



**ADDENDUM FOR TECHNICAL SPECIFICATION FOR COMPRESSED AIR SYSTEM
4X270 MW BHADRADARI TPP**

SPECIFICATION NO.: PE-TS-411-555-A001

ADDENDUM NO # 1

DATE: 06/07/2015

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The following revisions w.r.t technical Specification no. **PE-TS-411-555-A001** for **Compressed Air System** shall apply. Bidder to note that the following existing clauses/details as appearing in the specification stands deleted and clauses/details as mentioned in “Modified to or Read as” column shall be applicable and complied by the bidder.

MODIFIED CLAUSES/PAGE NUMBERS.

S.N	Vol. No.	Section/ Description	Clause no	Page no	Existing clause/details	Modified to or Read as
1.	IIB	Section – C1 - A	3.2.1.1	18 of 324	Delivery pressure will be 7.5 kg/cm ² (g) at ADP outlet.	Delivery pressure will be 8.0 kg/cm² (g) at ADP outlet.
2.	IIB	Section – C1 - A	3.2.1.2	18 of 324	Delivery pressure will be 8.0 kg/cm ² (g) at outlet of SA compressor.	Delivery pressure will be 8.5 kg/cm² (g) at outlet of SA compressor.
3.	IIB	Section – C1 - A	3.2.1.9	19 of 324	Noise level shall be not exceed 85 dBAwhen measured at a distance of 1.5 m above the floor under free field condition.	Noise level shall not exceed 85 dBA measured at a distance of 1.0m from equipment surface and at a height of 1.5m above the ground level.
4.	IIB	Section – C1- A	3.1.7	18 of 324	All instruments including the electronic on line dew point meter with suitable sampling connection and isolation valve at the common outlet of the air drying plants.	All instruments including the electronic on line dew point meter (DPM having 4-20mA output & connected to DCS) with suitable sampling connection and isolation valve at outlet of each air drying plant.
5.	IIB	Section – C1- A	3.2.1.5	18 of 324	Testing of compressor will be as per ISO: 1217.	Testing of compressor will be as per ISO: 1217 / ISO: 5167.
6.	IIB	Section – C1- A	10.2.1 (b)	14 of 324	Relative humidity : 75%	Relative humidity : 82%
7.	IIB	Section – C1- A	3.2.1.4	14 of 324	75% RH at atmospheric pressure	82% RH at atmospheric pressure
8.	IIB	Section – C1- A	5.1.2	21 of 324	Individual compressor control shall be through microprocessor based control system as per manufacturer’s standard. However, provision of START / STOP operation shall be provided in DDCMIS also.	Individual compressor control shall be through microprocessor based control system as per manufacturer’s standard. However, provision of START / STOP operation shall be provided in DDCMIS also. 4 nos. microprocessor controller shall be supplied as loose.
9.	IIB	Section – C1- A	5.1.4	21 of 324	All the process inputs (digital or analog), other than specific to compressors are taken directly to DDCMIS.	All the process inputs (digital or analog), other than specific to compressors are taken directly to DDCMIS. Further, signals for monitoring from individual compressor may be required to be sent to DCS (not through daisy chain). Bidder to quote



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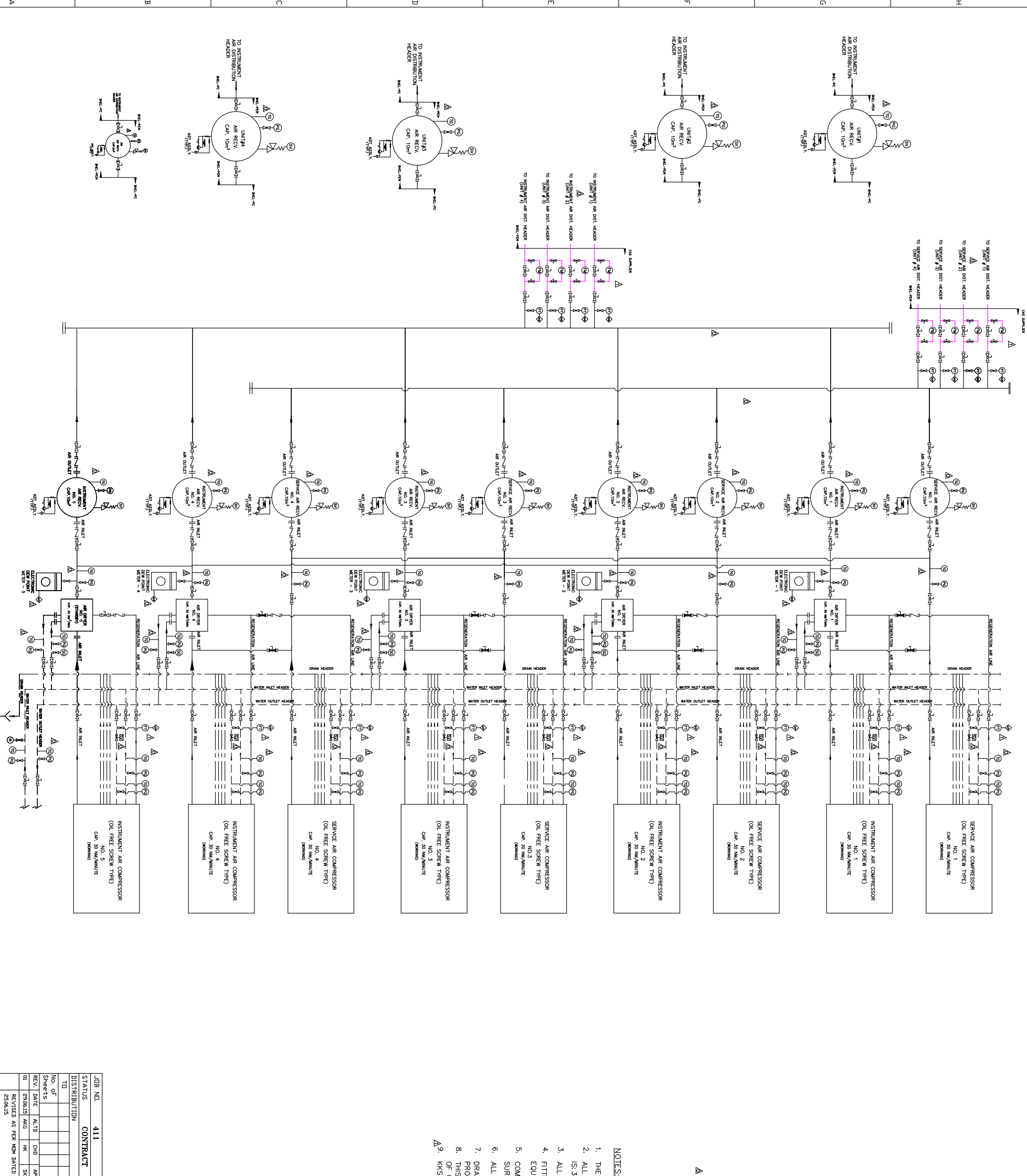
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						accordingly.
10.	IIB	Section – C1-A	5.1.5	21 of 324	The connectivity of Integral compressor control system with DDCMIS shall be provided through Hardwired / Soft link depending upon manufacturer’s product standard.	The start / stop command & feedback signals for compressor shall be provided hard to DCS. Also there will be soft link connectivity to DCS for monitoring purpose. MIMIC shall also be developed in DCS HMI.
11.	IIB	Section – C1-A	5.1.9	21 of 324	New clause.	5 sets of instruments located within compressor skid for protection purpose shall be provided as loose.
12.	IIB	Section – C1-A	3.2.3.6	19 of 324	New clause.	PLC / Microprocessor control of ADP (as applicable as per final selected ADP) shall be hooked to DCS for monitoring & data shall be made available in DCS HMI MIMIC (on OWS).
13.	IIB	Section – C1-A	PE-DG-411-555-A003_R_01	22 of 324	Flow switch in cooling water return line of each compressor	Flow Transmitter in cooling water return line of each compressor.
14.	IIB	Section – C1-A	PE-DG-411-555-A003_R_01	22 of 324	New requirement	Flow meter (Metal tube rotameter type) in individual IA/SA header of each unit.
15.	IIB	Section – C1-A	PE-DG-411-555-A003_R_01	22 of 324	New requirement	PT at individual IA/SA header of each unit.
16.	IIB	Section – C1-A	PE-DG-411-555-A003_R_01	22 of 324	New requirement	KSS philosophy shall be followed while preparing the P&ID’s.
17.					Revised PID	Bidder to consider the P & ID for compressed air system attached with this addendum and ignore the P & ID attached with tender spec at page 22 & 306 of 324.
18.				271 of 324	Annexure-I (sub-vendor list)	Bidder to consider sub-vendor list attached with this addendum and ignore the Annexure-I (sub-vendor list) attached with tender spec.

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LEGEND			
	BALL VALVE (OPEN)	(TG)	TEMP. GAUGE
	BAL VALVE (CLOSED)		NON RETURN VALVE
	GLOBE VALVE (OPEN)		WATER
	GLOBE VALVE (CLOSED)		AIR
	RELIEF/SAFETY VALVE		DRAIN
	PRESSURE GAUGE		Y TYPE FUNNEL
	FLOW INDICATOR	(FT)	FLOW TRANSMITTER
	ADT ASS'LY; AUTO DRAIN TRAP ASSEMBLY	(PT)	PRESSURE TRANSMITTER
	SIGHT GLASS	(SV)	SOLENOID VALVE
	SIGNAL TO DCS	(FM)	METAL TUBE ROTA METER

- NOTES:-
1. THE GIVEN P&ID IS CONFINED TO INSTRUMENTS AND PIPING FOR COMPRESSOR HOUSE AREA ONLY
 2. ALL INTERCONNECTING COMPRESSED AIR PIPING SHALL CONFORM TO IS:1239 (HEAVY GRADE) OR IS:3589 Gf-410 AND GALVANISED AS PER IS:4736.
 3. ALL COOLING WATER PIPING WILL BE CONFORMING TO IS:1239 (PART-I, HEAVY GRADE).
 4. FITTINGS FOR AIR PIPING SHALL BE CONFORMING TO RELEVANT BIS STANDARD AND GRADE EQUIVALENT THAT OF PARENT PIPE GRADE.
 5. COMPRESSED AIR PIPING HANDLING HOT AIR WILL BE SUITABLY INSULATED SO AS TO RESTRICT SURFACE TEMPERATURE TO 60 DEG C.
 6. ALL PRESSURE & TEMPERATURE GAUGE SHALL BE 150 mm DIA. TYPE.
 7. DRAIN PIPING UP TO THE NEAREST DRAIN POINT WITHIN THE AIR COMPRESSOR ROOM SHALL BE PROVIDED.
 8. THIS PID HAS BEEN PREPARED CONSIDERING ROTARY TYPE AIR DRIERS FOR IA COMPRESSORS. IN CASE OF CONVENTIONAL TWIN TOWER TYPE DRIERS, THIS PID SHALL BE MODIFIED MINORLY.
 9. KKS TAG. NO. PHILOSOPHY SHALL BE FOLLOWED & WILL BE INDICATED IN THE VENDOR'S P&ID'S.

JOB NO.	411
STATUS	CONTRACT
DISTRIBUTION	
NO. OF SHEETS	
REV. DATE	ALT. CHD. APPD.
REVISED AS PER MOM DATED	55.06.15

CUSTOMER	TELANGANA STATE POWER GENERATION CO. LTD.
CONSULTANT	DESIGN PRIVATE LTD.
PROJECT	4X 270MW MANUGURU TPPS
ENGINEER	BHARAT HEAVY ELECTRICALS LTD. POWER SECTOR PROJECT ENGINEERING MANAGEMENT, NEW DELHI
DATE	10.06.2015
SCALE	AS SHOWN
DRAWING NO.	PE-DG-411-555-A003
SHEET NO.	01 OF 01
REV. 01	REV. 01



SUB VENDOR LIST & INSPECTION CATEGORISATION (ANNEXURE-I)

COMPRESSED AIR SYSTEM

SL No	Item	QP / Insp.Cat	Proposed Subvendor	Place of Manufacturer	Technical Limit	Remarks
1	AIR DRYING PLANT (HOC TYPE)	I	ACIL	BELGIUM	ROTARY DRUM	Testing at Atlas Copco Works Pune
			MELLCON	Delhi	Twin Tower type	
			DELAIR	Gurgaon	Twin Tower type	
			SUMMITS	Coimbtore	Twin Tower type	
			Shalcot	Noida	Twin Tower type	
2	AIR DRYING PLANT (REFRIGERANT TYPE)	I	ACIL	BELGIUM		
			MELLCON	Delhi		
			DELAIR	Gurgaon		
			SUMMITS	Coimbtore		
			Shalcot	Noida		
			Savroe	Germany		
			MTA	Italy		
			Dominic Hunter	U.K		
3	MS/GI Pipes –ERW IS 1239 / IS 3589	III	SAIL	Rourkela		1) Quantity < 200 meters Assorted sizes) 2) Material will be accepted on the basis of Main contractor COC supported by manufacturer TC as per relevant Code. In addition to above main contractor will certify availability of correlated identification marks on pipe wrt Manf TC and will also certify that pipes are free from rust
			Jindal	Ghaziabad/Hissar	upto 350NB	
			Surya Roshni	Bahadurgarh	upto 400 NB	
			Tata IS 1239 Pipes	Jamshedpur	upto 150NB	
			Maharashtra seamless IS 3589	Raigad	200 to 500 NB	
			PSL	Chennai/Vizag/Kutch/Daman	Spiral Weld SAW as per IS 3589	
			Lalit Profile	Thane	Spiral Weld SAW as per IS 3589	
			Samshi Pipes Industries	Vadodara	Spiral Weld SAW as per IS 3589	
			Mukut Pipes	Rajpura	Longitudinal SAW (Single side weld) as per IS 3589	
			Indus Tubes	G B Nagar	Upto 300 NB ERW Pipes as per IS 1239/3589	
			Mann Ind	Indore	Spiral Weld SAW as per IS 3589	
			Surendra Engg	Rajpura	Spiral Weld SAW as per IS 3589	

SL No	Item	QP / Insp.Cat	Proposed Subvendor	Place of Manufacturer	Technical Limit	Remarks
			Pratibha Pipes & Structure Pvt Ltd	Thane	Spiral Weld SAW as per IS 3589	
			JCO Gas Pipe	Chindwara	Spiral Weld SAW as per IS 3589	
			Nukat Tanks and Vessels	Tarapur	Longitudinal SAW (Single side weld) as per IS 3589	
			DADU Pipes	Sikandrabad	Upto 300 NB ERW Pipes as per IS 1239/3589	
			Good Luck Tubes	Sikandrabad	Upto 300 NB	
			Advance Steel Tubes	Sahibabad	Upto 300 NB	
			APL APPOLO Tubes	Sikandrabad	Upto 300 NB	
			Hi Tech Pipes	Sikandrabad	Upto 300 NB	
			Ratnamani	Kutch/Ahmedabad/ Chhatral	Upto 400 NB ERW Pipes as per IS 3589 and SAW as per IS 3589	
			Welspun	Anjar/Bharuch	Upto 400 NB ERW Pipes as per IS 1239/3589 and SAW as per IS 3589	
4	Forged/Formed fittings	III	EBY	Taloja		
			Siddarth & Gautam	Faridabad		
			Pipefit	Baroda		
			MS Fittings	Kolkata		
			Tube Products	Baroda		
			Bharat Forge	Pune		
			NL Hazra	Kolkata		
5	Ball Valve	I	Precision Engg	Nasik	upto 400NB 150 class	
			Microfinish Valves Ltd	Hubli		
			Weir BDK engg Industries	NEW DELHI		
			Flow chem. Industries	Ahemdabad	upto 50 NB 800 Class: 350NB 150 class	
			Audco	Chennai		
			Akay India	Hubli	upto 50NB 800 class	
			A V Valves	Agra		
			Asian Industrial valves & Instruments Ltd.	Chennai		
			ATAM Valves	Jalandhar	(1) BALL VALVES: FCS/FSS - 1/2" to 2" #800 & CCS/CSS - 2.1/2" to 4" # 150 (2) BALL VALVES: GUN METAL VALVES SIZE 15 NB TO 80 NB - UPTO PN16.0	
			GM ENGINEERING	Rajkot		
			Hawa Valves (India) Pvt. Ltd.	Navi Mumbai	Size up to 2" & #800 with MOC as FCS & FSS and for size from 65 NB to 150 NB & #150 with MOC as CCS and CSS.	

SL No	Item	QP / Insp.Cat	Proposed Subvondor	Place of Manufacturer	Technical Limit	Remarks
			INTERVALVE (INDIA) LTD.	Pune	Steel ball Valves upto 50NB, #800 and 65NB to 150NB. #150	
			NILON VALVES PRIVATE LIMITED	Ahmedabad		
			LEADER VALVES LTD.	Jalandhar	CAST STEEL UPTO 200 MM,CLASS 150/300.	
			DEMBLA VALVES LTD.	Thane		
			SURYA VALVES AND INSTRUMENTS MFG CO.	Chennai	FOR CARBON STEEL/STAINLESS STEEL UPTO SIZE 200NB.	
			UNIFLOW	Chennai		
			VALTECH INDUSTRIES	Mumbai	FORGED CARBON & ALLOY STEEL BALL VALVES ,SCREWED TYPE BALL VALVES RATING 800 , SIZES UPTO 50 & CC& ALLOY STEEL BALL VALVES RATING 150 , SIZES 65 TO 200 FLANGED TYPE.	
			VAAS AUTOMATION	NEW DELHI		
			Belgaum Aqua Valve	Belgaum		
6	CS/FS Gate/Globe/Check valves	III	Fouress	Mumbai/ Aurangabad		
			Weir BDK	NEW DELHI		
			L & T Valves	Coimbatore/ Kancheepuram		
			Leader	Jullundhar		
			KSB	Coimbatore		
			A V Valves	Agra		
			ATAM Valves	Jalandhar	(1) Carbon Steel Gate Valves & non return valves: 15 NB to 50 NB (#800) & 65 NB to 300 NB (#150) (2) Carbon Steel Globe Valves: 15 NB to 50 NB (#800) & 65 NB to 200 NB (#150)	
			Fluidline valves	Ghaziabad		
			GM ENGINEERING	Rajkot		
			INTERVALVE (INDIA) LTD.	Pune	a) Steel Gate Valves: upto 50NB, #800 and 65NB to 150NB, #150 b) Steel Globe Valves: upto 50NB, #800 and 65NB to 100NB, #150 c)Supplier not registered for NR Valves	
			Niton Valves	Mumbai		
			NSSL Ltd.	Nagpur		
			Steel Strong valves Ltd.	Navi Mumbai		

SL No	Item	QP / Insp.Cat	Proposed Subvendor	Place of Manufacturer	Technical Limit	Remarks
			VENUS PUMPS AND ENGG. WORKS	Kolkata	CC/CSS-GATE-BBT-UPTO600NB CL UPTO300,GATE-PSBT UPTO250NB CL 1500,GLV-BBT- UPTO300NB CL UPTO600,SCNRV- BBT-UPTO600NB CL UPTO150,SCNRV-BBT- UPTO300NB CL 300,SCNRV-PSBT- UPTO150NB CL UPTO900	
			VALTECH INDUSTRIES	Mumbai	CAST CARBON & ALLOY STEEL - VALVE/RATING/SIZE - GV/150/900,GV/300/400, GV/600/300 , GV/GLV/NRV/900/250 , GLV/300/300,GLV/150/350/ , SCNRV/150/700, SCNRV/300/350, SCNRV/600/250.	
			V K Valves Ltd.	Jalandhar		
			KBL	Kondhapuri		
7	Butterfly Valve	II	KBL	Kondhapuri		
			Fouress	Bangalore		
			Audco	Chennai		
			Weir BDK	NEW DELHI		
			Tyco	Halol		
			Inter Valve	Pune		
			Advance Valves	Noida		
			Fluidline valves	Ghaziabad		
			Instrumentation Ltd.	Palakkad		
			R and D Multiples (Metal Cast) Pvt. Ltd.	Mumbai		
			SURYA VALVES AND INSTRUMENTS MFG CO.	Chennai	FOR CI , CCS & CSS UPTO SIZE 750 NB.	
			PENTAIR VALVES AND CONTROLS INDIA PRIVATE LIMITED	Navi Mumbai		
			UPADHAYA VALVES MANUFACTURERS PRIVATE LIMITED,	Kolkata	MOC-Cast Iron, size from 65 NB to 350 NB having rating of PN10 as per BS EN 593.	
			VENUS PUMPS AND ENGG. WORKS	Kolkata		

SL No	Item	QP / Insp.Cat	Proposed Subvendor	Place of Manufacturer	Technical Limit	Remarks
8	Air Receiver	I	Integrated Engineers	Mumbai		
			Diamond Fabricators	Pune		
			Parkaire	Delhi		
			Temasme Vesselex	Noida		
			United Engineering Works	Nasik		
9	Safety Relief Valve	III	LEADER	JALANDHAR		
			SPIRAX MARSHALL	PUNE		
			FISCHER SANMAR	CHENNAI		
10	Pr./Vacuum/Dp Gauges	III	Auxitrol	U.K		
			Switzer (for DP gauge)	Chennai		
			Budenburg	U.K		
			A.N.Instruments	Kolkata		
			Bells Control	Kolkata		
			Manometer India	Mumbai		
			H Guru Industries	Kolkata		
			Ashcroft India	Kalol		
			General Inst.	Mumbai/Goa		
			Gluck India	Mumbai		
			BOSE PANDA INSTRUMENTS PVT.LTD.	Kolkata		
			Forbs Marshall	Hyderabad		
			Gauge Bourdon	Mumbai		
			H Guru Instruments	Bangalore		
Baumer Technologies	Mumbai					
11	Pr./Vacuum/DP.switch	III	Barton Inst.system	USA		* If the total Quantity is <= 10, then inspection category III. However, manufacturer TC to be submitted
			Indfoss	Ghaziabad		
			SOR	USA		
			Dressor	USA		
			Delta control	UK		
			Trafag	Ranipet		
			GIC(Gauges Bourdon)	Panvel		
			ASHCROFT INDIA PVT LTD.	USA/GERMANY		
Switzer	Chennai					
12	Temperature Gauge	III	Budenburg	U.K		
			A.N.Instruments	Kolkata		
			Bells Control	Kolkata		
			H Guru Industries	Kolkata		
			General Inst.	Mumbai/Goa		
			H Guru Instruments	Bangalore		
			Forbs Marshall	Hyderabad		
			Goa Instruments	Goa		
			Goa Thermostatics Instruments Pvt. Ltd.	Goa		
			Gauge Bourdon	Mumbai		
			Baumer Technologies	Mumbai		

SL No	Item	QP / Insp.Cat	Proposed Subvendor	Place of Manufacturer	Technical Limit	Remarks
			Ashcroft India	Kalol		
13	Transmitters (PT, TT, DPT, LT)	II	ABB	Faridabad	PRESSURE TRANSMITTER, DP TRANSMITTER and TEMP TRANSMITTER	* If the total Quantity is <= 10, then inspection category III. However, manufacturer TC to be submitted
			Yokogawa	Bangalore		
			Emerson	Mumbai		
			(ABB) -2600T series	Faridabad/Italy		
			Pune Techtrol Pvt. Ltd.	Pune	Only for capacitance Type Level Transmitter	
			SIEMENS LIMITED	Mumbai		
			SMART INSTRUMENTS LTD, BRAZIL	Mumbai	LD-301 & T-301 TRANSMITTER FROM M/S SMART EQUIPMENTS BRAZIL.	
			SBEM PVT. LTD.	Pune	Only for capacitance Type Level Transmitter	
			TOSHNIWAL INDUSTRIES PVT. LTD.,	Ajmer		
			V. AUTOMAT & INSTRUMENTS (P) LTD.	NEW DELHI	a)DISPLACEMENT TYPE TRANSMITTERS. b)PRESSURE AND DP TRANSMITTERS	
			Honeywell Automation	NEW DELHI		
			Fuji	Japan		
			NIVO CONTROLS PVT. LTD.	Indore	For Capacitance type only	
			Moore Industries International Inc.	CALIFORNIA, USA	Indian Associate - Chemtrol	
			Endress + Hauser (India) Pvt. Ltd.,	NEW DELHI	TEMP TRANSMITTER ONLY	
14	HT Motor for Air compressor	I	CGL	Mandideep	Upto 1600 KW, 6.6 KV; Upto 1310 KW, 11 KV	
			Marathon Electric	Kolkata	Upto 6.6 KV, 750 KW	
			BHEL	Bhopal		
			SIEMENS	Germany		
			Hyosung	Korea		
			Hyundai	Korea		
15	Flow Switch	III	Switzer	Chennai		
			Levecon	Kolkata		
			DK Instruments	Kolkata		
			Delta	UK		
			ITT Barton	USA		
16	Temp Sensor	III	Pyro Electric	Mumbai		
			Detriv	Mumbai		
17	Flow Indicator	III	Sigma	Mumbai		
			Eureca	Pune		
18	Auto Drain Trap	III	Pennant	Pune		
			Forbes Marshall	Pune		
19	Dew point meter	III	GE Sensing	Ireland		

SL No	Item	QP / Insp.Cat	Proposed Subvendor	Place of Manufacturer	Technical Limit	Remarks
			Michell Instruments	UK		
			XENTAUR	USA		
			Shaw	UK		
20	Flow Meter / Rota Meter	III	Trac	Hyderabad		
			Eureca	Pune	Rota Meter only	
			Flow Star Engg.	Faridabad	Rota Meter only	
			Flow Tech instruments	Vadodara	Rota Meter only	
			Instruments Engineers Pvt. Ltd.	Hyderabad	Rota Meter only	
			Scientific Devices (Bombay) Pvt. Ltd.	Mumbai	Rota Meter only	
			Emerson Process Management	singapore	Vortex Type	
			ABB Ltd.	India	Vortex Type	
			Krohne Marshall Pvt. Ltd.	India	Vortex Type	
			Endress + Hauser (I) Pvt. Ltd	India	Vortex Type	
			Yokogawa Electric Corporation (other than high temp & h2 services)	japan	Vortex Type	
			Krohne Messtechnik Gmbh & Co. Kg	Germany	Vortex Type	
21	Level Indicator/ Gauge	III	Flow Star	Faridabad		
			Scientific Devices	Mumbai		
			Gauges Bourden	Panvel		
			SBEM	Pune		
			Pune Techtrol	Pune		
			Levcon	Kolkata		
			Sigma	Mumbai		
			V-Automat	New Delhi		
			DK Instruments	Kolkata		
22	Solenoid Valve	III	HERION	GERMANY/ ITALY		
			ROTEX AUTOMATION LTD.	V V NAGAR/ BARODA		
			ASCO	CHENNAI		
			JEFFERSON	ARGENTINA		
			AVCON	MUMBAI		
23	Cable trays (max 300 meters)	III	INAR PROFILE	ANNAKAPALLI		
			ANAND UDYOG	THANE		
			MJ ENGG.	DELHI		
			INDIANA	MUMBAI		Galvanizing. At Karmatara
			TECHNO ENGG	CHANDIGARH		
			JAMUNA METAL	DELHI		

SL No	Item	QP / Insp.Cat	Proposed Subvendor	Place of Manufacturer	Technical Limit	Remarks
			INDUSTRIAL PERFORATION	KOLKATA		Galvanizing at Unistar
			VATCO	MUMBAI		Galvanizing At Sigma Mumbai
24	Cable Glands	III	SUNIL& COMPANY	KOLKATA		
			ARUP ENGG	KOLKATA		
			COMMET	MUMBAI		
			QUALITY PRECISION	KOLKATA		
25	Cable Lugs	III	DOWELLS	MUMBAI		
			CHETNA ENGG	NASIK		
			3D	VALSAD		
26	DC LEAD ACID/NI-CD BATTERY	III	AMCO SAFT INDIA LTD	BANGALORE	Ni-Cd batteries only	
			EXIDE INDUSTRIES LTD	NEW DELHI	Lead Acid batteries only.	
			HBL POWER SYSTEMS LTD	Hyderabad	Ni/Cd and TUBULAR TYPE for Lead acid	
			HOPPECKE BATTERIEN GMBH & CO.KG,	Germany		
27	DC Battery Charger (for PLC Panel)	III	AMARA RAJA POWER SYSTEMS LIMITED	Tirupati		
			CHHABI ELECTRICALS PVT.LTD.	Jalgaon		
			CHLORIDE POWER SYSTEMS & SOLUTIONS LIMITED	Kolkata		
			DUBAS ENGG PVT LTD	BANGALORE		
			HBL POWER SYSTEMS LTD	Hyderabad		
			JEMA ENERGY	Spain	For Static SCR Type Full Wave fully Control type	
			MASS-TECH CONTROLS PVT.LTD.	Mumbai		
			STATCON POWER CONTROLS LTD	Noida		
28	INSTRUMENT FITTINGS	III	AURA INCORPORATED	NEW DELHI		
			Astec Valves & Fittings Pvt. Ltd.,	Mumbai		
			Arya Crafts & Engineering Pvt. Ltd.	Mumbai		
			Comfit & Valve Pvt. Ltd.	Nandasan-Gujarat		
			FLUIDFIT ENGINEERS PVT. LTD.	Mumbai		
			Fluid Controls Pvt. Ltd.	Mumbai		
			HP VALVES & FITTINGS INDIA PVT. LTD.	Chennai		
			PRECISION ENGINEERING INDUSTRIES	Mumbai		
			Panam Engineers,	Mumbai		
			Perfect Instrumentation Control (India) Pvt. Ltd.	Mumbai		
			VIKAS INDUSTRIAL PRODUCTS	Noida		
29	SS Pipes	III	REMI	Mumbai		
			Ratmani	Ahmedabad		
			Apex Tubes	Behror		
			Choksi	Ahmedabad		
30	UPS	III	HITACHI-HIREL	Gandhinagar		
			APC	Bangalore		
			Delta	Gurgaon		
			Emerson	Mumbai		
			DB Power	Pune		
			Aplab	Mumbai		

SL No	Item	QP / Insp.Cat	Proposed Subvendor	Place of Manufacturer	Technical Limit	Remarks
31	OWS/PC	III	HP/Compaq /Dell/HCL/IBM/Lenovo			
32	Printer	III	HP/Cannon/Epson/Xerox/IBM /Lexmark			
33	PLC Based Panels	I	SIEMENS	Nasik		
			SCHNEIDER	Nasik		
			ROCKWELL	Sahibabad		
			GE Intelligent Platform	BANGALORE		
			Honeywell Automation India Limited ,	Pune		
			ABB	Bangalore		
34	Fibre Optic Cable	III	Birla Ericsson	Rewa		
			Finolex	Pune/Goa		
			Aksh Fibre	Bhiwadi		
35	Junction Box	III	AJMERA INDUSTRIAL &	Mumbai	For galvanised & FRP Junction	
			FLEXPRO ELECTRICALS	Navsari, Gujarat	Metal type Junction boxes only	
			K.S.INSTRUMENTS	Bangalore		
			SUCHITRA INDUSTRIES	Bangalore		
			Shrenik & Company,	Ahemdabad		
36	PAINTS	III	Asian Paints (I) Ltd.	Mumbai		
			Berger Paints India Ltd	Delhi		
			Goodlass Nerolac	Mumbai		
			Jenson & Nicholson (I) Ltd	Gurgaon		
			CDC carboline (I) Ltd.	Delhi		
			Shalimar Paints Ltd.	Gurgaon		
			Addison Paints Ltd	Chennai		
			Grand Polycoat	Mumbai		
			Bombay Paints	Mumbai		
			Jotun Paints	Pune		
			Hemple Paints	Singapore		

NOTES:

- 1) INSP CAT I : FOR THOSE ITEMS THE QUALITY PLANS ARE APPROVED BY CUSTOMER AND FINAL ACCEPTANCE WILL BE ON PHYSICAL INSPECTION WITNESS BY BHEL & CUSTOMER.
- 2) INSP CAT II : FOR THOSE ITEMS THE QUALITY PLANS ARE APPROVED BY CUSTOMER. HOWEVER NO PHYSICAL INSPECTION WILL BE DONE BY BHEL / CUSTOMER. THE FINAL ACCEPTANCE BY BHEL / CUSTOMER SHALL BE ON THE BASIS OF REVIEW OF DOCUMENTS AS PER QP.
- 3) INSP CAT III : FOR THOSE ITEMS FINAL ACCEPTANCE BY BHEL / CUSTOMER BASED ON BIDDER'S COC.
- 4) THE ABOVE SUB VENDOR LIST IS INDICATIVE ONLY AND IS SUBJECT TO APPROVAL/ACCEPTANCE BY CUSTOMER/BHEL . BIDDER TO PROPOSE HIS SUB VENDOR LIST WITH BACK UP DOCUEMNTS (EXPERIENCE LIST, END USER CERTIFICATE AS APPLICABLE) WHICH WILL SUBJECT TO BHEL AND CUSTOMER APPROVAL DURING DETAILED ENGINEERING STAGE WITHOUT ANY TECHNICAL , COMMERCIAL AND DELIVERY IMPLICATION TO BHEL/CUSTOMER.