800MW)/Vendors/D.No.139/15, Dt.29.06.2015

S. No.	Material	BHEL PROPOSED SUPPLIER	TSGENCO REMARKS
18	ILLUMINATION EQUIPMENT <i>Station Light System</i>	Avaid's Technovators Pvt Ltd New Delhi	Approved
		Mika Engineers Thane Maharashtra	Approved
		Square A Enterprises Secunderabad Andhra Pradesh	Not Approved
19	400kV ISOLATOR	Bimco Isolators Ltd Medak Andhra Pradesh	Not Approved
		Digivision Electronics Ltd. Chennai Tamil Nadu	Not Approved
		M/s Elektrolites (Power) Pvt. Ltd. Jaipur Rajasthan	Not Approved
		GR Power Switchgear Ltd Hyderabad Telangana	Approved
		Switchgears & Structurals (India) Pvt Ltd Hyderabad Telangana	Approved
20	MARSHALLING KIOSK/JUNCTION BOX	Anand Power Ltd Noida Uttar Pradesh	Not Approved
		BCH Electric Limited Faridabad Haryana	Not Approved
		Bose Engineering (India) Pvt. Ltd. Kolkata West Bengal	Not Approved
		Danish Pvt. Ltd. Jaipur Rajasthan	Not Approved
		Enterprising Engineers Bhopal Madhya Pradesh	Not Approved
		Industries Syndicate Kolkata West Bengal	Not Approved
		Jakson Engineers Limited Noida Uttar Pradesh	Approved
		Jasper Engineers Pvt. Ltd. Noida Uttar Pradesh	Approved
		Kmg Atoz Systems Pvt Ltd Noida Uttar Pradesh	Not Approved
		Maktel Control & Systems Pvt. Ltd. Vadodara Gujarat	Not Approved
		Mika Engineers Thane Maharashtra	Not Approved
		Nitya Electrocontrols Pvt. Ltd. Noida Uttar Pradesh	Approved
		Popular Switchgears Pvt Ltd Nashik Maharashtra	Not Approved
		RSI Switchgear Private Limited Bhiwadi Rajasthan	Not Approved
		RST Electricals Pvt. Ltd. Sahibabad Uttar Pradesh	Not Approved
		Samcon Industrial Controls Pvt. Ltd. Thane Maharashtra	Not Approved
		Spaceage Switchgears Ltd Gurgaon Haryana	Not Approved
		Ultima Switchgears Limited Roorkee Uttarakhand	Not Approved
		Unilec Engineers Ltd Gurgaon Haryana	Not Approved
		Vikas Power Equipments Pvt. Ltd. Lucknow Uttar Pradesh	Not Approved
		Vimac Electro Controls Pvt Ltd Mumbai Maharashtra	Not Approved

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ANNEXURE

KTPS -VII - Approved Additional Vendors List for BHEL Trichy

Lr.No.CEE/111/KTPS-VII(1X800MW)/Vendors/D.No.139/15, Dt.29.06.2015

SI No	Material Description	SI No	Vendor Name	COUNTRY	TSGENCO Remarks
7	FLAME SCANNER HEAD ASSEMBLY	1	ALLZ FLEX ENGINEERS	India	Approved
		2	ESSEN INSTRUMENTATION &	India	Approved
		3	NIRMAL ENGINEERING WORKS	India	Approved
		4	PRAMMEN INDUSTRIES,	India	Approved
		5	VERATRONIKS		Not Approved
		6	TSRM QUALITY ENGINEERING INDUSTRIES	India	Approved
8	FLAME SCAN. HEAD ELECT	1	ADVANCED ELECTRONIC SYSTEMS	India	Approved
		2	EM ELECTRONIX P.LTD.	India	Approved
		3	SYSTEM AIDS	India	Approved
		4	VASANTHA ADVANCED SYSTEMS	India	Approved
		5	VERATRONIKS	India	Not Approved
9	STARTER/CNTRL BOXES:	1	BALAJI ELECTRO CONTROLS PVT.LTD.,	India	Not Approved
		2	H GURU INSTRUMENTS (SI) P.LTD.		Credentials shall be submitted
		3	CHEMIN CONTROLS AND	India	Credentials shall be submitted
		4	DYNASPEDE INTEGRATED SYSTEMS	India	Credentials shall be submitted
		5	PRAMMEN INDUSTRIES,	India	Credentials shall be submitted
		6	SAJAS ELECTRICALS,	India	Credentials shall be submitted
		7	SHIBSHA INSTRUMENTS(INDIA)P.LTD.,	India	Credentials shall be submitted
		8	VENKAT ELECTRONICS,	India	Credentials shall be submitted
		9	VRL AUTOMATION ENGINEERING & PROJE	India	Credentials shall be submitted
10	PANELS:MCC/PCC	1	ELECTRO PORCELAIN DIVN.	India	Approved
		2	INDUSTRIAL SWITCHGEAR & CONTROLS	India	Not Approved
		3	UNILEC ENGINEERS LIMITED,	India	Not Approved
11	CCTV SYSTEM	1	DIAMOND POWER SWEDEN AB,	Sweden	Approved
		2	MIRION TECHNOLOGIES (IST) LTD.,	United Kingdom	Approved
		3	TLT ENGG.INDIA PVT.LTD.,	India	Approved
		4	TOSHNIWAL INDUSTRIES PVT.LTD.,	India	Approved
12	GFC MODULES	1	ANJANA ELECTRONICS PVT LTD.,	India	Not Approved
		2	EM ELECTRONIX P.LTD.	India	Not Approved
		3	VASANTHA ADVANCED SYSTEMS	India	Not Approved
		4	VERATRONIKS	India	Not Approved
13	FLAME SCANNER MODULE	1	EM ELECTRONIX P.LTD.	India	Not Approved
		2	VERATRONIKS	India	Not Approved
14	SDE:SWITCH:ERV PR.SW	1	BARSDALE GMBH	Germany	Approved
15	FLOW NOZZLES	1	ENGINEERING SPECIALITIES PVT LTD.,	India	Not Approved
16	GAUGES:DP GAUGES	1	A.N.INSTRUMENTS PVT. LIMITED,	India	Approved
		2	GENERAL INSTRUMENTS CONSORTIUM	India	Approved
		3	H GURU INSTRUMENTS(SI) P.LTD.,	India	Approved
		4	SWITZER INSTRUMENT LTD.,	India	Approved
		5	WIKA INSTRUMENTS INDIA PVT.LTD	India	Approved
17	GAUGES:PRESSURE GAUGE	1	BAUMER TECHNOLOGIES INDIA PVT.LTD,	India	Approved
		2	BUDENBERG GAUGE CO LTD.,	United Kingdom	Approved
		3	GENERAL INSTRUMENTS CONSORTIUM	India	Approved
		4	MANOMETER (INDIA) PVT.LTD.,	India	Not Approved
		5	WIKA INSTRUMENTS INDIA PVT.LTD	India	Approved
18	GAUGES:TEMPERATURE GAUGE	1	BAUMER TECHNOLOGIES INDIA PVT.LTD,	India	Approved
		2	GOA INSTRUMENT INDUSTRIES PVT LTD.	India	Approved
		3	H GURU INSTRUMENTS(SI) P.LTD.,	India	Approved
19	LOCAL INSTRUMENT ENC	1	SAJAS ELECTRICALS,	India	Not Approved
20	ELEVATOR-PASSENGER & LOAD	1	KONE ELEVATOR INDIA PVT.LTD.,	India	Approved
		2	OTIS ELEVATOR CO INDIA LTD.,	India	Approved
21	LOCAL INSTRUMENT RAC	1	SAJAS ELECTRICALS,	India	Not Approved
		2	SYSPRO AUTOMATION	India	Not Approved

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KTPS -VII - Approved Additional Vendors List for BHEL Trichy
Lr.No.CEE/111/KTPS-VII(1X800MW)/Vendors/D.No.139/15, Dt.29.06.2015

SI No	Material Description	SI No	Vendor Name	COUNTRY	TSGENCO Remarks
22	SDE:MTM.THERMOCOUPLE	1	ALTOP INDUSTRIES LTD.,	India	Approved
		2	DETRIV INSTRUMENTATION &	India	Approved
		3	EXOTHERM INSTRUMENTS,	India	Not Approved
		4	GENERAL INSTRUMENTS CONSORTIUM,	India	Approved
		5	PYRO ELECTRIC CABLES AND	India	Approved
		6	TECHNO INSTRUMENTS,	India	Approved
		7	TEMPSENS INSTRUMENTS (I) PVT.LTD.,	India	Approved
23	ASH LEVEL SWITCH	1	EIP BULK CONTROLS PVT.LTD	India	Approved
		2	EIP ENVIRO LEVEL CONTROLS,	India	Approved
		3	NIVO CONTROLS,	India	Approved
24	SWITCHES:SB FLOW	1	JOST'S ENGINEERING COMPANY LTD	India	Approved
		2	SUNAG CORPORATION,	USA	Approved
25	XLPE LT POWER CABLE	1	ASSOCIATED CABLES PVT LTD	India	Not Approved
		2	BICC CABLES LIMITED	United Kingdom	Not Approved
		3	BRIMSON CABLES PVT.LTD.,	India	Not Approved
		4	ELKAY TELELINKS LIMITED,	India	Not Approved
		5	GEMSCAB INDUSTRIES LTD.,	India	Approved
		6	GOVIND CABLE INDUSTRIES,	India	Not Approved
		7	GUPTA POWER INFRASTRUCTURE LTD	India	Not Approved
		8	KEC INTERNATIONAL LIMITED,	India	Not Approved
		9	MANOJ CABLES LIMITED.	India	Not Approved
		10	MANSFIELD CABLE COMPANY LTD.	India	Not Approved
		11	PARAMOUNT COMMUNICATION LTD,	India	Approved
		12	PRESTIGE CABLE INDUSTRIES	India	Not Approved
		13	SARK CABLES PVT.LTD.,	India	Not Approved
		14	SCOT INNOVATION WIRES & CABLES	India	Not Approved
		15	SERVEL UDYOG (P) LTD.,	India	Not Approved
		16	SPECIAL CABLES PVT LTD	India	Not Approved
		17	THERMOCABLES LIMITED,	India	Approved
		18	UNIFLEX CABLES LIMITED,	India	Not Approved
26	MOTORS:L.T.MOTORS:WP	1	KIRLOSKAR ELECTRIC CO.LTD.	India	Approved
		2	LAXMI HYDRAULICS PVT.LTD.,	India	Approved
		3	MARATHON ELECTRIC MOTORS (INDIA) LT	India	Not Approved
		4	PRECISION ENGINEERING WORKS,	India	Not Approved
27	SDE:PR&DP SWITCHES	1	INDFOS INDUSTRIES PVT.LTD.	India	Approved
		2	REGULATEURS GEORGIN	France	Not Approved
		3	SHERMAN SALES & SERVICES P. LTD.,	India	Approved
		4	SOR EUROPE LIMITED,	United Kingdom	Not Approved
		5	SOR INC	USA	Not Approved
		6	TRAFAG CONTROLS INDIA P. LTD		Not Approved
28	CONTROL VALVE :HP	1	CONTROL COMPONENT INDIA PVT LTD	India	Not Approved
		2	CONTROL COMPONENTS Inc. AG	Switzerland	Not Approved
		3	FLOWSERVE INDIA CONTROLS PVT.LTD	India	Approved
		4	SPX FLOW TECHNOLOGY(INDIA)PVT.LTD.,	India	Not Approved
		5	SPX FLOW TECHNOLOGY.	USA	Not Approved
29	HIGH PR. STARTUP SCV	1	CONTROL COMPONENT INDIA PVT LTD	India	Not Approved
		2	CONTROL COMPONENTS Inc. AG	Switzerland	Approved
		3	KOSO INDIA PRIVATE LIMITED.	India	Not Approved
30	INSLN:WOOLMATTRESS	1	GOENKA ROCKWOOL (INDIA) PVT LTD.,	India	Approved
		2	LAPINIS ROCKWOOL (I) P. LTD		Not Approved
		3	JAMSHEDPUR MINERAL WOOL MFG.CO.,	India	Approved
		4	MINWOOL ROCK FIBRES LTD	India	Approved
		5	POLYBOND INSULATION PVT.LTD.,	India	Approved
		6	PUNJSTAR INSULATION FIBRE	India	Approved
		7	SHREERAM EQUITECH PVT. LTD.,	India	Approved
		8	THERMOCARE ROCKWOOL (I) PVT. LTD.	India	Approved

ANNEXURE

KTPS - VII - Additional Vendors List for BHEL Trichy Valves
Lr.No.CEE/111/KTPS-VII(1X800MW)/Vendors/D.No.139/15, Dt.29.06.2015

Sl No	Material Description	Sl No	Vendor Name	Remarks
1	EXTRACTION LINE NRVs (QVNRV/CRHNRV)			
a.	SOLENOID VALVE	1	U.V.INTERNATIONAL, CHENNAI	Not Approved
b.	LIMIT SWITCH	1	JAI BALAJI CONTROL GEARS PVT.	Not Approved
		2	CONTROL AND AUTOMATION SYSTEMS	Approved
		3	IFM ELECTRONICS INDIA PVT LTD	Approved
		4	APA AUTOMATION	Approved
c.	OIL/AIR CYLINDER	1	IYAPPAN ENGG INDUSTRIES PVT, LTD.	Not Approved
		2	FLOWSERVE INDIA CONTROLS	Approved
		3	Bray Controls India Private Limited	Not Approved
		4	DIVYA ENCO.	Approved
d.	POSITION TRANSMITTER	1	RL TECHNOLOGIES PVT. LTD.	Approved
		2	IYAPPAN ENGG INDUSTRIES PVT, LTD.	Not Approved
		3	MASS ELECTRONIC SYSTEM	Approved
		4	RMG ELECTROMECH PVT.LTD.	Approved
e.	AIR FILTER	1	VELJAN HYDRAIR LIMITED	Approved
		2	NUCON INDUSTRIES PVT.LTD.	Approved
		3	SAGA INDUSTRIES	NOT Approved

[Signature]
 Chief Engineer/TPC (I/C)

ANNEXURE

KTPS-VII(1x800MW) - Approved Additional Vendor List for BHEL Bhopal Lr.No.CEE/111/KTPS-VII(1X800MW)/Vendors/D.No.139/15, Dt.29.06.2015

S.NO	ITEM	S.NO	BHEL PROPOSED VENDOR	TSGENCO REMARKS
4	FLAME ARRESTORS	1	PROCESS INSTRUMENTS, DELHI	APPROVED
		2	ASIAN INDUSTRIAL VALVES, CHENNAI	APPROVED
		3	MULTITEX FILTERS PVT LTD, NEW DELHI	NOT APPROVED
5	ACTUATORS	1	ROTORK CONTROL INDIA LTD, CHENNAI	Already Approved in old vendor list (For Trichy & For BHEL-ISG)
		2	AUMA INDIA, BANGALORE	Already Approved in old vendor list (For Trichy & For BHEL-ISG)
6	SELF LUBRICATING BEARING TUBES (FOR BF VALVES)	1	TEN MAT LTD(FERO FROM T-814 TUBES), U.K	APPROVED
		2	THORDON (THORPLAS TUBES), CANADA	APPROVED
7	TEMPERATURE GAUGES / DIAL THERMOMETERS WITH THERMOWELL	1	B. C TECHNOMATION PVT LTD, BHOPAL	NOT APPROVED
		2	NEW SCIENTIFIC REPAIRS TRADING CO., KOLKATA	APPROVED
		3	PRESSURE & TEMP. CONTROLS, KOLKATA	APPROVED
		4	A. N INSTRUMENTS PVT LTD, KOLKATA	APPROVED
		5	PROFESSIONAL MARKETING SERVICE, BHOPAL	NOT APPROVED
		6	GENERAL INSTRUMENTS CONSORTIUM, MUMBAI	APPROVED
		7	SATURN ENGG. SERVICES, INDORE	NOT APPROVED
		8	BAUMER TECHNOLOGIES INDIA PVT LTD, MUMBAI	APPROVED
		9	LORDS ELECTIC CO., BHOPAL	NOT APPROVED
		10	DETRIV INSTRUMENTATION & ELECTRONIC LTD, MUMBAI	APPROVED
8	LIQUID LEVEL GAUGES	1	LEVCON INSTRUMENTS PVT LTD, KOLKATA	APPROVED
		2	V. AUTOMAT & INSTRUMENTS PVT LTD INDIA, NEW DELHI	APPROVED
		3	GENERAL INSTRUMENTS CONSORTIUM, MUMBAI	APPROVED
		4	ASIAN INDUSTRIAL VALVES, CHENNAI	NOT APPROVED
		5	PROFESSIONAL MARKETING SERVICE, BHOPAL	NOT APPROVED
9	VALVES (GATE, GLOBE, NEEDLE, ETC.)	1	LEADER VALVES LTD, JALANDHAR	APPROVED
		2	KRISHNA ENGG. CO., BHOPAL	NOT APPROVED
		3	BHEL, TIRUCHIRAPALLI	APPROVED
		4	NITON VALVES INDUSTRIES PVT LTD, MUMBAI	NOT APPROVED
		5	PROFESSIONAL MARKETING SERVICE, BHOPAL	NOT APPROVED
		6	LEVCON VALVES PVT LTD, KOLKATA	APPROVED
		7	FLOTEK INDUSTRIES	NOT APPROVED
		8	STEELSTRONG VALVES(I) PVT.LTD.	NOT APPROVED
		9	PANDA TECHNOLOGIES INDIA PVT LTD, BHOPAL	APPROVED
		10	WEIR BDK VALVES, A UNIT OF WEIR ENGG. SERVICES INDIA PVT LTD, HUBLI	APPROVED

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APPROVED VENDOR LIST BY TSGENCO**BHOPAL (MM DEPARTMENT)**

SI No	ITEM	Approved sub-supplier	TSGENCO REMARKS
1	PRESSURE GUAGE	MANOMETER (INDIA)PVT LTD	Approved
2	TEMPERATURE SCANNERS	Chino Corporation India Pvt Ltd	Approved
		Eurotherm Del India Ltd	Approved
		Masibus Automation & Instruments (P) Ltd	Approved
3	RECORDERS	Chino Corporation India Pvt Ltd	Approved
		Eurotherm Del India Ltd	Approved
		YOKOGAWA INDIA LIMITED	Approved
4	THERMOSTAT	1.TOSHINIWAL BROS.(PVT) LTD	Approved
		2.TOSHINIWAL INDUSTRIES (P) LTD	Approved
5	TRANSDUCERS	AUTOMATIC ELECTRIC LTD	Approved
		PYROTECH ELECTRONICS PVT LTD	Approved
6	BATTERY CHARGER/POWER PACK	Exide Industries Ltd New Delhi Delhi	Approved
		Exide plante	Approved
7	OUTDOOR PT/CT (HT)	1.ELECTRICAL CONTROLS & SYSTEMS	Approved
		2.PARAS POWER ENGG PVT LTD	Approved
		3.PRAGATI ELECTRICALS PVT.LTD	Approved
		4.SILKAANS ELECT.MFG.CO.PVT.LTD	Approved
8	(INDOOR) CT/PT,CBCT,AUX.CT/PT(ICT)	1.ELECTRICAL CONTROLS & SYSTEMS	Approved
		2.PARAS POWER ENGG PVT LTD	Approved
		3.PRAGATI ELECTRICALS PVT.LTD	Approved
		4.SILKAANS ELECT.MFG.CO.PVT.LTD	Approved
9	WITHDRAWABLE PT(HT)/BVM DESIGN	1. ELECTRICAL CONTROLS &SYSTEMS	Approved
		2. PRAGATHI ELECTRICALS PVT.LTD	Approved
10	LAMP/CFL/LAMP/HOLDER(PHILIPS/BAJAJ/CROMPTON/HAVELL/WIPRO	1. AUTOMATION AND GENERAL ELECTRIC CO.	Approved
		2. NAHAR ENTERPRISES	Approved
		3. OSHIV ENGINEERS	Approved
		4. VIKAS AGENCIES	Approved
11	SPACE HEATER	1. APT CONTROLS AND APPLIANCES PVT.	Approved
		2. PRAVEEN ELECTRONICS	Approved
		3. RASHEE CONTROL EQUIPMENTS PVT LTD	Approved
12	MOTOR	1. AGNI MOTORS	Approved
		2. KULKARNI POWER TOOLS LTD.	Approved
13	LIMIT SWITCH (MOTOR CUT OFF)	1. ARIHANT ELECTRICALS	Approved
		2. MEYER INDUSTRIE- ELECTRONIC GMBH	Approved
		3.SIEMENS AG	Approved
14	AUX. SWITCHES (GIS & MVN)	1. I-MAX	Approved
15	CONTROL/SELECTOR SWITCHES (FOR INDOOR SWGR APPLICATION FOR POWER PLANTS)	1. ELECTRONIC APPLIYANCES	Approved
		2. KAYCEE INDUSTRIES LTD.	Approved
		3. LARSEN & TOUBRO LTD.	Approved
		4. OSHIV ENGINEERS.	Approved

5	81JUB	JUNCTION BOXES	CHEMIN CONTROLS AND	PONDICHERY	Approved
			CREATIVE INSTRUMENTS & CONTROLS	BANGALORE	Approved
			INFO CONTROL SYSTEMS INC.,	BANGALORE	Approved
			MANISHA COMPOSITEKS PVT LTD	PUNE.	Approved
			PRAMMEN INDUSTRIES,	PUDUKOTTAI	Approved
			SAJAS ELECTRICALS,	TRICHY	Approved
			SHIBSHA INSTRUMENTS(INDIA)P.LTD.,	CHENNAI	Approved
6	81LLG	LEVEL GAUGES	SUCHITRA INDUSTRIES	BANGALORE	Approved
			CHEMTROLS SAMIL (INDIA) P.LTD.	MUMBAI	Approved
					Approved
			D.K.INSTRUMENTS PVT. LTD.	KOLKATA	Approved
			GENERAL INSTRUMENTS CONSORTIUM,	CHENNAI	Approved
7	81LLS	LEVEL SWITCHES	LEVCON INSTRUMENTS PVT.LIMITED	KOLKATTA	Approved
			AUTOMAT & INSTRUMENTS P.LTD.	NEW DELHI	Approved
					Approved
			CHEMTROLS SAMIL (INDIA) P.LTD.	MUMBAI	Approved
					Approved
			D.K.INSTRUMENTS PVT. LTD.	KOLKATA	Approved
			GENERAL INSTRUMENTS CONSORTIUM,	CHENNAI	Approved
8	81LRB	INSLN:WOOLMATTRE SS/R	LEVCON INSTRUMENTS PVT.LIMITED	KOLKATTA	Approved
			SBEM PVT LTD	PUNE	Approved
			SIGMA INSTRUMENTS COMPANY	MUMBAI	Approved
			V.AUTOMAT & INSTRUMENTS P.LTD.	NEW DELHI	Approved
			LLOYD ROCKFIBRES LTD,	WALUJ	Approved
			MINWOOL ROCK FIBRES LTD	HYDERABAD	Approved
					Approved
9	81PRG	PRESSURE GAUGES	ROCKWOOL (INDIA) LTD.,	HYDERABAD	Approved
			A.N.INSTRUMENTS PVT. LIMITED,	KOLKATA	Approved
			ASHCROFT INDIA PVT. LTD,	GUJARAT	Approved
					Approved
			BUDENBERG GAUGE CO LTD.,	United Kingdom	Approved
					Approved
			FORBES MARSHALL PRIVATE LIMITED	PUNE. MAHARAstra	Approved
					Approved
			GENERAL INSTRUMENTS CONSORTIUM,	CHENNAI	Approved
					Approved
			GOA THERMOSTATIC INSTRUMENTS PVT. L	GOA	Approved
10	81PRS	PRESSURE SWITCHES	BANGALORE	BANGALORE	Approved
			H GURU INSTRUMENTS(SI) P.LTD.,		Approved
			MANOMETER (INDIA) PVT.LTD.,	CHENNAI	Approved
			WIKA ALEXANDER WIEGAND GMBH & CO.	GERMANY.	Approved
			WIKA INSTRUMENTS INDIA PVT.LTD	PUNE	Approved
			ASHCROFT INDIA PVT. LTD,	GUJARAT	Approved
			DELTA CONTROLS LIMITED	United Kingdom	Approved
			GENERAL INSTRUMENTS CONSORTIUM,	CHENNAI	Approved
					Approved
			INDFOS INDUSTRIES PVT.LTD.	CHENNAI.	Approved
			KDG INSTRUMENTS LTD.	United Kingdom	Approved

Signature
3/4/13

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11	81SFI	SIGHT FLOW INDICATOR	SOR INC	USA	Approved
			SWITZER INSTRUMENT LTD	CHENNAI	Approved
			TRAFAG CONTROLS INDIA PVT LTD	GURGAON.	Approved
			WIKA ALEXANDER WIEGAND GMBH & CO.	GERMANY.	Approved
			CHEMTROLS SAMIL (INDIA) P.LTD.	MUMBAI	Approved
			D.K.INSTRUMENTS PVT. LTD.	KOLKATA	Approved
			LEVCON INSTRUMENTS PVT.LIMITED	KOLKATTA	Approved
			SIGMA INSTRUMENTS COMPANY	MUMBAI	Approved
12	81TEG	TEMPERATURE GAUGE	V.AUTOMAT & INSTRUMENTS P.LTD.	NEW DELHI	Approved
			A.N.INSTRUMENTS PVT. LIMITED.	KOLKATA	Approved
			ASHCROFT INDIA PVT. LTD.	GUJARAT	Approved
			BUDENBERG GAUGE CO LTD.,	United Kingdom	Approved
			FORBES MARSHALL PRIVATE LIMITED	PUNE.	Approved
			GENERAL INSTRUMENTS CONSORTIUM,	MAHARASTRA	Approved
				CHENNAI	Approved
			GOA INSTRUMENT INDUSTRIES PVT LTD.	GOA	Approved
13	81THW	THERMOWELL		GOA	Approved
			GOA THERMOSTATIC INSTRUMENTS PVT. L	GOA	Approved
			H GURU INSTRUMENTS(SI) P.LTD.,	BANGALORE	Approved
				GOA	Approved
			PYRO ELECTRIC INSTRUMENTS GOA P LTD		Approved
			DETRIV INSTRUMENTATION &	MUMBAI	Approved
			GENERAL INSTRUMENTS CONSORTIUM,	CHENNAI	Approved
			GOA INSTRUMENT INDUSTRIES PVT LTD.	GOA	Approved
14	FLEFN	FLOW NOZZLE ASSEMBLY	PYRO ELECTRIC INSTRUMENTS GOA P LTD	GOA	Approved
			ASIAN INDUSTRIAL VALVES AND INSTRUM	CHENNAI	Approved
			BOPP & REUTHER HEINRICHS MESSTECHNI	Germany	Approved
			HYDRO PNEUMATICS PVT LTD	GOA.	Approved
			INSTRUMENTATION LTD.,	KERALA	Approved
			MICRO PRECISION PRODUCTS (P) LTD,	FARIDABAD	Approved
			TECHNOMATIC	Italy	Approved
			BHARAT ALUMINIUM CO.LTD.,	BANGALORE	Approved
15	PCASH	ALUMINIUM SHEET :PLA	HINDALCO INDUSTRIES LTD.,	CHENNAI	Approved
			JINDAL ALUMINIUM LIMITED	BANGALORE.	Approved
			NATIONAL ALUMINIUM CO. LTD.,	CHENNAI	Approved



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BHEL TRICHY
TSGENCO-1x800 MW Kothagudem TPS
 Approved Vendor List for Bought-Out Items

Sl No	Item	Vendor	Place/ Country	Remarks
1	BLOCK VALVE	AVCON CONTROLS PVT.LTD.,	India	Approved
		DRESSER VALVE INDIA PRIVATE LTD.,	India	Approved
		INSTRUMENTATION LTD.,	India	Approved
		MIL CONTROLS LIMITED	India	Approved
		SAMSON CONTROLS PRIVATE LIMITED	India	Approved
2	CONTROL VALVE ✓	CONTROL COMPONENTS INC	USA	Approved
		DRESSER PRODUITS INDUSTRIELS S.A.S	France	Approved
		DRESSER VALVE INDIA PRIVATE LTD.,	India	Approved
		Fisher Sanmar Limited	India	Approved
		FLOWERVE INDIA CONTROLS PVT.LTD.,	India	Approved
		INSTRUMENTATION LTD.,	India	Approved
		KOSO INDIA PRIVATE LIMITED.	India	Approved
		KOSO INDIA PVT LTD	India	Approved
3	INSULATION: CASTABLE REFRACTORY	MIL CONTROLS LIMITED	India	Approved
		ABS REFRACTORIES PVT.LTD.,	India	Approved
		BHASKAR REFRACTORIES&SW PIPES P LTD	India	Approved
		CALDERYS INDIA REFRACTORIES LTD.,	India	Approved
		CASTWEL INDUSTRIES	India	Approved
		DALMIA REFRACTORIES LIMITED	India	Approved
		INDUSTRIAL ASSOCIATES,	India	Approved
		MAHAKOSHAL REFRACTORIES PVT. LTD,	India	Approved
		SHARADAA CERAMICS PVT.LTD	India	Approved
		SOUVENIOR CERAMICS	India	Approved
4	INSULATION: WOOL MATTRESS ✓	VISHVA VISHAL ENGINEERING LTD.,	India	Approved
		VISHWAKARMA REFRACTORIS PRIVATE	India	Approved
		LLOYD ROCKFIBRES LTD,	India	Approved
5	INSULATION: POURABLE	ROCKWOOL (INDIA) LTD.,	India	Approved
		ROCKWOOL INDUSTRIES	India	Approved
		BHASKAR REFRACTORIES&SW PIPES P LTD	India	Approved
6	HEA IGNITOR ASSY	DALMIA REFRACTORIES LIMITED	India	Approved
		DURAG INDIA INSTRUMENTATION PVT. L	India	Approved
		FIVES COMBUSTION SYSTEMS PVT. LTD	India	Approved
		HAMWORTHY COMBUSTION ENGINEERING LT	United Kingdom	Approved
		UNISON INDUSTRIES,	USA	Approved
7	SCANNER AIR FAN	CB DOCTOR VENTILATORS PVT LTD.	India	Approved
		PATELS AIRFLOW LIMITED,	India	Approved
		AIR CONTROL & CHEMICAL ENGG.CO.LTD.	India	Approved
		AIROCHEM ENGINEERING COMPANY,	India	Approved
		C.DOCTOR INDIA PVT. LTD.,	India	Approved
8	BOILER STARTUP CIRCULATION PUMP	V-FLO PUMPS & SYSTEMS,	China	Approved
		TORISHIMA PUMP MFG CO.LTD	Japan	Approved
		METALKEM RESOURCES,	India	Approved
		KSB AKTIENGESellschaft	Germany	Approved
		HAYWARD TYLER LTD	United Kingdom	Approved
9	HANDLING EQUIPMENT:	GRIP ENGINEERS PVT LTD,	India	Approved
		UNIVERSAL HOIST-O-FABRIK,	India	Approved

BHEL TRICHY
TSGENCO-1x800 MW Kothagudem TPS
 Approved Vendor List for Bought-Out

SI No	Item	Vendor Name	Country	TSGENCO Remarks
1	ACTUATOR: ELECTRICAL REGULATOR	AUMA (INDIA) PRIVATE LIMITED,	India	Approved
		LIMITORQUE INDIA LTD.,	India	Approved
		ROTORK CONTROLS LIMITED	United Kingdom	Approved
		ROCKWELL AUTOMATION		Approved
2	ACTUATOR: PNEUMATIC	INSTRUMENTATION LTD.,	India	Approved
		KELTRON CONTROLS,	India	Approved
		ROCKWELL AUTOMATION		Approved
3	LT-PVC CONTROL CABLE ✓	CORDS CABLE INDUSTRIES LIMITED.,	India	Approved
		DELTON CABLES LIMITED,	India	Approved
		KEC INTERNATIONAL LIMITED,	India	Approved
		KEI INDUSTRIES LIMITED,	India	Approved
		POLYCAB WIRE PVT. LTD,	India	Approved
4	LT-XLPE POWER CABLE ✓	CORDS CABLE INDUSTRIES LIMITED.,	India	Approved
		DELTON CABLES LIMITED,	India	Approved
		KEI INDUSTRIES LIMITED	India	Approved
		POLYCAB WIRE PVT. LTD,	India	Approved
5	INSTRUMENTATION/ SCREENED/ SHIELDED/ COMPENSATING/ EXTENSION CABLES ✓	CORDS CABLE INDUSTRIES LIMITED.	India	Approved
		DELTON CABLES LIMITED,	India	Approved
		POLYCAB WIRE PVT. LTD,	India	Approved
6	AIR FILTER REGULATOR	Already given in BHEL-TRICHY-VALVES List		
7	PANELS: R.LOGIC/AC CONTROL SUPPLY PANEL	C & S ELECTRIC LTD.,	India	Approved
		CONTROLS & SCHEMATICS LIMITED,	India	Approved
8	PANELS: MCC/PCC	C & S ELECTRIC LTD.,	India	Approved
		LARSEN & TOUBRO LTD.(CTRL & AUTOMN.	India	Approved
9	ORIFICE PLATE ASSY ✓	ASIAN INDUSTRIAL VALVES AND INSTRUM	India	Approved
		GENERAL INSTRUMENTS CONSORTIUM,	India	Approved
		INSTRUMENTATION LTD.,	India	Approved
		MICRO PRECISION PRODUCTS (P) LTD,	India	Approved
10	CCTV SYSTEM	Already given in BHEL EDN-List Sweden		
11	FLOW NOZZLES ✓	ASIAN INDUSTRIAL VALVES AND INSTRUM	India	Approved
		GENERAL INSTRUMENTS CONSORTIUM,	India	Approved
		INSTRUMENTATION LTD.,	India	Approved
		MICRO PRECISION PRODUCTS (P) LTD,	India	Approved
12	DP GAUGES	Already Given in BHEL-EDN List		
13	PRESSURE GAUGES	Already given in BHEL-EDN List		
14	CABLE TRAY ✓	INDIANA GRATINGS PVT.LTD.,	India	Approved
		JAMNA METAL COMPANY	India	Approved
		PATNY SYSTEMS PVT LTD	India	Approved

BHEL TRICHY
TSGENCO-1x800 MW Kothagudem TPS
 Approved Vendor List for Bought-Out

15	REFERENCE JUNCTION	ABB LIMITED,	India	Approved
17	TEMPERATURE GAUGES	Already given in BHEL-EDN List		
18	LOCAL INSTRUMENT ENCLOSURE	CHEMIN CONTROLS AND INSTRUMENTATION LTD.	India	Approved
		PRAMMEN INDUSTRIES,	India	Approved
		PYROTECH ELECTRONICS P.LTD(UNIT II	India	Approved
19	LOCAL INSTRUMENT RACK	CHEMIN CONTROLS AND INSTRUMENTATION LTD.	India	Approved
		PRAMMEN INDUSTRIES,	India	Approved
		PYROTECH ELECTRONICS P.LTD(UNIT II	India	Approved
20	LEVEL SWITCH	Already given in BHEL-EDN List		
21	MASS FLOW METER	ABB LIMITED,	India	Approved
		EMERSON PROCESS MANAGEMENT (INDIA)	India	Approved
		ENDRESS + HAUSER (INDIA) PVT.LTD.,	India	Approved
		ENDRESS + HAUSER GMBH + CO	Germany	Approved
		GE INDIA INDUSTRIAL PVT. LTD.,	India	Approved
		YOKOGAWA INDIA LIMITED,	India	Approved
22	ERV CONTROLLER	PRAMMEN INDUSTRIES,	India	Approved
		SAJAS ELECTRICALS, INDIA	India	Approved
		VEEVEE CONTROLS PVT LTD	India	Approved
23	SB FLOW SWITCH	CAMERON MEASUREMENT SYSTEMS,	United Kingdom	Approved
		SWITZER PROCESS INSTRUMENTS	India	Approved
24	L.T.MOTORS	BHARAT BULEE LIMITED,	India	Approved
		CROMPTON GREAVES LIMITED,	India	Approved
		KIRLOSKAR ELECTRIC CO.LTD.	India	Approved
25	PR & DP SWITCH	DELTA CONTROLS LIMITED	United Kingdom	Approved
		GENERAL INSTRUMENTS CONSORTIUM	India	Approved
		SWITZER PROCESS INSTRUMENTS	India	Approved
26	FLAME SCANNER CABLE	DELTON CABLES LIMITED,	India	Approved
		NICCO CORPORATION LTD.,	India	Approved
27	FRP JUNCTION BOX	K.S.INSTRUMENTS PVT. LTD,	India	Approved
		MANISHA COMPOSITEKS PVT LTD	India	Approved
		SUCHITRA INDUSTRIES	India	Approved
28	SOLENOID VALVES	Already Given in BHEL-TRICHY-VALVES List		

BHEL TRICHY
TSGENCO-1x800 MW Kothagudem TPS
 Approved Vendor List for Bought-Out

Sl No	Item	Vendor Name	Country	TSGENCO Remarks
1	ACTUATOR: ELECTRICAL REGULATOR	AUMA (INDIA) PRIVATE LIMITED,	India	Approved
		LIMITORQUE INDIA LTD.,	India	Approved
		ROTORK CONTROLS LIMITED	United Kingdom	Approved
		ROCKWELL AUTOMATION		Approved
2	ACTUATOR: PNEUMATIC	INSTRUMENTATION LTD.,	India	Approved
		KELTRON CONTROLS,	India	Approved
		ROCKWELL AUTOMATION		Approved
3	LT-PVC CONTROL CABLE	CORDS CABLE INDUSTRIES LIMITED.,	India	Approved
		DELTON CABLES LIMITED,	India	Approved
		KEC INTERNATIONAL LIMITED,	India	Approved
		KEI INDUSTRIES LIMITED,	India	Approved
		POLYCAB WIRE PVT. LTD,	India	Approved
4	LT-XLPE POWER CABLE	CORDS CABLE INDUSTRIES LIMITED.,	India	Approved
		DELTON CABLES LIMITED,	India	Approved
		KEI INDUSTRIES LIMITED	India	Approved
		POLYCAB WIRE PVT. LTD,	India	Approved
5	INSTRUMENTATION/ SCREENED/ SHIELDED/ COMPENSATING/ EXTENSION CABLES	CORDS CABLE INDUSTRIES LIMITED.	India	Approved
		DELTON CABLES LIMITED,	India	Approved
		POLYCAB WIRE PVT. LTD,	India	Approved
6	AIR FILTER REGULATOR	Already given in BHEL-TRICHY-VALVES List		
7	PANELS: R.LOGIC/AC CONTROL SUPPLY PANEL	C & S ELECTRIC LTD.,	India	Approved
		CONTROLS & SCHEMATICS LIMITED,	India	Approved
8	PANELS: MCC/PCC	C & S ELECTRIC LTD.,	India	Approved
		LARSEN & TOUBRO LTD.(CTRL & AUTOMN.	India	Approved
9	ORIFICE PLATE ASSY	ASIAN INDUSTRIAL VALVES AND INSTRUM	India	Approved
		GENERAL INSTRUMENTS CONSORTIUM,	India	Approved
		INSTRUMENTATION LTD.,	India	Approved
		MICRO PRECISION PRODUCTS (P) LTD,	India	Approved
10	CCTV SYSTEM	Already given in BHEL EDN-List Sweden		
11	FLOW NOZZLES	ASIAN INDUSTRIAL VALVES AND INSTRUM	India	Approved
		GENERAL INSTRUMENTS CONSORTIUM,	India	Approved
		INSTRUMENTATION LTD.,	India	Approved
		MICRO PRECISION PRODUCTS (P) LTD,	India	Approved
12	DP GAUGES	Already Given in BHEL-EDN List		
13	PRESSURE GAUGES	Already given in BHEL-EDN List		
14	CABLE TRAY	INDIANA GRATINGS PVT.LTD.,	India	Approved
		JAMNA METAL COMPANY	India	Approved
		PATNY SYSTEMS PVT LTD	India	Approved

BHEL TRICHY
TSGENCO-1x800 MW Kothagudem TPS
 Approved Vendor List for Bought-Out

15	REFERENCE JUNCTION	ABB LIMITED,	India	Approved
17	TEMPERATURE GAUGES	Already given in BHEL-EDN List		
18	LOCAL INSTRUMENT ENCLOSURE	CHEMIN CONTROLS AND	India	Approved
		INSTRUMENTATION LTD.	India	Approved
		PRAMMEN INDUSTRIES,	India	Approved
		PYROTECH ELECTRONICS P.LTD(UNIT II	India	Approved
19	LOCAL INSTRUMENT RACK	CHEMIN CONTROLS AND	India	Approved
		INSTRUMENTATION LTD.	India	Approved
		PRAMMEN INDUSTRIES,	India	Approved
		PYROTECH ELECTRONICS P.LTD(UNIT II	India	Approved
20	LEVEL SWITCH	Already given in BHEL-EDN List		
21	MASS FLOW METER	ABB LIMITED,	India	Approved
		EMERSON PROCESS MANAGEMENT (INDIA)	India	Approved
		ENDRESS + HAUSER (INDIA) PVT.LTD.,	India	Approved
		ENDRESS + HAUSER GMBH + CO	Germany	Approved
		GE INDIA INDUSTRIAL PVT. LTD.,	India	Approved
		YOKOGAWA INDIA LIMITED,	India	Approved
22	ERV CONTROLLER	PRAMMEN INDUSTRIES,	India	Approved
		SAJAS ELECTRICALS, INDIA	India	Approved
		VEEVEE CONTROLS PVT LTD	India	Approved
23	SB FLOW SWITCH	CAMERON MEASUREMENT SYSTEMS,	United Kingdom	Approved
		SWITZER PROCESS INSTRUMENTS	India	Approved
24	L.T.MOTORS	BHARAT BULEE LIMITED,	India	Approved
		CROMPTON GREAVES LIMITED,	India	Approved
		KIRLOSKAR ELECTRIC CO.LTD.	India	Approved
25	PR & DP SWITCH	DELTA CONTROLS LIMITED	United Kingdom	Approved
		GENERAL INSTRUMENTS CONSORTIUM	India	Approved
		SWITZER PROCESS INSTRUMENTS	India	Approved
26	FLAME SCANNER CABLE	DELTON CABLES LIMITED,	India	Approved
		NICCO CORPORATION LTD.,	India	Approved
27	FRP JUNCTION BOX	K.S.INSTRUMENTS PVT. LTD,	India	Approved
		MANISHA COMPOSITEKS PVT LTD	India	Approved
		SUCHITRA INDUSTRIES	India	Approved
28	SOLENOID VALVES	Already Given in BHEL-TRICHY-VALVES List		

BHEL TRICHY
TSGENCO-1x800 MW Kothagudem TPS
Approved Vendor List for Bought-Out Items

Sl No	Item	Vendor	Place/ Country	Remarks
1	BLOCK VALVE	AVCON CONTROLS PVT.LTD.,	India	Approved
		DRESSER VALVE INDIA PRIVATE LTD.,	India	Approved
		INSTRUMENTATION LTD.,	India	Approved
		MIL CONTROLS LIMITED	India	Approved
		SAMSON CONTROLS PRIVATE LIMITED	India	Approved
2	CONTROL VALVE	CONTROL COMPONENTS INC	USA	Approved
		DRESSER PRODUITS INDUSTRIELS S.A.S	France	Approved
		DRESSER VALVE INDIA PRIVATE LTD.,	India	Approved
		Fisher Sanmar Limited	India	Approved
		FLOWSERVE INDIA CONTROLS PVT.LTD.,	India	Approved
		INSTRUMENTATION LTD.,	India	Approved
		KOSO INDIA PRIVATE LIMITED.	India	Approved
		KOSO INDIA PVT LTD	India	Approved
		MIL CONTROLS LIMITED	India	Approved
3	INSULATION: CASTABLE REFRACTORY	ABS REFRACTORIES PVT.LTD.,	India	Approved
		BHASKAR REFRACTORIES&SW PIPES P LTD	India	Approved
		CALDERYS INDIA REFRACTORIES LTD.,	India	Approved
		CASTWEL INDUSTRIES	India	Approved
		DALMIA REFRACTORIES LIMITED	India	Approved
		INDUSTRIAL ASSOCIATES,	India	Approved
		MAHAKOSHAL REFRACTORIES PVT. LTD,	India	Approved
		SHARADAA CERAMICS PVT.LTD	India	Approved
		SOUVENIOR CERAMICS	India	Approved
		VISHVA VISHAL ENGINEERING LTD.,	India	Approved
		VISHWAKARMA REFRACTORIS PRIVATE	India	Approved
4	INSULATION: WOOL MATTRESS	LLOYD ROCKFIBRES LTD,	India	Approved
		ROCKWOOL (INDIA) LTD.,	India	Approved
		ROCKWOOL INDUSTRIES	India	Approved
5	INSULATION: POURABLE	BHASKAR REFRACTORIES&SW PIPES P LTD	India	Approved
		DALMIA REFRACTORIES LIMITED	India	Approved
6	HEA IGNITOR ASSY	DURAG INDIA INSTRUMENTATION PVT. L	India	Approved
		FIVES COMBUSTION SYSTEMS PVT. LTD	India	Approved
		HAMWORTHY COMBUSTION ENGINEERING LT	United Kingdom	Approved
		UNISON INDUSTRIES,	USA	Approved
7	SCANNER AIR FAN	AIR CONTROL & CHEMICAL ENGG.CO.LTD.	India	Approved
		AIROCHEM ENGINEERING COMPANY,	India	Approved
		C.DOCTOR INDIA PVT. LTD.,	India	Approved
		CB DOCTOR VENTILATORS PVT LTD.	India	Approved
		PATELS AIRFLOW LIMITED,	India	Approved
8	BOILER STARTUP CIRCULATION PUMP	HAYWARD TYLER LTD	United Kingdom	Approved
		KSB AKTIENGESellschaft	Germany	Approved
		METALKEM RESOURCES,	India	Approved
		TORISHIMA PUMP MFG CO.LTD	Japan	Approved
		V-FLO PUMPS & SYSTEMS,	China	Approved
9	HANDLING EQUIPMENT:	GRIP ENGINEERS PVT LTD,	India	Approved
		UNIVERSAL HOIST-O-FABRIK,	India	Approved

1X800MW TSGENCO KOTHAGUDEM TPS**APPROVED PEM VENDOR LIST**

				Deviations
17	GCB	1	ABB SWITZERLAND LTD.,	Approved
		2	ALSTOM GRID SAS	Approved
18	PA SYSTEM	1	BYTE COMMUNICATIONS PVT.LTD	Credentials to be submitted
		2	CHASHMITA ENGINEERS PVT.LTD	Credentials shall be submitted
19	LT HR PVC CONTROL CABLE	1	CORDS CABLE INDUSTRIES LTD.	Approved
		2	DELTON CABLES LTD.	Approved
		3	Diamond Power Infrastructure Ltd	Approved
		4	GEMSCAB INDUSTRIES LTD.	Approved
		6	Havells India Limited	Approved
		7	KEI INDUSTRIES LTD.	Approved
		8	NICCO CORPORATION LTD.	Approved
		9	POLYCAB WIRES PVT. LTD.	Approved
		10	TORRENT CABLES LTD.	Approved
		11	THERMO CABLES LTD.	Approved
		12	UNIVERSAL CABLES LTD.	Approved

PACKAGE CATEGORY = Control & Instrumentation

S.NO	Package Name	S.NO	Vendor Name	TSGENCO REMARKS
1	FLOW ELEMENT-ORIFICE	1	INSTRUMENTATION LTD.	Approved
		2	MICRO PRECISION PRODUCTS PVT. LTD.	Approved
2	FLOW ELEMENT-NOZZLE	1	HYDROPNEUMATICS PVT. LTD.	Approved
3	CONTROL VALVE	1	INSTRUMENTATION LTD.	Approved
		2	MIL CONTROLS LTD.	Approved
4	ROTAMETER	1	EUREKA INDUSTRIAL EQUIPMENTS PVT.LTD.	Approved

1X800MW TSGENCO KOTHAGUEDEM TPS**APPROVED PEM VENDOR LIST**

		2	FLOWTECH INSTRUMENTS SERVICRS	Approved
		3	INSTRUMENTATION ENGINEERS PVT LTD	Approved
		4	SCIENTIFIC DEVICES (BOMBAY) PVT LTD,	Approved
5	ANNUBAR (DELTA TUBE) clarification raised on vendor	1	SWITZER INSTRUMENT LTD.	Approved
		2	STAR-MECH CONTROLS (I) PVT.LTD.	Approved
		3	TM TECNOMATIC SPA	Approved

Note: For the items which are not covered in this list, BHEL shall furnish the vendors to TSGENCO for Approval.



TITLE:
4 X 270 MW BHADRADRI TPS

SPECIFICATION NO. PE-TS-411-164-A001

**TECHNICAL SPECIFICATION FOR
EFFLUENT TREATMENT PLANT**

REV. NO. 00

DATE : 24/07/2017

**ANNEXURE III
FUNCTIONAL / PERFORMANCE / DEMONSTRATION GUARANTEE**

The Bidder shall guarantee that the equipment offered shall meet the rating and performance requirements stipulated for various equipment covered in this specifications.

The guaranteed performance parameters furnished by the bidder in his offer, shall be without any tolerance values and all margins required for instrument inaccuracies and other uncertainties shall be deemed to have been included in the guaranteed figures.

The bidder shall demonstrate all the guarantees covered herein during demonstration test / PG test.

The various tests which are to be carried out during demonstration tests are listed in the specification.

The guarantee tests shall be conducted by the bidder at site in presence of BHEL/ CUSTOMER. All costs associated with the tests shall be included in the bid price.

In case during demonstration test /PG test, it is found that the equipment/system has failed to meet the guarantees, the bidder shall carry out all necessary modifications and/or replacements to make the equipment/system comply with the guaranteed requirements at no extra cost to the BHEL/ CUSTOMER and re-conduct the demonstration test(s) / PG test with BHEL/ CUSTOMER's consent.

EFFLUENT TREATMENT PLANT

Bidder to demonstrate following parameters at site during demonstration test:

a) CLARIFIER I

Capacity: 100 m³/hr

Outlet TSS: less than or equal to 10 mg/lit

b) CLARIFIER II

Capacity: 70 m³/hr

Outlet TSS: less than or equal to 10 mg/lit

c) LAMELLA CLARIFIER / TUBE SETTLER

Capacity: 10 m³/hr

Effluent TSS: 10 ppm at design flow

Effluent TSS: 15 ppm at 20% overflow condition.

Effluent Oil & grease: 5 ppm (maximum)

d) PRESSURE SAND FILTER (Each)

Capacity: 60 m³/hr

Outlet TSS: 2 mg/lit

Outlet turbidity: 2 NTU

Service cycle before backwash = not less than 24 hours each filter

e) ACTIVATED CARBON FILTER (Each)

Capacity: 60 m³/hr

Chlorine at ACF outlet: Below Detectable Limit

Service cycle before backwash = not less than 24 hours each filter

f) UF SYSTEM

Recovery not less than 90%.

g) RO SYSTEM

Overall Recovery (RO stage I and Stage II) not less than 90%.



TITLE:
4 X 270 MW BHADRADRI TPS

SPECIFICATION NO. PE-TS-411-164-A001

**TECHNICAL SPECIFICATION FOR
EFFLUENT TREATMENT PLANT**

REV. NO. 00

DATE : 24/07/2017

ANNEXURE IV

DRAWING DOCUMENTS DISTRIBUTION PROCEDURE

DISTRIBUTION SCHEDULE

S. No	Description	TSGENCO								CONSULTANT			Equipment Vendor	Remarks
		Director Projects	Director Technical	CE/Civil Thermal Projects Hyd.	CE/TPC-1, Hyd	CE/O&M/ KTPS	SE/Civil KTPS	SE/E&M / KTPS	DE Constr. KTPS	Kolkata	HYD	KTPS		
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	



TITLE:
4 X 270 MW BHADRADRI TPS

SPECIFICATION NO. PE-TS-411-164-A001

**TECHNICAL SPECIFICATION FOR
EFFLUENT TREATMENT PLANT**

REV. NO. 00

DATE : 24/07/2017

S. No	Description	TSGENCO							CONSULTANT				Equipment Vendor	Remarks
		Director Projects	Director Technical	CE/Civil Thermal Projects Hyd.	CE/TPC-1, Hyd	CE/O&M/ KTPS	SE/Civil KTPS	SE/E&M / KTPS	DE Constr. KTPS	Kolkata	HYD	KTPS		
D	Progress Report Monthly													
1.	Equipment vendor	1	1	1	2	1	1	2	1	1	1	1	S	
2.	M/s DCPL, Kolkata	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	
s	b. E&M	1	1	-	2	1	-	1	1	11	1	1	S	
2.	M/s DCPL, Kolkata	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.	M/s DCPL, Kolkata	1	1	-	10+1T	1	-	15+1T	-	S	1	1	Nil	
G	M/s DCPL, Kolkata Criteria	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,



TITLE:
4 X 270 MW BHADRADRI TPS

SPECIFICATION NO. PE-TS-411-164-A001

**TECHNICAL SPECIFICATION FOR
EFFLUENT TREATMENT PLANT**

REV. NO. 00

DATE : 24/07/2017

ANNEXURE V
PAINTING SPECIFICATION

TECHNICAL SPECIFICATION

FOR

PROTECTIVE LINING AND PAINTING

1.00.00 INTENT OF SPECIFICATION

1.01.00 This specification addresses the requirements of all labour, material, and appliances necessary with reference to preparations for lining / painting, application as well as finishing of all lining / painting for all mechanical and electrical equipment, piping and valves, structures etc. included under the scope of this Package.

1.02.00 The Bidder shall furnish and apply all lining, primers including wash primers if required, under-coats, finish coats and colour bands as described hereinafter or necessary to complete the work in all respects.

2.00.00 CODES & STANDARDS

2.01.00 The Bidder shall follow relevant Indian and International Standards wherever applicable in cleaning of surface, selection of lining material / paints and their application. The entire work shall conform to the following standards / specifications (latest revision or as specified).

- a) SSPC SP 10 / NACE 2 / : Near White Blast Cleaning
- b) SSPC PA 2 : Measurement of dry film Coating Thickness with magnetic gauges.
- c) ASTM D 4541 : Method for pull off strength using portable Adhesion Tester.
- d) NACE RP 0274 – 2004 : High-Voltage Electrical Inspection of Pipeline Coatings
- e) NACE SP 0188 – 2006 : Discontinuity (Holiday) Testing of New Protective Coatings on Conductive Substrates

- f) NACE RP 0169 – 2002 : Control of External Corrosion on Underground or Submerged Metallic Piping Systems
- g) AWWA C 210 – 2007 : Liquid-Epoxy Coating Systems for the Interior and Exterior of Steel Water Pipelines
- h) IS 3589:2001 Annexure B : Steel Pipes for Water and Sewage Specification.
- i) AWWA C222-2000 : Polyurethane Coating for the Interior and Exterior of Steel Water Pipe and Fittings.
- j) IS 13213 : 2000 : Polyurethane Full Gloss Enamel (Two pack)

3.00.00 GENERAL REQUIREMENTS

- 3.01.00** The steel surface preparation prior to actual commencement of coating shall conform to SSPC SP 10 / NACE 2 / Sa2½ (near white metal) with sand blasting.
- 3.02.00** The contractor shall submit a detailed written description in the form of a manual covering coating equipment, procedures, materials inspection test, and repair etc. to Owner/Consultant for approval.
- 3.03.00** The contractor shall also provide copies of test reports from NABL approved laboratory (like National Test House, Kolkata) in support of the paint/primer materials to be used shall conform to the specification requirement.
- 3.04.00** The contractor shall also provide certificates from paint/primer manufacturer mentioning the batch numbers, date of manufacture and shelf life etc. of the materials to be used. In addition to that Manufacturing Quality Plan (MQP) and Field Quality Plan (FQP) shall also be submitted prior to commencement of supply of material and field application.
- 3.05.00** Paint/coating application work at site shall be done either by paint manufacturer or by their authorized applicator. The authorized applicator shall have proper training & certification from manufacturer. Applicator shall possess all the necessary specialized equipment and manpower experienced in similar job.

THIS IS A PART OF TECHNICAL SPECIFICATION NO. PE-TS-411-164-A001

- 3.06.00 Applied coating shall be tested for dry film thickness, holiday (electrical inspection for continuity) and adhesion as per relevant standard such as SSPC PA 2, NACE RP 0274 and ASTM D 4541.
- 3.07.00 If necessary, the material may be heated and applied by airless spray / plural component spray system.
- 3.08.00 Manufacturer's specific recommendation, if any, shall be followed during application of lining / paints.
- 3.09.00 In areas where there is danger of spotting automobiles or other finally finished equipment or building by wind borne particles from paint spraying, a Purchaser approved method shall be adopted.
- 3.10.00 The colour scheme of the entire Plant, covered under this specification shall be approved by the Purchaser in advance before application.
- 3.11.00 All indoor and outdoor piping, insulated as well as uninsulated will have approved colour bands painted on the pipes at conspicuous places throughout the system, as approved by Purchaser.
- 3.12.00 Inside surfaces of vessels / tanks shall be protected by anticorrosive paints or rubber lining as required / specified elsewhere in the specification. External surfaces of all vessels / tanks shall be protected by anti corrosive painting.
- 3.13.00 For vessels / tanks requiring lining and epoxy painting all inside surface shall be blast cleaned using non-siliceous abrasive after usual wire brushing.
- 3.14.00 Natural rubber lining shall be provided on the inside of vessels / tanks as required / specified elsewhere in the specification, in three layers resulting in a total thickness not less than 4.5 mm.
- 3.15.00 Surface hardness of rubber lining shall be 65 +/- 5 deg. A (shore).
- 3.16.00 After the lining is completed, the vessels / tanks shall not be subjected to any prolonged exposure to direct sunlight in course of its transportation, erection etc. They shall not be stored in direct sunlight. No further lining or burning shall be carried out on the vessel, after application of the lining.