

Tender Enquiry No. BHEL/CPC/KDRM/FAB_STR/26/16 for Fabrication and Supply of Factory Finished Fabricated Boiler Ceiling Girder Structure, with associated beams, bracings and miscellaneous structures of U#1 & 2 for 2x800 MW DVC Koderma (Stage-II) Project

[illegible]

Annexure 1A

DECLARATION

With reference no CPC TENDER NO. BHEL/CPC/KDRM/FAB_STR/26/16 for Fabrication and Supply of Factory Finished Fabricated Boiler Ceiling Girder Structure, with associated beams, bracings and miscellaneous structures of Unit#1 & 2 for 2x800 MW DVC Koderma (Stage-II) Project.

- a) Bidder shall declare the total number of executable orders in hand and the cumulative tonnage of fabrication to be manufactured under these orders.

PO/WO Ref. Number	Order Quantity (in MT)	Contract Period (in month)	Balance Order Quantity to be executed (in MT)	Balance Contract Period (in month)

Based on above, average Monthly Output (in MT) required to execute the above-mentioned orders _____ MT/month.

- b) Facilities/Equipments restricting or deciding the monthly capacity of the works.

Name of Equipment	Remarks

- c) Monthly Capacity of works - _____MT / Month

We, hereby declare that above mentioned details are correct and verifiable. BHEL reserves the right to seek the supporting documents and carryout physical assessment of this works for establishing the claims made above. In case of inconsistency or falsification, appropriate action, as stipulated anywhere in the tender/contract may be taken in line with the provisions of the contract.

Seal and Sign of authorized person of Bidder

SUB-SECTION – E – 60

INDICATIVE VENDOR LIST

KODERMA THERMAL POWER STATION PHASE-II (2X800MW) EPC
PACKAGE
BID DOC NO.: DVC/C&M/Engineering/KTPS(2X800 MW)/EPC/IPHB

TECHNICAL SPECIFICATIONS
SECTION – VI,
PART-B

Disclaimer for Indicative Vendor List

- 1.1 Reasonable efforts have been made to collate the sub-vendors proposed by the various main contractors from time to time against different Projects/Packages and accepted by NTPC for various items. However, in case of error/omission, if any, and represented by the successful bidder this will be addressed during the execution of the contract based on the material evidence available with NTPC / Main Contractor.
- 1.2 The approved sub-vendor list drawn is not based on NTPC driven enlistment process but based on the sub- vendors proposed by various Main Contractors. As such, it is possible that some of the Suppliers/Manufacturers who may be involved in similar work/process may not be appearing in the list as such sub-vendors may not have been proposed by Main Contractors against NTPC Contracts.
- 1.3 In case the successful bidder chooses to propose additional sub-vendors with relevant experience after the award of the contract such sub-vendors will be considered in terms of Clause no: 19.1 of GCC, provided the proposals are received sufficiently in time: 90 days prior to ordering date of a Bought Out Items/Start of Manufacturing so as not to impede the progress of the contract.
- 1.4 Sub-vendors have been grouped under different categories of items. It is possible that an item characterized by certain specific features such as range and type required as per Main Contractor's design requirements may not be in the range of the listed sub-vendor's manufacturing process/capability. As such the main contractor to ascertain the vendor's capability to meet his specific requirements before considering a sub-vendor.
- 1.5 It is to be noted by the bidders that any shortfall in contract performance attributable to the sub-vendor listed will not absolve the contractor from his contractual obligations in any manner.
- 1.6 The approval was granted based on the evaluation of relevant capabilities and facilities possessed by the sub-vendor at the time of evaluation. Also, some of the sub-vendors may not be active. As such, the successful bidder is to carry out his own due diligence before considering the listed sub-vendor for subletting: the current status of the sub-vendor, the continued availability of productive resources including Human Resources.
- 1.7 The list of sub-vendors is periodically revised to include new sub-vendors. Such a revision may also see a deletion of certain sub-vendors who may have been disqualified on grounds of inadequate performance or banned in line with NTPC's banning policy. The then current list will be shared with the successful bidder immediately on award.

एनटीपीसी NTPC		Project/ परियोजना :KODARMA SUPER THERMAL POWER PROJECT Ph -II (2X800MW)				LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB-SUPPLIER APPROVAL स्वालिटी प्लान तथा सब -वैडर के अनुमोदन सहित मर्चों की सूची				DOC. NO./ दस्तावेज सं.: REVISION NO : 00 DATE/ तिथि : 20.05.2023 SUB-SYSTEM उप-प्रणाली: QA-SG(MECH)		Provenness Clause (Refer Note-1)
		Package/ पैकेज: EPC PACKAGES										
		Supplier/ आपूर्तिकर्ता:										
		Contract No./ अनुबंध सं.:										
S. N. क्र.सं.	Item / मर्च	QP/ Insp. Cat. क्यूपी/ निरी. श्रेणी.	QP No./ क्यूपी. सं.	QP Sub. Schedule क्यूपी उप-अनु सूचि	Proposed sub-supplier/ प्रस्तावित उप आपूर्तिकर्ता	Place/ स्थान	Sub-suppliers approval status / आपूर्तिकर्ता के अनुमोदन की स्थिति /श्रेणी	Sub-supplier Details submission schedule/ उप आपूर्तिकर्ता के विवरण प्रस्तुतीकरण की सूची	Remarks/ टिप्पणी			
1	RAPH	I			REFER SUB QR ITEM LIST Refer Note 1				STATIC COMPONENTS, ROTATING COMPONENTS, GUIDE/SUPPORT BEARINGS-NTPC APPROVED VENDORS			
2	FD, PA & ID FANS	I			REFER SUB QR ITEM LIST Refer Note 1				STATIC, ROTATING COMPONENTS AND BLADES - NTPC APPROVED VENDORS			
3	COAL MILL	I			REFER SUB QR ITEM LIST Refer Note 1				MILL COUPLING, PGB, GRINDING ROLLS, BULL RING SEGMENTS, MILL HOUSING, SEPARATOR AND OTHER MAIN COMPONENTS - FROM NTPC APPROVED SOURCES			
4	ESP	I			REFER SUB QR ITEM LIST Refer Note 1				COLLECTING ELECTRODE, EMITTING ELECTRODE - NTPC APPROVED VENDORS			
5	GRAVIMETRIC COAL FEEDERS	I			REFER SUB QR ITEM LIST Refer Note 1							
6	RECIRCULATION PUMP	I			REFER SUB QR ITEM LIST Refer Note 1							
7	AUXILIARY BOILER	I			REFER SUB QR ITEM LIST Refer Note 1		A					
8	ESP SUPPORT STRUCTURE (AUTO WELDED COLUMNS & ROOF BEAMS)	I			NTPC APPROVED SOURCES				REFER BOILER STRUCTURE LIST			
9	SEAMLESS TUBES	\$			VALLOUREC & MANNESMANN TUBES	FRANCE, GERMANY	A		CS & AS T-11, T-22, T-23, T-91, T-92			
		\$			TENNARIS GLOBAL SERVICES SA, URUGUAY	DALMINE, ITALY	A		CS & AS T-11, T-22			
		\$			TENNARIS GLOBAL SERVICES SA, URUGUAY	SILCO, ROMANIA	A		CS & AS T-11, T-22, T-23, T-91			
		\$			TENNARIS GLOBAL SERVICES SA, URUGUAY	NKK TUBES, JAPAN	A		CS & AS T-11, T-22, T-91			
		\$			MAHARASHTRA SEAMLESS LTD	RAIGAD	A		CS HOT FINISHED OD:21.0 MM TO 168.3 MM WT: 2.0 MM TO 20.0 MM COLD FINISHED OD:19.0 MM TO 88.9 MM WT: 1.0 MM TO 12.0 MM			
		\$			IBF S.P.A	ITALY	A		CS & AS T-11, T-12, T-22, T-91			
		\$			JFE STEEL CORPORATION	JAPAN	A		CS & AS T-11, T-22, T-23, T-91, T-92			
		\$			TUBOS REUNIDOS INDUSTRIAL, S.L.U	SPAIN	A		CS & AS T-11, T-22, T-23, T-91, T-92			
		\$			JINDAL SAW LIMITED	NASHIK	A		CS & AS T-11, T-12, T-22 HOT FINISHED OD: 33.4 MM TO 168.3 MM WT: 3.5 MM TO 21.95 MM COLD FINISHED OD: 6.0 MM TO 140.0 MM WT: 0.8 MM TO 15.0 MM			

S. N. क्र.सं.	Item/ मद	Project/ परियोजना :KODARMA SUPER THERMAL POWER PROJECT Ph -II (2X800MW) Package/ पैकेज: EPC PACKAGES Supplier/ आपूर्तिकर्ता: Contract No./ अनुबंध सं.:					LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB-SUPPLIER APPROVAL स्वीकृति प्लान तथा सब-सप्लायर के अनुमोदन सहित मदों की सूची				DOC. NO./ दस्तावेज सं.: REVISION NO : 00 DATE/ तिथि : 20.05.2023 SUB-SYSTEM उप-प्रणाली: QA-SG(MECH)	
		QP/ Insp. Cat. क्यूपी/ निरी. श्रेणी.	QP No./ क्यूपी. सं.	QP Sub. Schedu le क्यूपी उप.अनु सूचि	Proposed sub-supplier/ प्रस्तावित उप आपूर्तिकर्ता	Place/ स्थान	Sub-suppliers approval status / category उप आपूर्तिकर्ता के अनुमोदन की स्थिति /श्रेणी	Sub-supplier Details submission schedule/ उप आपूर्तिकर्ता के विवरण प्रस्तुतीकरण की सूची	Remarks/ टिप्पणी	Provenness Clause (Refer Note-1)		
		\$			REMI METALS GUJARAT LTD	BHARUCH	A		CS & AS T-11, T-12, T-22 HOT FINISHED OD: 28.6 MM TO 177.8 MM WT: 3.0 MM TO 28.0 MM COLD FINISHED OD: 9.0 MM TO 127.0 MM WT: 1.6 MM TO 20.0 MM			
		\$			WAYMAN GORDAN	USA	A		CS,T11,T12,T22,T91			
		\$			BENTELER STEEL/TUBE GMBH	GERMANY	A		CS,T-11, T23, T-22, T-91 & T-92			
		\$			HEAVY METALS & TUBES LTD	AHMEDABAD	A		CS HOT FINISHED UP TO OD: 76.2 MM AND WT:12.0 MM			
		\$			PRODUCTOS TUBULARES,	SPAIN	A		CS & AS T-11, T-22, T-23, T-91			
		\$			ISMT	AHMEDNAGAR,B ARAMATI	A		CS, T11, 12, 22 HOT FINISHED OD: 38.0 MM TO 273.0 MM WT: 3.5 MM TO 40.0 MM COLD FINISHED OD: 18.0 MM TO 140.0 MM WT: 1.5 MM TO 15.0 MM			
		\$			NIPPON STEEL & SUMITOMO METAL CORPORATION	JAPAN	A		CS, T-11, T-22, T23, T-91, & T-92			
		\$			BENTELER STEEL/TUBE GMBH	GERMANY	A		CS, T-11, T23, T-22, T-91 & T-92			
		\$			BHEL SSTP	TRICHY	A		CS, T-11, T-12, T-22			
10	SEAMLESS TUBES(RIFFLED)	\$			SALZGITTER MANNESAMANN PRECISION	FRANCE	A		CS			
11	SEAMLESS TUBES(SS)	\$			KOBE SPECIALITY STEEL CO LTD	JAPAN	A		SS304, SS347H			
		\$			SMST	ITALY	A		SS304, 347H, SUPER 304			
		\$			TUBACEX	SPAIN	A		SS304, 347H, SUPER 304			
		\$			PASCO SPL STEEL CO.	SOUTH KOREA	A		SS304, 347H, SUPER 304			
		\$			NIPPON STEEL & SUMITOMO METAL CORPORATION	JAPAN	A		SS 304, SS347H, SUPER 304 OD UP TO 114.3 MM			
12	SEAMLESS PIPES	\$			TENNARIS GLOBAL SERVICES SA, URUGUAY	DALMINE, ITALY	A		CS & AS P-11, P-22, P-91			
		\$			TENNARIS GLOBAL SERVICES SA, URUGUAY	SILCO, ROMANIA	A		CS & AS T-11, T-22, T-91 UPTO DIA 159 MM			
		\$			TENNARIS GLOBAL SERVICES SA,URUGUAY	NKK TUBES, JAPAN	A		CS & AS T-11, T-22, T-91			
		\$			VALLOUREC & MANNESMANN TUBES	FRANCE, GERMANY	A		CS & AS P-11, P-22, P-91, P-92			
		\$			TUBOS REUNIDOS INDUSTRIAL- S.L.U	SPAIN	A		CS & AS P-11, P-22, P-91			

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		\$			ISMT	AHMEDNAGAR, BARAMATI	A		CS, T11, 12, 22 HOT FINISHED OD: 38.0 MM TO 273.0 MM WT: 3.5 MM TO 40.0 MM COLD FINISHED OD: 18.0 MM TO 140.0 MM WT: 1.5 MM TO 15.0 MM								
		\$			REMI METALS GUJARAT LTD	BHARUCH	A		CS & AS T-11, T-12, T-22 HOT FINISHED OD: 28.6 MM TO 177.8 MM WT: 3.0 MM TO 28.0 MM COLD FINISHED OD: 9.0 MM TO 127.0 MM WT: 1.6 MM TO 20.0 MM								
		\$			VALCONVY TRUB CHOMUTOV.	CZECH REPUBLIC	A		CS & P-12 & P-22								
		\$			ARCELOMITTAL TUBULAR PRODUCTS ROMAN S.A	ROMANIA	A		CS								
		\$			WAYMAN GORDAN	USA	A		CS & AS P-11, P-22, P-91								
		\$			MAHARASHTRA SEAMLESS LTD	RAIGAD	A		CS HOT FINISHED OD:219.1 MM TO 355.6 MM WT: 6.35 MM TO 35.1 MM COLD FINISHED OD:19.0 MM TO 88.9 MM WT: 1.0 MM TO 12.0 MM								
		\$			PRODUCTOS TUBULARES.	SPAIN	A		CS & AS P-11, P-12, P-22, P-91								
		\$			NIPPON STEEL & SUMITOMO METAL CORPORATION	JAPAN	A		CS & AS P-11, P-22, P-91 & P-92								
		\$			TENNARIS GLOBAL SA, URUGUAY	NKK TUBES, ITALY	A		P-91, P-22, P-11, P12, CS								
		\$			JINDAL SAW LIMITED	NASHIK	A		CS, T11, 12, 22 HOT FINISHED OD: 33.4 MM TO 168.3 MM WT: 3.5 MM TO 21.95 MM COLD FINISHED OD: 6.0 MM TO 140.0 MM WT: 0.8 MM TO 15.0 MM								
		\$			IBF S.P.A	ITALY	A		P-92, P-91, P-22, P-11, P12, CS								
		\$			JFE STEEL CORPORATION	JAPAN	A		CS								
		\$			BHEL SSTP	TRICHY	A										
		\$			BENTELER STEEL/TUBE GMBH	GERMANY	A		P-11, P-22, P-91, P-92 UP TO OD 160 MM								
		\$			RINGMILL SPA	ITALY	A		CS OD UP TO 914 MM & WT UP TO 102 MM & AS P-91								
		\$			FORGIATURA MORANDINI SRL	ITALY	A		CS & AS P-11, P-22, P-91 & P-92								
13	PLATES AND ROLLED SECTION (CS & AS EXCLUDING CS- IS:2062 GRADES)	\$			INDUS STEEL	BELGIUM	A		CS-SA515 AS UP TO GR-91								
		\$			IL SENBURGER GROBBLECH	GERMANY	A		CS-SA 299, SA515, BS EN 10025, AS UP TO GRADE 91								
		\$			DILLINGER-GTSVENTES	GERMANY	A		CS-SA 299, SA515, BS EN 10025, A36, AS UP TO GRADE 91								
		\$			SIJ ACRONI D.O.O., SLOVENIA	SLOVENIA	A		CS- SA515, BS EN 10025, A36, AS UP TO GRADE 91								

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		Package/ पैकेज: EPC PACKAGES					Sub-supplier Details submission schedule/ उप आपूर्तिकर्ता के विवरण प्रस्तुतीकरण की सूची					Remarks/ टिप्पणी		Provenness Clause (Refer Note-1)	
		Supplier/ आपूर्तिकर्ता:													
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S. N. क्र.सं.	Item / मद्द	QP/ Insp. Cat. क्यूपी/ निरी. श्रेणी.	QP No./ क्यूपी. सं.	QP Sub. Schedule le क्यूपी उप.अनु सूचि	Proposed sub-supplier/ प्रस्तावित उप आपूर्तिकर्ता	Place/ स्थान	Sub-suppliers approval status / category उप आपूर्तिकर्ता के अनुमोदन की स्थिति /श्रेणी								
		\$			THYSSENKRUPP	GERMANY	A			CS- SA515 BS EN 10025 A36, AS UP TO GRADE 22					
		\$			INDUSSTEEL LOIRE	FRANCE	A			CS-SA 299, SA515; AS UP TO GRADE 22					
		\$			ARCELLOR MITAL NIPPON STEEL (Formerly ESSAR Steel)	HAZIRA	A			CS- SA515, BS EN 10025, A36, AS GRADE 12 &22					
		\$			VOESTALPINE GROBBLECH GMBH	AUSTRIA	A			CS- SA515 BS EN 10025 A36, AS UP TO GRADE 22					
		\$			SAIL	BHILAI/SALEM	A			CS- SA515 BS EN 10025 A36, AS UP TO GRADE 22					
		\$			NIPPON STEEL	JAPAN	A			CS- SA515 BS EN 10025 A36, AS UP TO GRADE 22					
		\$			POSCO	SOUTH KOREA	A			CS- SA515 BS EN 10025 A36, AS UP TO GRADE 22					
		\$			REINER BRACH GMBH & CO.	GERMANY	A			CS- SA 299 SA515 BS EN 10025 A36, AS UP TO GRADE 22					
14	PLATES & ROLLED SECTION (CS-IS 2062 STRUCTURAL STEEL GRADES)	\$			LLYODS STEEL INDUS LTD	INDIA	A			ALLOY STEEL PLATES AS PER A-204 & A-387 UPTO THICKNESS OF 40MM FOR STRUCTURAL STEEL APPLICATION , IN NON-PRESSURE PARTS.					
					REFER TO SUB-VENDORS MENTIONED IN THE TECHNICAL SPECIFICATIONS SEC-VI, PART-B		A								
15	PLATES(SS)	\$			OUTOKUMPU	SWEDEN	A			SS PLATES UP TO 20 MM THK					
		\$			INDUSSTEEL	BELGIUM	A			GRADE-304.309.310.316					
		\$			JSL STAINLESS	JAIPUR	A			LINER SS 304					
		\$			INDUSSTEEL LOIRE	FRANCE	A			GRADE-304.309.310.316					
		\$			SAIL	BHILAI/SALEM	A			GRADE-304.309.310.317					
		\$			COLUMBUS STAINLESS STEEL	SOUTH AFRICA	A			GRADE-304.309.310.318					
16	SEPARATOR & STORAGE TANK	I			ALSTOM	USA	A								
		I			BHEL	TRICHY	A								
		I			GE INDIA	DURGAPUR	A								
		I			DOOSAN	SOUTH KOREA	A								
		I			L&T-MHPS BOILERS PVT LTD	HAZIRA	A								
17	HEADERS AND SUCTION MANIFOLDS	I			ALSTOM	USA	A								
		I			BHEL	TRICHY	A								
		I			GE INDIA	DURGAPUR	A								
		I			DOOSAN	CHENNAI	A								
		I			DOOSAN VINA	VIETNAM	A								

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		I			L&T-MHPS BOILERS PVT LTD	HAZIRA	A							
18	SPIRAL WATER WALLS	I			BHEL	TRICHY	A							
		I			GE INDIA	DURGAPUR	A							
		I			ALSTOM	USA	A							
		I			DOOSAN	CHENNAI	A							
		I			DOOSAN VINA	VIETNAM	A							
		I			DOOSAN	SOUTH KOREA	A							
19	TUBULAR PRODUCTS/ COILS & PANELS) EXCLUDING SPIRAL WALLS	I			GE INDIA	DURGAPUR	A							
		I			BHEL	TRICHY	A							
		I			ALSTOM	USA	A							
		I			DOOSAN	CHENNAI	A							
		I			DOOSAN VINA	VIETNAM	A							
		I			DOOSAN	SOUTH KOREA	A							
		I			L&T-MHPS BOILERS PVT LTD	HAZIRA	A							
		I			MHI	JAPAN	A							
20	CRITICAL PIPING /PCP(MS, CRH, HRH, FW) AND BOILER PIPING	I			BHEL	TRICHY, THIRUMAYAM	A							
		I			GE INDIA	DURGAPUR	A							
		I			DOOSAN	SOUTH KOREA	A							
		I			BHR	GERMANY	A							
		I			DEE DEVELOPMENT	PALWAL	A							
		I			BENTEC	USA	A							
		I			L&T PIPING CENTRE	HAZIRA	A							
		I			SEONGHWA IND CO LTD	SOUTH KOREA	A							
21	MISC HP PIPING EXCLUDING CRITICAL PIPING(CS, AS UP TO GRADE 91)	I			BHEL	TRICHY	A							
		I			GE INDIA	DURGAPUR	A							
		I			DOOSAN	SOUTH KOREA	A							
		I			BHR	GERMANY	A							
		I			DEE DEVELOPMENT	PALWAL	A							
		I			BENTEC	USA	A							
		I			L&T PIPING CENTRE	HAZIRA	A							
		I			SEONGHWA IND CO LTD	SOUTH KOREA	A							
		I			PAL ENGG	YAMUNANAGAR	A							
22	MISC HP PIPING EXCLUDING CRITICAL PIPING(CS, AS UP TO GRADE 22)	I					A		ABOVE MENTIONED PIPING VENDORS ARE ALSO ACCEPTABLE					

एनटीपीसी NTPC		Project/ परियोजना :KODARMA SUPER THERMAL POWER PROJECT Ph -II (2X800MW)		LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB-SUPPLIER APPROVAL स्वीकृति प्लान तथा सब -वेयर के अनुमोदन सहित मटेर की सूची			DOC. NO./ दस्तावेज सं.: REVISION NO : 00 DATE/ तिथि : 20.05.2023 SUB-SYSTEM उप-प्रणाली: QA-SG(MECH)			
		Package/ पैकेज: EPC PACKAGES								
		Supplier/ आपूर्तिकर्ता:								
		Contract No./ अनुबंध सं.:								
S. N. क्र.सं.	Item/ मद्द	QP/ Insp. Cat. क्यूपी/ निरी. श्रेणी.	QP No./ क्यूपी. सं.	QP Sub. Schedu le क्यूपी उप.अनु सूचि	Proposed sub-supplier/ प्रस्तावित उप आपूर्तिकर्ता	Place/ स्थान	Sub-suppliers approval status / आपूर्तिकर्ता के अनुमोदन की स्थिति /श्रेणी	Sub-supplier Details submission schedule/ उप आपूर्तिकर्ता के विवरण प्रस्तुतीकरण की सूची	Remarks/ टिप्पणी	Provenness Clause (Refer Note-1)
		I			ISGEC	YAMUNANAGAR	A		UP TO GRADE 22	
		I			UNITECH MACHINES LTD	SAHARANPUR	A		ONLY FOR CS GRADE	
		I			BEND JOINTS PVT LTD	BHOPAL	A		ONLY FOR CS GRADE	
		I			SEAM INDUSTRIES PVT LTD	NAGPUR	A		ONLY FOR CS GRADE	
		I			S&G	PALWAL	A		CS & AS UP TO GRADE 22 (EXCEPT BOILER PIPING & CRITICAL PIPING)	
		I			FLASH FORGE	VISAKHAPATNA M	A		ONLY FOR CS GRADE	
23	MIXING SPHERES	I			GE INDIA	DURGAPUR	A			
		I			BHEL	TRICHY	A			
		I			ALSTOM	USA	A			
		I			DOOSAN	SOUTH KOREA	A			
24	COAL BURNER ASSY & SOFA/OFA PORT/AA PORT	I			ALSTOM	USA	A			
		I			BHEL	TRICHY	A			
		I			DOOSAN	SOUTH KOREA	A			
		I			L&T-MHPS PVT LTD	HAZIRA	A			
		I			DEE DEE ENGINEERING ENTERPRISES	TRICHY	A			
25	AIR COOLED OIL GUN ASSEMBLY	I			BHEL	TRICHY	A			
		I			SIGMA POWER	TRICHY	A			
		I			DOOSAN	SOUTH KOREA	A			
26	HFO/LFO PUMPS									
		I			ALEKTON	CHENNAI	A			
		I			UT PUMPS	FARIDABAD	A			
		I			ROTO PUMPS LTD.	GREATER NOIDA	A			
		I			ALLWEILER INDIA PVT.LTD.	GERMANY	A			
		I			BOURMANN	GERMANY	A			
		I			TUSHACO PUMPS PVT LTD/ALLWEILER INDIA PVT.LTD.	DAMAN	A			
		I			LEISTRITZ PUMPEN GmbH	GERMANY	A			
		I			KRAL	AUSTRIA	A			
27	SOOT BLOWERS(LRSB, WALL DESLAGGER, ROTARY BLOWER, TEMP PROBE)	I			BHEL	TRICHY	A			
		I			CLYDE BERGMANN	NOIDA	A		UNDER THE SUPERVISION OF M/S CLYDE BERGMANN, GERMANY	

एनटीपीसी NTPC		Project/ परियोजना :KODARMA SUPER THERMAL POWER PROJECT Ph -II (2X800MW)					LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB-SUPPLIER APPROVAL स्वीकृति प्लान तथा सब –सेंडर के अनुमोदन सहित मटेर की सूची					DOC. NO./ दस्तावेज सं.: REVISION NO : 00 DATE/ तिथि : 20.05.2023 SUB-SYSTEM उप-प्रणाली: QA-SG(MECH)		Provenness Clause (Refer Note-1)
		Package/ पैकेज: EPC PACKAGES					Proposed sub-supplier/ प्रस्तावित उप आपूर्तिकर्ता	Place/ स्थान	Sub-suppliers approval status / category उप आपूर्तिकर्ता के अनुमोदन की स्थिति /श्रेणी	Sub-supplier Details submission schedule/ उप आपूर्तिकर्ता के विवरण प्रस्तुतीकरण की सूची	Remarks/ टिप्पणी			
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		Contract No./ अनुबंध सं.:												
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		I			CLYDE BERGEMANN		GERMANY	A						
		I			DIAMOND POWER SPECIALITY LTD		SCOTLAND	A						
		I			DAIEYOUNG MACHINERY		KOREA	A						
28	ELECTRIC HOIST WITH TROLLEY, UNDERSLUNG CRANE	I						A		MAIN BOIS E.G. HOOK, MOTORS AND CRITICAL C&I ITEMS TO BE FROM NTPC APPROVED SOURCES				
		I			CONSOLIDATED HOISTS		SATARA	A		EOT CRANES UPTO 40 MT & HOISTS ABOVE 35 MT				
		I			REWA INDUSTRIES		FARIDABAD	A		EOT CRANES UPTO 25 MT				
		I			GRIP ENGINEERS		HYDERABAD	A		HOIST UPTO 40 MT				
		I			POWER BUILD PVT LTD,		V V NAGAR	A		HOIST UPTO 10 MT				
		I			UNIVERSAL HOIST		THANE	A		HOIST UPTO 20 MT				
		I			ARMSEL MHE PVT LTD		BANGALORE	A		UP TO 20 MT				
		I			ANUPAM INDUSTRIES		VITHAL, UDYOGNAGAR	A		EOT CRANES UPTO 50 MT				
		I			TRACTOR TRIFOR		FARIDABAD	A		HOIST UPTO 35 MT				
		I			CONSOLIDATED HOISTS		PUNE	A		HOISTS UPTO 20 MT				
		I			DYNAMECH CRANES		THANE , MUMBAI	A		UP TO 20 MT				
		I			HERCULES HOIST LTD.		MUMBAI	A		HOIST UPTO 30 MT				
		I			NAMSUNG MACHINERY		SOUTH KOREA	A		UP TO 25 MT				
		I			CENTURY CRANES		PALWAL	A		EOT CRANES UP TO 30 MT				
		I			MUKUND		PUNE	A						
		I			Mangla Hoist		India (Greater Noida)	A		UPTO 10 MT				
29	LP CONDENSATE PUMP	I			ITT GOULD		USA	A						
		I			FLOW SERVE		USA	A						
		I			SULZER		NAVI MUMBAI	A						
		I			CLYDE PUMPS		GHAZIABAD	A						
		I			PUMPSENSE FLUID ENGG. PVT. LTD		HOWRAH	A						
30	SCANNER AIR FAN	I			ANDREW YULE CO. LTD		NADIA	A						
		I			ACCEL		AHMEDABAD	A						
		I			PATEL AIRTEMP (I) LTD		GANDHINAGAR	A						
		I			BHEL		RANIPET	A						
		I			CB DOCTOR(IMM)		AHMEDABAD	A						
		I			AIROCHEM ENGINEERING COMPANY		KOLHAPUR	A						
		I			FLAKEWOOD INDIA		CHENNAI	A						
		I			TLT ENGG. PVT. LTD.,		MEHSANA	A						

 Project/ परियोजना :KODARMA SUPER THERMAL POWER PROJECT Ph -II (2X800MW) Package/ पैकेज: EPC PACKAGES Supplier/ आपूर्तिकर्ता: Contract No./ अनुबंध सं.:			LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB-SUPPLIER APPROVAL स्थापित उप सब –वैद्य के अनुमोदन सहित मदों की सूची					DOC. NO./ दस्तावेज सं.: REVISION NO : 00 DATE/ तिथि : 20.05.2023 SUB-SYSTEM उप-प्रणाली: QA-SG(MECH)		Provenness Clause (Refer Note-1)			
			S. N. क्र.सं.	Item/ मद	QP/ Insp. Cat. क्यूपी/ निरी. श्रेणी.	QP No./ क्यूपी. सं.	QP Sub. Schedu le क्यूपी उप.अनु सूचि	Proposed sub-supplier/ प्रस्तापित उप आपूर्तिकर्ता	Place/ स्थान			Sub-suppliers approval status / आपूर्तिकर्ता के अनुमोदन की स्थिति /श्रेणी	Sub-supplier Details submission schedule/ उप आपूर्तिकर्ता के विवरण प्रस्तुतीकरण की सूची
		31	SEAL AIR FAN	I			CB DOCTOR & CO.	AHMEDABAD	A				
				I			ACCEL	AHMEDABAD	A				
				I			TLT INDIA PVT. LTD.,	MEHSANA	A				
				I			PATEL AIRTEMP (I) LTD.,	GANDHINAGAR	A				
				I			BHEL	RANIPET	A				
				I			ANDREW YULE CO. LTD.,	KALYANI NADIA	A				
				I			FLAKTWOOD	SWEDEN	A				
				I			FLAKEWOOD INDIA	CHENNAI	A				
				I			DRAFT AIR/CHICAGO BLOWERS	AHMEDABAD	A				
				I			REITZ INDIA	CHENNAI	A				
				I			Howden Solyvent (India) Pvt. Ltd	Kanchipuram	A				
				I			NADI AIR TECH P LTD	CHENNAI	A				
		32	FURNACE MAINTENANCE PLATFORM(SKY CLIMBER)	I			NY SKYMAN INT. SA	BELGIUM	A				
				I			NV SKCLIMBER EUROPE SA	BELGIUM	A				
				I			DAEO PRECISION IND CO LTD	SOUTH KOREA	A				
		33	QUICK ERECT FURNACE SCAFFOLDING	II			BSL	UK	A				
				II			INSTANT UPRIGHT	IRELAND	A				
				II			EASTMAN IMPEX	LUDHIANA	A		CARBON STEEL SCAFFOLDING		
				II			BSL	HARIDWAR	A				
				II			ARUFASE	SPAIN	A				
		34	METALLIC EXPANSION JOINT FOR DUCTS	I			FLEXATHERM EXPANLLOW PVT LTD	VADODARA	A				
				I			FLEXICAN BELLOWS & HOSES PVT LTD	VADODARA	A				
				I			KAY ENGINEERING WORKS	TRICHY	A		MANUFACTURE OF STRAIGHT PIECES ONLY (CORNER PIECES FROM NTPC APPROVED SOURCES.)		
				I			RAVI STRUCTURALS	TRICHY	A		MANUFACTURE OF STRAIGHT PIECES ONLY (CORNER PIECES FROM NTPC APPROVED SOURCES.)		
				I			MARUTI FABRICATORS	TANJORE	A		MANUFACTURE OF STRAIGHT PIECES ONLY (CORNER PIECES FROM NTPC APPROVED SOURCES.)		
				I			K B TECHNOLOGIES	TRICHY	A		MANUFACTURE OF STRAIGHT PIECES ONLY (CORNER PIECES FROM NTPC APPROVED SOURCES.)		

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		Package/ पैकेज: EPC PACKAGES			Supplier/ आपूर्तिकर्ता:			Place/ स्थान	Sub-suppliers approval status / आपूर्तिकर्ता के अनुमोदन की स्थिति /श्रेणी	Sub-supplier Details submission schedule/ उप आपूर्तिकर्ता के विवरण प्रस्तुतीकरण की सूची	Remarks/ टिप्पणी	
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		I			AURORA SHAPERS	TRICHY	A		MANUFACTURE OF STRAIGHT PIECES ONLY (CORNER PIECES FROM NTPC APPROVED SOURCES.)			
		I			FLEXICAN DURGA FAB(P) LTD	TRICHY	A		MANUFACTURE OF STRAIGHT PIECES ONLY (CORNER PIECES FROM NTPC APPROVED SOURCES.)			
		I			SRI DURGA STRUCTURALS	TRICHY	A		MANUFACTURE OF STRAIGHT PIECES ONLY (CORNER PIECES FROM NTPC APPROVED SOURCES.)			
		I			REGIONAL ENGINEERING ENTERPRISES	TRICHY	A		MANUFACTURE OF STRAIGHT PIECES ONLY (CORNER PIECES FROM NTPC APPROVED SOURCES.)			
		I			SRI RANGA INDUSTRIES	TANJORE	A		MANUFACTURE OF STRAIGHT PIECES ONLY (CORNER PIECES FROM NTPC APPROVED SOURCES.)			
		I			ANNAI VAILANKANNI ENGINEERING INDUSTRIES	TANJORE	A		MANUFACTURE OF STRAIGHT PIECES ONLY (CORNER PIECES FROM NTPC APPROVED SOURCES.)			
		I			ANNAI VAILANKANNI FABRICATORS UNIT-II	TANJORE	A		MANUFACTURE OF STRAIGHT PIECES ONLY (CORNER PIECES FROM NTPC APPROVED SOURCES.)			
		I			ANNAI VAILANKANNI FABRICATORS UNIT-II	TRICHY	A		MANUFACTURE OF STRAIGHT PIECES ONLY (CORNER PIECES FROM NTPC APPROVED SOURCES.)			
		I			MECHWELL INDUSTRIES	NASHIK	A					
35	METALLIC EXPANSION JOINT FOR PIPES	I			METALLIC BELLOWS	CHENNAI	A		UP TO 2200 NB			
		I			LONESTAR	CHENNAI	A		UP TO 2200 NB			
		I			FLEXICON BELLOWS & HOSES	VADODARA	A		UP TO 2200 NB			
		I			FLEXATHERM EXPANILLOW PVT LTD	VADODARA	A		UPTO 2000 NB			
36	LIGHT BONDED MINERAL WOOL	II			PUNISTAR INSULATION FIBRE COMPANY	BHILAI	A					
		II			SHREERAM EQUITECH	DURG	A					
		II			GOENKA ROCKWOOL (INDIA) LTD	RAIPUR	A					
		II			LLOYDS INSULATION	BHILAI	A					
		II			THERMOCARE ROCKWOOL PVT LTD	RAJNANDGAON	A					
		II			MINWOOL ROCK FIBRES LTD	RAJNANDGAON	A					
		II			LAPINUS ROCKWOOL LTD	GWALIOR	A					
		II			ROCKWOOL INDIA	MEDAK AP	A					
		II			DHANBAD ROCKWOOL INSULATION PVT LTD	DHANBAD	A					

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		Package/ पैकेज: EPC PACKAGES					Sub-supplier Details submission schedule/ उप आपूर्तिकर्ता के विवरण प्रस्तुतीकरण की सूची		Sub-suppliers approval status / category उप आपूर्तिकर्ता के अनुमोदन की स्थिति /श्रेणी					
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S. N. क्र.सं.	Item/ मर्च	QP/ Insp. Cat. क्यूपी/ निरी. श्रेणी.	QP No./ क्यूपी. सं.	QP Sub. Schedule क्यूपी उप-अनु सूचि	Proposed sub-supplier/ प्रस्तावित उप आपूर्तिकर्ता	Place/ स्थान								
		II			MINSULATE MFG CO. LTD	JAMSHEDPUR	A							
		II			POLYBOND PROJECTS PVT LTD	DURG	A							
		II			HI-TECH ROCK FIBRE LTD	RAJNANDGAON	A							
		II			ROCKWOOL INDUSTRIES	BHILAI	A							
		II			JAMSHEDPUR MINERAL WOOL	JAMSHEDPUR	A							
		II			ROXUL ROCKWOOL	DAHEJ	A							
37	CLH & VLH	I			BHEL	TRICHY	A							
		I			MID AMERICA	USA	A							
		I			MANNESMANN	GERMANY	A							
		I			ITT	GERMANY	A							
		I			PIPE SUPPORTS	UK / THAILAND	A							
		I			UNISON	SOUTH KOREA	A							
		I			PIPE HANGER SUPPORTS PVT LTD	TANJAVORE	A							
		I			GILLARDINI	ITALY	A							
		I			LISEGA	GERMANY	A							
		I			WOOKWANG	SOUTH KOREA	A							
		I			BERGEN PIPE SUPPORTS INDIA	CHITTOR	A				CLH UP TO C8-32 RANGE(MAXIMUM LOAD 39.70T). IN CASE OF CLH BEYOND THE RANGE OF C7-27(OF SUPPLIER CATALOGUE) THE SAME SHALL BE SOURCED FROM M/S PIPE SUPPORTS, UK/THAILAND.			
		I			SANWA TAKI	JAPAN	A							
		I			MH	SPAIN	A							
		I			BROWICK	UK	A							
		I			CARPENTER PATTERSON	UK	A							
		I			CARPENTER PATTERSON INDIA PVT LTD	VELLORE	A				MAXIMUM LOAD: 23877 KG AND MAXIMUM DISPLACEMENT: 220 MM AND UNDER THE SUPERVISION OF M/S CARPENTER PATERSON, UK.			
		I			AAA SUPPORTS PVT LTD	VADODARA	A				MAXIMUM LOAD: 1.5MT AND MAXIMUM DISPLACEMENT: 250MM			
		I			CARPENTER & PATTERSON	RANIPET	A				SUBJECT TO CONDITIONS AND THE INVOLVEMENT OF THEIR PRINCIPALS			
38	CONVENTIONAL VALVES (GATE, GLOBE & CHECK)	I			VELAN INC.	CANADA	A				SINGLE STAGE DRAIN VALVES (FORGED), SIZE UPTO 50MM NB, CLASS UPTO 2680 FOR POWER CYCLE PIPING APPLICATION.			

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		I			LEADER VALVES LTD.	JALANDHAR	A		CC NRV UP NB 800, 150# FOR STG PKG.				
		I			BHEL	TRICHY	A						
		I			CRESCENT VALVES	MUMBAI	A		UPTO NB 300 CL 600				
		I			VELAND VALVE CORP.	USA	A		GATE V/V 2-34" CL 900-4500 CAST STEEL GATE V/V 18-48" CH150-800				
		I			VELAN	UK	A		1) GLOBE V/V 1/4"-2" C14500 (2) BONNETLESS GLOBE V/V 1/2-2.5" CI 150-500)				
		I			L&T VALVES	COIMBATORE	A		UP TO CLASS 4500 & GRADE 91				
		I			TRILLIUM FLOW	HUBLI	A		UPTO NB 300 & CL-600, FORGED UPTO NB 50 CL 800				
		I			FOURESS ENGG. INDIA LTD.,	THANE	A		(1) 10"X600 # GATE/GLOBE/CHECK VALVES (2) 16"X300# GATE/GLOBE/CHECK VALVES (3) 24"X150# GATE/GLOBE/CHECK VALVE (4) 2"X800 # FS GATE/GLOBE/CHECK (LIST) AS PER B85352 (B) GATE GLOBE/CHECK VALVES FOR 700# TO 1500#				
		I			NITTON VALVES INDIA PVT. LTD.,	AURANGABAD	A		(1) GATE VALVE: UPTO36" CLASS 600 WCB/WCC (2) GLUBE VALVE: UPTO 16" CLASS 300 WCB/WCC (3) CHECK VALVE : UPTO 12" CLASS 600 WCB/WCC & WC6				
		I			SAMSHIN LTD.,	SOUTH KOREA	A		(1) GATE - 450 NB 3900 SPL CL SA 217 C12A (GR 91) (2) GLOBE (CAST) - 200 NB 3900 SPL, CL FOR SA 217C12 (G 91) (3) GLOBE (FORGED GR 92) - 50 NB 4500 CL GR SA182 F 92 (4) CHECK (CAST) - 200 NB 3500 SPL CL FOR SA 217C12A (GR91) (5) CHECK (FORGED GR 92) - 50 NB 4500 CL GR SA 182 F 92 (5) ANGLE (FORGED80 NB)				
		I			TOA VALVE ENGGINERING INC.	JAPAN	A		CONVENTIONAL VALVES (1) GATE VALVES UPTO SIZE 16", CLASS 4500 UPTO C12A/F91 (2) GATE VALVES UPTO SIZE 26" CLASS 2500 UPTO C12A (3) CHECK VALVES UPTO SIZE 14" CLASS 2500 UPTO C12A (4) GLOBE VALVES UPTO SIZE 3" CLASS 4500 UPTO C12A (5) GLOBE VALVES UPTO SIZE 10" CLASS 1500 & 4" CLASS 2500 UPTO F91				

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		I			FOURESS ENGG. INDIA LTD.	THANE	A		(1) 10"X600 # GATE/GLOBE/CHECK VALVES (2) 16"X300# GATE/GLOBE/CHECK VALVES (3) 24"X150# GATE/GLOBE/CHECK VALVE (4) 2"X800 # FS GATE/GLOBE/CHECK (LIST) AS PER BS5352 (B) GATE GLOBE/CHECK VALVES FOR 700# TO 1500#				
		I			BABCOCK VALVES	SPAIN	A		(1)CAST GATE VALVE (CS) VALVE CLASS UP TO 2500SPL & SIZE UP TO 10" (2)CAST GLOBE VALVE (CS) CLASS UP TO 2500SPL & SIZE UP TO 3 INCH (3) FORGED GLOBE VALVE (CS) CLASS UP TO 1500 & SIZE UP TO 1" (4) FORGED GLOBE VALVE (CS) CLASS UP TO 800 & SIZE UP TO 1.5"				
		I			FORBES MARSHALL PVT LTD	PUNE	A		CONVENTIONAL VALVES :CAST GATE VALVE (CS) CLASS UP TO 2500SPL & SIZE UP TO 10 INCH CAST GLOBE VALVE (CS) CLASS UP TO 2500SPL & SIZE UP TO 3 INCH				
		I			BABCOCK WILCOX ESPANOLA	SPAIN	A		CONVENTIONAL VALVES -CAST GATE VALVE (CS) CLASS UP TO 2500SPL & SIZE UP TO 10 INCH CAST GLOBE VALVE (CS) CLASS UP TO 2500SPL & SIZE UP TO 3 INCH				
		I			HP VALVES OLDENZAAL B V	NETHERLAND	A		CONVENTIONAL VALVES -CAST GATE VALVE (CS) CLASS UP TO 2500SPL & SIZE UP TO 10 INCH CAST GLOBE VALVE (CS) CLASS UP TO 2500SPL & SIZE UP TO 3 INCH				
		I			Aruna Industrial Products Pvt. Ltd.	MADURAI	A		REFER APPROVAL CONDITION				
39	SAFETY VALVES (SPRING TYPE)	I			DRESSER INDUSTRIES	USA	A						
		I			SAMPELL AG	GERMANY	A						
		I			TYCO (PENTAIR VALVES & CONTROLS	USA	A						
		I			FUKUI SEISAKUSHO CO LTD	JAPAN	A						
		I			RIENEKE GMBH	GERMANY	A		HYDRAULIC TYPE				
		I			BOPP & REUTHER	GERMANY	A		HYDRAULIC TYPE				
		I			MIEWA CORPORATION	JAPAN	A		(1) SAFETY VALVE SIZE 1/2" TO 6" & 150 TO 4500 CLASS				
		I			BHEL	TRICHY	A						
		I			PENTAIR SANMAR LTD	PUDUKOTTAI	A		AUX STEAM SYSTEM: UP TO 6" SIZE AND CLASS UP TO 600				

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		I			FAINGER LESER VALVES P LTD	AURANGABAD	A		SIZE(INELT/OUTLET): 200/300 MM APPLICABLE TO MAX DESIGN TEMPERATURE:474 DEG C & PRESSURE:47 KG	
40	ELECTROMATIC RELIEF VALVE (ERV)	I			VALVES TECHNOLOGIES	USA	A		(A) 1.5"X3" CLASS 3100- F91 MATERIAL (B) 2.5"X4", CLASS 1500-F91 MATERIAL	
		I			FUKUI SEISAKUSHO CO LTD	JAPAN	A			
		I			SAMPELL AG	GERMANY	A			
		I			DRESSER INDUSTRIES	USA	A			
		I			MEWA CORPORATION	JAPAN	A		SIZE UPTO 65MM & UPTO 4500 CLASS	
41	PLUG VALVE	I			FLOW SERVE INDIA CONTROLS	KANCHIPURAM	A		SIZE: 25 TO 300 MM, CLASS 150 & 300	
		I			3Z CORP.	SOUTH KOREA	A			
		I			HAWA VALVES	MUMBAI	A		UP TO 10" SIZE AND 300 CLASS	
42	BOILER STRUCTURE & FABRICATION ITEMS(MAIN & AUX COLUMNS, CEILING GIRDERS, BUILT-UP BEAMS, BRACINGS & BUCKSTAY), COAL BUNKER	I			M/S. BHEL	TIRUCHIRAPALLI	A		MAIN & AUX COLUMNS, CEILING GIRDERS, BUILT-UP BEAMS	
		I			CAPACITE	WADA, PALGHAR	A		(WELDED & BOLTED TYPE)BOILER PRIMARY STRUCTURES (CEILING GIRDER, MAIN COLUMNS, AUX. COLUMN, BOXES, BUCKSTAY, BRACING, MILL BAY STRUCTURE APH SUPPORT STRUCTURE ETC.)	
		I			SALEM AUTOMECH (INDIA) PVT. LTD.,	SALEM	A		BOILER STRUCTURES, I.E. CEILING GIRDER	
		I			DIAMOND ENGINEERING (CHENNAI) PVT LTD., CHENNAI	KANCHIPURAM	A		FABRICATION OF BOILER STRUCTURES -AWB UNIT-2 FABRICATION OF BOILER STRUCTURES-CEILINER GIRDER, AWB, COLMNS ETC. - BOILER STURCTURES- FABRICATION, TRIAL ASSEMBLY, BLASTING(AWB, COLUMNS, CEILING GIRDER ETC.)	
		I			SALEM AUTOMECH UNIT-I & UNIT-II	SALEM	A		CEILING GIRDERS	
		I			QUALITY ENGG.WORKS	TRICHY	A		CEILING GIRDERS	
		I			INDOFAB	TRICHY	A		CEILING GIRDERS	
		I			SANTHI ENGG. UNIT-II	PUDUKKUDI	A		CEILING GIRDERS	
		I			MASTERFAB UNIT-II	DEVARAYANERI	A		CEILING GIRDERS	

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		I			ARCEOR MITTAL DHAMM PROCESSING PVT LTD	RANIPET	A		(WELDED & BOLTED TYPE)BOILER PRIMARY STRUCTURES (WITHOUT CEILING GIRDER) I.E.MAIN COLUMNS, AUX. COLUMN, BOXES, BUCKSTAY, BRACINGS, MILL BAY STRUCTURE, APH SUPPORT STRUCTURE ETC.)				
		I			JSW SEVERFIELD STRUCTURES LTD	BELLARY	A		(WELDED & BOLTED TYPE) BOILER PRIMARY STRUCTURES (WITH OUT CEILING GIRDER) I.E. MAIN COLUMNS, AUX. COLUMN, BOXES, BUCKSTAY, BRACINGS, MILL BAY STRUCTURE, APH SUPPORT STRUCTURE ETC.)				
		I			ATMASTCO (P) LTD	DURG	A		(WELDED & BOLTED TYPE) BOILER PRIMARY STRUCTURES (WITHOUT CEILING GIRDER) I.E.MAIN COLUMNS, AUX. COLUMN, BOXES, BUCKSTAY, BRACINGS, MILL BAY STRUCTURE, APH SUPPORT STRUCTURE ETC. DUCTS)				
		I			ANG INDUSTRIES	SITARGANJ	A		FABRICATION AND SUPPLY WELDED TYPE BOILER STRUCTURES I.E. MAIN COLUMNS (PLUS AND BOX), AUTO WELDED BEAMS AND BRACINGS.				
		I			INDIANA GRATINGS PVT LTD	PURANDAR	A		FACTORY FABRICATED CIVIL STRUCTURE POWER HOUSE (TG BUILDING) STRUCTURAL ITEM (MAX SINGLE PIECE SIZE UPTO 15MT) (WELDED & BOLTED TYPE)				
		I			ESSAR HEAVY ENGINEERING SERVICES, (A UNIT OF ESSAR PROJECTS INDIA LTD)	SURAT	A		FABRICATION AND SUPPLY OF BUCKSTAYS				
		I			SIMPLEX ENGINEERING & FOUNDRY WORKS PVT LTD	BHILAI	A		(WELDED & BOLTED TYPE) BOILER PRIMARY STRUCTURES (WITH OUT CEILING GIRDER) I.E. MAIN COLUMNS, AUX. COLUMN, BOXES, BUCKSTAY, BRACINGS, MILL BAY STRUCTURE, AP				
		I			SIMPLEX ENGG & FOUNDRY WORKS	UNIT 2, BHILAI	A		CEILING GIRDERS				
		I			SEAM INDUSTRIES LIMITED	NAGPUR	A		WELDED STRUCTURE UPTO 15T.FABRICATION AND SUPPLY OF BUNKERS & BUNKER STRUCTURES, BUCKSTAYS AND DUCTS.				
		I			SHIVAM HITECH STEELS PVT. LTD	BHILAI	A		HORIZONTAL BRACE/CIRCULAR HOLLOW SECTION ,BUCKSTAY,DUCTS				

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		I			ENESTEE ENGINEERING LTD.,	NAGPUR	A		FABRICATION & SUPPLY OF BUNKERS & BUNKER STRUCTURES . BUCKSTAY,DUCTS				
		I			SSV ENGINEERS PVT. LTD.,	PUNE	A		COAL SILOS, BUCKSTAY, DUCTS				
		I			ALLIANCE INTEGRATED METALIKS LTD.,	RAJPURA	A		BOILER PRIMARY STRUCTURES (EXCLUDING CEILING GIRDER)				
		I			TECHNOFAB MANUFACTURING LTD.	CHENNAI	A		FABRICATION AND SUPPLY OF BUNKER, BUNKER STRUCTURE, TPs & CONVEYER GALLERIES,DUCTS				
		I			BABY ENGINEERING PVT. LTD.,	THUVAKUDI	A		BOILER PRIMARY STRUCTURES (EXCLUDING CEILING GIRDER) (WELDED & BOLTED TYPE)				
		I			COREFAB PROJECTS PVT LTD.,	BHILAI	A		FABRICATION & SUPPLY OF BOILER PRIMARY STRUCTURES - MAIN & AUX. COLUMNS, BUILT UP BEAM, BUCKSTAYS, BRACINGS, MILL BAY STRUCTURE AND APH SUPPORT STRUCTURE (EXCLUDING CEILING GIRDERS),DUCTS (WELDED & BOLTED TYPE)				
		I			MIURA INFRASTRUCTURE PVT. LTD	BHILAI-	A		BOILER PRIMARY STRUCTURE - MAIN & AUX. COLUMNS, BUILT UP BEAMS, BOXES, BUCKSTAY, BRACINGS, MILL BAY STRUCTURE, APH SUPPORT STRUCTURE (EXCLUDING CEILING GIRDERS) UPTO MAXIMUM SINGLE PIECE WEIGHT OF 30 MT (WELDED & BOLTED TYPE)				
		I			METALFAB HIGHTECH PVT LTD.	NAGPUR	A		FABRICATION AND SUPPLY OF BUCKSTAYS ,DUCTS,(WELDED & BOLTED TYPE), COAL BUNKER				
		I			WHEELS INDIA LTD.	WARDHA	A		MANUFACTURING OF WELDED TYPE STRUCTURES I.E. AUTOWELDED BEAMS BRACING AND COLUMNS (UPTO 15T)				
		I			NOVOTECH PROJECTS (I) PVT LTD	KOLKATA	A		BUCKSTAY ,DUCTS(WELDED & BOLTED TYPE)				
		I			JINDAL STEEL & POWER LTD. (JSPL)	RAIGARH	A		BUNKER STRUCTURE, TPs & TRESTLES				
		I			AJANTHA FABRICATOR WORKSUNIT-II	PUDUKKOTTAI	A		PRIMARY STRUCTURE & CEILING GIRDER (WELDED & BOLTED TYPE)				
		I							BOILER PRIMARY STRUCTURES- COLUMNS, BEAMS, BRACINGS AND CEILING GIRDERS (WELDED & BOLTED TYPE)				

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		I			FEEDERS LLOYDS	SIKANDRABAD	A		PRIMARY STRUCTURE - MAIN COLUMNS, AUX COLUMNS, BUILT UP BEAMS, BOXES, BUCKSTAY (WELDED & BOLTED TYPE)				
		I			L&T HEAVY FORGING & SPECIAL STEEL	HAZIRA	A		CEILING GIRDER				
		I			VASAN INDUSTRIES	PUDUKKOTTAI	A		BOILER PRIMARY STRUCTURES(WELDED AND BOLTED TYPE)				
		I			REGIONAL ENGINEERING WORKS	THUVVAKKUDY	A		BOILER PRIMARY STRUCTURE(WELDED AND BOLTED TYPE)				
		I			VRINDA ENGINEERS	PANAGARH, WB	A		COAL BUNKERS				
		I			GREAT INDIA FABRICATORS	YAMUNANAGAR	A		BOILER PRIMARY STRUCTURES EXCLUDING CEILING GIRDER(WELDED AND BOLTED TYPE), LIMITATIONS AS PER APPROVAL CONDITIONS				
		I			Goodluck Steel Tubes	Sikenderabad	A		Buckstay				
		I			GEW	Sikenderabad	A		Buckstay				
		I			JSPL	Angul	A		Boiler Primary Structure (Excluding Ceiling Girder)				
		I			L&T Limited ECC Workshop	Kanchheepuram	A		Boiler Primary Structure (Excluding Ceiling Girder)				
		I			JSPL	Raipur	A		Primary Structure -Ceiling Girder -Sub to approval condition				
		I			Steel Infra Solutions Private Limited(SISCOL)	Bhilai	A		Boiler Primary Structure (Excluding Ceiling Girder) and column directly supporting ceiling girders-Sub to approval condition				
43	ELECTRO FORGED GRATINGS	II			INDIANA GRATINGS PVT. LTD	PUNE	A						
		II			KARDEANAND UDYOG	PUNE	A						
		II			PREMIER POWER PRODUCTS LTD	HOWRAH	A						
		II			BHOLA RAM STEEL PVT. LTD	PATNA	A						
		II			PINAX STEEL INDUSTRIES PVT LTD	PATNA	A						
		II			GREATWELD STEEL GRATING PVT. LTD	PUNE	A						
		II			VIN FAB ENGG. PVT LTD.,	MUMBAI	A						
		II			Ratan Project & Engineering	Howrah	A						
44	TANKS & VESSELS(IBD, CBD, FLASH TANK ETC)	I			KPHE	SOUTH KOREA	A						

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		I			SV TANKS & VESSELS	MUMBAI	A				
		I			PROGEN SYS TECH LTD	CHENNAI	A		UP TO 4 KSC PR		
		I			FAB TECH	PUNE	A				
		I			UNITECH MACHINES LTD	SAHARANPUR	A		UP TO 10 KSC PR		
		I			SEAM IND P LTD	NAGPUR	A		UP TO 10 KSC PR		
		I			SHAKTI HI TECH CONST PVT LTD	CHENNAI	A		UP TO 10 KSC PR		
		I			SOUTHERN HEAVY ENGG & FAB PVT LTD	CHENNAI	A		UP TO 10 KSC PR		
		I			ALTECH INFRASTRUCTURE(I) PVT LTD	ALWAR	A		UP TO 16 KSC PR		
		I			SEAM INDUSTRIES PVT LTD	NAGPUR	A		UP TO 16 KSC PR		
45	SOOT BLOWER PRESSURE REDUCING VALVES & BLOCK	I			REFER QA C&I LIST		A				
46	FITTINGS(GRADE 91/92)	I			PETROL RACCORD SPA	ITALY	A		FORMED AND FORGED FITTINGS 91/92 GRADE		
		I			BOKOYOUNG METAL CO.	SOUTH KOREA	A		FORGED FITTINGS AS PER SA-182 F92 GRADE (REDUCERS, NOZZLE, HALF COUPLING ETC.)		
		I			TF TECH CO. LTD	SOUTH KOREA	A		FORGED FITTINGS AS PER SA-182 F92 GRADE (REDUCERS, NOZZLE, HALF COUPLING ETC.)		
		I			FLASH FORGE	VIZAG	A		P91 FORMED/FORGED UPTO DIA 273MM & THICK 30MM		
		I			BGH EDELSTAHL SIEGEN GMBH	GERMANY	A		MANUFACTURE AND SUPPLY OF FORGED FITTINGS OF CS, AS AND SS GRADES		
		I			ERNE FITTINGS GMBH	AUSTRIA	A		P-91 FORMED		
		I			GAM RACCORDI SPA	ITALY	A		P-91 FORMED		
		I			TECHNO FORGE SPA	ITALY	A		P-91 FORMED		
		I			MEGA SPA	ITALY	A		92 GRADE FITTINGS (FORGED)		
		I			BASSI LLLUIGI SPA	ITALY	A		P-91 FORGED/WELDED		
		I			IBF SPA	ITALY	A		FORMED AND FORGED FITTINGS/P92 GRADE		
		I			ALLIED INT. (TACTUBI RACCORDI SPA, VIA ROMA 150, 29027 PODENZANO)	ITALY	A		P-91 FORMED		
		I			BRUCK STRASSE 16 ENSHEIM	GERMANY	A		P-91 FORGED/WELDED		
		I			SUNGKWANG BEND CO. LTD.,	SOUTH KOREA	A		FITTINGS OF P91 AND OF MTERIAL OTHER THAN P91 OF BOILER		
		I			TK CORPN. FORGITAL	S KOREA	A		FORMED FITTINGS (ELBOW, TEES, REDUCERS ETC.) OF 2 GRADE.		

एनटीपीसी NTPC		Project/ परियोजना :KODARMA SUPER THERMAL POWER PROJECT Ph -II (2X800MW)		LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB-SUPPLIER APPROVAL स्वीकृति प्लान तथा सब -वेयर के अनुमोदन सहित मटेरिअल की सूची			DOC. NO./ दस्तावेज सं.: REVISION NO. : 00 DATE/ तिथि : 20.05.2023 SUB-SYSTEM उप-प्रणाली: QA-SG(MECH)		Provenness Clause (Refer Note-1)	
		Package/ पैकेज: EPC PACKAGES			Place/ स्थान	Sub-suppliers approval status / category उप आपूर्तिकर्ता के अनुमोदन की स्थिति /श्रेणी	Sub-supplier Details submission schedule/ उप आपूर्तिकर्ता के विवरण प्रस्तुतीकरण की सूची			
		Supplier/ आपूर्तिकर्ता:								
		Contract No./ अनुबंध सं.:								
S. N. क्र.सं.	Item / मद्द	QP/ Insp. Cat. क्यूपी/ निरी. श्रेणी.	QP No./ क्यूपी. सं.	QP Sub. Schedu le क्यूपी उप.अनु सूचि	Proposed sub-supplier/ प्रस्तावित उप आपूर्तिकर्ता					
		I			FORGITAL	ITALY	A		MANUFACTURING AND SUPPLY OF GRADE 91 FORTGINGS (HOLLOW FORGINGS/MATCHING PIECES WITH 508MM DIA X 75MM THICKNESS STUBS WITH OD 245MM.	
		I			DEE DEVELOPMENT	PALWAL	A		GRADE 91 WITH SIZE/TYPE LIMITATIONS	
		I			CHW FORGE	GHAZIABAD	A		GRADE 92 WITH SIZE/TYPE LIMITATIONS	
		I			FORGIATURA MORANDINI SRL	ITALY	A		GRADE 92 FORGED FITTINGS(REDUCERS, TEES & Y- PIECES)	
		I			BHARAT FORGE, PUNE	PUNE	A		GRADE 92 FORGED FITTINGS(REDUCERS, TEES & Y- PIECES)	
		I			BOKYOUNG METAL CO.LTD	SOUTH KOREA	A		GRADE 92 FORGED FITTINGS(REDUCERS, NOZZLE, HALF COUPLING)	
		I			VIAR SPA	ITALY	A		SEAMLESS FORGED Y-PIECE UP TO GRADE 91	
		I			DEE DEVELOPMENT	PALWAL	A		GRADE 92 WITH SIZE/TYPE LIMITATIONS	
		I			Goodluck Engineering Co.	Dadri	A		Forged Fittings (91/92 grade)	
47	AUX PRDS SYSTEM (INCLUDING CONTROL VALVE)	I			REFER C&I LIST					
48	CHEMICAL DOSING SYSTEM (SKID ASSY) FOR SG SCOPE INCLUDING AUX BOILER	I			POWER PIPING	TRICHY	A			
		I			V K PUMPS	MUMBAI	A			
		I			MILTON ROY	CHENNAI	A			
		I			TECHNO CONSULTANTS	MUMBAI	A			
		I			POSITIVE METERING SYSTEM	NASIK	A			
		I			PSI ENGG SYSTEM	CHENNAI	A			
		I			Priorites Equipments Pvt. Ltd.	Pune	A		LP Chemical Dosing System (NaOH/Ammonia/Hydrazine)	
49	SG CW BOOSTER PUMP/ ECW PUMP	I			KBL	WADI	A			
		I			WPIL LTD	GHAZIABAD	A			
		I			SAM TURBO	COIMBATORE	A			
		I			KSB	PUNE	A			
		I			BEST & CROMPTON ENGG LTD	CHENNAI	A			
		I			JYOTI LTD	BARODA	A			

एनटीपीसी NTPC		Project/ परियोजना :KODARMA SUPER THERMAL POWER PROJECT Ph -II (2X800MW) Package/ पैकेज: EPC PACKAGES Supplier/ आपूर्तिकर्ता: Contract No./ अनुबंध सं.:					LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB-SUPPLIER APPROVAL स्वीकृति प्लान तथा सब -सप्लायर के अनुमोदन सहित मटेरिअल की सूची				DOC. NO./ दस्तावेज सं.: REVISION NO : 00 DATE/ तिथि : 20.05.2023 SUB-SYSTEM उप-प्रणाली: QA-SG(MECH)	
S. N. क्र.सं.	Item / मद्द	QP/ Insp. Cat. क्यूपी/ निरी. श्रेणी.	QP No./ क्यूपी. सं.	QP Sub. Schedule क्यूपी उप.अनु सूचि	Proposed sub-supplier/ प्रस्तावित उप आपूर्तिकर्ता	Place/ स्थान	Sub-suppliers approval status / category उप आपूर्तिकर्ता के अनुमोदन की स्थिति /श्रेणी	Sub-supplier Details submission schedule/ उप आपूर्तिकर्ता के विवरण प्रस्तुतीकरण की सूची	Remarks/ टिप्पणी	Provenness Clause (Refer Note-1)		
		I			FLOWMORE	GHAZIABAD	A					
50	COAL BUNKER	I					A		REFER BOILER STRUCTURE LIST			
51	LUBE OIL SYSTEM FOR MILLS	I			LINCOLN HELIOS	BANGALORE	A					
		I			T A HYDRAULICS	HYDERABAD	A					
		I			CENLUB INDUSTRIES	FARIDABAD	A					
		I			BHEL	HYDERABAD	A					
		I			BIJUR DELIMON INDIA PVT LTD	PUNE	A					
		I			UNIQUE ENGINEERING ENTERPRISE P LTD	HYDERABAD	A					
		I			SOUTHERN LUB	BANGALORE	A					
52	CERAMIC LINED BEND COAL PIPES	II			BHEL EDN	BANGALORE	A					
		II			BMW	HATHRAS/ROURK EE	A					
		II			CARBORANDUM UNIVERSAL	HOSUR	A					
		II			BHEL IP	JAGDISHPUR	A					
53	KNIFE EDGE GATE VALVES AT MILL OUTLET AND BURNER INLET	II			GALAXY CONTROLS PVT LTD	CHENNAI	A		UP TO SIZE 26'			
		II			ORBINOX INDIA PVT LTD	COIMBATORE	A		UP TO SIZE 30"			
		II			BRAY CONTROLS	CHENNAI	A		UP TO SIZE 28"			
		II			JASH ENGG LTD	INDORE	A		UP TO SIZE 30"			
54	VIS FOR FANS	I			GERB	BANGALORE	A					
55	LOS FOR FD, PA & ID FANS	I			PSI ENGG	CHENNAI	A					
		I			CENLUB	FARIDABAD	A					
		I			LINCOLN HELIOS	BANGALORE	A					
		I			BHEL	RANIPET	A					
		I			SOUTHERN LUBRICATION	BANGALORE	A					
		I			TA HYDRAULICS	HYDERABAD	A					
56	GATES AND DAMPERS	I			BACHMANN	FARIDABAD	A					
		I			FOURESS INDIA	BANGALORE	A					
		I			INDIRA DAMPERS	RANIPET	A					
		I			KAMAL ENGG	YAMUNANAGAR	A					
		I			BACHMANN	CHENNAI	A		GUILLOTINE GATE(2700 MM HEIGHT)			
		I			DAMPER TECHNOLOGY INDIA PVT LTD	COIMBATORE	A					

एनटीपीसी NTPC		Project/ परियोजना :KODARMA SUPER THERMAL POWER PROJECT Ph -II (2X800MW) Package/ पैकेज: EPC PACKAGES Supplier/ आपूर्तिकर्ता: Contract No./ अनुबंध सं.:					LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB-SUPPLIER APPROVAL स्थापित प्लान तथा सब-सप्लायर के अनुमोदन सहित मदों की सूची				DOC. NO./ दस्तावेज सं.: REVISION NO : 00 DATE/ तिथि : 20.05.2023 SUB-SYSTEM उप-प्रणाली: QA-SG(MECH)		Provenness Clause (Refer Note-1)	
S. N. क्र.सं.	Item / मद	QP/ Insp. Cat. क्यूपी/ निरी. श्रेणी.	QP No./ क्यूपी. सं.	QP Sub. Schedu le क्यूपी उप.अनु सूचि	Proposed sub-supplier/ प्रस्तावित उप आपूर्तिकर्ता	Place/ स्थान	Sub-suppliers approval status / आपूर्तिकर्ता के अनुमोदन की स्थिति /श्रेणी	Sub-supplier Details submisson schedule/ उप आपूर्तिकर्ता के विवरण प्रस्तुतीकरण की सूची	Remarks/ टिप्पणी					
		I			Flexatherm Expanflow Pvt.Ltd	Block No-400/B, Karjan, Vadodara	A		Gates & Dampers(Flow Area/Cross-sectional area upto 5600mm X 5600mm)					
57	PA Fans	I			Bharat Heavy Electrical Limited	Ranipet	A							
		I			L&T- Howden Private limited	Hazia	A							
		I			TLT-Turbo GmbH	Germany	A							
		I			Howden	Denmark	A							
58	ID Fans	I			Bharat Heavy Electrical Limited	Ranipet	A							
		I			TLT Turbo GmbH	Germany	A							
		I			L&T Howden Private Limited	Hazira	A							
		I			Howden	Denmark	A							
59	FD Fan	I			Bharat Heavy Electrical Limited	Ranipet	A							
		I			L&T Howden Private Limited	Hazira	A							
		I			TLT-Turbo GmbH	Germany	A							
		I			Howden	Denmark	A							
60	Coal Pulverisers	I			BHEL	Hyderabad	A							
		I			L&T MHPS Boilers Pvt. Ltd.(LMB) (Incl. Manufacturing Facility of L&T)	Hazira	A							
		I			Loesche Energy system India pvt ltd.	Chennai	A							
		I			Doosan Heavy Industries & Construction Co. Ltd	South Korea	A							
61	Raw Coal Feeders	I			Bharat Heavy Electricals Limited	Trichy	A							
		I			Schenck Process (Stock Redler India Private Limited, India)	Bengaluru	A							
		I			Merrick Industries Pvt. Ltd., India	Bengaluru	A							
		I			Yamato Scale	Japan	A							
		I			FLSmidth	Haryana	A							
62	Boiler Start Up Drain Re-Circulation Pump	I			Torishima Pump Mfg Co. Ltd.,	Japan	A							
		I			Hayward Tyler Limited	UK	A							
		I			KSB AG	Germany	A							
63	Air Pre-Heaters	I			Bharat Heavy Electricals Limited	Ranipet	A							
		I			L&T Howden Private Limited	Hazira	A							
		I			Arvos India Pvt.Ltd.	Chennai	A							
64	Auxiliary Boiler	I			ISGEC John Thompson (JIT)	Yamuna Nagar	A							

एनटीपीसी NTPC		Project/ परियोजना :KODARMA SUPER THERMAL POWER PROJECT Ph -II (2X800MW) Package/ पैकेज: EPC PACKAGES Supplier/ आपूर्तिकर्ता: Contract No./ अनुबंध सं.:				LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB-SUPPLIER APPROVAL क्वालिटी प्लान तथा सब -वेयर के अनुमोदन सहित मटेर की सूची				DOC. NO./ दस्तावेज सं.: REVISION NO : 00 DATE/ तिथि : 20.05.2023 SUB-SYSTEM उप-प्रणाली: QA-SG(MECH)		Provenness Clause (Refer Note-1)	
S. N. क्र.सं.	Item / मद	QP/ Insp. Cat. क्यूपी/ निरी. श्रेणी.	QP No./ क्यूपी. सं.	QP Sub. Schedule क्यूपी उप. अनु सूचि	Proposed sub-supplier/ प्रस्तावित उप आपूर्तिकर्ता	Place/ स्थान	Sub-suppliers approval status / category उप आपूर्तिकर्ता के अनुमोदन की स्थिति /श्रेणी	Sub-supplier Details submission schedule/ उप आपूर्तिकर्ता के विवरण प्रस्तुतीकरण की सूची	Remarks/ टिप्पणी				
Main Contractor approved sources													
1	ALUMINIUM CLADDING	III			Main Contractor approved sources								
2	NON IBR PIPING / LP PIPING - PRESSURE UP TO 10 KSC	III			Main Contractor approved sources								
3	CASTABLE REFRACTORY	III			Main Contractor approved sources								
4	POURABLE INSULATION	III			Main Contractor approved sources								
5	STEEL STRUCTURE FOR DUCTS, FURNACE ENCLOSURE, GUIDE, STAIRS & LADDERS, HANDRAILS, PLATFORMS	III			Main Contractor approved sources								
6	SILENCERS	III			Main Contractor approved sources								
7	COAL PIPES & BENDS (WITHOUT CERAMIC LINERS)	III			Main Contractor approved sources								
8	FITTINGS(CS, SS & AS UP TO GRADE 22)	III			Main Contractor approved sources								
9	ELECTRIC HOIST WITH TROLLEY, UNDERSLUNG CRANE < 05 TON CAPACITY	III			Main Contractor approved sources								
10	DUCTS	III			Main Contractor approved sources								
11	AIR RECEIVER TANK	III			Main Contractor approved sources								
12	COUPLING FOR FANS	III			Main Contractor approved sources								
13	SCAPH	III			Main Contractor approved sources								
14	OXYGEN DOSING SYSTEM	III			Main Contractor approved sources								
15	CE & DE SUSPENSION ASSEMBLY WITH RAPPING(MECHANICAL) MECHANISM	III			Main Contractor approved sources								
16	PERFORATED GD PLATE/SCREEN	III			Main Contractor approved sources								
17	ESP SUPPORT STRUCTURE (COLUMNS & ROOF BEAMS MANUFACTURED FROM ROLLED SECTIONS), CASING	III			Main Contractor approved sources								
18	ESP- MECH SAFETY INTERLOCK	III			Main Contractor approved sources								
19	Spray header for FGD	III			Main Contractor approved sources								
20	Mist eliminators for FGD	III			Main Contractor approved sources								

एनटीपीसी NTPC				Project/परियोजना : KODARMA SUPER THERMAL POWER PROJECT Ph-II (2X800MW) Package/ पैकेज: EPC PACKAGES Supplier/ आपूर्तिकर्ता: Contract No./ अनुबंध सं.:				LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB-SUPPLIER APPROVAL स्थापित प्लान तथा सब-वेंडर के अनुमोदन सहित मर्दों की सूची				DOC. NO./ दस्तावेज सं.: REVISION NO.: 00 DATE/ तिथि : 20.05.2023 SUB-SYSTEM उप-प्रणाली: QA-SG(MECH)
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PROJECT : KODERMA-II (2X800MW)		LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB SUPPLIER APPROVAL										REVISION NO : 00 DATE : 02.05.2023 SUB SECTION: QA-TG(MECH)	
PACKAGE : EPC PACKAGE													
CONTRACTOR :													
CONTRACT NO :													
Sr No	Item Description	QP Inspection Category	QP No	QP submission SCH	QP approval SCH	Proposed Sub Supplier	Country	SS Approval Status	SS Detail Sub.SCH	SS Approval SCH	Remark	Package Applicable	Provenness Clause (Refer Note-I)
6	HP/IP/LP Stationary & Moving Blades Bar stock	I				TJPS	Chennai	A					
						MHPS	Japan	A					
						LMTG	Hazira	A					
						FUZI ELECTRIC	Japan	A					
						Bohler	Austria	A					
						Bohler Schmiedetechnik	Germany	A					
						WELZWERKE REVEINE	Germany	A					
						DIDO	Japan	A					
						Hitaichi	Japan	A					
						Starwire	Ballabgarh	A					
						Gloria Material Technology Corp	Taiwan	A					
						Acciaierie Valbruna S.p.a.	Italy	A					
						BGH Edelsahl GmbH	Germany	A					
						Carpenter Technology Co.	USA	A					
						Daido	Japan	A					
7	HP/IP/LP Stationary & Moving Blades Machining(From Bar)	I				Sz-metal Ravne D.o.o.	Slovenia	A					
						Einsal	Germany	A					
						Walzwerke Einsal	Switzerland	A					
						Nichia Tanko Co Ltd	Japan	A			LP Blades		
						SET	Hungary	A					
						MHPS	Japan	A					
						Leitritz-Numberg	Germany	A					
						Energietechnik Einsal	Germany	A					
						Prawest	Germany	A			FOR LP STATIONARY BLADES		
						ZEMA	Italy	A			FOR LP STATIONARY BLADES		
						LMTG	Hazira	A					
						GE	Switzerland/Germany/Sanand	A					
						Enem Excel	Hyderabad	A					
						TJPS	Chennai	A					
						Toshiba	Japan	A					
8	LP Forged Blades(Drop)-Material	II				BHEL (HEEP)	Hardwar	A					
						Siemens	Germany	A					
						QTPL	Bangalore	A			For Guide Blades		
						AZAD ENGG	Hyderabad	A					
						MHPS	Japan	A					
						GE	Switzerland	A					
						Leitritz Turbinenkomponenten	Germany	A					
						SMB SA	Switzerland	A			For L1 stage(Last but one) blades		
						C-BLADE SPA	Italy	A					
						BOHLER	Austria	A					
						PIETRO ROSA	Italy	A					
						MHPS	Japan	A					
						C Blade	Italy	A					
						Sumitomo (Manfg. by Sumiju Precision Forgings)	Japan	A					
						PIETRO ROSA	Italy	A					
9	LP Forged Blades(Drop) Machining	I				Leitritz Turbinenkomponenten	Germany	A					
						Bohler	Austria	A					
						Toshiba	Japan	A					
						ALSTOM	Switzerland	A					
						AZAD ENGG	Hyderabad	A					
						Zollern	Germany	A					
						Consolidated Precision Product	Belgium	A			Previous Name ESCO		

PROJECT : KODERMA-II (2X800MW) PACKAGE : EPC PACKAGE CONTRACTOR : CONTRACT NO :		LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB SUPPLIER APPROVAL										REVISION NO : 00 DATE :02.05.2023 SUB SECTION: QA-TG(MECH)		Provenness Clause (Refer Note-1)
Sr No	Item Description	QP Inspection Category	QP No	QP submission at SCH	QP approval at SCH	Proposed Sub Supplier	Country	SS Approval_Status	SS Detail Sub.SCH	SS Approval SCH	Remark	Package Applicable		
19	HP/IP/LP Shaft Seals	II				ADAMS	Germany	A						
						BHEL	Trichy	A			Upto 850NB & Class upto 900 special			
						SEMPPELL	Germany	A						
						TPT	S Korea	A						
						Starwire	Ballabgarh	A			For INGOTS			
						Kollhapur Steel	Kollhapur	A						
						Silbitz Guss	Germany	A						
						StahlgussSaar	Germany	A						
						GE	Sanand	A						
						PMT	Pune	A						
20	TG Bearings	I				Wellbore	Ahmedabad	A						
						Bharat Forge	Pune	A						
						Indo air	Ahmedabad	A						
						Toshiba	Japan	A						
						GE	Germany	A			For Thrust Bearing			
						Kingbury	USA	A						
						Omega	Bhopal	A						
						Eurobearing	Italy	A						
						John Crane Bearing	Germany	A						
						BHEL (HEEP)	Haridwar	A						
21	MOP/EOP	I				Wuakesha Bearing	UK	A						
						Euro Bearings	Faridabad	A						
						Kingsbury	USA	A						
						Allweiler	Germany	A						
						ABB	Switzerland	A						
						Bosch Rexroth	Germany/ Switzerland	A						
						Toshiba	Japan	A						
						Ebara Yoshikura Hydrotec Ltd	Japan	A						
						Bosch Rexroth	Germany /Switzerland	A						
						Allweiler	Germany	A						
22	Jacking Oil Pump	I				Leistritz	Germany	A						
						MITTEN MANUFACTURING, INC	USA	A						
						PARKER HANIFIN	Japan	A						
						Allweiler	Daman	A						
						Facet	Spain	A			Coalescer Type			
						Pall Corporation	USA	A			For control fluids			
						Alfa Laval	Pune	A			Centrifuge Type			
						Hilliard	USA	A			Coalescer Type			
						Kaydon Filtration	USA	A			Coalescer Type			
						Westfalia Separator India Pvt Ltd	Germany/ Bangalore	A						
23	Oil Purification Unit	I				Roting	Germany	A						
						Rockfin Group	Poland	A						
						Hydac	Germany	A						
						Boll & Kirch	Germany	A						
						Rockfin	Poland	A						
						BHEL Piping Center	Chennai	A						
						Unitech	Saharanpur	A						
						Bend Joints	Bhopal	A						
						Pal Engineering	Yamunanagar	A						
						Seonghwa	S Korea	A						
24	Duplex Oil Filter With Oil Changeover Valve	I				L&T Piping Center	Hazira	A						
						Dee Development	Ballabgarh	A						
25	Turbine Integral Piping	I												

PROJECT : KODERMA-II (2X800MW) PACKAGE : EPC PACKAGE CONTRACTOR: CONTRACT NO :		LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB SUPPLIER APPROVAL										REVISION NO : 00 DATE :02.05.2023 SUB SECTION: QA-TG(MECH)	
Sr No	Item Description	QP Inspection Category	QP No	QP submission SCH	QP approval SCH	Proposed Sub Supplier	Country	SS Approval_Status	SS Detail Sub.SCH	SS Approval SCH	Remark	Package Applicable	Provenness Clause (Refer Note-1)
26	Oil Module including Central Lubrication System	I				Kelag	Switzerland	A					
						VDL Delmas	Germany	A					
						Hydac India Pvt. Ltd.	Coimbatore	A					
						AEL	Germany	A					
						Flenco	Italy	A					
						Hydac	Germany	A					
27	Thermal Insulation	II				King Dynamics	Switzerland	A					
						Southern Lubrication	Bangalore	A					
						ENPRO	Pune	A					
						Eugen Arnold GmbH	Germany	A					
						Heinrich Tapp GmbH	Germany	A					
						Lloyds Insulation	India	A					
28	Condenser (water cooled) (Sub QR Item)	I				Minwool Rock Fibre	Bhilai	A					
						Thermocare	Rajnandgaon	A					
						Dhanbad Rockwool Insulation	Dhanbad	A					
						Minsulate Manufacturing Co.	Jamshed	A					
						MHI	Japan	A					
						THERMAL ENGG INTERNATIONAL (TEI)	USA	A					
29	Condenser Fabricator (water cooled)	I				TIPS	Chennai	A					
						TOSHIBA CORPORATION LTD	Japan	A					
						LMTG	Surat	A					
						BHEL	Hardwar	A					
						ABFPL	Sanand	A					
						GE	Switzerland	A					
30	HP Heaters (Sub QR Item)	I				ISGEC	Yamunanagar Durgapur	A					
						GE Power india Ltd.	Mumbai	A					
						Godrej & Boyce Manufacturing Company Ltd.	Thane	A					
						TEMA India Ltd.,	Japan	A					
						TOSHIBA CORPORATION LTD	Chennai	A					
						SPX Heat Transfer Inc. (Erstwhile Yuba Heat Transfer)	USA	A					
31	LP/HP Heater Fabricator	I				GE	France	A					
						ABFPL	Sanand	A					
						BHI	S Korea	A					
						THERMAL ENGG INTERNATIONAL	USA	A					
						HOLTEC	USA	A					
						L&T	Hazira	A					
32	LP Heaters (Sub QR Item)	I				BHEL	Hyderabad	A					
						ISGEC	Yamunanagar	A					
						Godrej & Boyce Manufacturing Company Ltd.	Mumbai	A					
						TEMA India Ltd.,	Thane	A					
						TOSHIBA CORPORATION LTD	Japan	A					
						TIPS	Chennai	A					

PROJECT : KODERMA-II (2X800MW) PACKAGE : EPC PACKAGE CONTRACTOR : CONTRACT NO :		LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB SUPPLIER APPROVAL										REVISION NO : 00 DATE :02.05.2023 SUB SECTION: QA-TG(MECH)		Provenness Clause (Refer Note-1)	
Sr No	Item Description	QP Inspection Category	QP No	QP submission SCH	QP approval al SCH	Proposed Sub Supplier	Country	SS Approval_Status	SS Detail Sub.SCH	SS Approval SCH	Remark	Package Applicable			
33	Condensate Extraction Pump (CEP) (Sub QR Item)	I				THERMAL ENGG	USA	A							
						INTERNATIONAL	Hyderabad	A							
						BHEL	Hazira	A							
						L&T	USA	A							
						HOLTEC									
						KSB	Chinchwad, Pune	A							
34	Condenser Air Evacuation Pumps (Sub QR Item)	I				BHEL	Hyderabad	A							
						SULZER Pumps	Mumbai	A							
						Clyde Pumps India pvt. Ltd.	Ghaziabad	A							
						GARDNER Denver/Nash	Germany	A							
						GARDNER Denver/Nash	Pune	A							
						Tsurumi pumps	Japan	A							
35	Deaerator (Sub QR Item)	I				Edwards	UK	A							
						TJPS	Chennai	A							
						BHEL	Hyderabad	A							
						BGR	Chennai	A							
						Godrej	Mumbai	A							
						ISGEC	Yamunagar	A							
36	Deaerator Fabricator	I				Altech	Bhiwadi	A							
						TEMA India Ltd.,	Mumbai	A							
						BGR Energy System Ltd.	Chennai	A							
						KSB	Germany	A							
						KSB	Pune	A							
						Sulzer Pumps	Mumbai	A							
37	Booster Pump	I				Sulzer	UK	A							
						Flowserve	Switzerland	A							
						FLOWSERVE	Coimbatore	A							
						Flowserve	Spain	A							
						Hitachi	Japan	A							
						Ebara Corporation	Japan	A							
38	Boiler Feed Pump (BFP) (Sub QR Item)	I				MHI	Japan	A							
						BHEL	Hyderabad	A							
						Ebara Corporation	Japan	A							
						Flowserve	Spain	A							
						KSB	Germany	A							
						KSB	Pune	A							
40	Drive Turbine for BFP	I				Mitsubishi Heavy Industry	Japan	A							
						HITACHI PLANT TECHNOLOGY	Japan	A							
						BHEL	Hyderabad	A							
						Sulzer Pumps	Mumbai	A							
						SULZER	UK	A							
						Siemens	Germany	A							
41	HP Rawase Vases (Sub QR Item)	I				Hitachi	Japan	A							
						GE Thermodyne	France	A							
						GE India Industrial Pvt. Ltd.	Pune	A							
						Toshiba	Japan	A							
						TJPS	Chennai	A							
						Power machines(Kaluga)	Russia	A							

PROJECT : KODERMA-II (2X800MW) PACKAGE : EPC PACKAGE CONTRACTOR : CONTRACT NO :					LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB SUPPLIER APPROVAL							REVISION NO : 00 DATE :02.05.2023 SUB SECTION: QA-TG(MECH)	
Sr No	Item Description	QP Inspection Category	QP No	QP submission at SCH	Proposed Sub Supplier	Country	SS Approval_Status	SS Detail Sub.SCH	SS Approval SCH	Remark	Package Applicable	Provenness Clause (Refer Note-I)	
42	LP Bypass Valves (Sub QR Item)	I			CCI	Chittor,AP	A						
					Bomafa	Germany	A						
					Bomafa	Ahmedabad	A						
					CCI	Sweden/							
						Switzerland/	A						
43	Condensor On-load Tube cleaning system (COLTCS) (Sub QR Item)	I			CCI	Chittor,AP	A						
					BOMAF	Ahmedabad	A						
					BOMAF	Germany	A						
					GEA BGR	Chennai	A						
					Multitex Filtration	Greater Noida	A						
44	Hydraulic Coupling for BFP	I			Voith	Hyderabad	A						
					Voith	Germany	A						
					Pipe Support	Chennai	A						
					Liseega	Germany	A						
					Liseega	Ahmedabad	A			Load upto to 100KN			
45	Hangers & Supports; Pipe Support components including Spring Hangers	I			Seonghwa	S Korea	A						
					Pipe supports	UK	A						
					GILLARDINI	Italy	A						
					BERJEN	Chittor,AP	A						
					NHK SPRING	Japan	A						
					Yamashita Seisakusho Co. Ltd	Japan	A						
					MHI	Japan	A						
					SANWA TEKKI CORPORATION	Japan	A						
					CARPENTER AND PETERSON	UK	A			CLH Upto 30 T AND VLH Upto 32 T			
					CARPENTER & PATERSON INDIA PRIVATE LTD	Vellore	A			CLH Upto 23.8T & VLH Upto 20.7T			
46	Metallic Expansion Joint	I			AAA Supports Private Limited	Vadodara	A			For CLH, VLH and Rigid supports Max. Load 1.5 MT			
					Carpentor & Patterson	USA/Thailand	A						
					Lonestar	Chennai	A			For size up to NB9200			
					Flexicon	Vadodara	A			For size upto 2200NB			
					Witzemann	Germany	A						
					Munro & Miller	UK	A						
					Flexatherm	Vadodara	A			For size upto 2200NB			
					Bird Precision	UK	A						
					Metallic Bellows	Chennai	A			For size up to 1600 NB			
					M B Metallic Bellows	Chennai	A			For size upto 2200NB			
47	HP Piping -Fabrication (Based on Design and Drawings of Qualified Vendor)	I			Athulya Bellows and Engineering Pvt. Ltd	Vadodara	A			For size up to NB 3400			
					HKR	S Korea	A						
					BHR	Germany	A						
					Seonghwa	S Korea	A						
					Finow	Germany	A						
					TOSHIBA	Japan	A						
					BHEL	Piping Center, Chennai &Thirunayam	A						
					L&T	Hazira	A						
					Dee development	Balabgharh	A						
					Bendtec	USA	A						
		Wyman-Gordon	USA	A									
		Sumitomo	Japan	A									

PROJECT : KODERMA-II (2X800MW) PACKAGE : EPC PACKAGE CONTRACTOR : CONTRACT NO :										LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB SUPPLIER APPROVAL					REVISION NO : 00 DATE :02.05.2023 SUB SECTION: QA-TG(MECH)		Provenness Clause (Refer Note-1)
Sr No	Item Description	QP Inspection Category	QP No	QP submission SCH	QP approval SCH	Proposed Sub Supplier	Country	SS Approval_Status	SS Detail Sub.SCH	SS Approval SCH	Remark	Package Applicable					
54	Valves (gate/ globe/check) for LP application	I				KSB	Germany/ Coimbatore	A									
						ToA	Japan	A									
						Fouress Engg	Aurangabad	A									
						Trillium Flow	Hubli	A									
						Crane	USA	A									
						Sanshin	S Korea	A									
						KBL	Pune	A									
						Weir	UK	A									
						Leader	Jalandhar	A									
						BHEL	Trichy	A									
						Pentair (Tyco Sempell)	Trichy	A									
						HP Valves(Key Valves Technology)	Netherlands	A									
						IL	Palakkad	A									
						Steel Strong	Mumbai	A									
						KSB	Germany	A									
55	HP Feedwater Heaters Automatic (String Bypass) Isolation Valves	I				Tyco Sempell	Germany	A									
						Strack	Germany	A									
						BHEL	Trichy	A									
						Weir Valves & Controls UK Ltd	UK	A									
						KSB	Germany /Coimbatore	A									
56	Water Steam Cycle HP Valves	I				L&T	Chennai	A									
						L&T	Coimbatore	A									
						Velan	Coimbatore	A					up to 2inch, #4500 (up to P92 grade)				
						HP Valves	Netherlands	A					Previous Name Key Valves Technology				
						Weir Valves & Controls UK Ltd	UK	A									
						BHEL	Trichy	A									
						Crane	USA	A									
						Sanshin	S Korea	A									
						Pentair(Tyco Sempell)	Germany	A									
						Velan	Canada	A									
						ToA	Japan	A									
						Tyco	USA	A									
						BHEL	Trichy	A									
						Dresser	USA	A									
			57	Safety Valves	I				Tyco	USA	A						
						Babcock	Spain	A									
						Flainger	Germany	A									
						Bopp & Reuther	Germany	A									
						Flainger	Nasik	A									
						Reineke	Germany	A									
						Valve Technology	USA	A									
						KSB	Coimbatore	A									
						Leader	Jalandhar	A									
						L&T	Chennai	A									
						Velan	Canada	A									
						Fouress Engg	Ahmadnagar	A									
						Trillium Flow	Hubli	A									
						Velan	Canada	A									
58	Forged Seed Valves up to 2" , Class 800 (FCS/SS)	I							Steel Strong	Mumbai	A						
						L&T	Coimbatore	A									
						Plymouth	USA	A									

PROJECT : KODERMA-II (2X800MW) PACKAGE : EPC PACKAGE CONTRACTOR : CONTRACT NO :				LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB SUPPLIER APPROVAL							REVISION NO : 00 DATE :02.05.2023 SUB SECTION: QA-TG(MECH)		
Sr No	Item Description	QP Inspection Category	QP No	QP submission at SCH	QP approval at SCH	Proposed Sub Supplier	Country	SS Approval_Status	SS Detail Sub.SCH	SS Approval SCH	Remark	Package Applicable	Provenness Clause (Refer Note-I)
59	Condenser Tubes	I				Ramamani	Kutchh	A					
						Neotiss Limited	Medak,AP	A			Remarks: Formerly Vallourec Heat exchanger Tubes Ltd/ CST Valinox Ltd.		
						REMI Edelstahl Tubulars Ltd	Tarapur	A					
						Shin han Metal	S Korea	A					
						Valtimat	France	A					
60	HP/LP Heater tubes	I				Nippon Steel Corp.	Japan	A					
						Ramadeep Metal & Tubes Ltd	Mehsana	A					
						Maxim Tubes	Gandhinagar	A					
						Scholler Werke GmbH	Germany	A					
						Plymouth	USA	A					
						Ramamani	Kutchh	A					
						Ramamani	Mehsana	A					
						Valtimat	France	A					
						Nippon Steel Corp.	Japan	A					
						Scholler Werke	Germany	A					
61	Hydrogen Generation Plant (Sub-QR Item)	I				Heavy Metals and Tubes	Gandhinagar	A					
						Shin han Metal	S Korea	A			LP Heater		
						Apex	Alwar	A			LP Heater		
						Ramadeep Metal & Tubes Ltd	Mehsana	A			LP Heater		
						REMI Edelstahl Tubulars Ltd	Tarapur	A					
						Neotiss Limited	Medak,AP	A			Remarks: Formerly Vallourec Heat exchanger Tubes Ltd/ CST Valinox Ltd.		
						Proton Energy Systems	USA	A					
						MVS ENGINEERING LIMITED	New Delhi	A			Bi-polar type, 2x6NM3/Hr		
						SUKAN ENGG. PVT. LTD	Mumbai	A			Bi-polar type, 2x6NM3/Hr		
						Eastern Electrolyzer Limited	Noida	A			Bi-polar type, 2x6NM3/Hr		
						Teledyne Energy System Inc.	USA	A					
						AIROX NIGEN EQUIPMENTS LTD	Ahmedabad	A			Bi-polar type, 2x6NM3/Hr		
						Electrolyser Corporation	Canada	A					
						BOC	Kolkata	A					
Main Contractor Approved Sources(Note-3)													
1	Turbine Bearing Pedestal	I				Main Contractor Approved Sources							
2	Chemical Dosing System	I				Main Contractor Approved Sources							
3	Vapour Exhauster With Motor	II				Main Contractor Approved Sources							
4	Drain Cooler & Misc Tanks	II				Main Contractor Approved Sources							
5	Oxygen/NaOH Dosing System	II				Main Contractor Approved Sources							
6	Misc Items like Internals of equipments(if not covered in MQP) & Consumables like paints, gaskets etc.	III				Main Contractor Approved Sources							
NOTE - 1 : For final Sub-QR approval , document required to be submitted as per Sub-QR requirements given in the specification.													
NOTE-2: Vendors under 'A' are approved and accepted by NTPC with/without conditions in the past. Similar conditions as the case may be for the vendor shall be applicable for this project and tied up in the quality plan.													
NOTE-3: Main contractor approved sub vendors evaluated / assessed as per Main contractor Quality Management System is acceptable.													
Note-4: The items not covered in the above list shall be mutually discussed & agreed for item categorisation & sub-vendor control.													
LEGENDS/ संकेतिका													
* - Inspection category will be decided during vendor evaluation.													
I.0 SYSTEM SUPPLIER / SUB SUPPLIER APPROVAL STATUS CATEGORY प्रणाली आपूर्तिकर्ता / सब-वैण्डर की स्वीकृति की श्रेणी													
A – For these items proposed vendor is acceptable to NTPC. To be indicated with letter “A” in the list along with the condition of approval, if any/ इन मदों के लिए प्रस्तावित वैण्डर एनटीपीसी को स्वीकार्य है। अनुमोदन की शर्त, यदि कोई हो, के साथ-साथ पत्र ‘A’ में सूचित किया जाए।													

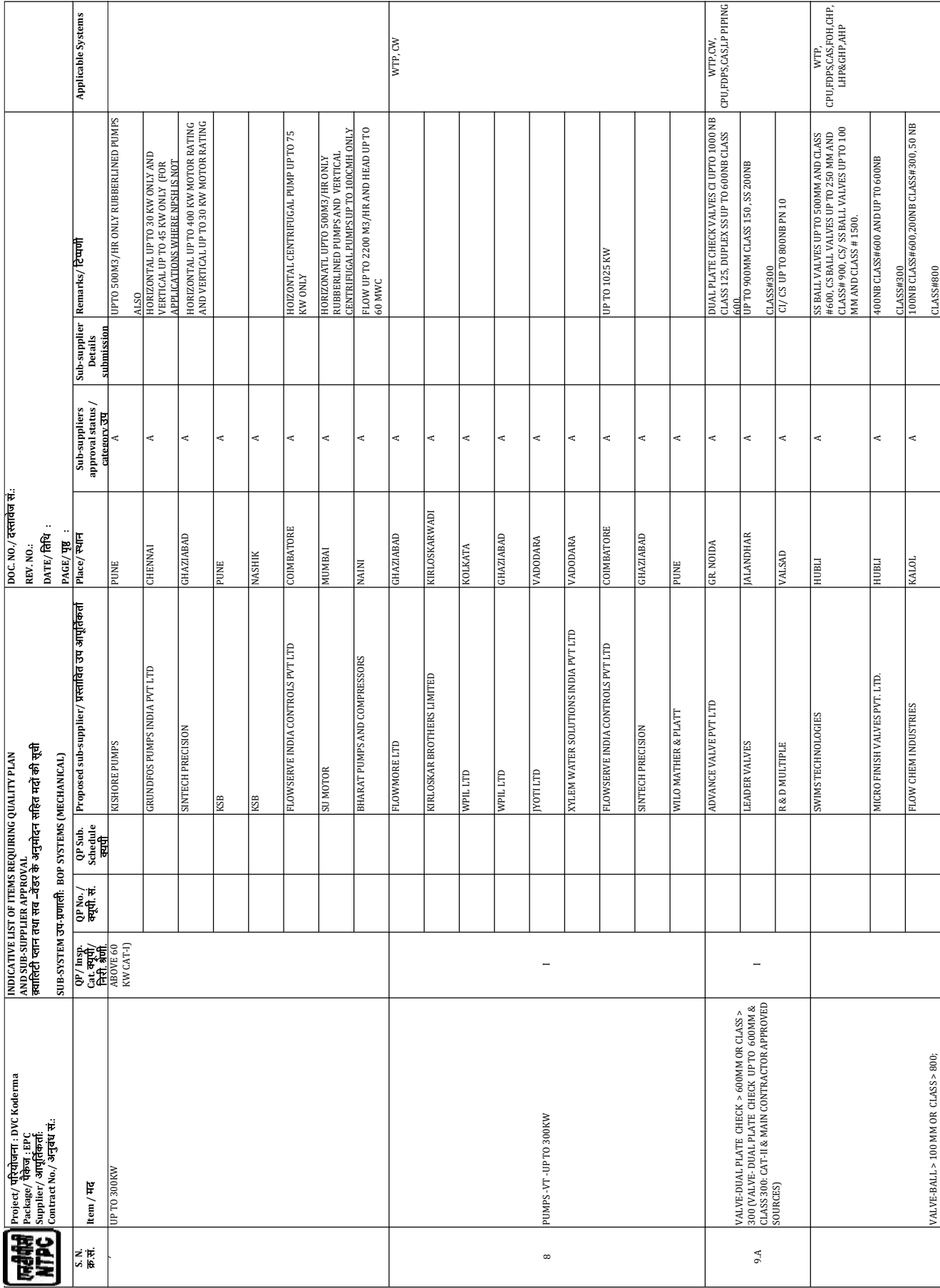
 एनटीपीसी NTPC एनपीएल		PROJECT : KODERMA-II (2X800MW)										LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB SUPPLIER APPROVAL				REVISION NO : 00	
		PACKAGE : EPC PACKAGE														DATE :02.05.2023	
		CONTRACTOR :														SUB SECTION: QA-TG(MECH)	
		CONTRACT NO :															
Sr No	Item Description	QP Inspection Category	QP No	QP submission at SCH	QP approval at SCH	Proposed Sub Supplier	Country	SS Approval_Status	SS Detail Sub.SCH	SS Approval SCH	Remark	Package Applicable	Provenness Clause (Refer Note-I)				
2.0 QP INSPECTION CATEGORY : क्यूरी / निरीक्षण की श्रेणी:																	
CAT - I : For those items the Quality Plans are approved by Customer and final acceptance will be on physical inspection witness by Customer.इन मदों के लिए गुणवत्ता योजनाओं को एनटीपीसी द्वारा अनुमोदित किया जाता है और एनटीपीसी द्वारा अंतिम स्वीकृति भौतिक निरीक्षण के दौरान उपलब्ध गवाह के आधार पर दी जाएगी।																	
CAT - II : For those items the Quality Plans are approved by Customer. However no physical inspection shall be done by Customer. The final acceptance by Customer shall be on the basis of review of documents. इन मदों के लिए गुणवत्ता योजनाओं को एनटीपीसी द्वारा अनुमोदित किया जाता है। हालांकि एनटीपीसी द्वारा कोई भौतिक निरीक्षण नहीं किया जाएगा। एनटीपीसी द्वारा अंतिम स्वीकृति अनुमोदित क्यूरी के अनुसार दस्तावेजों की समीक्षा के आधार पर दी जाएगी।																	
CAT - III : For these items Quality control to be exercised as per Main contractor Quality Assurance System. The final acceptance by NTPC shall be on the basis of Certificate of Conformance (COC) by Main Contractor.																	
UNITS/WORKS : Place of manufacturing- Place of main supplier of multi units/works.																	

Project/ परियोजना : DVC Koderma Package/ पैकेज : EPC Supplier/ आपूर्तिकर्ता: Contract No./ अनुबंध सं.:		INDICATIVE LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB-SUPPLIER APPROVAL क्वालिटी प्लान तथा सब-सप्लायर के अनुमोदन सहित मर्चों की सूची SUB-SYSTEM उप-प्रणाली: BOP SYSTEMS (MECHANICAL)					DOC. NO./ दस्तावेज सं.: REV. NO.: DATE/ तिथि : PAGE/ पृष्ठ :			Remarks/ टिप्पणी		Applicable Systems
S. N. क्र.सं.	Item / मद	QP / Insp. Cat. स्कोप/ निरी. श्रेणी	QP No. / स्कोपी सं.	QP Sub- Schedule खंडी	Proposed sub-supplier/ प्रस्तावित उप आपूर्तिकर्ता	Place/ स्थान	Sub-suppliers approval status / category उप	Sub-supplier Details submission				
1	AIR BLOWERS -LOBE TYPE >= 5KW	I			SWAM PNEUMATIC	NOIDA	A			UP TO 40 HP (APPROX 1600 CUM/HR)	WTP,CPLAHP	
					EVEREST BLOWERS PVT LTD	BAHADURGARH	A			UP TO 4800 CUM/HR		
					KAY INTERNATIONAL	SONEPAT	A			UP TO 2500CUM/HR		
					KULKARNI POWER TOOLS	SHIROL	A			UP TO 60 HP (APPROX 2000CUM/HR)		
					USHA COMPRESSORS	AHMEDABAD	A			UP TO 60 MT		
2.A	EOT CRANE & ELECTRIC HOIST >5 MT	I (> 10T) / III (>5T UP TO 10T)			REVA INDUSTRIES	FARIDABAD	A			UP TO 10 MT	WTP,CT,ACC&VENTILATION,CHPLHP&GHP,HP,CW , FDPS	
					EDDY CRANE	PUNE	A			SATARA UP TO 20 MT*PUNE FOR ELECTRIC HOIST UPTO 15 MT		
					CONSOLIDATED HOIST	SATARA /PUNE *	A			UP TO 15 MT FOR ELECTRIC HOIST ONLY		
					ELECTROTHERAPHY	RISHRA	A			UP TO 15 MT FOR ELECTRIC HOIST ONLY		
					HERCULES HOIST	RAIGAD	A			UP TO 20MT FOR EOT, UP TO 5 MT FOR FOR ELECTRIC HOIST		
					TUBRO FERGUSON	KOLKATA	A			UP TO 10 MT FOR ELECTRIC HOIST ONLY		
					PRAYAS ENGG (PBL)	V V NAGAR	A			SINGLE GIRDER EOT CRANE & ELECTRIC HOIST UPTO 15 MT ONLY, GEARBOX FROM NTPC APPROVED SOURCES FOR EOT CRANE.		
					ALPHA SERVICES	ALWAR	A			UP TO 25 MT		
					CENTURY CRANE ENGINEERS PVT. LTD	BALLABHGARH	A			UP TO 10 MT EOT & UPTO 15 MT ELECTRIC HOIST		
					ARMSEL	BANGALORE	A			UP TO 15 MT FOR ELECTRIC HOIST AND UPTO 10 MT FOR EOT		
2.B	GANTRY CRANE >5T	I (> 10T) / III (>5T UP TO 10T)			MILLARS INDIA	KARAMSAD	A			UP TO 25 MT	CW	
					AVON CRANES	GURGAON	A			UP TO 25 MT		
					GRIP ENGINEERS	HYDERABAD	A			50 MT (GEARBOX FROM NTPC APPROVED SOURCES FOR EOT CRANE).		
					GRIP ENGINEERS	FARIDABAD	A			UP TO 20 MT ELECTRIC HOIST ONLY		
					CRANEX	GHAZIABAD	A			UP TO 140 MT FOR EOT ONLY		
		REVA INDUSTRIES	FARIDABAD	A			UP TO 60 MT					
		UNIQUE INDUSTRIAL HANDLERS PVT LTD	NASHIK	A			UP TO 165 MT					
		ANUPAM INDUSTRIES LTD.	ANAND	A			UP TO 60MT					

S. N. क्र.सं.	Project/ परियोजना : DVC,Koderma Package/ पैकेज : EPC Supplier/ आपूर्तिकर्ता: Contract No./ अनुबंध सं.:	INDICATIVE LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB-SUPPLIER APPROVAL बतावाती प्लान तथा सब-सप्लायर के अनुमोदन सहित मर्च की सूची SUB-SYSTEM उप-प्रणाली: BOP SYSTEMS (MECHANICAL)				DOC. NO./ दस्तावेज सं.: REV. NO.: DATE/ तिथि : PAGE/ पृष्ठ :				Applicable Systems
		QP / Insp. Cat. संख्या/ निरी. श्रेणी.	QP No./ क्यू.पी. सं.	QP Sub. Schedule संख्या	Proposed sub-supplier/ प्रस्तावित उप-आपूर्तिकर्ता	Place/ स्थान	Sub-supplier's approval status / category उप	Sub-supplier Details submission	Remarks/ टिप्पणी	
3	FAN- AXIAL TYPE > = 5KW	I			SMACO ENGINEERING PVT.LTD	THANE	A		UP TO 60MT	WTP,CT,AC&VENTILATI ON,CHPLHP&GHP/AHP
					MANGLA HOIST	GREATER NOIDA	A		UP TO 10MT	
					CB DOCTOR VENTILATOR PVT LTD	AHMEDABAD	A		up to 50000 CMH	
					HOWDEN SOLYVENT FLAKT INDIA PVT LTD,	CHENNAI	A		up to 125000 CMH	
					C DOCTOR & CO PVT LTD	KOLKATA	A		up to 50000 CMH	
					KRUGER VENTILATION INDUSTRIES (I) PVT LTD	SHAHPUR, THANE	A		Up to 6000 CMH	
					NADI AIRTECHNICS PVT LTD	CHENNAI	A		Up to 15000 CMH	
					ADVANCE VENTILATION PVT LTD	KUNDALLI SONEPAT	A		up to 40000 CMH	
					SK SYSTEMS PVT LTD	KUNDALI PHASE-II, SONEPAT, HARYANA	A		up to 50000 CMH	
					Patel Airflow	Ahemdabad	A		up to 40000 CMH	
					ALMONAROD (P) LIMITED	CHENNAI	A		Up to 14000 CMH	
					STEEL AUTHORITY OF INDIA LIMITED	ROURKELA	A			
4	PIPES-MS- (BLACK/ GI) AS PER IS:63589 >1000NB	I			WELSPUN	ANJAR	A		SAW UPTO 2600 NB	CW,CT,MUW
					WELSPUN	BHARUCH	A		SAW UPTO 1300 NB	
					MAN INDUSTRIES	INDORE	A		SAW UPTO 1400 NB	
					SAMSHI	VADODARA	A		SAW 450 TO 2540 NB	
					MUKAT TANKS & VESSELS	TARAPUR	A		SAW 200 TO 1200 NB	
					MUKAT PIPES	RAJPURA	A		SAW UPTO 1800 NB	
					LALIT PIPES AND PIPES LTD	THANE	A		SAW 350 TO 1400 NB	
					RATNAMANI	CHATRAL	A		SAW 600 TO 2600 NB	
					RATNAMANI	KUTCH	A		SAW 400 TO 3600 NB	
					PSL HOLDINGS LIMITED	DAMAN	A		SAW 450 TO 1 600 NB	
					PSL INTERNATIONAL LTD.	CHENNAI	A		SAW 450 TO 1 600 NB	
					PSL LIMITED	KUTCH	A		SAW 450 TO 1 600 NB	



S. N. क्र.सं.		Project/ परियोजना : DVC Koderma Package/ पैकेज : EPC Supplier/ आपूर्तिकर्ता: Contract No./ अनुबंध सं.:	INDICATIVE LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB-SUPPLIER APPROVAL क्वालिटी प्लान तथा सब-सप्लायर के अनुमोदन सहित मर्चों की सूची SUB-SYSTEM उप-प्रणाली: BOP SYSTEMS (MECHANICAL)			DOC. NO./ दस्तावेज सं.:			Applicable Systems	
Item / मर्द	QP / Insp. Cat. सं./ स्वी. श्रेणी	QP No. / स्वी. सं.	QP Sub. Schedule स्वी.	Proposed sub-supplier/ प्रस्तावित उप आपूर्तिकर्ता	Place/ स्थान	Sub-suppliers approval status / category उप	Sub-supplier Details submission	Remarks/ टिप्पणों		
5	PIPES & FITTINGS-GRP	I			PSL LIMITED	VISAKHAPATNAM	A		SAW 450 TO 1600 NB	WTP,CT
					JCO PIPES	CHHINDWARA	A		SAW UPTO 1600 NB	
					SURYA GLOBAL STEEL TUBE LTD	ANJAR	A		SAW UP TO 2032 OD	
					JINDAL SAW LTD	BELLARY	A		SAW UP TO 3632 OD , THICKNESS 16 MM	
					CAPACITE STRUGURES PVT LTD	THANE	A		406.4 MM TO 3874 MM OD	
6	SERVICE VESSEL-CPU & OTHER PR VESSELS >= 10 BAR WORKING PRESSURE	I			EPP COMPOSITES PVT LTD	RAJKOT	A		UP TO 900MM	WTP,CPU,CAS,CHIP, LHP&GHP,AHP
					GRAPHITE INDIA	NASIK	A		UP TO 1000MM	
					SHIRAM SEPL COMPOSITES LTD	CHENNAI	A		UP TO 1100MM	
					BALAJI FIBER REINFORCE PVT LIMITED	VADODARA	A		UP TO 650MM	
					MEGHA FIBRE GLASS INDUSTRIES PVT LTD	MEDAK	A		UP TO 900MM	
7	PUMPS- HORIZONTAL & VERTICAL CENTRIFUGAL - (UP TO 60 KW CAT-II.				DRIPLEX WATER ENGINEERING INTERNATIONAL PVT LIMITED	BHADARBAD	A		UPTO 3000MM DIA & THICKNESS UPTO 28 MM	WTP,CW, CPU,FDPIS,CHIP, LHP &GHP,AC & VENTILATION,MUW/ AHP
					BGR ENERGY SYSTEMS LTD (ENVIRONMENTAL ENGG. DIV.)	PONNERI	A		UPTO 2900 MM DIA & THICKNESS UPTO 28 MM	
					ISHAN EQUIPMENTS PRIVATE LIMITED	VADODARA	A		DIA 2800MM, THICKNESS 25MM DESIGN PRESSURE UP TO 47.5 KSC	
					JASMINO POLYMERTECH PVT LTD	TALOJA	A		DIA UP TO 2900 MM ,THICKNESS UPTO 29 MM	
					MAHIMA UDYOG	HARDWAR	A		UPTO 3200MM DIA & THICKNESS UPTO 30 MM	
					BELCO POLLUTION CONTROL PVT LTD	GREATER NOIDA	A			
					KIRLOSKAR BROTHERS LTD	KIRLOSKARWADI	A			
					WILO MATHER & PLATT	PUNE	A			
					WILO MATHER & PLATT	KOLHAPUR	A			
					SAM TURBO	COIMBATORE	A		FLOW UP TO 1500 QUM/HR AND POWER RATING UP TO 425 KW	
					FLOWMORE LTD	GHAZIABAD	A			
					BEST AND CROMPTON	CHENNAI	A			
					JYOTI LTD	VADODARA	A			
					WPIL	GHAZIABAD	A			



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					L&T VALVES LIMITED	COMBATORE	A		650 MM CLASS 600. 50 NB CLASS 800.	
					SWIMS TECHNOLOGIES	HUBLI	A		CONVENTIONAL CCS GATE / GLOBE / CHECK VALVES UP TO 600MM AND CLASS # 1500, CCS GATE/ GLOBE/ CHECK VALVES UP TO 200MM UP TO 300NB PN10	
					CRANE PROCESS FLOW	SATARA	A			
9.E	VALVE- DIAPHRAGM TYPE	I			SWIMS TECHNOLOGIES	HUBLI	A		UPTO 250 NB - PN 10, 350MM PN6	WTP,CPU
					PROCON ENGINEERS	MUMBAI	A		UPTO 200 NB AND PN 10/CLASS #150	
					SWIMS TECHNOLOGIES	HUBLI	A		SOFT SEATED 400MM AND CLASS # 150, 300NB CLASS#300	WTP,CPU,CHP, LHP&GHP, FOH,AHP
9.F	VALVE-PLUG > 100 MM OR CLASS > 800(VALVE-PLUG UP TO 100 MM & CLASS 800-CAT-II & MAIN CONTRACTOR APPROVED SOURCES)	I			XOMOX SANMAR	TRICHY	A		UP TO 600MM AND CLASS#300	
					FLOWSERVE INDIA CONTROLS	CHENNAI	A		METALLIC SEATED 400NB CLASS#150, 300NB CLASS # 300. 50NB CLASS #800	
					KSB	NASHIK	A		130 KW	WTP,CT, CPU,CHP, LHP&GHP, FOH,AHP,L.P PIPING,FDPS
10	PUMP- SUBMERSIBLES=> 30KW	I			KIRLOSKAR BROTHERS LTD	KIRLOSKARWADI	A			
					AQUA MACHINERY	AHMEDABAD	A		UP TO 235 KW	
					WPIL	GHAZIABAD	A			
					CORI ENGINEERS PVT LTD	CHENNAI	A		UPTO 2800 MM	ACW, ECW, CW,CT
11	RUBBER EXPANSION JOINT>=1600NB (RUBBER EXPANSION JOINT < 1600NB; CAT-II & MAIN CONTRACTOR APPROVED SOURCES)	I			SRM EXOILEX PVT LTD	KOLKATA	A		UPTO 2800 MM	
					PAHARPUR COOLING TOWERS LTD	SAHIBABAD	A		WITH SOLID FAN BLADES 288" AND 336" DIA, WITH FOAM CORED FAN BLADES WITH 10 METERS AND 10.97 METERS	CT
					PAHARPUR COOLING TOWERS LTD	BHASA	A		60" TO 288" FAN DIA	
					PAHARPUR COOLING TOWERS LTD	KOLKATA	A		60" TO 288" FAN DIA	
12	FAN ASSEMBLY-COOLING TOWER	I			M/s MAYA FANS AIR ENGG PVT LTD.	DEWAS	A		UP TO 11 METER FAN DIA	
					AMALGAMATED INDUSTRIAL COMPOSITES PVT LTD	NASHIK	A		UP TO 11 METER FAN DIA	
					PAHARPUR COOLING TOWERS LTD	SAHIBABAD	A			CT
					PAHARPUR COOLING TOWERS LTD	KOLKATA	A			
					NEW ALLENBERRY WORKS	KOLKATA	A			
13	GEAR BOX -COOLING TOWER	I			ELECON ENGINEERING	VALLABH	A			
					PREMIUM ENERGY TRANSMISSION LTD.	VIDYANAGAR	A			
						PALTA	A			



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14		DRIVE SHAFT-CARBON FIBRE-COOLING TOWER	II			M/S EUROFLEX TRANSMISSION (INDIA) PVT LTD	A			CT
						PAHARPUR COOLING TOWERS LTD	A			
						M/s AMALGAMATED INDUSTRIAL COMPOSITES PVT LTD	A			
						NORTH STREET COOLING TOWERS	A			
15		DRIVE SHAFT SS-COOLING TOWER	II			PAHARPUR COOLING TOWERS LTD	A			CT
						PAHARPUR COOLING TOWERS LTD	A			
						NORTH STREET COOLING TOWER	A			
						KIRLOSKAR BROTHER'S LIMITED	A		BOTH CV & VT TYPE	CW
						WPIL LTD	A		BOTH CV & VT TYPE	
16		PUMP-CW PUMP	I			FLOWERVE INDIA CONTROLS PVT LTD	A		CV TYPE ONLY	
						FLOWMORE LTD	A		VT TYPE ONLY	
						XYLEM WATER SOLUTIONS INDIA PVT LTD	A		VT TYPE ONLY	
						JYOTI LTD	A		VT TYPE ONLY.	
17		ELECTRO HYDRAULIC ACTUATOR FOR CW PUMP DISCHARGE BUTTERFLY VALVE	I			BOSCH REXROTH (INDIA) PVT LTD	A		HYDRAULIC POWER PACK AND HYDRAULIC CYLINDER (320 MM BORE DIA) , ACCUMULATOR FORM OLAYER (21/2 C. KIADB.	CW
						HYDAC (INDIA) PVT. LTD	A		HYDRAULIC POWER PACK-HYDAC COIMBATORE. HYDRAULIC CYLINDER -HYDAC BANGLORE.ACCUMULATOR-HYDAC	
						ISGEC	A		FINISHED CASTING UP TO 4.0 MT APPROX	CW
						THE KOLHAPUR STEEL LTD.	A		FINISHED CASTING UP TO 4.0 MT APPROX	
						WESTERN PRECICAST PVT LTD	A		FINISHED CASTING UP TO 3.5 MT APPROX	
18		IMPELLER CASTING - CW PUMP	II			HINDUSTAN UDYOG LIMITED	A		FINISHED CASTING UP TO 3.0 MT APPROX	
						HI-MET CORPORATION	A		FINISHED CASTING UP TO 3.0 MT APPROX	
						TULIP CASTING	A		WEIGHT UPTO 3.0 MT , DIA 1600 MM	
						MATHER FOUNDARY LTD	A		FINISHED CASTING UP TO 3.6 MT APPROX	
19		SHAFT-FORGING- CW PUMP	II			GORADIA SPECIAL STEELS LTD	A			CW
						BHARAT FORGE	A			



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					CFFP,BHEL	HARDWAR	A		UP TO DIAMETER 290MM AND LENGTH APPROX. 3000MM, GRADE SS410	
20	THRUST BEARING FOR CW PUMP	I			MICHEL	BANGLORE	A			CW
					KMP	GREATER NOIDA	A			
21	DELUGE VALVE WITH TRIMS	I			HD FIRE	THANE/ALGAON	A			FDPs
					CARRIER	GURGAON	A		FOR PISTON TYPE DELUGE VALVE ONLY	
22	INERT GAS EXTINGUISHING SYSTEM	II			ANSUL	USA	A			FDPs
					KIDDE (GINGEKERR)	UK	A			
					NAFFCO	UAE	A			
					MINIMAX GmbH & Co. KG	GERMANY	A			
					TOTAL WALTHER	GERMANY	A			
					NOHMI BOSAI	JAPAN	A			
23	ALARM VALVE WITH TRIMS	II			HD FIRE	THANE	A			FDPs
					HD FIRE	JALGAON	A			
24	FOAM SYSTEM(BLADDER TYPE)	I			HD FIRE	JALGAON	A			FDPs
					FIRETECH	RATNAGIRI	A			
					WADIA BODY BUILDERS	AHEMDABAD	A			FDPs
					AAREL INDUSTRIES	INDORE	A			
25	FIRE TENDER	I			AMBALA COACH	AMBALA	A			
					VIJAY FIRE	UMBERGAON	A			
					MARATHON ELECTRIC MOTOR(I) LTD	KOLKATA	A		UP TO 50000 CMH	AC& VENTILATION, CHP, LHP&GHP,AHP
					HOWDEN SOLYVENT FLAKTINDIA PVT LTD,	CHENNAI	A		UP TO 200000 CMH	
					ALMONAROD (P) LIMITED	CHENNAI	A		UP TO 60000 CMH	
					PATEL AIRFLOW	VATWA, AHMEDABAD	A		UP TO 250000 CMH	
					CB DOCTOR VENTILATOR PVT LTD	AHMEDABAD	A		UP TO 150000 CMH	



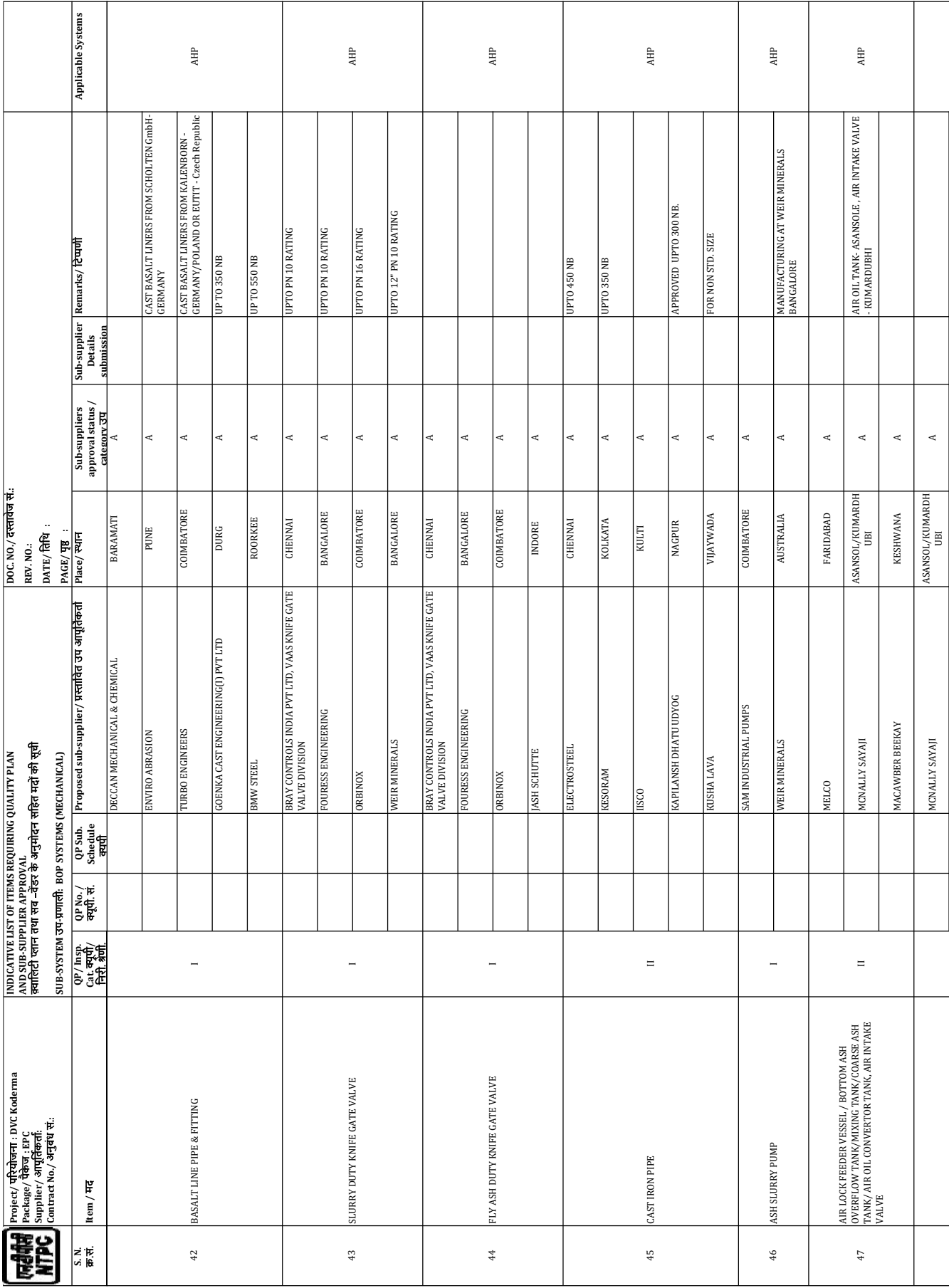
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26	CENTRIFUGAL FAN (± 5KW) MOTOR FROM NTPC ACCEPTED SOURCE	I			WOLTER VENTILATORS INDIA (P) LTD	BHIWADI,	A		UP TO 200000 CMH		
					C.DOCTOR & CO PVT LTD	KOLKATA	A		UP TO 250000 CMH		
					SUVIDHA AIR ENGINEERS	AHMEDABAD	A		UP TO 190000 CMH		
					SUBURBAN INDUSTRIAL WORKS PVT. LTD	KOLKATA	A		UP TO 100000 CMH		
					KRUGER VENTILATION INDUSTRIES (I) PVT LTD	THANE	A		UP TO 90000 CMH		
27	DIESEL ENGINE	I			SOLYVENT FLAKT	KOLKATA	A		UP TO 200000 CMH		
					ADVANCE VENTILATION PVT LTD	SONEPAT	A		UP TO 250000 CMH		
					SK SYSTEMS PVT LTD	SONEPAT	A		UP TO 250000 CMH		
					CUMMINS	PUNE	A		Up to 2000 KVA	Up to 2000 KVA	
28	3 LPE COATED PIPE	I			PERKINS	AURANGABAD	A		UP TO 313 HP		
					GREAVES COTTON	AURANGABAD	A		Up to 1750 KVA		
					SAIL	ROURKELA	A				
29	PLATE HEAT EXCHANGER	I			RATNAMANI	KUTCH	A		UP TO 1100 NB		
					PSL LTD	KUTCH/ VIZAC	A		UP TO 1100 NB		
					TRANSTER INDIA	PUNE	A		HT PLATES & GASKETS FROM TRANTER		
					ALPHA LAVAL	SATARA	A		SWIDEN /USA HT PLATES FROM HISKA JAPAN HT PLATES & GASKETS FROM ALPHA LAVAL		
30	DI (Ductile Iron) PIPE & FITTINGS	I			IDMC	ANAND	A		SWIDEN HT PLATES & GASKETS FROM SONDEX		
					SONDEX INDIA	VADODARA	A		DENMARK HT PLATES FROM SONDEX DENMARK/INDIA (MODEL S188)		
					JINDAL SAW (1161)	KUTCH	A		UP TO DN 900 CLASS K7 & K9		
					JAI BALAJI (156)	BARDWAN	A		UP TO DN 900 CLASS K7 & K9		
31	AIR COMPRESSOR: OIL FREE CENTRIFUGAL COMPRESSOR	I			ELETRO STEEL	KOLKATA	A				
					NGERSOLL RAND INDIA	AHMEDABAD	A		Capacity Upto 60 NM3/Minute @ Pr 8 bar		
					KIRLOSKAR PNEUMATIC COMPANY LTD	PUNE	A		Capacity up to 45.3 Nm3/min and pressure rating up to 9.3 kg/cm2		
					ATLAS COPCO	Pune (Dapodi)	A				



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32	SCREW TYPE AIR COMPRESSORS		I			INGERSOL RAND INDIA	A		UPTO MODEL SH 300 (36 NM3/MIN) - AIR ENDS FROM GHI RAND - GERMANY & OTHER COMPONENTS FROM I.R.S.GLOBAL-SOURCES	CAS, CHP, LHP, GHP, MRHS, AHP	
			I		ELGI	A		UPTO 2830 CFM, AIR ENDS FROM HITACHI-JAPAN, ASSEMBLY AND TESTING AT ELGI COIMBATORE.			
			I		KIRLOSKER PNEUMATIC COMP LTD	A		FLOW CAPACITY 45.3 NM3/MIN, AND PRESSURE RATING 9.3 KG/CM2			
33	AIR DRYER	I				SUMMIT'S HYGRONICS	A		FOR REFRIGERANT DRYER, 11893 M3/HR., REGENERATIVE DRYERS BLOWER REACTIVATED TYPE 2123 M3/HR	CAS	
					MELLCON ENGRS PVT LTD	A		Refrigerant type 60 m3/hr & REGENERATIVE DRYERS HOC TYPE 2548 M3/HR			
					DELAIR INDIA LTD	A		Refrigerant type 7500 m3/hr & REGENERATIVE DRYERS HOC TYPE 3000 M3/HR			
					SUMESH PETROLEUM	A		100 CFM (169 M3/HR) & 7 KG/CM2			
					TRIDENT PNEUMATIC PVT LTD	A		Refrigerant type 10000 m3/hr & REGENERATIVE DRYERS BHR TYPE 1000 M3/HR			
34	SCREW CHILLER	II				KIRLOSKAR CHILLER	A		UP TO 350TR	AC& VENTILATION	
					DAIKIN	A		UP TO 185 TR			
					BLUE STAR (COMPRESSOR FROM HANBEL-TAIWAN)	A		SCREW CHILLER UP TO 282TR			
35	Metallic Expansion Bellows	II				MB METTALIC BELLOW'S	A			MRHS	
					SUR Industries	A					
					LONE STAR	A					
36	Conveying Compressor (Reciprocating)	I				KIRLOSKAR PNEUMATICS	A			MRHS	
					INGERSOLL RAND	A					
					ATLAS COPCO(CHICAGO PNEUMATIC BRAND)	A					
37	ALLOY CAST IRON PIPE, FITTINGS AND LINER	I				CRAWLEY & RAY	A			MRHS, AHP	
					ALLIED FOUNDRIES	A					
					PARAMOUNT CASTINGS	A					
					NORTHERN ALLOY	A					
					MENON METALLIK	A					
		KOLHAPUR STEEL	A								
		AQUA ALLOY	A								



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38	DRY ASH UNLOADING CHUTE	I			MARTO PEARL	HYDERABAD	A			AHP
					R.R.L	HOWRAH	A			
					CONCAST ENGINEERING	BURDWAN, WB	A			
					NATRAJ IRON & CASTINGS	DHANBAD	A			
					ABHIPRIYA BUSINESS	PANT NAGAR	A			
					MELCO	FARIDABAD	A			
39	BAG FILTER / SILO VENT FILTER	II			MACAWBER BEEKAY	KESHWANA	A			AHP,MRHS
					MINING AND MATERIAL HANDLING EQUIPMENT	KOLKATA	A			
					DCL	HYDERABAD	A			
					FLAKT	KOLKATA	A			
					ORIENT FANS (AGCO)	KOLKATA	A			
					THERMAX	PUNE	A			
40	REFRIGERANT TYPE DRYER	I			RIECO	PUNE	A			AHP
					MELCO	FARIDABAD	A			
					MCNALLY SAYAJI	ASANSOL/KUMARDH UBI	A			
					MACAWBER BEEKAY	KESHWANA	A			
					TAP ENGINEERING	KANCHEEPURAM	A			
					SUMMITS HYGRONICS	COIMBATORE	A		Upto 11893 m3/hr	
41	VACUUM PUMP [WATER SEAL RING TYPE]	I			TRIDENT	COIMBATORE	A		Upto 10000 m3/hr	AHP
					MELLCON	GREATER NOIDA	A		Upto 7250 m3/hr	
					DELAIR	GURGAON	A		Upto 7500 m3/hr	
					ATLAS COPCO	BELGIUM	A		Upto model FD 1200. ASSEMBLY AND TESTING AT PUNE	
					KAKATI KARSHAK	HYDERABAD	A			
					AEROMATIC	AHEMDABAD	A		Size Upto 200 MM. Capacity 3924 m3/hr	





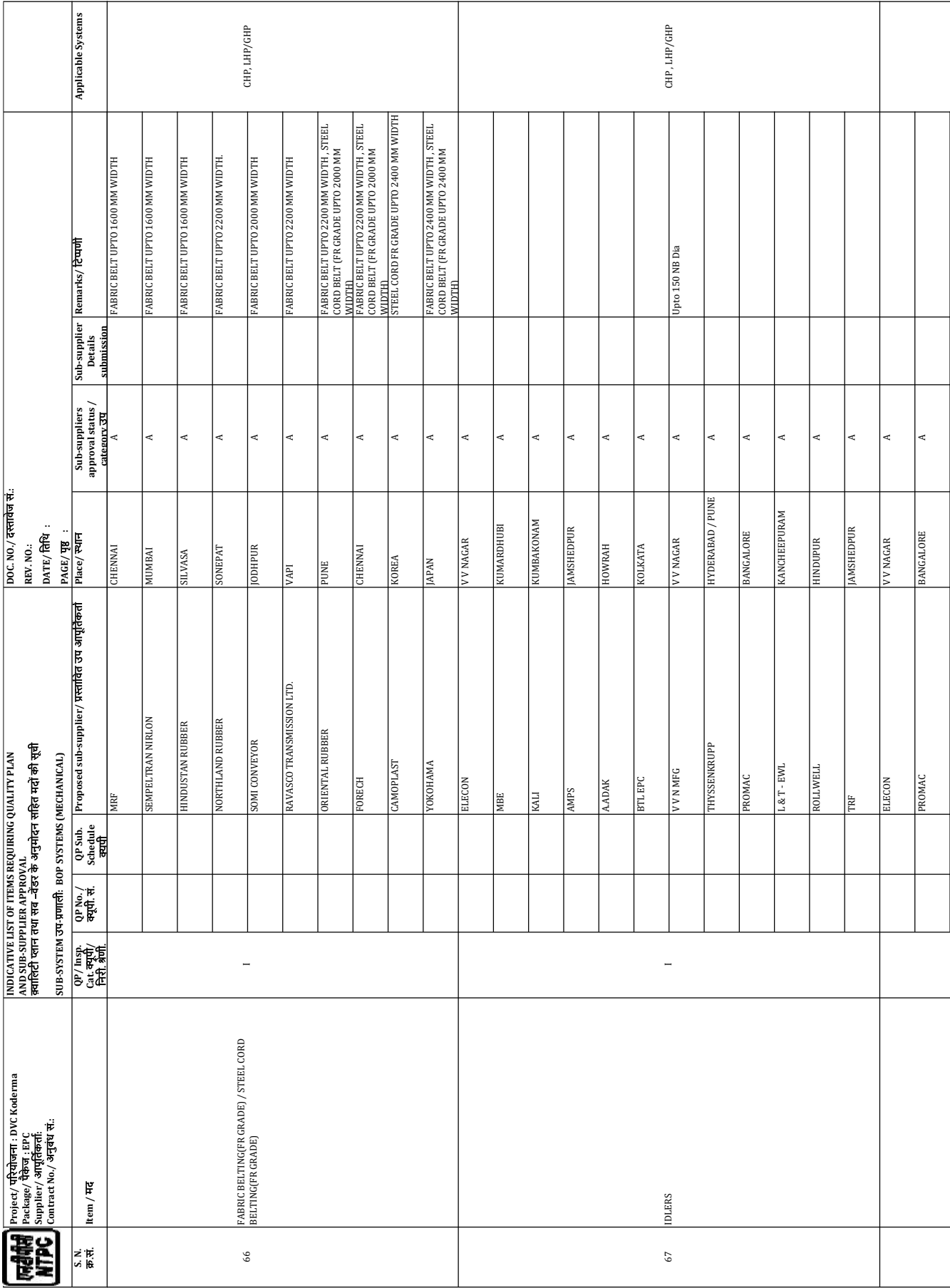
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48	BOTTOM ASH HOPPER / BUFFER HOPPER/DUST COLLECTOR	I			MELCO	FARIDABAD	A		ONLY FOR BUFFER HOPPER AND DUST COLLECTOR	AHP	
49	CLINKER GRINDER	I			MACAWBER BEEKAY	KESHWANA	A			AHP	
					MELCO	FARIDABAD	A				
					MCNALLY SAYAJI	ASANSOL/KUMARDH UBI	A				
					L&T	KANSBAHAL	A				
					MACAWBER BEEKAY	KESHWANA	A				
50	FLY ASH HOPPER/VALVE/ASH INTAKE VALVE/FLY ASH DIFFUSER / DRIVE ARRANGEMENT FOR CLINKER GRINDER	II			MELCO	FARIDABAD	A			AHP	
					MCNALLY SAYAJI	ASANSOL/KUMARDH UBI	A				
					L&T	KANSBAHAL	A				
					MACAWBER BEEKAY	KESHWANA	A				
51	FLUIDIZING PAD / FLUSHING APPARATUS	I			MELCO	FARIDABAD	A			AHP	
					MCNALLY SAYAJI	ASANSOL/KUMARDH UBI	A				
					L&T	KANSBAHAL	A				
					MACAWBER BEEKAY	KESHWANA	A				
52	FLY ASH STORAGE SILO /HCSO SILO	I			MCNALLY SAYAJI	ASANSOL/KUMARDH UBI	A			AHP	
					MACAWBER BEEKAY	KESHWANA	A				
53	FEED SUMP / VACUUM BREAKER	I			MELCO	FARIDABAD	A			AHP	
					MCNALLY SAYAJI	ASANSOL/KUMARDH UBI	A				
					MACAWBER BEEKAY	KESHWANA	A				
					MELCO	FARIDABAD	A				
54	FLY ASH HEADER VALVE / BRANCH HEADER VALVE / AIR INTAKE VALVE / EQUALISING VALVE / PLUG GATE FOR SUMP ISOLATION	I			MCNALLY SAYAJI	KUMARDHUBI	A			AHP	
					L&T	KANSBAHAL	A				
					MACAWBER BEEKAY	KESHWANA	A				
					MELCO	FARIDABAD	A				



Project/ परियोजना : DVC Koderma Package/ पैकेज : IPC Supplier/ आपूर्तिकर्ता: Contract No./ अनुबंध सं.			INDICATIVE LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB-SUPPLIER APPROVAL बतावाती प्लान तथा सब-सप्लायर के अनुमोदन सहित मदों की सूची SUB-SYSTEM उप-प्रणाली: BOP SYSTEMS (MECHANICAL)			DOC. NO./ दस्तावेज सं.: REV. NO.: DATE/ तिथि : PAGE/ पृष्ठ :				Applicable Systems
S. N. क्र.सं.	Item / मद	QP / Insp. Cat. क्र.सं./ निरी. श्रेणी.	QP No./ क्र.सं. सं.	QP Sub. Schedule खण्ड	Proposed sub-supplier/ प्रस्तावित उप-आपूर्तिकर्ता	Place/ स्थान	Sub-supplier's approval status / category उप	Sub-supplier Details submission	Remarks/ टिप्पणी	
55	HYDROMIX DUST CONDITIONER/ROTARY FEEDER	I			MCNALLY SAYAJI	ASANSOL/KUMARDH UBI	A			AHP
					MACAWBER BEEKAY	KESHWANA	A			
					L&T	KANSBAHAL	A			
					EXPONENTIAL ENGINEERING	PUNE	A			
					MELCO	FARIDABAD	A		JET PUMP / JETTING NOZZLE	
56	JET PUMP / JETTING NOZZLE	I			MCNALLY SAYAJI	ASANSOL/KUMARDH UBI	A		JET PUMP / JETTING NOZZLE	AHP
					L&T	KANSBAHAL	A		JET PUMP	
					MACAWBER BEEKAY	KESHWANA	A		JET PUMP / JETTING NOZZLE	
					MELCO	FARIDABAD	A			
57	COLLECTOR TANK / AIR WASHER / WETTING HEAD / SURGE / SETTLING TANK	I			MCNALLY SAYAJI	ASANSOL/KUMARDH UBI	A			AHP
					MACAWBER BEEKAY	KESHWANA	A			
					MELCO	FARIDABAD	A			
58	PLATE VALVE AT DYKE END	I			MCNALLY SAYAJI	ASANSOL/KUMARDH UBI	A			AHP
					MACAWBER BEEKAY	KESHWANA	A			
					DELAIR	GURGAON	A			
					INDCON	DELHI	A			
59	DESSICANT TYPE AIR DRYER	I			MELCON	GREATER NOIDA	A			AHP
					SUMMIT'S HYGRONICS	COIMBATORE	A			
					TRIDENT	COIMBATORE	A			
					MCNALLY	KUMARDHUBI / ASAN	A			
					L&T	KANCHEEPURAM	A			
					THYSSENKRUPP	PUNE	A			
					ELECON	V V NAGAR	A			
60	STACKER RECLAIMER & RECLAIMER	I			TRF	JAMSHEDPUR	A			CHP



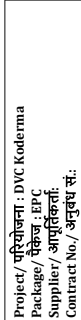
Project/ परियोजना : DVC,Koderma Package/ पैकेज : IPC Supplier/ आपूर्तिकर्ता: Contract No./ अनुबंध सं.:			INDICATIVE LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB-SUPPLIER APPROVAL बतावादी प्लान तथा सब-सप्लायर के अनुमोदन सहित मदों की सूची SUB-SYSTEM उप-प्रणाली: BOP SYSTEMS (MECHANICAL)			DOC. NO./ दस्तावेज सं.: REV. NO.: DATE/ तिथि : PAGE/ पृष्ठ :			Applicable Systems		
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64.A	VIBRATING SCREEN FEEDER	I			GENERAL KINEMATICS	USA	A		UP TO 2000TPH		
					THYSSENKRUPP	PUNE	A		UP TO 2035 TPH		
					TRF	JAMSHEDPUR	A		UP TO 1800 TPH TRF shall give extended warranty of 5 years over & above Contractual Warranty		
					MCNALLY SAYAJI	KUMARDHUBI	A		UPTO 1210 TPH		
					TECHNO VIBRAZIONI	ITALY	A		UPTO 1875 TPH		
64.B	VIBRATING FEEDER	I			ELECON	V.V NAGAR	A		UP TO 1320 TPH		
					GENERAL KINEMATICS	USA	A		UP TO 2000TPH		
					THYSSENKRUPP	PUNE	A				
					TRF	JAMSHEDPUR	A		UP TO 1800 TPH TRF shall give extended warranty of 5 years over & above Contractual Warranty		
					MCNALLY SAYAJI	KUMARDHUBI	A		UPTO 1210 TPH		
65	TRAVELLING TRIPPER	I			INTERNATIONAL COMBUSTION	NAGPUR	A				
					Electro Zavod	Kolkata	A		UPTO 400TPH		
					Elektromag Joest	Vapi	A		UP TO 750 TPH		
					BENGAL TOOLS	KOLKATA	A				
					THYSSENKRUPP	PUNE / HYDERABAD	A				
					ELECON	V.V NAGAR	A				
					MBE	KUMARDHUBI	A				
					TRF	JAMSHEDPUR	A				
					HMTC	KOLKATA	A				
					L & T - MAGNIL	CHENNAI	A				
					L & T	KANSBAHAL	A				
					L & T - EWL	KANCHEEPURAM	A				
					PHOENIX CONVEYOR BELT	KOLKATA	A		FABRIC BELT UPTO 2200 MM WIDTH, STEEL CORD BELT (FR GRADE UPTO 2400 MM WIDTH)		
					IMASS S.A	GREECE	A		FABRIC BELT UPTO 2400 MM WIDTH, STEEL CORD BELT (FR GRADE UPTO 2400 MM WIDTH)		





Project/ परियोजना : DVC,Koderma Package/ पैकेज : EPC Supplier/ आपूर्तिकर्ता: Contract No./ अनुबंध सं.:		INDICATIVE LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB-SUPPLIER APPROVAL बतावाती प्लान तथा सब-सप्लायर के अनुमोदन सहित मॉड की सूची SUB-SYSTEM उप-प्रणाली: BOP SYSTEMS (MECHANICAL)				DOC. NO./ दस्तावेज सं.: REV. NO.: DATE/ तिथि : PAGE/ पृष्ठ :					
S. N. क्र.सं.	Item / मद	QP / Insp. Co. सं./ निरी. प्रती.	QP No. / क्यू.पी. सं.	QP Sub. Schedule क्षेत्र	Proposed sub-supplier/ प्रस्तावित उप-आपूर्तिकर्ता	Place/ स्थान	Sub-supplier's approval status / category उप	Sub-supplier Details submission	Remarks/ टिप्पणी	Applicable Systems	
68	PULLEYS	I			MBE	KUMARDHUBI	A			CHP, LHP/GHP	
					BTL EPC	KOLKATA	A				
					TNS HEAVY	CHENNAI	A				
					KALI	THIRUBUVANAM	A				
					THYSSENKRUPP	HYDERABAD / PUNE	A				
					L & T - EWL	KANCHEEPURAM	A				
					V V N MFG	V V NAGAR	A		Upto 800 NB Dia		
					ROLLWELL	HINDUPUR	A				
69	HELICAL GEARBOX	I			TRF	JAMSHEDPUR	A			CHP, LHP/GHP	
					SHANTI GEARS	COIMBATORE	A		Upto size 560		
					ELECON	V V NAGAR	A				
					SIEMENS (FLENDER)	KHARAGPUR	A				
					PREMIUM TRANSMISSION LTD	PUNE/PALITA	A		Up to size 710 / 450		
					SIEMENS (FLENDER)	GERMANY	A				
					NEW ALLENBURY WORKS	KOLKATA	A				
					ELECON	V V NAGAR	A				
70	PLANETARY GEARBOX	I			SIEMENS (FLENDER)	GERMANY	A			CHP, LHP/GHP	
					MOVENTAS	GERMANY	A				
					DANA MOTION SYSTEMS ITALIA S.r.l	ITALY	A		(Earlier name - BREVINI)		
					MACTORQ	HOSUR	A		Upto 11 KW		
					SEW EURODRIVE GMBH & CO.	GERMANY	A				
					FLUIDOMAT	DEWAS	A		Scoop type upto SC-1330		
					PTL	AURANGABAD	A		SCOOP TYPE UPTO PST 1150		
					ELECON	V V NAGAR	A		Scoop type upto model ESC-760. 1. As part of type test M/s Elecon will demonstrate Scoop tube in & Scoop tube out		
71	FLUID COUPLING (SCOOP AND TRACTION TYPE)	I								CHP, LHP/GHP	

Project/ परियोजना : DVC Koderma Package/ पैकेज : EPC Supplier/ आपूर्तिकर्ता: Contract No./ अनुबंध सं.:		INDICATIVE LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB-SUPPLIER APPROVAL बतावाती प्लान तथा सब-सप्लायर के अनुमोदन सहित मदों की सूची SUB-SYSTEM उप-प्रणाली: BOP SYSTEMS (MECHANICAL)				DOC. NO./ दस्तावेज सं.:				Applicable Systems	
S. N. क्र.सं.	Item / मद	QP / Insp. Cat. सूची/ निरी. प्रणी.	QP No. / कसरी सं.	QP Sub. Schedule खसरी	Proposed sub-supplier/ प्रस्तावित उप आपूर्तिकर्ता	Sub-supplier's approval status / category उप	Sub-supplier Details submission	Remarks/ टिप्पणी			
72	SLEW RING	III			VOITH	A		HYDERABAD	SCOOP TYPE UPTO SVNL 1330	CHP, LHP/GHP	
					TITANUS	A			SOUTH AFRICA		
					IMO	A			GERMANY		
					SKF	A			FRANCE		
					ROTHERS	A			GERMANY		
73.A	COAL SAMPLER SYSTEM	I			LIEBHERR	A		GERMANY		CHP	
					EAST MAN CRUSHER	A			KOLKATA		WITH JEFFREY CRUSHER AND EASTMAN MAKE CRUSHER
					ERIEZ MAG EUROPE LTD	A			UK		
					SIEVE TECHNIK	A			GERMANY		MANUFACTURING OF PRIMARY & SECONDARY SAMPLER AN BOTTLE COLLECTOR AT MULTOTEC SA
					THERMO RAMSAY INC	A			USA		
73.B	LIMESTONE SAMPLING SYSTEM	I			ADVANCE SYSTEMS SAMPLING	A		KOLKATA	WITH JEFFREY CRUSHER AND ADVANCE MAKE CRUSHER	LHP/GHP	
					EAST MAN CRUSHER	A			KOLKATA		WITH JEFFREY CRUSHER AND EASTMAN MAKE CRUSHER
					ERIEZ MAG EUROPE LTD	A			UK		
					SIEVE TECHNIK	A			GERMANY		MANUFACTURING OF PRIMARY & SECONDARY SAMPLER AN BOTTLE COLLECTOR AT MULTOTEC SA
					THERMO RAMSAY INC	A			USA		
74	HYDRAULIC POWER PACK	I			ADVANCE SYSTEMS SAMPLING	A		KOLKATA	WITH JEFFREY CRUSHER AND ADVANCE MAKE CRUSHER	CHP, LHP/GHP	
					EATON POWER	A			PUNE		
					BOSCH-REXROTH	A			AHMEDABAD		
					MAHA HYDRAULICS	A			CHENNAI		
					L & T HYDRAULICS	A			BANGALORE		EXCEPT FOR STACKER RECLAIMER
75	HYDRAULIC CYLINDER	I			Hydac	A		COIMBATORE		CHP, LHP/GHP	
					VELJAN	A			HYDERABAD		
					WIPRO	A			BANGALORE		
					EATON POWER	A			PUNE		



INDICATIVE LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB-SUPPLIER APPROVAL इशारदगती लान तथा सब ँडर के अनुमोदन सहित मर्दों की सूची				DOC. NO. / दस्तावेज सं.: REV. NO.: DATE/ तिथि : PAGE/ पृष्ठ :			
SUB-SYSTEM उप-प्रणाली: BOP SYSTEMS (MECHANICAL)							
QP / Insp. Cat. वस्ती/ निरी. श्रेणी	QP No. / वस्ती सं.	QP Sub-Schedule वस्ती	Proposed sub-supplier/ प्रस्तावित उप आपूर्तिकर्ता	Place/ स्थान	Sub-supplier's approval status/ अनुमति उप	Sub-supplier Details submission	Remarks/ टिप्पणी
I			L & T HYDRAULICS	BANGALORE	A		
			BOSCH-REXROTH	AHMEDABAD	A		
			Hydac	COIMBATORE	A		
			POCLAIN HYDRAULICS	FRANCE	A		
			BOSCH-REXROTH AB (FORMERLY HAGGLUNDS)	SWEDEN	A		
I			PARKER CALZONI	ITALY	A		
			MAHA HYDRAULICS	CHENNAI	A		UP TO 100 LITRE CAPACITY
			KAWASAKI	UK	A		
			INTERNATIONAL COMBUSTION	NAGPUR	A		
			MCNALLY SAYAJI	BARODA	A		
I			MCNALLY SAYAJI	KUMARDHUBI	A		
			ELECON	V V NAGAR	A		
			THYSSENKRUPP INDUSTRIES INDIA	PUNE	A		
			ECOMAN	BARODA	A		UPTO 150TPH
			INDIANA GRATINGS PVT. LTD.	PUNE	A		
			JINDAL STEEL & POWER LTD.	RAIGARH	A		
			BABY ENGG. PVT. LTD.	TRICHY	A		
			REGIONAL ENGG. WORKS	TRICHY	A		
			AJANTHA FABS	MATHURA	A		
			CAPACITE STRUCTURES LTD.	THANE	A		
			MIURA INFRASTRUCTURE PVT. LTD.	BHILAI	A		
			SHIVAM HITECH STEELS PVT. LTD	BHILAI	A		
			TECHNOFAB MANUFACTURING LTD.	CHENNAI	A		
			JSW SEVERFIELD STRUCTURES LTD.(JSJ)	BELLARY	A		



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S. N. क्र.सं.	Item / मद	QP / Insp. Cat. स्कोप/ निरी. श्रेणी	QP No. / स्कोप सं.	QP Sub. Schedule स्कोप	Proposed sub-supplier/ प्रस्तावित उप आपूर्तिकर्ता	Place/ स्थान	Sub-suppliers approval status / category उप	Sub-supplier Details submission		Remarks/ टिप्पणी	
78	SHOP FABRICATED STRUCTURE	1			ALLIANCE INTEGRATED METALIKS LTD(AIML)	RAIPURA	A			CHP/LHP/GHP	
					ATMASTCO PVT LTD	DURGAPUR	A				
					APEX BUILDSYS LTD	NAGPUR	A				
					COREFAB PROJECTS PVT LTD	BHILAI	A				
					KOTHARI CHEMICALS	BHILAI	A				
					FEDDERS LLOYD CORPORATION LTD	SIKANDRABAD	A				
					ARCELOR MITTAL DHAMM PROCESSING PVT LTD	RANIPET	A				
					ARTSON ENGINEERING	NASIK	A				
					ARTSON ENGINEERING	NAGPUR	A				
					HEAVY ENGINEERING WORKS	REWA, MP	A				
					ARCELOMITTAL NIPPON STEEL INDIA LTD	CHENNAI	A				
					TRIDENT FABRICATORS PVT LTD	ROURKELA	A				
					GREAT INDIA STEEL FABRICATORS	YAMUNA NAGAR	A				
					METALFAB HITECH	NAGPUR	A				
					SUPERTECH INDIA	G.NOIDA	A				
					GOODLUCK STEEL	SIKANDRABAD	A				
		BTL	KOLKATA	A							
		BTL			DURGAPUR	A					
					KOLKATA	A					
					LUDHIANA	A					
					HYDERABAD	A					
					Kolkata	A			Upto 2400 MM B/w		
					Pune	A			Upto 2000 MM B/w		
					Cheygar	A			Upto 2000 MM B/w		
79	Steel Cord Pipe Conveyor (FR Grade)	1			Phonix Cnoveyor belt	Kolkata	A				
					Oriental Rubber	Pune	A				
					Forech India Pvt Ltd	Cheygar	A				

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80	PIPE-SS ASTM A 312	II			REMI	A	TARAPUR	ERW UPTO 400 NB,SEAMLESS UP TO 200NB		FDPs			
					RATNAMANI	A	MEHSANA	ERW UPTO 500 NB, SEAMLESS UPTO 50 NB ONLY			FDPs		
					RATNAMANI	A	KUTCH	ERW UPTO 400 NB, SEAMLESS UPTO 50 NB ONLY, ARC WELDED UP TO 450NB				WTP,CW/CT,CPU,FDP/SA C&VENTILATION,CHP,LH P&GHP,AHP	
					BHANDARI FOILS & TUBES LIMITED	A	DEWAS	ERW UP TO 300NB					FDPs
					APEX	A	BEHRORE	ERW UPTO 400 NB, SEAMLESS UPTO 50 NB.					
81	PIPE-CS SEAMLESS ASTM A 106	II			PRAKASH STEELAGE	A	SILVASA	ERW UP TO 203NB		FDPs			
					SHUBHLAXMI METALS AND TUBES	A	UMBERGAON	SEAMLESS UP TO 150MM and ERW UP to 250 NB Sch.40S			WTP		
					ISMT	A	AHMADNAGAR	UPTO 273 MM OD				WTP	
					ISMT	A	BARAMATI	UPTO 273 MM OD					WTP
					REMI	A	BHARUCH	UPTO 177.8 MM OD					
82	HCSD PUMP	I			MAHARASHTRA SEAMLESS	A	RAIGAD	UPTO 500 NB		FDPs			
					WEIR MINERALS	A	NETHERLANDS				FDPs		
					ABEL	A	GERMANY					FDPs	
					FELIWA	A	GERMANY						FDPs
			ITEM WITH MAIN CONTRACTOR / BIS APPROVED SOURCES.										
1	BRANCH PIPE, COUPLING & NOZZLE (SS & GM)	II			BIS APPROVED SOURCES WITH VALID BIS LICENSE				FDPs				
2	FIRE EXTINGUISHER	II			BIS APPROVED SOURCES WITH VALID BIS LICENSE					FDPs			
3	WATER MONITOR	II			BIS APPROVED SOURCES WITH VALID BIS LICENSE						WTP,CW/CT,CPU,FDP/SA C&VENTILATION,CHP,LH P&GHP,AHP		
4	PIPES-MS- (BLACK/ GI) AS PER IS:1239 & IS:3589 UPTO 1000 NB	II			(BIS MARKED, MANUFACTURERS WITH VALID BIS LICENSE)							FDPs	
5	FIRE HOSE	II			BIS APPROVED SOURCES WITH VALID BIS LICENSE								FDPs
6	HYDRANT VALVE	II			BIS APPROVED SOURCES WITH VALID BIS LICENSE				FDPs				
7	PIPES FOR IDLERS IS 9295	III			BIS APPROVED SOURCES WITH VALID BIS LICENSE					FDPs			
8	BLOWERS -CENTRIFUGAL >=5KW	II			MAIN CONTRACTOR APPROVED SOURCES						WTP		
9	CIO2 GENERATOR	II			MAIN CONTRACTOR APPROVED SOURCES							WTP	

	Project/ परियोजना : DVC Koderma Package/ पैकेज : EPC Supplier/ आपूर्तिकर्ता : Contract No./ अनुबंध सं.:	INDICATIVE LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB-SUPPLIER APPROVAL इंगलिटी प्लान तथा सब-सप्लायर के अनुमोदन सहित मदों की सूची SUB-SYSTEM उप-प्रणाली: BOP SYSTEMS (MECHANICAL)				DOC. NO./ दस्तावेज सं.: REV. NO.: DATE/ तिथि : PAGE/ पृष्ठ :					
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FORMAT NO./ प्रारूप सं. QS-01-QA-P-1B/FI-R0											
Engg. Div. / QA&I											

Project/परियोजना :			LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB-SUPPLIER APPROVAL क़्वालिटी प्लान तथा सब-सप्लायर के अनुमोदन सहित मंजी की सूची SUB-SYSTEM उप-प्रणाली: ELECTRICAL					Doc No./दस्तावेज नं.:	
KODERMA TPS PH-11 (2X800MW)								REVISION NO : 00	
Package/ पैकेज : EPC PAC24AGE								DATE/ तिथि : 18.05.2023	
Supplier/ आपूर्तिकर्ता:								SUB-SYSTEM उप-प्रणाली: QA-HLEC	
Contract No/ अनुबंध नं.:CS-5200-001-2									
S. N. क्र.सं.	Item/ मंद्	QTY/ Insp. Cat. क्यूटी/ निरी. श्रेणी.	QIP No. /क्यूटी. सं.	QIP Sub. Schedule क्यूटी उप.अनुसू. वि	Proposed sub-supplier/ प्रस्तावित उप आपूर्तिकर्ता	Place/स्थान	Sub-suppliers approval status/ category उप आपूर्तिकर्ता के अनुमोदन की स्थिति/श्रेणी	Sub-supplier Details sub sch/उप आपूर्तिकर्ता के विवरण प्रस्तुतीकरण की सूची	Remarks/टिप्पणी
1	GENERATOR	CAT I			BHEL	Hardwar	A		
					Siemens	Germany	A		
					GE	Sanand	A		
					GE	POLAND	A		
					MELCO	JAPAN	A		
					LMTC	Hazira	A		
					Hitachi	Japan	A		
					Toshiba	Japan	A		
					TIJS	Chennai	A		
	IPBD	CAT I			BHEL	Rudrapur	A		
					C&S ELECTRIC	Hardwar	A		
	Power Transformers	CAT I			ABB	Sweden	A	Up to 765 KV Class	
					ABB	Vadodara	A	Up to 765 KV Class	
					Toshiba	Japan	A	Up to 765 KV Class	
					CG Power & Industrial Solutions Ltd	Mandideep	A	Up to 765 KV class	
					BHEL	Bhopal	A	Up to 400 KV Class	
					Siemens	Mumbai	A	Up to 400 KV Class	
					GE I&D India Limited	Naini	A	Up to 400 KV Class	
					GE I&D India Limited	Vadodara	A	Up to 765 KV Class	
					TELK	Angamully	A	Up to 400 KV Class	
	Shunt Reactor	CAT I			ABB	Sweden	A	Up to 765 KV Class	
					ABB	Vadodara	A	Up to 765 KV Class	
					Toshiba	Japan	A	Up to 765 KV Class	
					CG Power & Industrial Solutions Ltd	Mandideep	A	Up to 765 KV class	
					BHEL	Bhopal	A	Up to 400 KV Class	
					Siemens	Mumbai	A	Up to 400 KV Class	
					GE I&D India Limited	Vadodara	A	Up to 765 KV Class	
					GE I&D India Limited	Naini	A	Up to 400 KV Class	
	Auxiliary Oil Filled Transformers	CAT I			BHEL	Itanasi	A	Up to 220 KV Class	
					Indutech Transformers	Chennai	A	Up to 16 MVA, 11 KV Class	
					Kanolar	Meerut	A	Up to 16 MVA, 33 KV Class	
					Kritoskar Electric Company Limited	Mysore	A	Up to 16 MVA, 33 KV Class	
					Schneider	Vadodara	A	Up to 50MVA, 132 KV Class	
					Transformers & Rectifiers Ltd.	Ahmedabad	A	Up to 90 MVA, 132 KV Class	
					Tesla Transformers India Limited	Bhopal/23A SECTOR-B, I.A)	A	Up to 9 MVA	
					Voltamp	Soali	A	Up to 3.5 MVA, 33 KV Class	
	LT Switchgear -Floor mounted Draw out type indoor switchgear Panel (MCC etc.)	CAT I			Schneider (formerly L&T)	Mumbai / Combaratore / Ahmednagar	A		
					C&S Electric	Noida / Hardwar	A		
					Schneider	Nasik	A	ACB from Schneider, France	
					Siemens	Katwa	A	Conditions apply	
					Schneider	Vadodara	A		
	LT Switchgear - Floor mounted Fixed type indoor LT Switchgear Panel (ACDB / DCDB)	CAT I			Schneider (formerly L&T)	Mumbai / Combaratore/ Ahmednagar	A		
					C&S Electric	Noida/ Hardwar	A		
					Schneider	Nasik	A		
					Siemens	Katwa	A		
					Schneider	Vadodara	A		
8	11KV/3.3KV Switchgear- (MV Switchgear Panel)	CAT I							
					BHEL	Bhopal	A	Up to 33KV	
					Megawin	Salem	A	Up to 33KV	
					Schneider Electric India (Formerly L&T)	Ahmednagar	A	Up to 33KV	

					Siemens	Mumbai	A		Upto 33KV
					ABB	Nasik	A		Upto 33KV
					Schneider (Salt lake works)	Kolkata	A		Upto 11KV
					Schneider	Vadodara	A		Upto 11KV
8.1	Fast Bus Transfer panel along with relay	CAT I			Aarech	Parwanoo	A		conditions apply
					ABB	Vadodara	A		conditions apply
					SEL	Dehi	A		conditions apply
9	HT Motor								
9.1	HT Motors (CW PUMP MOTOR)	CAT I			WEG	BRAZIL	A		UPTO 3405KW/11KV
					HYOSUNG	S.KOREA	A		UPTO 2800KW/6.6KV
					BHEL	BHOPAL	A		
9.2	HT MOTORS (BEP Motor)	CAT I			HYOSUNG	SOUTH KOREA	A		UPTO 11KV 13.5 MW
					BHEL	BHOPAL	A		RQP
					HYUNDAI	SOUTH KOREA	A		UPTO 11KV 17 MW
9.3	HT MOTORS (ID Fan Motors)	CAT I			HYOSUNG	SOUTH KOREA	A		UPTO 11KV 13.5 MW
					WEG	HOSUR	A		UPTO 11KV 14 MW
					BHEL	BHOPAL	A		RQP
					HYUNDAI	SOUTH KOREA	A		UPTO 11KV 17 MW
					TMEIC	BENGALURU	A		UPTO 11 KV 5000 KW
9.4	HT MOTOR FOR OTHER EQUIPMENTS	CAT - I			HYOSUNG	KOREA	A		UPTO 11KV 13.5 MW
					WEG	BRAZIL	A		UPTO 11KV 2150 KW
					HOSUR	BHOPAL	A		UPTO 11KV 14 MW
					BHEL	BHOPAL	A		RQP
					HYUNDAI	KOREA	A		UPTO 11KV 17 MW
					TFCO	TAIWAN	A		UPTO 11KV 12 MW
					TMEIC	JAPAN	A		UPTO 11KV 14 MW
					CONVERTEAM	FRANCE	A		UPTO 11KV 18 MW (DOCUMENTS FOR NAME CHANGE TO GE CONVERTER TEAM SHALL BE SUBMITTED FOR APPROVAL)
					ABB	VADODARA	A		UPTO 6.6KV 2500 KW 11KV 2000 KW FOR PUMP/ FAN/ COMPRESSOR UPTO 6.6KV 750KW FOR MILL. UPTO 6.6 KV 1300KW FOR CRUSHER WITH SCOOP COUPLING
					JILIN	KOREA	A		UPTO 11KV 2900 KW. 6.6KV 2500 KW
					DYOTI	VADODARA	A		UPTO 6.6 KV 2250 KW EXCEPT CRUSHER & MILL APPLICATION
					MARATHON	KOLKATA	A		RQP. UPTO 6.6 KV 1300 KW FOR CRUSHER WITH SCOOP COUPLING & 11 KV 1600 KW FOR OTHER APPLICATION EXCEPT CRUSHER & MILL.
					CGL (D5 INDUSTRIAL AREA)	MANDIDEEP	A		UPTO 1650 KW 6.6 KV, 1350 KW 11 KV FOR PUMP, FAN, COMPRESSOR. UPTO 3.3 KV 335 KW WITH FLEXIBLE COUPLING FOR MILL APPLICATION
					CGL (PLOT 9)	MANDIDEEP	A		UPTO 11 KV 4MW FOR PUMP/ FAN/COMPRESSOR
					CG ELECTRIC SYSTEM	HUNGARY	A		UPTO 3.3 KV 1100 KW
10	H.T. CABLE upto 33KV	CAT I			TMEIC	BENGALURU	A		UPTO 11 KV 5000 KW
					Apar Industries	Umbergaon	A		
					Gemsab	Bhivadi	A		
					Gurta Power	Kashipur	A		
					Havelis India Ltd.	Alwar	A		
					KEC International	Vadodara	A		
					KEL Industries	Bhivadi	A		
					Krishna Electrical Industries Ltd	Gwalior	A		Up to 11KV only
					Polycab Wires Pvt. Ltd	Daman	A		Up to 11KV only
					Sri ram Cables	Bhivadi	A		Up to 11KV only
					Tirupati Plastomatics	Jaipur	A		
					Torrent Cable Ltd	Nadaid	A		
					CMI	Baddi	A		
					Universal Cable Ltd.	Satna	A		
11	1.1 KV LT Power Cables (Type-XLPE Insulated, PVC sheathed (incl FRLS)	CAT I							Refer Note-5 for category of inspection
					Advance Cable	Bengaluru	A		
					Apar Industries Ltd	Umbergaon	A		
					Cords Cables	Bhivadi	A		
					CMI	Baddi	A		
					Delton Cable Ltd	Fardahad	A		
					Dynamic Cables	Jaipur	A		
					Gemsab Industries	Bhivadi	A		
					Gurta Power Cables	Khorda	A		

[illegible]

		II		UNIMAC	JAPAN	A		
		I		MAHENDRA IND	BANGALORE	A		
		II		GEAR AND GRILLER	AUSTRIA	A		
		II		HITACHI MAGNET WIRE	JAPAN	A		
		I		PEARL INSULATION	BANGALORE	A		
		CAT I		COSMOS	BANGALORE	A		
86	HOLLOW COPPER CONDUCTOR (STATOR BAR)	II		UNIMAC	JAPAN	A		
		II		MITSUBISHI ELECTRIC	JAPAN	A		
		II		ISOLA	SWITZERLAND	A		
		I		MAHENDRA INDUSTRIES	BANGALORE	A		
		I		PEARL	BANGALORE	A		
		I		COSMOS	BANGALORE	A		
87	TERMINAL BUSHING (CONDENSER TYPE) (Lead Bushing)	CAT II						
		II		EMIL HAFLEY(TRENCH)	SWITZERLAND	A		
		II		MITSUBISHI ELECTRIC	JAPAN	A		
		II		TRENCH	SWITZERLAND	A		
88	SUPPORT BRACKET	CAT I						
		II		MITSUBISHI ELECTRIC	JAPAN	A		
		I		LMB	HAZIRA	A		
89	CONNECTING BUS BAR (PHASE BELTS) FABRICATION	CAT II						
		II		SUMIKH COPPER	JAPAN	A		
		II		MITSUBISHI ELECTRIC	JAPAN	A		
		II		HITACHI CABLE	JAPAN	A		
		II		ORIENTAL COPPER	THAILAND	A		
90	INSULATING HOSES FOR STATOR (WATER SUPPLY HOSES)	CAT I						
		II		SAKURA RUBBER	JAPAN	A		
		II		MITSUBISHI ELECTRIC	JAPAN	A		
		II		CRANE RESISTOFLEX	USA	A		
		II		DK SCHNABEL	GERMANY	A		
91	SHIELD PLATES / SHIELD CLAMPER	CAT I						
		III		MITSUBISHI ELECTRIC	JAPAN	A		
		I		RV ENGG	FARIDABAD	A		
		I		AK Multi metal	PUNJAB	A		CS Casting for Generator Bracket Hub of Bearing bracket, Ni-alloy casting for Generator Blower Shroud & Shield clumper, modular cast iron casting for Shroud support.
92	STATOR WINDING ASSLY	CAT I						
		I		MITSUBISHI ELECTRIC	JAPAN	A		
		I		LMTC	HAZIRA	A		
93	GENERATOR SHAFT FORGING	CAT II						
				SAARSCHEMIDDE	GERMANY	A		
				Buderus Edelsahl	GERMANY	A		
				JSW	JAPAN	A		
				SDF	ITALY	A		
				CRUIST FORCE	FRANCE	A		
				ONZ	RUSSIA	A		
				FORGE MASTER	UK	A		
				JCTC	JAPAN	A		
94	GENERATOR ROTOR MACHINING	CAT I						
		II		MITSUBISHI ELECTRIC	JAPAN	A		
		II		NUGO ROMANO	ITALY	A		
		I		LMTC	HAZIRA	A		
95	ETS MATERIAL (Core material)	CAT I						
		I		THYSSON KRUPP	NASIK	A		
		II		NIPPON	JAPAN	A		
		II		JFE	JAPAN	A		
		I		POSCO	RAIGARHI	A		
		I		JSW	BELLARY	A		
		II		MITSUBISHI	JAPAN	A		
96	RETAINING RING FORGING(MAT- CrMn J818)	CAT II						
				SAARSCHEMIDDE	GERMANY	A		
				JSW	JAPAN	A		

						FORGEMASTER	UK			A
						OMZ	RUSSIA			A
161	Generator Shaft Machining	CAT I								
						Alstom (Switzerland) Ltd.	Switzerland			
						Alstom Bharat Forge Power Limited	Sanand			A
162	Centering Ring Forging	CAT II								
						Bharat Forge	Pune			A
						Schmiedewerk Stoss	Switzerland			A
						FORGITAL SPA VELO D'ASTICO	Italy			A
						LOCALITA				
						Bay Forge	Chennai			A
163	Centering Ring Machining	CAT II								
						Alstom (Switzerland) Ltd.	Switzerland			A
						Bharat Forge Limited	Satara			A
164	Retaining Ring FORGING (Mat.18-18Cr-Mn)	CAT II								
						Energetischechnik Essen	Germany			A
						Saeschmiede	Germany			A
						ISW	Japan			
165	Retaining Ring Machining	CAT II								
						Alstom (Switzerland) Ltd.	Switzerland			A
						Alstom Bharat Forge Power Limited	Sanand			A
166	Rotor Copper Profile	CAT II								
						Swissmetall	Switzerland			A
						Widland	Germany			A
						Buntmetall	Austria			A
167	Field Lead Cone Bar for Rotor	CAT II								
						Swissmetall	Switzerland			A
						Buntmetall	Austria			A
						Widland	Germany			A
168	Radial Belt for Rotor	CAT II								
						Alstom	Switzerland			A
						Starwire	Bulgaria			A
						Atals	Hydrabad			only for Machining
169	Rotor Coil Forming	CAT I								
		CAT II				Alstom (Switzerland) Ltd.	Switzerland			A
		CAT I				Alstom Bharat Forge Power Limited	Sanand			A
170	Rotor Slot Wedges & Damper wedges	CAT II								
						Swissmetall	Switzerland			A
						Widland	Germany			A
						Luvata	Finland			A
						Buntmetall	Austria			A
171	Generator Rotor Final	CAT I								
						ALSTOM Power Sp. z o.o.	Poland			A
						Alstom (Switzerland) Ltd.	Switzerland			A
172	Hydrogen Blower	CAT II								
						FIMA	Germany			A
172.1	Hydrogen Blower Assembly	CAT II								
						Alstom (Switzerland) Ltd.	Switzerland			A
173	Terminal Bushing(Condenser type)	CAT II								
						Trench (Emily new name)	France			A
						HSP	Germany			A
174	Terminal Box Fabrication	CAT II								
						ALSTOM Power Sp. z o.o.	Poland			A
						ISGEC	Yamunaganj			A
						Shape Engg	Harihwar			A
174.1	Terminal Box Machining	CAT II								
						ALSTOM Power Sp. z o.o.	Poland			A
						Energy machines	Ahmedabad			A
175	End Shield Fabrication	CAT I								
						ALSTOM Power Sp. z o.o.	Poland			A
						Shape Engg	Harihwar			A
						ISGEC	Yamunaganj			A
175.1	End Shield Machining	CAT I								
						ALSTOM Power Sp. z o.o.	Poland			A
						ISGEC	Yamunaganj			A
						Energy Machines	Ahmedabad			A
176	Seal Assembly (Ring & Housing)	CAT II								
						ALSTOM Power Sp. z o.o.	Poland			A
177	Stator water cooler	CAT I								
						Alpha Laval	Sweden			A
						GFA	Germany			A
						TRANSTER	Pune			A
						IDMC Ltd	Anand			A
178	Stator water cooling unit	CAT II								

179	Stator water cooling pump	CAT II	Rocklin	Poland	A		
			ALWELLER	GERMANY	A		
			KSB	Pune	A		
			Ebara	Japan	A		
180	Slip Ring Shaft Forging	CAT II	SULZER	Navi Mumbai	A		
			See Generator Forging Suppliers				
			Bharat Forge	Pune	A		
180.1	Slip Ring Shaft Machining	CAT II	BAY FORGE	Chennai	A		
			Akatom (Switzerland) Ltd.	Switzerland	A		
			Euroflex Transmission(india) pvt. Ltd.	Hydrabad	A		
181	DC-Load Assembly for Slip Ring	CAT II					
181.1	Slip Ring Shaft Assembly	CAT I	Akatom (Switzerland) Ltd.	Switzerland	A		
			Akatom (Switzerland) Ltd.	Switzerland	A		
			Euroflex Transmission(india) pvt. Ltd.	Hydrabad	A	Only M/c	
182	Seal Oil Pump	CAT I	Allweiler	Germany	A		
			DAMAN	Germany	A		
			UT PUMP	FARIDABAD	A		
183	Seal Oil Cooler	CAT I	GEA	Germany	A		
			Alpha Level	EUROPE	A		
			Alfa level	Satara	A		
			ALPITALAVAL	Sweden	A		
			TRANTRER	Pune	A		
184	Seal Oil Unit	CAT II	Rocklin	Poland	A		
185	Hydrogen Cooler	CAT I	GEA	Germany	A		
			Kelvin	Pune	A		
			Laxmi	Bhopal	A		
186	Hydrogen dryer(Brefrigant Type)	CAT I					
			Indal electrical	Roorkee	A		
			Mekon engg	G. NOIDA	A		
187	Copper connector between main rotor and slip ring shaft(radial stud)	CAT II					
			SWISS METAL	Switzerland	A		
			Phisterer Sefag AG	Germany	A		
188	Carbon Brush & Holders	CAT III					
			Morgan	Germany	A		
			Vidhyut Carbon	Haridwar	A		
			National Carbon	Kolkata	A		
			G. Dietrich (belongs to CL)	Germany	A		
189	ETS Material	CAT I					
		CAT I	Thyssen Krupp	N/ASIK	A		
		CAT II	Mitsubishi	Japan	A		
		CAT II	Areator	Luxemburg	A		
		CAT III	Salzgitter	Germany	A		
		CAT II	Alloverze	Germany	A		
		CAT I	JSW	BELLARY	A		
		CAT II	JFE	Japan	A		
190	Radial Leads (Slip Ring Shut)	CAT II			ALSO FOR SI, NO 71		
			Schmelzmetall AG	Switzerland	A		
191	Connection Rod for main Rotor	CAT II					
			Wedand werke	Germany	A		
			Swiss Metal	Switzerland	A		
192	Excitation System	CAT I					
			Akatom Power Sp. z o o	Poland	A		
			GE power	NOIDA	A		
193	GHM(Generator health monitoring system)	CAT I					
194	Excitation AC-DC Bus duct	CAT I	GE Power	Noida	A		
			Bacon	Belgium	A	for Cast Resin	
			REEP	Chennai	A		
			C&S	NOIDA	A		

NO	TE	1. CHECKS FOR STATOR CORE ASSLY, STATOR WINDING ASSEMBLY, ROTOR WINDING ASSLY (GEN), GENERATOR ROTOR -FINAL, BEARING ASSEMBLY/SHAFT SEAL ASSEMBLY, EXCITER ASSLY (MAIN & PILOT)/ SLIP RING SHAFT ASSEMBLY WITH BRUSH GEARS, EXCITER TEST RUN, GENERATOR ASSEMBLY AT WORKS INCLUDING TERMINAL BUSHING & GENERATOR WORKS RUN TEST SHALL BE FINALIZED DURING DETAILED ENGINEERING/MQP FINALIZATION FOR THE RESPECTIVE OEMs.									
		2. For Raw Material/Components/Items of Generator which are not appearing in the above list, their OEM approved sources shall be tied up during Detailed Engineering/ MQP finalization.									
ID- MAJOR COMPONENTS FOR TOSHIBA MAKE GENERATOR (AS PER OEM SPECIFIC DESIGN):											
		STATOR FRAME WITH MAIN HOLE COVER FABRICATION & MACHINING	CAT I								
195						TOSHIBA	JAPAN				
						IJPS	CHENNAI			A	
196		KEY BAR FABRICATION AND MACHINING	CAT I								
						TOSHIBA	CHENNAI			A	
						Kalyani Carpenter (Material)	Pune			A	
						Punj Lloyd (Machining)	Gwalior			A	
197		KEY BAR ASSEMBLY	CAT I								
						TOSHIBA	JAPAN			A	
						IJPS	CHENNAI			A	
198		DOVETAIL FOR STATOR	CAT I								
						TOSHIBA	JAPAN			A	
						IJPS	CHENNAI			A	
199		END PRESSURE PLATE - Fabrication	II								
			I			TOSHIBA	JAPAN			A	
						IJPS	CHENNAI			A	
199.1		End Pressure Plate - Machining	CAT II								
						IJPS	CHENNAI			A	
						Sharp Engineering	Pune			A	
						N.S Engg	Hyderabad			A	
200		STATOR CORE PUNCHING									
			I			IJPS	CHENNAI			A	
			II			TOSHIBA	JAPAN			A	
201		TERMINAL BOX FABRICATION& MACHINING									
			II			TOSHIBA	JAPAN			A	
			I			IJPS	CHENNAI			A	
						Leo Prime	Chennai			A	
202		OVER HANG SUPPORT RING	CAT II								
						HITACHI CHEMICAL	JAPAN			A	
203		SOLID COPPER CONDUCTOR (FOR STATOR BAR)	CAT II								
						UNIMAC	JAPAN			A	
204		HOLLOW COPPER CONDUCTOR (FOR STATOR BAR)	CAT II								
						UNIMAC	JAPAN			A	
											HOLLOW CONDUCTOR (RAW MATERIAL FROM FURUKAWA - JAPAN)
205		TERMINAL BUSHING (CONDENSER TYPE)	CAT II								
						PASCONI & VILLA	ITALY			A	
						Trench	Switzerland			A	
						Toshiba	Japan			A	
206		CONNECTING BUS BAR (PHASE BELTS) FABRICATION	CAT II								
						SUMIKI COPPER	JAPAN			A	
						Oriental Copper	Thailand			A	
						Hitachi Cable	JAPAN			A	
207		INSULATING HOSES FOR STATOR (WATER SUPPLY HOSES)	CAT II								
						SAKURA RUBBER	JAPAN			A	
						CRANE RESISTOFLEX	USA			A	
						MIL	Chennai			A	
208		GENERATOR SHAFT FORGING	CAT II								
						SAARSCHMEIDE	GERMANY			A	
						SDF ITALY	ITALY			A	
						JCF	JAPAN			A	
						JSW	JAPAN			A	
						RUPERUS EDESTAHL	GERMANY			A	
						Doosan	Korea			A	
208.1		GENERATOR SHAFT MACHINING	CAT I								
						TOSHIBA	JAPAN			A	
209		ETS MATERIAL	CAT II				CHENNAI			A	
						NIPPON	JAPAN			A	
						JFE	JAPAN			A	
210		RETAINING RING FORGING (MAT-CrMn 18-18)	CAT II								
						SAARSCHMEIDE	GERMANY			A	

210.1	RETAINING RING MACHINING	CAT II			JSW	JAPAN	A		
					TOSHIBA IJPS	JAPAN Chennai	A A		
211	SILVER BEARING COPPER HOLLOW STRIPS (ROTOR COM.)	CAT II				THAILAND	A		
212	FIELD LEAD CORE BAR FOR ROTOR WITH D LEAD	CAT II							
					ORIENTAL COPPER				
					KME	GERMANY	A		
					ORIENTAL COPPER	THAILAND	A		
					BAOSHIDA SWISS METAL	GERMANY	A		
213	CURRENT CARRYING BOLTS FOR ROTOR	CAT II							
					TOYO KOGYO	JAPAN	A		
					TOSHIBA	JAPAN	A		
214	ROTOR COIL FORMING	CAT II							
					TOSHIBA	JAPAN	A		
					IJPS	Chennai	A		
215	ROTOR SLOT WEDGES & DAMPER WEDGES FABRICATION & MACHINING	CAT II							
					MURUKAMI	JAPAN	A		
					FIAT	ITALY	A		
216	GENERATOR ROTOR-FINAL	CAT I			TOSHIBA	JAPAN	A		
					TOSHIBA	JAPAN	A		
					IJPS	Chennai	A		
217	MOLDED INSULATION RING (FAN NOZZLE RIM)	CAT I							
		II			PCT	USA	A		
		I			PERMALI WALACE	Bhopal	A		
218	FAN BLADE ASLY ON ROTOR	II			TOSHIBA	JAPAN	A		
		I			IJPS	Chennai	A		
219	D LEAD (EL CORE BAR & CONTACT BOLT FOR SLIP RING								
		I			IJPS	Chennai	A		
		II			TOSHIBA	JAPAN	A		
220	END SHIELD FABRICATION & MACHINING	CAT I			SHAPE	HARIDWAR	A		
					IJPS	Chennai	A		
221	Bearing (CE & TE)	II			DSE	Korea	A		
		I			Omega Remk	Bhopal	A		
		II			DYM	Korea	A		
222	CENTERING RING FORGING	I			BAY FORCE	CHENNAI	A		
		II			MINATO KIKO	JAPAN	A		
		II			NISHIMAKI IRON WORKS	JAPAN	A		
		I			GOODLUCK	GHAZIABAD	A		
223	SEAL ASSLY (RING & HOUSING)	CAT II							
					TOSHIBA	JAPAN	A		
224	SLIP RING SHAFT ASSLY	I			IJPS	Chennai	A		
		II			TOSHIBA	JAPAN	A		
225	FAN BLADE FORGING & MACHINING	II			MURAKAMI SESAKUSHO	JAPAN	A		
		I			IJPS	Chennai	A		
		I			Azad	Hyderabad	A		
		II			TOSHIBA	JAPAN	A		
226	HYDROGEN COOLER	CAT II			ENERGVEN	KOREA	A		
					KITASHIBA ELECTRIC	JAPAN	A		
227	AC/DC BUSDUCT	CAT I			Kamatika Gas Coolers	Bangalore	A		
					SFACPAGE	GURGAON	A		
					RIEP	CHENNAI	A		
228	EXCITATION TRANSFORMER (DRY TYPE)	CAT I			C&S ELTRIC	NOIDA/HARIDWAR	A		
					RITZ	GERMANY	A	UPTO 8 MVA	
					BHEL	JHANSI	A	UPTO 6 MVA	
229	EXCITATION SYSTEM	CAT I							

PROJECT : KODARMA TPS PH-I (2X800 MW) PACKAGE : EPC PACKAGES CONTRACTOR : CONTRACT NO :										LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB SUPPLIER APPROVAL				REVISION NO : 00 DATE :19.05.2023 SUB SECTION: C&I	
Sr No	Item Description	QP Inspection Category	QP No	QP submission SCH	QP approval SCH	Proposed Sub Supplier	Country	SS Approval Status (Note-I)	SS Detail Sub.SCH	SS Approval SCH	Remark				
1	AAQMS System	I				ACOEM Ecotech Industries Pvt Ltd	Pithampur	A			1. So2 ,Nox,CO,CO2 ,Ozone ,PM-10,PM-2.5 & multipoint calibrator will be from Ecotech Australia 2.Metrological sensor from Dynalab 3. Mercury analyser from LOA agreed sources 4.PI refer Note-07				
		I				Horiba India Pvt ltd	Pune	A			1. So2 ,Nox,CO,CO2 ,Ozone & multipoint calibrator will be from Horiba Japan 2.PM-10,PM-2.5 ,TSP will be from Met One USA & metrological sensor from Spectrum USA 3. Mercury analyser from LOA agreed sources				
		I				Environment SA India Pvt. Ltd.	Mumbai	A			1. Analysers SO2,NOx,CO2 & SPM from Environment SA France, 2-Multipoint Calibrator From environment SA France 3-Metrological Sensor with interface unit from M/s LSI Lastem SRL, Italy				
		I				Thermo Fisher Scientific India Pvt. Ltd	Mumbai	A			1) Analysers (Sox, Nox, CO, SPM, RSPM ,Ozone) ,multi gas calibrator shall be sourced from their principle Thermo Environmental USA (Division of M/S Thermo fisher Scientific, USA) 2)Metrological sensors shall be sourced from M/S Metone Instruments USA 1. Analysers from M/S Teledyne USA except Mercury analyser 2.Metrological sensors & SPM analysers from Met one Instruments Inc USA 3.PI refer note-07				
2	Acoustic pyrometer System	I				Chemtrol Engineering Ltd	Goa	A			1. Boiler watch processor control unit, acoustic sensor (Pizeo/Microphone with prelab cable) , Preamplifier , mapping software & analog output cards shall be from M/S SEI USA . 2. Enclosure ,OWS ,Waveguide ,Transition cone with flange , venturi , Tube box etc shall be from M/S SEI USA approved sources to be tiedup in MQP. 3. PI refer Note-07				
		I				Hi-Tech Systems & Services Ltd (As a system Integrator of M/S Bonnenberg + Drescher GmbH, Germany)	Kolkata	A			1.All critical components are to be procured from M/S Bonnenberg + Drescher GmbH, Germany 2.Standard indiginous components like Solenoid valve (Asco make) ,matching flange ,printer & monitor table shall be supplied by M/S Hr- Tech				
		II				Scientific Environment Instrument Inc (SEI)	USA	A			1.PCU ,Acoustic sensor ,Preamplifier mapping software shall be from SEI USA . 2. Enclosure ,OWS ,Waveguide ,Tube box etc shall be from SEI approved sources to be tiedup in MQP. 3.PI refer Note-07				

PROJECT : KODARMA TPS PHII (2X800 MW) PACKAGE : EPC PACKAGES CONTRACTOR: CONTRACT NO. :										LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB SUPPLIER APPROVAL					REVISION NO : 00 DATE :13.05.2023 SUB SECTION: C&I	
Sr No	Item Description	QP Inspection Category	QP No	QP submission SCH	QP approval SCH	Proposed Sub Supplier	Country	SS Approval Status (Note-I)	SS Detail Sub.SCH	SS Approval SCH	Remark					
		II				Bommenberg + Drescher GmbH,	Germany	A								
		II				STOCK Equipment Co	USA	A								
3	Addressable Detector (Multisensor , Photo & Heat Detectors Type), Interface units & Manual call points															
		II				Honeywell Life Safety-HIPL	Gungnam	A			Notifier Brand (Detector, Interface Module only)					
		II				Schrack	Austria	A								
		II				Autronica	Norway	A								
		II				Edwards	Mexico	A								
		II				Notifier	USA	A								
		II				Shield Fire safety	UK	A								
		II				Jhonson Controls	USA	A			Simplex Brand					
4	Battery for 24VDC charger & UPS															
		Note-4				Hoppecke Batterien GmbH & Co Kg	Germany	A			For Lead Acid- Plante					
		Note-4				Exide	Kolkata	A			For Lead Acid- Plante					
		Note-4				SAFT India Ltd	Bengaluru	A			For Ni-Cd					
		Note-4				HBL Power	Hyderabad	A			For Ni-Cd Upto 990AH (H type)					
		Note-4				SAFT	France/Sweeden	A			For Ni-Cd					
		Note-4				Hoppecke Batterien GmbH & Co Kg	Germany	A			For Ni-Cd					
5	Blank Panels / Cabinets															
		III				Pyrotech Electronics Pvt. Ltd	Udaipur	A								
		III				Rittal India Private Ltd	Bengaluru	A								
		III				Hoffman	Bengaluru	A								
		III				BHEL	Bengaluru	A								
		III				BCH ELECTRIC LIMITED	Fardabad	A								
6	Boiler tube leak detection system (ASLD)															
		III				HI Tech System & services Ltd (System Integrator of Acoustic Monitoring International Inc. USA)	Kolkata	A			1.M/S Acoustic Monitoring International Inc. USA Make system Conditional as per approval letter 01/CQA/9573-102/H-tech-AMI dated 11.04.2013 2.PI refer Note-07					
		III				Raman Instruments (System Integrator of M/S Procon UK)	Delhi	A			1.M/S Procon UK Make system 2.PI refer Note-07					
		III				BHEL Ltd	Trichurapalli	A								
		III				Instrotech (PTY) Ltd	South Africa	A								
		III				Rectuson Co. Ltd	S.K.orea	A								
		III				Procon Engineering	UK	A								
		III				Acoustic Monitoring International Inc (AMI)	USA	A								
7	CCTV System (IP Based)															
		III				Axis	Sweden	A			1-CCTV components will be of Axis communication AB.Sweden make & Video Management Software will be of Milestone Brand. 2. Other BOI items shall be from LOA approved sources & will be tied up during the finalization MQP.					
		III				Bosch	Bengaluru	A			1.CCTV components will be of M/S Bosch make, and supplied through M/s Bosch, Bengaluru. 2. Other BOI items shall be from LOA approved sources & will be tied up during the finalization MQP.					

PROJECT : KODARMA TPS PHFI (2X800 MW) PACKAGE : EPC PACKAGES CONTRACTOR: CONTRACT NO :										LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB SUPPLIER APPROVAL				REVISION NO : 00 DATE: 19.05.2023 SUB SECTION: C&I	
Sr No	Item Description	QP Inspection Category	QP No	QP submission SCH	QP approval SCH	Proposed Sub Supplier	Country	SS Approval Status (Note-I)	SS Detail Sub.SCH	SS Approval SCH	Remark				
7A	CCTV System (IP Based)/System Integrators	III				Pelco	USA	A			1.CCTV components will be of M/S Pelco, USA make 2. Other BOI items shall be from LOA approved sources & will be tied up during the finalization MQP.				
		I				Jonson Control India Pvt Ltd	Mumbai	A			M/S Pelco Make CCTV system				
		I				Toshniwal Industrial Pvt Ltd	Ajmer	A			M/S Axis Make CCTV system				
		I				L&T TECHNOLOGY SERVICES	Bengaluru	A			M/S Bosch Make CCTV system				
		I				Score Information Technologies Limited	Kolkata	A			M/S Bosch Make CCTV system				
8	Control Desk	I				Pyrotech Workspace Solutions Pvt Ltd	Udaipur	A			BOI items like Mosaic tiles / Console items shall be as per LOA approved sources				
		I				Cosmos Media Products Pvt Ltd	Greater Noida	A			1. BOI items like Mosaic tiles / Console items shall be as per LOA approved sources 2. H block should be from knurr Germany 3. Solid acrylic surface should be procured from Du Pont/NTPC approved sources 4. Du Pont/NTPC approved sources 5. Extruded Al profile structure should be procured from Hindalco (With Knurr design)				
		I				Adarsha Control system Pvt Ltd	Bengaluru	A			1. BOI items like Mosaic tiles / Console items shall be as per LOA approved sources 2. Acrylic solid surface (ASS) should be procured from Du Pont /NTPC approved sources 3. wood works are to be done by M/S C K Furn. Bengaluru				
9	Control Valves														
9-A	Control Valves for Aux PRDS system including desuperheater														
		I				Instrumentation Limited	Palakkad (Kerala)	A			Up to A182F92 material with conditions as per approval letter				
		I				Koso India Pvt limited	Nasik	A			Up to A182F92 material with conditions as per approval letter				
		I				Bonafat Special Valve solutions Pvt ltd	Ahmedabad	A			Up to A182F92 material with conditions as per approval letter				
		I				KSB MIL Controls Ltd	Thrissur (Kerala)	A			As per approval Ref: 02/CQA/SG/Tanda/MIL Dated 30.09.2015				
		I				Control Component India PVT Ltd	Stricity (Andhra Pradesh)	A			1.MQP shall be vetted by M/S CCI -USA 2. Sources of major components like casting /forging and actuators shall be tied up during finalization of MQP				
		II				Parcol SPA	Italy	A							
		II				Daume	Germany	A							
		II				HOLTER	Germany	A							
9-B	Control Valve for Start Up System														
		I				Control Component India PVT Ltd	Stricity (Andhra Pradesh)	A			1.The critical components of control valve i.e. Disk Stack (Drag technology) shall be sourced from CCI, USA/CCI S. Korea . 2. The positioner from NTPC approved sources & pneumatic actuators are sourced from CCI S.Korea 3. Control valve to be manufactured as per CCI USA design & drawing.				
		I				KOSO India Pvt Ltd	Nasik	A							

PROJECT : KODARMA TPS PH4I (2X800 MW) PACKAGE : EPC PACKAGES CONTRACTOR: CONTRACT NO. :										LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB SUPPLIER APPROVAL				REVISION NO : 00 DATE :13.05.2023 SUB SECTION: C&I	
Sr No	Item Description	QP Inspection Category	QP No	QP submission SCH	QP approval SCH	Proposed Sub Supplier	Country	SS Approval Status (Note-I)	SS Detail Sub.SCH	SS Approval SCH	Remark				
		I				Emerson Process Management Ltd	Chennai	A							
		II				Dresser Produits industriels	France	A							
		II				SEMPPELL AG	Germany	A							
		II				Nihon Koso Co Ltd	Japan	A			Up To size 20 Inches & 2500 ANSI Class				
		II				HORA	Germany	A							
		II				CCI	S.Korea	A							
		II				Emerson (Fisher)	USA/France/Japan	A							
9-C	Control Valve for BFP Recirculation.														
		I				Control Component India PVT Ltd	Stricity (Andhra Pradesh)	A			1.The critical components of control valve i.e. Disk Stack (Drag technology) shall be sourced from CCI, USA/CCI S. Korea . 2.The positioner from NTPC approved sources & pneumatic actuators are sourced from CCI S.Korea 3.Control valve to be manufactured as per CCI USA design & drawing.				
		I				KOSO India Pvt Ltd	Nasik	A							
		I				KSB MIL Controls Ltd	Thrissur (Kerala)	A			Up to 10 Inches & 3400 ANSI class				
		II				Dresser Produits industriels	France	A							
		II				Industriels S.A.S		A							
		II				Nihon Koso Co Ltd	Japan	A							
		II				CCI	USA	A							
		II				Emerson (Fisher)	USA/France/Japan	A							
9-D	Control valve for feedwater flow Control														
		I				Control Component India PVT Ltd	Stricity (Andhra Pradesh)	A			1.The critical components of control valve i.e. Disk Stack (Drag technology) shall be sourced from CCI, USA/CCI S. Korea . 2.The positioner from NTPC approved sources & pneumatic actuators are sourced from CCI S.Korea 3.Control valve to be manufactured as per CCI USA design & drawing.				
		I				KOSO India Pvt Ltd	Nasik	A							
		I				Emerson Process Management Ltd	Chennai	A			Control valve body assembly will be from Nippon Fisher ,Japan with IBR form III C certificates .				
		I				KSB MIL Controls Ltd	Thrissur (Kerala)	A			1.Provision of straight type of brackets for linkage mechanism . 2.Factory fitted strainer /diffuser type seat ring . 3.AFR with T connector for pneumatic connection to volume booster				
		II				Dresser Produits industriels	France	A							
		II				Industriels S.A.S		A							
		II				Nihon Koso Co Ltd	Japan	A							
		II				CCI	USA / Austria / S.Korea / Switzerland	A			CONDITIONAL				
		II				Emerson (Fisher)	USA/France/Japan	A							
9-E	Control valves for Soot blower pressure reducing ,SH/ RH Attenuation.														

PROJECT : KODARMA TPS PHJ1 (2X800 MW) PACKAGE : EPC PACKAGES CONTRACTOR: CONTRACT NO :										LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB SUPPLIER APPROVAL				REVISION NO : 00 DATE :19.05.2023 SUB SECTION: C&I	
Sr No	Item Description	QP Inspection Category	QP No	QP submission SCH	QP approval SCH	Proposed Sub Supplier	Country	SS Approval Status (Note-I)	SS Detail Sub.SCH	SS Approval SCH	Remark				
		I				Control Component India PVT Ltd	Sricity (Andhra Pradesh)	A			1.The critical components of control valve i.e. Disk Stack (Drag technology) shall be sourced from CCI, USA/CCI S. Korea . 2.The positioner from NTPC approved sources & pneumatic actuators are sourced from CCI S.Korea 3.Control valve to be manufactured as per CCI USA design & drawing.				
		I				KOSO India Pvt Ltd	Nasik	A							
		I				Emerson Process Management Ltd	Chennai	A							
		I				KSB MIL Controls Ltd	Thrissur (Kerala)	A							
		I				GE Oil & Gas India Pvt Limited	Coimbatore	A			up to 2500 ANSI Class				
		I				Flow Serve India Controls Pvt Ltd	Bengaluru	A							
		I				Instrumentation Limited	Palakkad (Kerala)	A			only for SH / RH				
		II				Nihon Koso Co Ltd	Japan	A							
		II				Dressor Masonellan	USA	A			only for SH / RH/ up to 2500 class				
		II				Dresser Produits industriels	France	A							
		II				Industriels S.A.S									
		II				SPX Flow Technology	USA	A			only for SH / RH				
		II				Leslie Controls Inc	USA	A			only for SH / RH				
		II				Sempell AG (Tycoo group)	Germany	A			only for SH / RH				
		II				CCI	USA,Sweden /S.Korea	A							
		II				Emerson (Fisher)	USA/France /Japan	A							
9-F	Control valve(Other application)	I				Mascot Valves Pvt Ltd	Ahmedabad	A			Up to size 12 inches & 900 ANSI class				
		I				Control Component India PVT Ltd	Sricity (Andhra Pradesh)	A			Up to 2500 ANSI class				
		I				KOSO India Pvt Ltd	Nasik	A			Up to 2500 ANSI class				
		I				KSB MIL Controls Ltd	Thrissur (Kerala)	A			Up to 2500 ANSI class				
		I				Emerson Process Management Ltd	Chennai	A			Up to 2500 ANSI class				
		I				GE Oil & Gas India Pvt Ltd	Coimbatore	A			Up to size 10 inches & 900 ANSI class /Up to size 24 inches & 600 ANSI class				
		I				Flow Serve India Controls Pvt Ltd	Bengaluru	A			Up to size 14 inches & 600 ANSI class				
		I				Forbes Marshall Area Pvt. Ltd	Pune	A			Up to size 16 inches & 900 ANSI class				
		I				Instrumentation Limited	Palakkad (Kerala)	A			Up to 2500 ANSI class				
		I				Severn Glocon India Pvt Ltd	Chennai	A			Up to size 14 inches & 300 ANSI class				
		II				CCI	USA/Sweden /S.Korea	A							
		II				Nihon Koso Co Ltd	Japan	A							
		II				Emerson (Fisher)	USA/France /Japan	A							
		II				Leslie Controls Inc	USA	A							
		II				PARCOL S.P.A	Italy	A							
		II				Dresser Produits industriels	France	A							
		II				Industriels S.A.S									
		II				HORA	Germany	A							
		II				Wellend & Tuxhorn	Germany	A							
		II				SPX Flow Technology	USA	A							
		II				Sempell AG (Tycoo group)	Germany	A							
9-G	Control Valve (Ceramic lined)	I				Samson Controls Pvt Ltd	Pune	A			1. For M/S Samson Cera Germany make valve Up to 10 inches size & 150 ANSI class 2. BOI shall be tied up at the time of finalisation of MQP				
10	DDCMIS	I				ABB	Germany	A							
		I				SIEMENS AG	Germany	A							



PROJECT : KODARMA TPS PHH (2X800 MW)

PACKAGE : EPC PACKAGES

CONTRACTOR :

CONTRACT NO :

LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB SUPPLIER APPROVAL

REVISION NO : 00

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SUB SECTION: C&I

Sr No	Item Description	QP Inspection Category	QP No	QP submission SCH	QP approval SCH	Proposed Sub Supplier	Country	SS Approval Status (Note-I)	SS Detail Sub.SCH	SS Approval SCH	Remark
		I				Emerson Process Management Asia Pacific Pvt Ltd	Singapore	A			
		I				Hitaichi nest control system Pvt Ltd	Bengaluru	A			
		I				Honeywell Automation India Ltd	Pune	A			
		I				GE	France	A			
		I				SIEMENS	Gurugram	A			
		I				BHEL	Bengaluru	A			For MAX DNA System
		I				Yokogawa	Bengaluru	A			
		I				GE Power India Ltd	Noida	A			
		I				Toshiba	Japan	A			
		I				ABB	Bengaluru	A			
		I				Emerson Process Management Ltd	Pawane	A			
11	Dust Emission Monitor										
		III				Durag India Instrumentation Pvt Ltd	Bengaluru	A			1. For Durag Germany Make Extractive Type Dust density analyser 2. Other components shall be as per approval letter COA/NTPC BARH-STPP-I / D-263 / Durag India Instrumentation Pvt Ltd Bengaluru Dated 28.08.2019
		III				Sick India Pvt ltd	Mumbai	A			1. For SICK AG Make Extractive Type Dust density analyser 2. Other components shall be as per approval letter COA/NTPC BARH-I / S-907/M/S SICK India Pvt Ltd dated 28.08.2019
		III				Environment SA India Pvt Ltd	Nav Mumbai	A			1. For ENEVA UK Make Extractive Type Dust density analyser 2. Other components shall be as per approval letter No : COA/NTPC BARH-I / E-335 / M/S Environment SA India Pvt Ltd Dated 16.09.2019
		III				Land Instruments International	UK	A			For In Situ type /Optical Transceiver type
		III				Codei	UK	A			For In Situ type /Optical Transceiver type
		III				Durag Industrie Elektronik GmbH & Co KG	Germany	A			For In Situ type /Optical Transceiver type & Extractive Type
		III				Emerson Process Management	Ireland	A			For In Situ type /Optical Transceiver type
		III				SICK AG	Germany	A			For In Situ type /Optical Transceiver type & Extractive Type
		III				ENEVA	UK	A			For Extractive Type Dust density analyser
12	Electrical Actuators										
12-A	Electrical Actuator (With gear box if applicable)										
		II				Antrieb Technik Pvt Ltd	Chennai	A			For low torque applications only
		II				Auma	Bengaluru	A			Model no L120,SMB,L.Y series, Gear Box T, HBC Series
		II				Limatorque	Fardabad	A			For low torque app (Up to 1000 Nm)
		II				Rotork	Bengaluru	A			For low torque app (Up to 1000 Nm) & High torque 4000 to 7000 Nm With integral starter for non critical applications
		II				Rotork Controls (India) Private Ltd	Chennai	A			
		III				Auma	Germany	A			
		III				Limatorque	USA	A			
		III				Rotork	UK	A			For low torque app (Up to 1000 Nm)
		III				Nippon gear	Japan	A			
		III				Drehmo GMBH	Germany	A			C Matic Series (DMC/DMCR)
12-B	Electrical Actuator- Non-Intrusive (With gear box if applicable)										
		I				Auma India Pvt Ltd	Bengaluru	A			Also acceptable for Field Bus based applicable

PROJECT : KODARMA TPS PH-I (2X800 MW)										LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB SUPPLIER APPROVAL										REVISION NO : 00 DATE : 19.05.2023 SUB SECTION: C&I	
PACKAGE : EPC PACKAGES																					
CONTRACTOR:																					
CONTRACT NO :																					
Sr No	Item Description	QP Inspection Category	QP No	QP submiss ion SCH	QP approv al SCH	Proposed Sub Supplier	Country	SS Approval Status (Note-I)	SS Detail Sub.SCH	SS Approval SCH	Remark										
		I				Rotork Control	Chennai	A			Upto 630Nm										
		III				Flowsolve	USA	A			Also acceptable for Field Bus based applicable										
		III				Bernard Controls	France	A													
12-C	Electrical actuator for ID/ED/PA Blade pitch JGV &SCOOP																				
		III				Harold Beck & Sons Inc	USA	A													
		III				SIPOS Aktronik GmbH	Germany	A													
13	Electronics Transmitter (Pressure , DP and DP based Flow/Level)																				
13-A	Electronics Transmitter (Pressure , DP and DP based Flow/Level)																				
		III				ABB Ltd	Bengaluru	A			2600T & critical item from ABB Italy/ Their approved source;										
		III				Emerson Process Management Ltd	Pawane	A													
		III				Siemens Ltd	Thane	A			Model-SITRANS P										
		III				Honeywell Automation India Ltd	Pune	A													
		III				Baldota Control and Equipment Pvt Ltd	Navi Mumbai	A			PT & DPT of LD 301 Series (SMAR)										
		III				Yokogawa India Limited	Bengaluru	A			EJA-E 110,430,530 SERIES & all raw material and BOI under knocked down condition (sensor assembly as a single unit) shall be sourced from M/S Yokogawa Japan										
		III				M/s Endress + Hauser India Automation Instrument Pvt Ltd	Aurangabad	A													
		III				Emerson (Rosemount)	USA	A													
		III				Yokogawa	Japan	A													
		III				ABB	Germany / Italy	A			2600T & critical item from ABB Italy/ Their approved source;										
		III				Siemens	France	A			Sitrans P DSIII Series										
		III				Fuji Electric	France	A			FCX -AIII SERIES										
		III				Fuji	Japan	A													
13-B	Electronics Transmitter -Field Bus Based (Pressure , DP and DP based Flow/Level)																				
		I				ABB India Ltd	Bengaluru	A			One no of Transmitter will be sent at DDCMIS supplier for function testing of field bus communication with DDCMIS during F.A.T										
		I				Yokogawa India Limited	Bengaluru	A			EJA-E 110,430,530 SERIES & all raw material and BOI under knocked down condotion (sensor assembly as a single unit) shall be sourced from M/S Yokogawa Japan										
14	EQMS																				
		I				SWAN	Hyderabad	A			1. Conductivity analyser, pH analyser and Temperature Transmitter will be of M/s ABB, UK. make . 2. TSS analyser will be of M/s Daeyoon, South Korea make . 3. Oil in water analyser will be of M/s TriOs, Germany make. 4. Online BOD/COD analyser will be of M/s Shimadzu, Japan make . 5. Flow meter will be of M/s Khrone Marshall, Maharashtra make 6. Data Aquisition System will be procured from Knowledge Lens, Karnataka.										
15	Fiber optic cable																				



PROJECT : KODARMA TPS PH-I (2X800 MW)
PACKAGE : EPC PACKAGES
CONTRACTOR:
CONTRACT NO :

REVISION NO : 00
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SUB SECTION: C&I

PROJECT : KODARWA TPS PH4I (2X800 MW) PACKAGE : EPC PACKAGES CONTRACTOR:  NTPC NTPC लिमिटेड (भारत)										LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB SUPPLIER APPROVAL					REVISION NO : 00 DATE :13.05.2023 SUB SECTION: C&I	
Sr No	Item Description	QP Inspection Category	QP No	QP submission SCH	QP approval SCH	Proposed Sub Supplier	Country	SS Approval Status (Note-I)	SS Detail Sub.SCH	SS Approval SCH	Remark					
		Note-3				U M Cables Ltd	Silvassa (Daman)	A								
		Note-3				KEC International Ltd	Mysore	A								
		Note-3				Apar Industries Limited	Valsad (Gujrat)	A								
		Note-3				HFCL	Goa	A								
		Note-3				Aksh Fibre	Bhivadi (Raj)	A								
		Note-3				Finolex Cable Ltd	Goa	A								
		Note-3				Birla Cable Limited	Rewa	A								
		Note-3				R&M	Switzerland	A								
		Note-3				Molex	UK	A								
		Note-3				Corning	USA	A								
16	Fire alarm Panel															
		II				Toshniwal Industrial Pvt Ltd	Ajmer	A			1.M/S Notifier Make Fire alarm Panel 2.PI Refer Note-07					
		II				Bosch Security system	Bengaluru	A			1.Detector ,Hooter, MCP, Modules, Panel shall be M/s Bosch. Make					
		II				Notifier	USA	A								
		II				Autronica	Norway	A								
		II				Schrack	Austria	A								
		II				Edwards	Mexico	A								
		II				Shield Fire safety and security Ltd	UK	A								
		II				Jhonson Controls	Mexico	A			Simplex Brand					
17	Flame Monitoring System (Scanner)															
		I				Lucent Marcons Pvt Ltd (System Integrator of M/S Forney Corporation USA)	Noida	A			1.Flame detector, amplifier ,light guide fiber optic , smart display programming unit , test kit & simulator will be supplied from M/S Forney Corporation USA 2. Other components like outer carrier ,IDD cable with connector , expander , Y connector with adapter gasket , fastners & signal isolators will be supplied from M/S Forney Corporation USA approved sources . 3.PI Refer Note-7					
		I				H1 Tech System & services Ltd (System Integrator of BFI Germany)	Kolkata	A			1.For BFI Germany make system 2. PI Refer Note-7					
		II				Durag India Instrumentation Pvt Ltd	Bengaluru	A			For Durag Germany make system					
		II				Forney Corporation	USA	A								
		II				BFI	Germany	A								
		II				Durag GmbH	Germany	A								
		II				Emerson (COEN)	USA	A								
		II				BHEL	Trichurapalli	A								
18	Flow nozzle assembly															
		I				Microprecision Product Pvt Ltd	Palwal	A			Up to Alloy steel material grade P-92 & other conditions as per approval letter					
		I				Minco India Flow Elements Pvt. Ltd.	Goa	A			Up to size 26 Inches for Alloy steel/ Stainless steel pipe SA335 P-11, P -22 and SA 335 P-91 & other conditions as per approval letter					
		I				Instrumentation Limited	Palakkad (Kerala)	A			Up to alloy steel grade P-92 subject to qualified WPS & other conditions as per approval letter					
		I				Starmech controls (India) Pvt Ltd	Pune	A			Up to alloy steel grade P-92 subject to qualified WPS & other conditions as per approval letter					
		II				SEIKO	Czech Republic	A								
		II				WISE Control	S Korea	A								
		II				Technomatic	Italy	A								



PROJECT : KODARMA TPS PH-I (2X800 MW)											
PACKAGE : EPC PACKAGES											
CONTRACTOR:											
CONTRACT NO. :											
Sr No	Item Description	QP Inspection Category	QP No	QP submission SCH	QP approval SCH	Proposed Sub Supplier	Country	SS Approval Status (Note-1)	SS Detail Sub.SCH	SS Approval SCH	Remark
19	Flue Gas Analyser (CO)	III				Forbes Marshall Pvt Ltd	Pune	A			For In situ type CO analyser
		III				ICE (Asia) Pvt Ltd	Mumbai	A			For In situ type CO analyser 1. CO analyser from Protea UK 2. Other components like, Mounting Flanges, tubing, fittings, junction boxes, air purging system, calibration cylinders & cables will be supplied by ICE (Asia) Pvt Ltd 3.Pl refer Note-7
		III				Sick India Pvt Ltd	Mumbai	A			For In Situ Type / CO analyser from SICK AG & Other components like ,Protection tube ,Flanges ,tubing ,fittings junction boxes, solenoid valves & calibration cylinders will be supplied by M/S Sick India Pvt Ltd
		III				Emerson Process Management Ltd	Pawane	A			For M/S Emerson Germany/ USA make Analyser
		III				Codel	UK	A			
		III				Land Instruments International	UK	A			
		III				Sick AG	Germany	A			For In Situ Type
		III				Environnement SA	France	A			For Hot Extractive
		III				Fuji Electric	Japan	A			
		III				Servo max Group	UK	A			
		III				Siemens	Germany	A			
20	Flue Gas Analyser (CO2,SO2 and Nox)	III				Sick India Pvt Ltd	Mumbai	A			For In Situ Type SO2 analyser 1. Analyser will be from Sick AG Germany 2. Other components like ,Whether proof covers ,flanges ,purge air unit ,junction boxes ,cables ,PC ,remote display ,gas cylinders shall be supplied by M/s Sick India Pvt Ltd
		III				Emerson Process Management Ltd	Pawane	A			For M/s Emerson Germany/ USA make Hot Extractive SO2, NOx Analyser
		III				Environnement SA	France	A			For Hot Extractive
		III				Fuji Electric	Japan	A			Hot Extractive Type For SO2 & Nox
		III				Siemens	Germany	A			Hot Extractive Type For SO2 & Nox
		III				Yokogawa Electric Corporation	Japan	A			IR-400 Series (Hot Extractive Type For CO2, SO2 & NOx)
		III				Servo max Group	UK	A			Hot Extractive Type For SO2 & Nox
		III				Sick AG	Germany	A			Hot Extractive Type For CO2, SO2 & NOx and In situ type for SO2 analyser
21	Flue Gas Analyser O2 Analyser (HT)	III				SECO	Chennai	A			
		III				Marathon Monitor	USA	A			
		III				Servo max Group	UK	A			
22	Flue Gas Analyser {O2 Analyser (LT)}	III				Sick India Pvt Ltd	Mumbai	A			For In Situ Type 1. Analyser will be from Sick AG Germany 2. Other components like ,Whether proof covers ,flanges ,purge air unit ,junction boxes ,cables ,PC ,remote display ,gas cylinders shall be supplied by M/s Sick India Pvt Ltd

PROJECT : KODARMA TPS PH-I (2X800 MW) PACKAGE : EPC PACKAGES CONTRACTOR : CONTRACT NO :										LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB SUPPLIER APPROVAL					REVISION NO : 00 DATE :19.05.2023 SUB SECTION: C&I	
Sr No	Item Description	QP Inspection Category	QP No	QP submission SCH	QP approval SCH	Proposed Sub Supplier	Country	SS Approval Status (Note-I)	SS Detail Sub.SCH	SS Approval SCH	Remark					
		III				Analyser Instruments Co Pvt Ltd	Kota	A			For In Situ Type 1.Main parts like Sample probe & Analyser will be supplied by M/s Enotec Germany. 2. Other components like auto calibration unit ,probe protector, enclosure panel & calibration kit will be supplied & integrated M/s AIC kota. 3.PI refer Note-07					
		III				Emerson Process Management Ltd	Pawane	A			For In Situ Type For M/s Emerson USA make Analyser					
		III				ABB	Bengaluru	A			For In Situ Type For M/s ABB UK make Analyser					
		III				Yokogawa India	Bengaluru	A			For In Situ Type For M/s Yokogawa Japan make Analyser					
		III				Enotech GmbH	Germany	A			For In Situ Type					
		III				Ametek	USA	A			For In Situ Type					
		III				Yokogawa Electric Corporation	Japan	A			For In Situ Type					
		III				Servo max Group	UK	A			For In Situ Type					
		III				Sick AG	Germany	A			For In Situ Type					
23	Continuous Emission Monitoring system	I				Horiba India Pvt ltd	Pune	A			Approval conditions as per approval letter no - CQA/NTPC Maudia-II / H-521 / M/S Horiba India Pvt Ltd Dated 03.10.2019					
		I				Yokogawa India Ltd	Bengaluru	A			1. SO2,NOx & CO2 Analyser will be from M/S Yokogawa Electric Corporation Japan . 2.Other Conditional as per approval letter no Ref. No.-CQA/BA RH-I / Y-023/ M/s Yokogawa India Ltd dated 21.05.2020					
		I				Adage Automation Pvt Ltd.	Goa	A			For M/s Siemens Germany make SO2,NOx & CO2 Analysers					
		I				Thermo Fisher Scientific India Pvt. Ltd	Pune	A			Approved only for Dilution Extractive Technique 1)Analyser (SO2,NOx,CO,CO2,Mercury), sampling probe ,sample handling system ,umbilical cord etc to be supplied from M/S Thermo Fisher USA. 2) Other BOI shall be as per LOA approved sources					
		I				Emerson Process Management India Pvt. Ltd	Pawane	A			For M/s Emerson Germany make SO2,NOx & CO2 Analysers other conditions as per approval letter.					
		I				Analyser Instruments Co Pvt Ltd	Kota	A			Analysers from Fuji Japan & other BOI shall be as per LOA approved sources .					
		I				Environement SA India Pvt Ltd	Navi Mumbai	A			Hot Extractive Type / 1.Multipoint gas Analyzers MIR-9000 for SO2, NOx,CO2 & CO ,Probe ,Nafyon drier & heater for drier will be of M/S Environment SA France make. 2. Other components shall be as per the approval letter ref no CQA/NTPC Telangana/E-335/M/SEnvironement SA India dated 12.02.2019					
24	Furnace Flame viewing system (High Temperature CCTV Components)	III				Sertel Electronics Pvt. Ltd.	Chennai	A			Approved for Visible type only					
		III				Hi Tech System and Service (System Integrator of M/S Lenox USA)	Kolkata	A			1.M/S Lenox USA Make System 2.PI refer Note-07					



PROJECT : KODARMA TPS PH-I (2X800 MW)

PACKAGE : EPC PACKAGES

CONTRACTOR:

CONTRACT NO.:

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PROJECT : KODARMA TPS PH4I (2X800 MW) PACKAGE : EPC PACKAGES CONTRACTOR: CONTRACT NO. :										LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB SUPPLIER APPROVAL					REVISION NO : 00 DATE :13.05.2023 SUB SECTION: C&I	
Sr No	Item Description	QP Inspection Category	QP No	QP submission SCH	QP approval SCH	Proposed Sub Supplier	Country	SS Approval Status (Note-I)	SS Detail Sub.SCH	SS Approval SCH	Remark					
		III				Durag India Instrumentation Pvt Ltd	Bengaluru	A			1.Complete Camera Assembly, IRIS Control etc. from Durag Germany 2.Other Component like chiller, vedio monitor, OFC ,Panel from M/S Durag Approved sources					
		III				TLT Engge Pvt. Ltd. (System Integrator of M/S Diamond Power USA/ Sweden make system)	Kolkata	A			1.M/S Diamond Power USA/ Sweden make system 2.PI refer Note-07					
		III				Toshniwal Industries (System Integrator of M/S Mirion UK make system)	Ajmer	A			1. M/S Mirion UK make system 2.PI refer Note-07					
		III				Diamond Power	USA / Sweden	A								
		III				Durag GmbH	Germany	A			D-VTA-201					
		III				Lenox	USA	A								
		III				Mirion	UK	A								
		III				Piper GmbH	Germany	A								
		III				Sabota GmbH	Germany	A								
25	H2 Gas Analyser															
		I				ABB India Ltd	Bengaluru	A			M/s ABB Germany /UK Make analyser					
		I				Adage Automation Pvt. Ltd	Goa	A			1.M/s Siemens, Garmany (Calomat 6) Make analyser 2. PI refer Note-07					
		I				Yokogawa India Ltd	Bengaluru	A			M/s Yokogawa Japan (Gas Density based) Make analyser					
		I				SIEMENS	Gurugram	A			M/s Siemens, Garmany (Calomat 6) Make analyser					
		III				GE Sensing EMEA	Ireland	A			Conductivity based					
		III				ABB	UK	A								
		III				Emerson (Rosemount)	USA	A								
		III				Environment One Corporation	USA	A			Conductivity based					
26	HEA Ignitor															
		I				Durag India Instrumentation Pvt Ltd	Bengaluru	A			M/S Durag Germany make HEA Ignitor					
		I				Hindustan Thermometers	Ambala	A			Conditional as per approval ref no 01/COA/0270-102 dated 17/09/2012 Spark tip of their own make is also acceptable					
		I				Fives combustion System Pvt Ltd	Vadodara	A								
		I				Boiler control Pvt Ltd	Pudukottai (Tamilnadu)	A			Approved for Aux Boiler package only					
		III				Unison Industries	USA	A								
		III				Durag GmbH	Germany	A								
		III				Ignition system INC	USA	A								
		III				Tesi SPA	Italy	A								
27	High Temp. cable (PTFE/FEP)															
		II				Thermocables	Hyderabad	A								
		II				Tempsons	Udaipur	A								
		II				Habia cables	Sweden	A								
		II				Thermo Electrica BV	Netherland	A								
		II				Lapp cables	Germany	A								
		II				Kerpen cables	Germany	A								
		II				TEW & C	USA	A								
28	Impulse Pipes/Tubes															
		II				Maharashtra Seamless	Raigarh	A			For CS Pipes only					
		II				Ranamani Metals and Tubes	Gandhinagar	A			For SS only.					
		II				Heavy Metals and Tubes	Gandhinagar	A			For SS & CS only.					
		II				ISMT	Ahamadnagar	A			For CS/AS upto Gr 22 Pipes only					
		II				Nippon Steel & Sumitomo Metals corporation	Japan	A								
		II				TPS Tecnitube	Germany	A								
		II				Veluric & Manessmann	Germany	A								



PROJECT : KODARMA TPS PH-I (2X800 MW)
PACKAGE : EPC PACKAGES
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PROJECT : KODARMA TPS PHII (2X800 MW) PACKAGE : EPC PACKAGES CONTRACTOR:  CONTRACT NO. :										LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB SUPPLIER APPROVAL					REVISION NO : 00 DATE :13.05.2023 SUB SECTION: C&I
Sr No	Item Description	QP Inspection Category	QP No	QP submission SCH	QP approval SCH	Proposed Sub Supplier	Country	SS Approval Status (Note-1)	SS Detail Sub.SCH	SS Approval SCH	Remark				
		II				Trouvay and Cauvin	France	A							
		II				Sandvik	Sweden	A			For SS only				
		II				REMI Edelstahl Tubulars Ltd	Palghar	A							
29	Instrument Cables (F,G & T/C Cables)														
		Note-2				Goyolene Fibers (India) Pvt Ltd	Silvassa	A			F&G Type Cable				
		Note-2				Tensens Instruments Ind Pvt Ltd	Udaipur	A							
		Note-2				Havells India	Alwar	A			F Type Cable				
		Note-2				Paramount Communication Ltd	Khushkhera	A							
		Note-2				Polycab	Daman	A							
		Note-2				Delton	Faridabad	A							
		Note-2				KEI	Bhivadi (Raj)	A							
		Note-2				Elkey Telelinks	Faridabad	A							
		Note-2				CORDS	Kaharami	A							
		Note-2				CORDS	Bhivadi	A							
		Note-2				Nico	Kolkata	A							
		Note-2				Universal Cable	Sana	A							
		Note-2				Thermocables	Hyderabad	A							
		Note-2				Gupta Power Infrastructure Ltd	/Mahboobnagar								
		Note-2				CMI	Khurda	A							
		Note-2				Advance Cables Pvt Ltd	Faridabad	A							
		Note-2				Genscab Industries Ltd	Bengaluru	A			F&G Type Cable				
		Note-2				Apar Industries Limited	Bhivadi (Raj)	A			F&G Type Cable				
		Note-2				Suyog Electricals Ltd	Valsad	A			F&G Type Cable				
		Note-2				Special Cables Pvt Ltd	Halol (Gujrat)	A							
		Note-2				T C Communication	Rudrapur	A							
		Note-2				TEW & C	Ghaziabad	A							
		Note-2				Habia cables	USA	A							
		Note-2				Kerpen cables	Sweden	A							
		Note-2				Lapp cables	Germany	A							
		Note-2				Thermo electria Bv	Netherland	A							
30	Intelligent Battery charger 24V DC / DCDB/BHMS														
		II				Chabbi Electricals	Jalgaon	A			Rectifier module, Controller module and Battery Health monitoring system shall be of M/s Vertiv make				
		II				Eltek SGS Pvt Ltd	Gurugram	A							
		II				Vertiv Energy Pvt.ltd	Pune	A							
31	Large Video Screen (LED Based)														
		I				Pyrotech Electronics Pvt Ltd	Udaipur	A							
		I				Delta India Electronics Pvt Ltd	Gurugram	A							
		I				Barco Electronics system (P) Ltd	Noida	A							
		I				Planner System Inc	USA	A							
32	Level switch- Conductivity type														
		II				Raman Instruments (System integrator of Delta Morbey/ Emerson Mobrey /Solartron -Mobrey)	Delhi	A			1.M/S Emerson (Morbey) UK system 2.PI refer Note-07				
		II				HI Tech System & services Ltd (System Integrator of Levelstate systems Ltd ,UK)	Kolkata	A			1. M/S Levelstate UK System. Vessel from M/s Hi Tech 2.PI refer Note-07				
		II				BHEL	Trichurapalli	A							
		III				Emerson -Mobrey (Solartron mobrey)	UK	A							
		III				Levelstate Systems Ltd	UK	A							
		III				Yarway	USA	A							
33	Local Instrument Enclosure/Rack														
		I				Pyrotech Electronics Pvt. Ltd	Udaipur	A			BOI from LOA approved sources				
		I				Sajas electrical	Trichurapalli (Tamilnadu)	A			BOI from LOA approved sources				

PROJECT : KODARMA TPS PH-II (2X800 MW)											
PACKAGE : EPC PACKAGES											
CONTRACTOR:											
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Sr No	Item Description	QP Inspection Category	QP No	QP submission SCH	QP approval SCH	Proposed Sub Supplier	Country	SS Approval Status (Note-I)	SS Detail Sub.SCH	SS Approval SCH	Remark
		I				Prammen	Pudukottai (Tamilnadu)	A			BOI from LOA approved sources
		I				Chemn C&I Pvt Limited	Puducherry	A			1- BOI from LOA approved sources 2.Fabrication at M/s LUFT tech India 3- Painting at M/s Supreme Coater & Fabricator
34	Master Slave Clock System					Signals and Systems Pvt. Ltd. (SANDS)	Chennai	A			
		I				Masibus	Gandhinagar	A			
		I				Serel Electronics Pvt. Ltd.	Chennai	A			
		II				Hopf Elektronik GmbH	Germany	A			
		II				Hafway	USA	A			
		II				Mein Berg	Germany	A			
		II				Moser Baer AG	Switzerland	A			
35	Mercury Analyser										
		I				Analysier Instrument Co. Pvt Ltd (AIC)	Kota	A			1. Mercury Analyzer from PS Analytical UK 2.System integration & supply of components like, Enclosure with AC, calibration cylinders, PC will be done by M/s Analyser Instrument Co. Pvt Ltd (AIC) Kota. 3.Pl refer Note-07
		III				Environment SA India Pvt Ltd	Navi Mumbai	A			1-Mercury analyzer with accessories will be from Mercury instruments GmbH Germany 2- Other components like, sample line between probe to mercury analyzer will be supplied by M/s Environment SA India Pvt Ltd.
		III				Thermo Fisher Scientific India Pvt Ltd	Pune	A			1. Mercury Analyser shall be from Thermofisher USA 2. Other approval conditions are as per approved letter ref no 01/CQA/9578-001/Thermofisher dated 09/12/2016
		III				Durg India Instrumentation Pvt Ltd	Bengaluru	A			Analysier from M/s Verewa Umwelt Germany
		III				Mercury Instruments GmbH	Germany	A			
		III				SICK AG	Germany	A			
		III				Thermofisher	USA	A			
		III				Lumax	Russia	A			For AAQMS System
36	PA System (IP Based)										
		III				BNA Technology Consulting Ltd.	Bengaluru	A			BOI shall be from LOA approved sources.
		III				Armteel	Russia	A			
		III				Zenitel	Norway	A			1.PA system active component , Proprietary item will be Zenitel Norway make 2. Other components & BOI shall be from LOA approved sources
		III				Commend International GMBH	Austria	A			note-7
36A	PA System (IP Based)/System Integrators										For M/s Armteel Russia system
		III				Willstrong Solutions Pvt. Ltd	Greater Noida	A			Approval conditions as per approval letter no Patrau-QA/9585-001-102/V/A-Willstrong Dated: 21.12.20
		III				Toshniwal Industries Pvt Ltd	Ajmer	A			For M/s Commend Austria make system
		III				Aishan Technologies Pvt Ltd	Bengaluru	A			For M/s Zenitel Norway make system
		III				Haritasa Checkmate Electronics Pvt Ltd	Bengaluru	A			For M/s Commend Austria make system



PROJECT : KODARMA TPS PHFI (2X800 MW)

PACKAGE : EPC PACKAGES

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PROJECT : KODARMA TPS PHI (2X800 MW)									
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Sr No	Item Description	QP Inspection Category	QP No	QP submission SCH	Proposed Sub Supplier	Country	SS Approval Status (Note-1)	SS Detail Sub.SCH	SS Approval SCH
		III			Netware Computer Pvt Ltd	New Delhi	A		
37	PLC System								
		I			Emerson Automation solution Intelligent platforms Pvt Ltd	Bengaluru	A		
		I			ABB India Ltd	Bengaluru	A		
		I			Schneider Electric system india Pvt Ltd	Chennai	A		
		I			Rockwell	Sahibabad	A		
		I			Siemens	Nasik	A		
		I			Honeywell	Pune	A		
		I			Schneider Electric India Pvt Ltd	Bengaluru	A		
37-A	PLC System Integrators								
		I			Ladder Automation Solution Pvt Ltd	Gurugram	A		
		I			Virtual Automation	Ranga Reddy (Telangana)	A		
		I			Cotmae Electronics Pvt Ltd	Pune	A		
		I			Tech-Masters	Hyderabad	A		
		I			Powertech Switchgear (I) Pvt Ltd	Sonepat	A		
		I			Unity Industrial Automation Pvt Ltd	Delhi	A		
		I			EMCONS	Ranchi	A		
		I			Divya Engineers	Chennai	A		
		I			M D Industries	Vadodara	A		
		I			Velox automation	Surat	A		
		I			Vision Compel	Kolkata	A		
		I			Adaptive Engineering Private Limited	Ahmedabad	A		
		I			Greenwave Solutions Private Limited	Kolkata	A		
		I			Dreanz Automation	Ghaziabad	A		
		I			Creative Robotics	Ghaziabad	A		
		I			Kruni Techno Engineer Pvt Ltd	Chhapraula (GB Nagar	A		
		I			EDS Instruments & Systems Pvt Ltd	Chennai	A		
		I			Delsys Automation Technologies Pvt Ltd	Chennai	A		
		I			Hindustan Controls and Equipment Ltd	Kolkata	A		
		I			Volkraft Engineering And Consultant (P) Ltd	Kolkata	A		
		I			SSM Infotech Solutions Pvt Ltd	Surat	A		
		I			Sun Industrial Automation & Solutions	CHENNAI	A		
		I			ARTEE FLOW CONTROL PVT LTD	ANKLESHWAR	A		
		I			CSS AUTOMATION PVT LTD	KOLKATA	A		
		I			ARMAX AUTOMATION PVT LTD	BANGALORE	A		
		I			KAIZEN AUTOMATION	AHMEDABAD	A		
		I			ELECON PERIPHERALS LIMITED	ANAND	A		
38	Pneumatic Actuator Regulating (Power Cylinder HAD,CAD SADC & Burner Tilt)	I			Instrumentation Limited	Palakkad (Kerala)	A		
		I			Kelton	Cochin (Alleppy)	A		

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Sr No	Item Description	QP Inspection Category	QP No	QP submission SCH	QP approval SCH	Proposed Sub Supplier	Country	SS Approval Status (Note-I)	SS Detail Sub.SCH	SS Approval SCH	Remark					
		I				SMC Corporation India Private Ltd	Noida	A			Up to Bore size 12 inches					
		I				IMI Norgren Herion Pvt ltd	Noida	A								
		II				Dong Woo Valve Control Co. Ltd	S Korea	A								
		II				Shin Hwa Engineering Co. Ltd	S Korea	A								
39	Radar type level transmitter															
		III				Limaco	Russia	A			High Frequency Type					
		III				Emerson Process Management Ltd	Pawane	A			For M/s Emerson Singapore make					
		III				Endress & Houser	Aurangabad	A								
		III				SIEMENS	Canada	A								
		III				B M Technology	Italy	A			For Non Contact type					
		III				Magnetrol	Belgium	A								
		III				ABB	USA	A			K-Tech Brand					
		III				Endress & Houser	Germany	A								
		III				Saab Rosemount	Sweden	A								
		III				Emerson Process Management	Singapore	A			Rosemount 3300 series for GW Radar & 5600 Series for Non-Contact type					
		III				Endress & Houser	Germany	A								
		III				Vega Grieshaber KG	Germany	A								
40	Short Term Fire Proof cable					nVent Solutions limited	UK	A								
		III				Wrexham Mineral	UK	A								
		III				KME	Italy	A								
41	SWAS (Sampling Handling System and Dry Panel)															
		I				Emerson Process Management Ltd	Navi Mumbai	A			Analysers and Other BOI Components from LOA agreed source					
		I				Forbes Marshall	Pune	A			Analysers and Other BOI Components from LOA agreed source					
		I				SEPL	Pune	A			Analysers and Other BOI Components from LOA agreed source					
		I				YOKOGAWA INDIA LTD	Bangalore	A			Analysers and Other BOI Components from LOA agreed source					
42	Water Analyser (Chloride, Conductivity, Dissolved Oxygen,pH, Hydrazine, Concentration , Phosphate, Silica, Sodium,Turbidity, Total Iron, Degassed Cation Conductivity)															
		III				Emerson Process Management Pvt Ltd	Pawane	A			For Conductivity,pH, Dissolved Oxygen, Turbidity					
		III				Mettler Toledo India Pvt Ltd	Vasai	A			For pH Analyser (1. PH analyser from M/S Mettler Toledo GmbH Switzerland 2. Other components like, Housing, Panel mounting kit, Tubing's & easy clean mechanism will be supplied by M/s Mettler Toledo India Pvt Ltd)					
		III				Endress Hauser India Pvt. Limited	Mumbai	A			For pH Analyser (1. pH sensor with cable , analyser ,retract & cleaning assembly , electrolyte reservoir (As applicable) will be supplied from Principals of M/S Endress Hauser India Pvt. Limited. 2. Other components like, Flow through assembly shall be supplied from M/S Endress Hauser India Pvt. Limited approved sources.)					
		III				Thermo Fisher Scientific	USA	A			For Chloride,Dissolved Oxygen,Hydrazine					

PROJECT : KODARMA TPS PH-I (2X800 MW)										LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB SUPPLIER APPROVAL					REVISION NO : 00 DATE : 19.05.2023 SUB SECTION: C&I	
PACKAGE : EPC PACKAGES																
CONTRACTOR:																
CONTRACT NO :																
Sr No	Item Description	QP Inspection Category	QP No	QP submission SCH	QP approval SCH	Proposed Sub Supplier	Country	SS Approval Status (Note-1)	SS Detail Sub.SCH	SS Approval SCH	Remark					
		III				ABB	UK	A			For Chloride,Dissolved Oxygen,Hydrazine, Phosphate, Silica,Sodium,Turbidity					
		III				Hach	USA	A			For Conductivity, pH,Concentration, Phosphate, Silica, Turbidity					
		III				ABB	USA	A			For Conductivity, pH					
		III				Yokogawa	Japan	A			For Conductivity					
		III				Hach	Switzerland	A			For Dissolved oxygen, Hydrazine, Silica,Sodium					
		III				Yokogawa	Japan	A			For pH					
		III				Eutech Instrument PTE Ltd	Singapore	A			For Silica					
		III				Orion	USA	A			For Sodium					
		I				METTLER TOLEDO INDIA PVT LTD	Mumbai	A			For Chloride Analyser					
43	Temp Transmitter															
43-A	Temp Transmitter															
		III				Endress & Houser	Aurangabad	A								
		III				Emerson Process Management Ltd	Pawane	A			For M/s Emerson Singapore make					
		III				Yokogawa	Bengaluru	A			Make Yokogawa japan and calibration at Yokogawa Bangalore					
		III				ABB	Bengaluru	A			For M/s ABB Germany make					
		III				WIKA Instruments India Pvt Ltd	Pune	A			For M/s WIKA Germany make Model no T-32					
		III				Honeywell Automation India Ltd	Pune	A								
		III				Yokogawa	Japan	A								
		III				Moore	USA	A								
		III				M System co Ltd	Japan	A			Model No-B3HU-L0					
		III				Emerson	U.S.A/Singapore/Germany	A								
		III				ABB	Germany	A								
		III				Emerson Process Management	Germany	A								
43-B	Temp Transmitter -Field Bus based Single/Dual Input															
		I				ABB India Ltd	Bengaluru	A			One no of TT will be available at DCS supplier for function testing of field bus communication with DCS during FAT					
44	Turbine supervisory Instruments along with vibration analysis system.															
		I				GE	Pune	A			For GE Bentley, USA make system					
		I				Meggitt India Pvt ltd	Bengaluru	A			For Meggitt (Vibrometer) Switzerland make system					
		I				Forbes Marshall	Pune	A			For Shinkawa Japan make system					
		II				GE BENTLY	USA	A								
		II				SHINKAWA	JAPAN	A								
		II				MEGGITT	Switzerland	A								
45	Ultrasonic Type Flow Meter (for Stack)															
		III				Sick India Pvt ltd	Mumbai	A			For Sick AG Germany make					
		III				Sick AG	Germany	A								
		III				Durg	Germany	A								
		III				Teledyne	USA	A								
46	Ultrasonic type level Transmitter															
		III				EIP Enviro	Noida	A			1-Ultrasonic level Tx shall be BM Technology Italy make 2-Required mounting arrangement , Testing, Calibration shall be carried out at M/s EIP Works.					
		III				E & H	Aurangabad	A								



PROJECT : KODARMA TPS PH-I (2X800 MW)
PACKAGE : EPC PACKAGES
CONTRACTOR :
CONTRACT NO :

REVISION NO : 00
DATE : 19.05.2023
SUB SECTION: C&I

PROJECT : KODARWA TPS PHII (2X800 MW) PACKAGE : EPC PACKAGES CONTRACTOR : CONTRACT NO :										LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB SUPPLIER APPROVAL				REVISION NO : 00 DATE :15.05.2023 SUB SECTION: C&I	
Sr No	Item Description	QP Inspection Category	QP No	QP submission SCH	QP approval SCH	Proposed Sub Supplier	Country	SS Approval Status (Note-1)	SS Detail Sub.SCH	SS Approval SCH	Remark				
		III				Emerson Process Management Ltd	Pawane	A			Complete Intrument Transmitter & Probe to be procured from Mobrey UK , only intergration & configuration at Pawane works				
		III				BM Technology	Italy	A							
		III				Siemens Miltronics	Canada	A							
		III				Nivelco Process Control	Hungary	A							
		III				E & H	Germany	A							
		III				HAWK Measurement PTY Ltd	Australia	A							
47	UPS With ACDB														
		Note-5				Vertive Energy Pvt Ltd	Pune	A			Upto 125 KVA for 1 phase and 300 KVA for 3 Phase				
		Note-5				Vertive Energy Pvt Ltd	Mumbai	A			Upto 160 KVA				
		Note-5				Hitachi Hrel Power Electronics Pvt Ltd	Gandhinagar	A			Upto 200 KVA,				
		Note-5				Fuji Electric Consul Neowatt Private Limited	Pune	A			Up to 100 KVA single phase				
		Note-5				KELTRON	Trivendrum	A							
		Note-5				Merlin & Gerim	France	A							
		Note-5				Gutor	Switzerland	A							
		Note-5				AEG	Germany	A							
		Note-5				Fuji Electric	Japan	A							
48	Vibration Monitoring System														
		II				Sensonics Technology India	Kundli	A			For Sensonic UK system				
											1. Imported items like Vibration Monitors, Cross Connection Cables, Buffered Output Modules, and Piezoelectric Vibration Sensors, Eddy Current type Proximity Probe, Extension Cable and Signal Conditioner will be procured from Valmet Automation, Finland. 2. Indigenous items like Communication cables, networking components, blank panels, TB, OWS will be procured from NTPC approved sources.				
		II				IRD Mechanalysis Ltd	Thane	A			Vibration sensors will be sourced from M/s Hansford UK ,however brand name of IRD and its logo is acceptable with suitable traceability of M/s Hansford ,UK.				
		II				Forbes Marshall Pvt Limited	Pune	A			VMS hardware , Sensors, extention cables shall be shinkawa Japan make 2. All other BOI shall be from LOA agreed sources				
		II				GE	Pune	A			For GE Bentley , USA Make				
		II				Rockwell Automation	Sahibabad	A			For Rockwell USA make				
		II				SKF	Pune	A			For SKF USA make				
		II				Imageneous Engineering Pvt Ltd	Vadodara	A			1-For Meggitt Switzerland make 2- Refer note 7				
		II				Shinkawa	Japan	A							
		II				GE	USA	A			Bentley Niveda brand				
		II				Meggitt	Switzerland	A							
		II				Sensonic Limited	UK	A							
49	Wireless Solution (Microwave Tower Communication)														
		I				L&T Technology Services (LTTS)	Bengaluru	A			1- Wireless Product (Access Point, Antenna) shall be M/s Cambium UK Make 2- Other Item like Switch, Cat-6 Cable can be supplied from M/s LTTS approved sources meeting technical requirements.				



PROJECT : KODARMA TPS PH-I (2X800 MW)

PACKAGE : EPC PACKAGES

CONTRACTOR:

CONTRACT NO :

REVISION NO : 00
DATE : 19.05.2023
SUB SECTION: C&I

LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB SUPPLIER APPROVAL

Sr No	Item Description	QP Inspection Category	QP No	QP submission SCH	QP approval SCH	Proposed Sub Supplier	Country	SS Approval Status (Note-I)	SS Detail Sub.SCH	SS Approval SCH	Remark
		I				Lotus wireless technologies India Pvt Ltd	Visakhapatnam	A			
		I				Sheetal Wireless Technologies Pvt Ltd	Pune	A			
		III				Proxim Wireless Corporation	USA	A			BOI shall be as per approval letter
50	Field Bus Cable/ Profibus Cable- PA & DP type										
		I				LAPP India Pvt Ltd	Bangalore	A			
51	Field bus components (Field bus modules ,segment protector ,surge protector & SS JB)										
		III				Phoenix Contact Inc	USA	A			Materiall will be allowed to dispatch from the vendor works as CAT-III item ,however all material except SS junction box will be available at DDCMIS supplier works for functional testing .
		III				Pepperl + Fuchs Pte Ltd	Singapore	A			Materiall will be allowed to dispatch from the vendor works as CAT-III item ,however all material will be available at DDCMIS supplier works for functional testing .
52	Stockyard Management System(Including 3D profiling scanner ,Thermal Imaging Camera, RTK GPS)										
		III				TSA	Brazil	A			For 3D profiling / Tripple-IN Germany make
						EIP Enviro	Noida	A			For 3D profiling / 1-Tripple-IN Germany make Laser Scanner and RPU along with software from TSA Brazil inline with the M/s TSA Letter. 2- Other item like ethernet cable, Ethernet Switch, Junction Box required for execution of 3D stockpile management system can be supplied by EIP Enviro
53	Perimeter Intrusion Detection System										
		III				Sensar	Canada	A			
54	Radar based Perimeter Surveillance System										
		III				Magos System Ltd	Israel	A			Third Party "Cyber Penetration report " shall be provided along with material TC/COC
55	Thermal Camera (PTZ)										
		III				FLIR Commercial Systems INC	USA	A			

Main Contractor approved sources (Note-12)

MC-1	Ammonia Analyser	III				Main Contractor Approved Sources					
MC-2	Ammonia leak detector	III				Main Contractor Approved Sources					
MC-3	Air Filter Regulator	III				Main Contractor Approved Sources					
MC-4	Arenometer	III				Main Contractor Approved Sources					
MC-5	Annunciator	III				Main Contractor Approved Sources					
MC-6	Battery Health Monitoring System	III				Main Contractor Approved Sources					
MC-7	Biofouling/ Deposit Monitor	III				Main Contractor Approved Sources					
MC-8	Coal bunker Level monitor	III				Main Contractor Approved Sources					
MC-9	Compression Fittings(SS)	III				Main Contractor Approved Sources					
MC-10	Condensing Pots	III				Main Contractor Approved Sources					
MC-11	Conduits /Pipe (GI)	III				Main Contractor Approved Sources					
MC-12	Conduits lead coated (Flexible)	III				Main Contractor Approved Sources					
MC-13	Copper tubing/Brass connectors	III				Main Contractor Approved Sources					
MC-14	Coriolis Type Mass Flow meter	III				Main Contractor Approved Sources					
MC-15	Coupling /Interposing Relays	III				Main Contractor Approved Sources					
MC-16	Density Indicator	III				Main Contractor Approved Sources					
MC-17	Desk for OWS/EWS/Printer/Server	III				Main Contractor Approved Sources					
MC-18	Digital Indicators	III				Main Contractor Approved Sources					



PROJECT : KODARMA TPC PH-I (2X800 MW)
PACKAGE : EPC PACKAGES
CONTRACTOR:
CONTRACT NO :

REVISION NO : 00
DATE : 19.05.2023
SUB SECTION: C&I

Sr No		Item Description	QP Inspection Category	QP No	QP submission SCH	QP approval SCH	Proposed Sub Supplier	Country	SS Approval Status (Note-I)	SS Detail Sub.SCH	SS Approval SCH	Remark
MC-19		Dust Sensor	III				Main Contractor Approved Sources					
MC-20		Dew point sensor/meter (H2)	III				Main Contractor Approved Sources					
MC-21		Flow Gauge	III				Main Contractor Approved Sources					
MC-22		Flow Indicator cum Totaliser	III				Main Contractor Approved Sources					
MC-23		Flow Switch	III				Main Contractor Approved Sources					
MC-24		FRP Junction Box	III				Main Contractor Approved Sources					
MC-25		Furniture for control Room(Chair, Almira, Lock)	III				Main Contractor Approved Sources					
MC-26		Furnace exit gas temp probe	III				Main Contractor Approved Sources					
MC-27		Graphic Interface Unit	III				Main Contractor Approved Sources					
MC-28		Hand Held Calibrator	III				Main Contractor Approved Sources					
MC-29		Hart Management System	III				Main Contractor Approved Sources					
MC-30		Humidistat / Thermostat / Gyserstat / Airstat	III				Main Contractor Approved Sources					
MC-31		Instant Corrosion Rate Monitor & Portable Corrosion Meter	III				Main Contractor Approved Sources					
MC-32		Impact head type flow element	III				Main Contractor Approved Sources					
MC-33		Instrument Tube Fittings (Air)	III				Main Contractor Approved Sources					
MC-34		Instrument Valve	III				Main Contractor Approved Sources					
MC-35		IR Detector	III				Main Contractor Approved Sources					
MC-36		KVM Switch/Matrix KVM Switch	III				Main Contractor Approved Sources					
MC-37		Level gauge (Transparent & Reflex, Tubular type)	III				Main Contractor Approved Sources					
MC-38		Level Indicator (Float & Board type)	III				Main Contractor Approved Sources					
MC-39		Level switch - Float/Displacer Type	III				Main Contractor Approved Sources					
MC-40		Level Switch (RF Type)	III				Main Contractor Approved Sources					
MC-41		Level switch capacitance type	III				Main Contractor Approved Sources					
MC-42		Limit Switch	III				Main Contractor Approved Sources					
MC-43		Maintenance and Calibration Equipment	III				Main Contractor Approved Sources					
MC-44		Mini UPS-Type C configuration	III				Main Contractor Approved Sources					
MC-45		Orifice plate assembly	III				Main Contractor Approved Sources					
MC-46		On line carbon in Ash analyser	III				Main Contractor Approved Sources					
MC-47		Pilot Tube	III				Main Contractor Approved Sources					
MC-48		Pr/V accum/DP Gauges	III				Main Contractor Approved Sources					
MC-49		Press. DP. Vacuum Switch	III				Main Contractor Approved Sources					
MC-50		Printer (Dot Matrix/Inkjet / Laser)	III				Main Contractor Approved Sources					
MC-51		Psychrometer	III				Main Contractor Approved Sources					
MC-52		Pulse jet Controller	III				Main Contractor Approved Sources					
MC-53		Pulse Valve	III				Main Contractor Approved Sources					
MC-54		Residual Chlorine Analyser	III				Main Contractor Approved Sources					
MC-55		Rotameter	III				Main Contractor Approved Sources					
MC-56		Reverse Rotation Indicator	III				Main Contractor Approved Sources					
MC-57		Synchronising Relay	III				Main Contractor Approved Sources					
MC-58		Synchroscope	III				Main Contractor Approved Sources					
MC-59		Semaphore Indicators	III				Main Contractor Approved Sources					
MC-60		Sight Flow Indicator	III				Main Contractor Approved Sources					
MC-61		Smart Positioner	III				Main Contractor Approved Sources					
MC-62		Socket Weld Fittings	III				Main Contractor Approved Sources					
MC-63		Solenoid Valve	III				Main Contractor Approved Sources					
MC-64		Solid Mass Flow Meter	III				Main Contractor Approved Sources					
MC-65		Terminal Block (Cage and Clamp type)	III				Main Contractor Approved Sources					
MC-66		Temperature cum Humidity Indicator	III				Main Contractor Approved Sources					
MC-67		Temperature Element(Thermocouple, RTD & Thermowell)	III				Main Contractor Approved Sources					
MC-68		Temperature Gauge(With Thermowell)	III				Main Contractor Approved Sources					
MC-69		Temperature Switch	III				Main Contractor Approved Sources					
MC-70		Transducer	III				Main Contractor Approved Sources					
MC-71		Tube thickness Meter	III				Main Contractor Approved Sources					
MC-72		Voltmeter/ Waterhour Meter	III				Main Contractor Approved Sources					
MC-73		Valve manifolds	III				Main Contractor Approved Sources					
MC-74		Electric to Pneumatic Converter	III				Main Contractor Approved Sources					
MC-75		Network components	III				Main Contractor Approved Sources					
MC-76		Isolator	III				Main Contractor Approved Sources					
MC-77		ORP Monitor /Analyser	III				Main Contractor Approved Sources					



PROJECT : KODARMA TPS PHAI (2X800 MW)

PACKAGE : EPC PACKAGES

CONTRACTOR:

CONTRACT NO :

REVISION NO : 00
DATE : 19.05.2023
SUB SECTION: C&I

LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB SUPPLIER APPROVAL

Sr No	Item Description	QP Inspection Category	QP No	QP submission SCH	QP approval SCH	Proposed Sub Supplier	Country	SS Approval Status (Note-I)	SS Detail Sub.SCH	SS Approval SCH	Remark
MC-78	Ultrasonic Type Flow Transmitter	III				Main Contractor Approved Sources					
MC-79	Chlorine Leak detector	III				Main Contractor Approved Sources					
MC-80	Density Meter	III				Main Contractor Approved Sources					
MC-81	Electro Magnetic Flow meter	III				Main Contractor Approved Sources					
MC-82	Positive displacement Type Flow Meter	III				Main Contractor Approved Sources					
MC-83	Level Scanner (3 D)for Solid Application	III				Main Contractor Approved Sources					
MC-84	Mosaic tiles /Console items	III				Main Contractor Approved Sources					
MC-85	Electrical Control Panel (UCP/Backup)	III				Main Contractor Approved Sources					
MC-86	Electrical Indicating Instruments (Mosaic Compatible)	III				Main Contractor Approved Sources					
MC-87	OWS/EWS/Server	III				Main Contractor Approved Sources					
MC-88	Bio Matrix Reader	III				Main Contractor Approved Sources					
MC-89	ANPR	III				Main Contractor Approved Sources					
MC-90	UVSS	III				Main Contractor Approved Sources					
MC-91	Comd & Control System	III				Main Contractor Approved Sources					
MC-92	Access & Controller Software	III				Main Contractor Approved Sources					
MC-93	IR LED based Illuminator	III				Main Contractor Approved Sources					
MC-94	ATB Bollboard	III				Main Contractor Approved Sources					
MC-95	Boom Barrier	III				Main Contractor Approved Sources					
MC-96	Touchless biometric recorder	III				Main Contractor Approved Sources					
MC-97	GPS Sensor based Vehicle Monitoring system	III				Main Contractor Approved Sources					
MC-98	10mp digital camera with tripod for photo capture	III				Main Contractor Approved Sources					
MC-99	2D GIS map application	III				Main Contractor Approved Sources					
MC-100	Audible alarm device	III				Main Contractor Approved Sources					
MC-101	Camera/Poles	III				Main Contractor Approved Sources					
MC-102	Card Reader	III				Main Contractor Approved Sources					
MC-103	Door Frame Metal Detector -DFMD	III				Main Contractor Approved Sources					
MC-104	Door sensor	III				Main Contractor Approved Sources					
MC-105	Egress Switch	III				Main Contractor Approved Sources					
MC-106	EM LOCK	III				Main Contractor Approved Sources					
MC-107	Emergency exit / door override switch	III				Main Contractor Approved Sources					
MC-108	Emergency Siren /Hooter	III				Main Contractor Approved Sources					
MC-109	Flap barrier	III				Main Contractor Approved Sources					
MC-110	Flash Lights for covering perimeter area for clear view from PTZ in night time	III				Main Contractor Approved Sources					
MC-111	Geo fencing	III				Main Contractor Approved Sources					
MC-112	Glass Break switch at Emergency Exit	III				Main Contractor Approved Sources					
MC-113	Guard tour	III				Main Contractor Approved Sources					
MC-114	Half Height Turnstile	III				Main Contractor Approved Sources					
MC-115	Handheld Walkie - Talkie	III				Main Contractor Approved Sources					
MC-116	HHMD	III				Main Contractor Approved Sources					
MC-117	Long Range RFID Reader	III				Main Contractor Approved Sources					
MC-118	Monitors 24 Inch Full HD	III				Main Contractor Approved Sources					
MC-119	Network Panel	III				Main Contractor Approved Sources					
MC-120	Optical Time Domain Reflector-meter (OTDR) with all accessories	III				Main Contractor Approved Sources					
MC-121	Panic Button with Audible Alarm	III				Main Contractor Approved Sources					
MC-122	Panic button/SOS button supportin SIP protocol	III				Main Contractor Approved Sources					
MC-123	RFID based Stickers	III				Main Contractor Approved Sources					
MC-124	Sliding Gate	III				Main Contractor Approved Sources					
MC-125	SMS gateway	III				Main Contractor Approved Sources					
MC-126	Storage Device (SAN/NAS/DAS) of 100 TB each	III				Main Contractor Approved Sources					
MC-127	Traffic Light	III				Main Contractor Approved Sources					
MC-128	Turnstile - half height	III				Main Contractor Approved Sources					
MC-129	SPIKE BARRIER	III				Main Contractor Approved Sources					
MC-130	CHAIN LINK FENCE	III				Main Contractor Approved Sources					
MC-131	X-ray Baggage Scanner	III				Main Contractor Approved Sources					
MC-132	Static Radio Set	III				Main Contractor Approved Sources					
MC-133	EPABX equipments	III				Main Contractor Approved Sources					



PROJECT : KODARMA TPS PHFI (2X800 MW)

PACKAGE : EPC PACKAGES

CONTRACTOR:

CONTRACT NO :

REVISION NO : 00

DATE : 19.05.2023

SUB SECTION: C&I

LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB SUPPLIER APPROVAL

Sr No	Item Description	QP Inspection Category	QP No	QP submission SCH	QP approval SCH	Proposed Sub Supplier	Country	SS Approval Status (Note-I)	SS Detail Sub.SCH	SS Approval SCH	Remark																																																																																																																																																																																																												
LEGENDS : L0 SYSTEM SUPPLIER / SUB SUPPLIER APPROVAL STATUS CATEGORY A - For those items proposed vendor is acceptable to Customer. To be indicated with letter "A" in the list alongwith the condition of approval, if any. <tr> <td colspan="12">2.0 QP INSPECTION CATEGORY :</td> </tr> <tr> <td colspan="12">CAT - I : For those items the Quality Plans are approved by Customer and final acceptance will be on physical inspection witness by Customer</td> </tr> <tr> <td colspan="12">CAT - II : For those items the Quality Plans are approved by Customer. However no physical inspection shall be done by Customer. The final acceptance by Customer shall be on the basis of review of documents.</td> </tr> <tr> <td colspan="12">CAT - III : For those items Quality control to be exercised as per Main contractor Quality Assurance System. The final acceptance by NTPC shall be on the basis of Certificate of Conformance (COC) by Main Contractor.</td> </tr> <tr> <td colspan="12">UNITS/WORKS : Place of manufacturing, Place of main supplier of multi units/works.</td> </tr> <tr> <td colspan="12">NOTE - 1 : A: Vendors to submit project specific documents as per Sub-QR requirements in case the Vendor is approved under collaboration agreement.</td> </tr> <tr> <td colspan="12">B: In case approved sub vendor is offering product with latest model/series apart from earlier approved, vendors to submit project specific documents as per Sub-QR requirements.</td> </tr> <tr> <td colspan="12">NOTE - 2 : For Instrument cable <= 1 KM inspection category CAT - III. For > 1 KM to <= 10 KM inspection category CAT - II COC & FOR > 10 KM inspection category CAT-I</td> </tr> <tr> <td colspan="12">NOTE-3 : For Fiber Optic cable <= 10KM inspection category CAT - III & for > 10KM inspection category CAT-II</td> </tr> <tr> <td colspan="12">NOTE-4 : Batteries for UPS <= 10 KVA and batteries for intelligent battery charger 24 V DC <= 40 Amp inspection category CAT-III & for Batteries for UPS> 10KVA and batteries for intelligent battery charger 24 V DC > 40 Amp rating inspection</td> </tr> <tr> <td colspan="12">NOTE-5 : UPS <= 10 KVA rating inspection category CAT-III & for > 10KVA rating inspection category CAT-I</td> </tr> <tr> <td colspan="12">NOTE - 7 - EMPTY CABINETS, COMPUTERS, SIGNAL ISOLATOR/MULTIPLIER and TB SHALL ALSO BE ACCEPTABLE FROM OWNER ACCEPTED IN QP. IF THE TOTAL INTEGRATED PANEL AND FAT IS CONDUCTED INDGENEOUSLY</td> </tr> <tr> <td colspan="12">NOTE-8 : For the C & I instruments mounted on the skid of the main item, instrument to be supplied as per proven practice of the manufacturer meeting the Customer technical specification requirement.</td> </tr> <tr> <td colspan="12">NOTE-9- This item is a bought out component of main equipments like DDCMIS ,PLC,TSLCCTV ,PA system etc</td> </tr> <tr> <td colspan="12">NOTE-10- For these controlled items, vendor shall be proposed for owner acceptance with-in the agreed contract schedule of the package</td> </tr> <tr> <td colspan="12">NOTE-11 - Major Bought-Out-Items are to be procured from LOA approved sources & the same shall be finalized during the finalization of Manufacturing Quality Plan . MQP shall be duly vetted by OEM with their project specific authorisation letter .</td> </tr> <tr> <td colspan="12">NOTE-12 : Main contractor approved sub vendors are acceptable those are evaluated / assessed as per Main contractor Quality Management System for vendor approval. Main contractor to inform the finally selected vendor to NTPC as soon as PO is placed for these items. In case of sub-QR Note-1 is also applicable.</td> </tr>												2.0 QP INSPECTION CATEGORY :												CAT - I : For those items the Quality Plans are approved by Customer and final acceptance will be on physical inspection witness by Customer												CAT - II : For those items the Quality Plans are approved by Customer. However no physical inspection shall be done by Customer. The final acceptance by Customer shall be on the basis of review of documents.												CAT - III : For those items Quality control to be exercised as per Main contractor Quality Assurance System. 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	PROJECT: KODERMA TPS Ph-II (2X800 MW)		LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB-SUPPLIER APPROVAL		DOC NO	
	PACKAGE: EPC PACKAGE				REV. NO.	
	Main supplier:		SUB SYSTEM: CIVIL WORKS		DATE	
	Contract No.: CS-8200-001-2				19.05.2023	
SL. NO.	ITEM	QAP / INSP. CAT	PROPOSED SUB SUPPLIER	PLACE OF MANUFACTURING	APPROVAL STATUS / CATEGORY	REMARKS
1.	GALVANIZED STEEL STRUCTURES (LATTICE & PIPE) FOR SWITCHYARD AND TRANSMISSION LINE	I	VIJAY TRANSMISSION LTD	RAIPUR	A	
			UNITECH POWER TRANSMISSION LTD	NAGPUR	A	
			ASSOCIATED POWER STRUCTURES	VADODARA	A	
			R.S. INFRAPROJECTS PVT. LTD	SURAJPUR	A	
			NEW MODERN TECHNO MECH	MAYURBHANJ (ORRISA)	A	
			GOOD LUCK STEEL TUBES	SIKANDRABAD	A	
			UNIQUE STRUCTURES & TOWERS LTD.	RAIPUR	A	
			VATCO ELEC-POWER PVT. LTD.	NAVIMUMBAI	A	GALVANISING AT SIGMA GALVANISER NAVI MUMBAI
			R.S. INFRAPROJECTS PVT. LTD	SIKANDRABAD	A	
			ADVANCE STEEL TUBE	SAHIBABAD	A	
			SANGAM STRUCTURES LTD.	ALLAHABAD	A	
			RELIABLE SPONGE PVT LTD UNIT III	KALUNGA	A	
			VSP ENTERPRISES PVT. LTD	SONEPAT	A	
			SKIPPER LIMITED	UNIT-I: JANGALPUR, Howrah. Unit-II: ULUBERIA UNIT, Howrah. UNIT- III: BCTL, Howrah.	A	Proto type inspection at Unit-Bagnan, Howrah
			RUKMANI ELECTRICAL & COMPONENT PVT. LTD	RAIPUR	A	

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	SL. NO.	ITEM	QAP / INSP. CAT	PROPOSED SUB SUPPLIER	PLACE OF MANUFACTURING	APPROVAL STATUS / CATEGORY	REMARKS
			RICHARDSON & CRUDDAS (1972) LTD	NAGPUR	A		
2.	COLOUR COATED METAL DECK & CLADDING/ROOFING SHEET (COIL)	I	TATA STEEL LIMITED	KHOPOLI, RAIGARH	A		
			TATA STEEL LIMITED	SAHIBABAD	A		
			TATA BLUESCOPE STEEL LTD	JAMSHEDPUR	A	AL-ZN COIL FOR CLADDING	
			ESSAR STEEL LTD	PUNE	A		
			NATIONAL STEEL & AGRO INDUSTRIES LTD	DHAR	A		
3.	CHIMNEY ELEVATOR (RACK AND PINION)	I	JSW STEEL COATED PRODUCTS LTD	KALMESHWAR (NAGPUR)	A		
			JSW STEEL COATED PRODUCTS LTD	TARAPUR, BOISAR	A		
			BHUSHAN POWER & STEEL LTD	SAMBALPUR (ODISHA)	A		
			MEKASTER ENGG. & EQUIPMENT(P) LTD.	HALOL, GUJARAT	A		
			ALIKRAFT ENGINEERS PVT. LTD.	SAVIL (VADODARA)	A		
4.	ELECTROFORGED GRATING	II	AVON CRANES	GURGAON	A		
			UNIVERSAL CONSTRUCTION MACHINARY & EQUIPMENT LTD.	PUNE	A		
			INDIANA GRATINGS PVT. LTD	PUNE	A		
			KANADE ANAND UDYOG	THANE	A		
			PREMIER POWER PRODUCTS LTD	HOWRAH	A		
			BHOLA RAM STEEL PVT. LTD	PATNA	A		

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SL. NO.	ITEM	QAP / INSP. CAT	PROPOSED SUB SUPPLIER	PLACE OF MANUFACTURING	APPROVAL STATUS / CATEGORY	REMARKS	
			PINAX STEEL INDUSTRIES PVT LTD	PATNA	A		
			GREATWELD STEEL GRATING PVT. LTD	PUNE	A		
			ANKIT ELECTROGRATING	RAIPUR	A		
			SUTTATTI ENTERPRISES LTD.	PUNE	A		
			RATAN PROJECTS & ENGINEERING CO. PVT. LTD.	HOWRAH	A		
			VINFAB ENGINEERS INDIA PVT LTD. (For Galvanising) VINFAB GRATINGS (For Fabrication)	THANE	A		
5.	PROFILERS FOR COLOUR COATED METAL DECK & CLADDING/ROOFING SHEETS	II	MAIN CONTRACTOR APPROVED SOURCE	-	-		
6.	FABRIC EXPANSION COMPENSATOR (FOR CHIMNEY)	II	MAIN CONTRACTOR APPROVED SOURCE	-	-		
7.	MINERAL WOOL FOR THERMAL INSULATION (FOR CHIMNEY)	II	MAIN CONTRACTOR APPROVED SOURCE	-	-		
8.	STOP LOG GATES, TRASH RACK AND LIFTING BEAM	II	MAIN CONTRACTOR APPROVED SOURCE	-	-		
9.	HIGH PERFORMANCE MOISTURE COMPATIBLE CORROSION RESISTANT COATING SYSTEM	III	CECRI LICENSED SOURCES	-	-		
10.	BITUMEN	III	ALL GOVERNMENT REFINARIES	-	-		
11.	PTFE BEARING / ELASTOMERIC BEARING	III	MORTH / RDSO APPROVED VENDORS	-	-		
12.	CEMENT	III	BIS APPROVED SOURCES HAVING VALID BIS LICENCE	-	-		

	PROJECT: KODERMA TPS Ph-II (2X800 MW)		LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB-SUPPLIER APPROVAL			DOC NO	
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	Contract No.: CS-8200-001-2					19.05.2023	
SL. NO.	ITEM	QAP / INSP. CAT	PROPOSED SUB SUPPLIER	PLACE OF MANUFACTURING	APPROVAL STATUS / CATEGORY	REMARKS	
13.	CI PIPES	III	BIS APPROVED SOURCES HAVING VALID BIS LICENCE	-	-		
14.	RCC PIPES	III	BIS APPROVED SOURCES HAVING VALID BIS LICENCE	-	-		
15.	CPVC/UPVC PIPES	III	BIS APPROVED SOURCES HAVING VALID BIS LICENCE	-	-		
16.	PVC WATER STOP	III	BIS APPROVED SOURCES HAVING VALID BIS LICENCE	-	-		
17.	POLYTHENE WATER STORAGE TANKS	III	BIS APPROVED SOURCES HAVING VALID BIS LICENCE	-	-		
18.	CERAMIC / VITRIFIED TILES	III	BIS APPROVED SOURCES HAVING VALID BIS LICENCE	-	-		
19.	PARTICLE BOARDS, PLYWOOD, MDF	III	BIS APPROVED SOURCES HAVING VALID BIS LICENCE	-	-		
20.	FIRE PROOF DOORS	III	MAIN CONTRACTOR APPROVED SOURCES WITH VALID PROTOTYPE TEST REPORT FROM CBRI/CPRI/GOV. LAB.)	-	-		
21.	CONSTRUCTION CHEMICALS/ADMIXTURE, WATER PROOFING COMPOUNDS AND GROUTS	III	MAIN CONTRACTOR APPROVED SOURCE	-	-		
22.	PAINT AND PAINTING SYSTEM	III	MAIN CONTRACTOR APPROVED SOURCE	-	-		
23.	HIGH SOLID CONTENT LIQUID APPLIED URETHANE BASED ELASTOMERIC MEMBRANE FOR WATER PROOFING	III	MAIN CONTRACTOR APPROVED SOURCE	-	-		
24.	FOUNDATION BOLTS	III	MAIN CONTRACTOR APPROVED SOURCE	-	-		

LEGENDS: 1. SYSTEM SUPPLIER/SUB-SUPPLIER APPROVAL STATUS CATEGORY (SHALL BE FILLED BY NTPC) A – For these items proposed vendor is acceptable to NTPC. To be indicated with letter “A” in the list along with the condition of approval, if any. DR – For these items “Details required” for NTPC review. To be identified with letter “DR” in the list. 2. QP/INSPN CATEGORY: CAT-I: For these items the Quality Plans are approved by NTPC and the final acceptance will be on physical inspection witness by NTPC. CAT-II: For these items the Quality Plans approved by NTPC. However, no physical inspection shall be done by NTPC. The final acceptance by NTPC shall be on the basis review of documents as per approved quality plan. CAT-III: For these items the Quality control to be exercised as per Main Contractor Quality Assurance System. The final acceptance by NTPC shall be on the basis of Certificate of conformance (COC) by Main Contractor. UNITS/ WORKS: Place of manufacturing Place of Main Supplier of multi units/works.	
NOTE 1: For the items placed in CAT-III for Civil Works, the review and final acceptance shall be done by NTPC-EIC/ FQA on the basis of MTC / certificate of conformance in line with Technical Specifications/FQP.	

Clause No.			GENERAL CONDITIONS OF CONTRACT (GCC)
			extended period as may otherwise be agreed upon between the Employer and the Contractor.
		18.5	Work Procedures The Contract shall be executed in accordance with the Contract Documents and the procedures given in the section on Forms and Procedures of the Contract Documents. If agreed between the Employer and the Contractor, the Contractor may execute the Contract in accordance with its own standard project execution plans and procedures to the extent that they do not conflict with the provisions contained in the Contract.
		18.6	Maintenance of Records of Weekly Progress Review Meetings at site The Contractor shall be required to attend all weekly site progress review meetings organized by the 'Project Manager' or his authorized representative. The deliberations in the meetings shall inter alia include the weekly program, progress of work (including details of manpower, tools and plants deployed by the contractor vis-a-vis agreed schedule), inputs to be provided by Employer, delays, if any, and recovery program, specific hindrances to work and work instructions by Employer. Record of Hindrances / events that lead to slow/ stoppage of smooth execution of work shall be maintained in "Hindrance Register". The minutes of the weekly meetings shall be recorded in triplicate in a numbered register available with the 'Project Manager', or his authorized representative. These recordings shall be jointly signed by the Project Manager or his authorized representative and the Contractor and one copy of the signed records shall be handed over to the Contractor.
19.	Subcontracting		
		19.1	Appendix 5 (List of Approved Subcontractors) to the Contract Agreement specifies major items of supply or services and a list of approved Subcontractors against each item, including vendors. Insofar as no Subcontractors are listed against any such item, the Contractor shall prepare a list of Subcontractors for such item for inclusion in such list. The Contractor may from time to time propose any addition to or deletion from any such list. The Contractor shall submit any such list or any modification thereto to the Employer for its approval in sufficient time so as not to impede the progress of work on the Facilities. Such approval by the Employer for any of the Subcontractors shall not relieve the Contractor from any of its obligations, duties or responsibilities under the Contract.
		19.2	The Contractor shall select and employ its Subcontractors for such major items from those listed in the lists referred to in GCC Sub-Clause 19.1.
		19.3	For items or parts of the Facilities not specified in Appendix 5 (List of Approved Subcontractors) to the Contract Agreement, the Contractor may employ such Subcontractors as it may select, at its discretion.
		19.4	The Contractor shall not be allowed to sub-contract works to any subcontractor/ sub-vendor from a country which shares a land border with India unless such sub-contractor is registered with the competent Authority.

Clause No.			GENERAL CONDITIONS OF CONTRACT (GCC)
			The Competent Authority for the purpose of registration shall be as mentioned in the Annexure-VI of SCC. However, the said requirement of registration will not apply to subcontractors from those countries (even if sharing a land border with India) to which the Government of India has extended lines of credit or in which the Government of India is engaged in development projects. The Contractor may apprise itself of the updated lists of such countries available in the website of the Ministry of External Affairs. Procurement of raw material, components, etc. does not constitute subcontracting.
20.	Design And Engineering		
		20.1	Specifications and Drawings 20.1.1 The Contractor shall execute the basic and detailed design and the engineering work in compliance with the provisions of the Contract, or where not so specified, in accordance with good engineering practice. The Contractor shall be responsible for any discrepancies, errors or omissions in the specifications, drawings and other technical documents that it has prepared, whether such specifications, drawings and other documents have been approved by the Project Manager or not, provided that such discrepancies, errors or omissions are not because of inaccurate information furnished in writing to the Contractor by or on behalf of the Employer. 20.1.2 The Contractor shall be entitled to disclaim responsibility for any design, data, drawing, specification or other document, or any modification thereof provided or designated by or on behalf of the Employer, by giving a notice of such disclaimer to the Project Manager.
		20.2	Codes and Standards Wherever references are made in the Contract to codes and standards in accordance with which the Contract shall be executed, the edition or the revised version of such codes and standards current at the date fifteen (15) days prior to deadline set for price bid submission shall apply unless otherwise specified. During Contract execution, any changes in such codes and standards shall be applied after approval by the Employer and shall be treated in accordance with GCC Clause 39 (Changes Originating from Contractor).
		20.3	Approval/Review of Technical Documents by Project Manager 20.3.1 The Contractor shall prepare (or cause its Subcontractors to prepare) and furnish to the Project Manager the documents listed in Appendix 7 (List of Documents for Approval or Review) to the Contract Agreement for its approval or review as specified and as in accordance with the requirements of GCC Sub-Clause 18.2 (Program of Performance).

Clause No.	Quality Assurance		
3.0	FIELD QUALITY PLAN		
a)	Well before the start of the work, the contractor shall prepare and submit the Field Quality Plans (FQP) and obtain approval of Employer, which shall detail out for all the works, equipment, services, quality practices and procedures etc. in line with the requirement of the technical specifications to be followed by the contractor at site. This FQP shall cover for all the items / activities covered in the contract / schedule of items required, right from material procurement to completion of the work at site. An Indicative Field Quality Plan for civil works is enclosed at Annexure II for reference purpose.		
4.0	PURCHASE AND SERVICE		
a)	To facilitate advance planning of material testing/ approval of bought out items (BOI), well before the start of activity as per L-2 network, representative samples shall be procured by the contractor from approved sub-vendors and submitted to the EIC for his approval before bulk procurement. In case of manufacturers test certificate (MTC) is submitted for acceptance, it shall be clearly traceable and correlated with the consignment received at site. MTC of all bought out items (BOI) shall essentially contain all the test parameters / characteristics specified in the technical specifications / standards / codes. In case the manufacturer's test certificate does not mention these details, sample from each lot shall be tested at the Employer acceptable third-party lab. Approval of material / sample by the Employer shall not relieve the contractor of his responsibility, for their conformance to the specification, as well as the requisite performance and quality of material.		
b)	Structural steel (plates and rolled sections i.e. channels, beams & angles) conforming to IS 2062 and Reinforcement steel conforming to IS 1786 supply if in the scope of the contractor shall be procured from Primary Steel Producers (Refer NOTE below). Currently, Primary Steel Producers acceptable are SAIL, JSW Steel Ltd, Jindal Steel & Power, Tata steel Ltd. (for Reinforcement steel/TMT bars), RINL (for long products/Rolled sections and Reinforcement steel/TMT bars), Arcelormittal Nippon Steel India Ltd. (for Flat products/ Steel Plates), ESL Steel Ltd. (for Reinforcement steel/TMT bars) and JSW Ispat Special Products Ltd. (for long products/Rolled sections and Reinforcement steel/TMT bars). Subsequently, if any new Primary Steel Producer/s are proposed during execution of contract, the same may be considered for acceptance subject to meeting the following qualifying requirements: i) The proposed supplier should be a Primary Steel Producer, having a minimum production capacity of one million tons per annum (MTPA). ii) The proposed supplier should be a regular manufacturer of Steel Plates and / or Rolled Sections and / or Reinforcement Steel for the last two years as on date of submission of proposal. iii) The proposed supplier should also be a registered licensee with Bureau of Indian Standards for BIS: 1786/2062 at the time of submission of proposal. NOTE: The "Primary Steel Producer" shall mean Steel Producer of any capacity, irrespective of process route, starting their operations from iron making using iron ore, virgin or processed, with necessary refining facilities and rolling/processing facilities, at a single location or else in multiple locations provided that the entire gamut of iron & steel production, from iron making to finished steel production, is owned by the same company or its subsidiary company(ies). Provided that the iron making capacity is sufficiently matching the steel making capacity. Further, downstream units should use material from the upstream units of the same company or its subsidiaries. In case of non-availability of certain steel section/s i.e. Angle smaller than 100x100x10 mm, MS flats, rounds, square bars and chequered plate from above		
KODERMA TPS PHASE-II (2X800MW) EPC PACKAGE	TECHNICAL SPECIFICATIONS SECTION VI, PART- B	SUB-SECTION-E-59 QA Civil	Page 2 of 6

Clause No.	Quality Assurance			
	acceptable primary steel producers, an option is given to the Main contractor to source these sections directly from SAIL Conversion/Wet Leasing agent subject to the conditions given at point no. A) below: A) Approval conditions for procurement of structural steel sections through SAIL Conversion/Wet Leasing agent: 1. Main Contractor to ensure continuity of BIS license of the manufacturer for the sections being manufactured for Employer supply. 2. Billets shall be procured from Employer approved Main Steel Producers. Proper records for traceability from raw material to final product shall be maintained. 3. 100% chemical analysis of the raw material (Billets) shall be carried out as per IS: 2830. Testing of one sample per 40 MT for each type of section or part thereof shall be carried out as per IS: 2062 on finished product. 4. Each lot of delivery of finished product shall be accompanied with co-relatable Manufacturer's Test Certificate (MTC). MTC of finished sections shall be correlated with original MTC for Billets received from Main Steel Producer and Manufacturer Test Report of chemical analysis of Billets mentioned at point no.3. MTC of finished sections shall include the reference of MTC for Billets from Main Steel Producer. 5. Employer will have access to carry out the surveillance checks for in-process stage. 6. In case of any defects are seen in the material, Main Contractor will replace the material without any cost implication to Employer. In case of non-availability of certain size/s of steel tubes conforming to IS:1161 and Hollow (square and rectangular) steel sections conforming to IS: 4923 from above acceptable primary steel producers, the same may be sourced from BIS approved sources having valid BIS license subject to the conditions given at point no. B) below: B) Approval conditions for procurement of Steel tubes conforming to IS: 1161 and Hollow (square and rectangular) steel sections conforming to IS: 4923 from BIS approved sources: 1. Main Contractor to ensure continuity of BIS license of the manufacturer for the sections being manufactured for Employer supply. 2. Raw materials shall be procured from Employer approved Main Steel Producers. 3. 100% chemical analysis of the raw material (steel) shall be carried out as per IS: 228. Testing of samples of steel tubes and hollow sections from each lot shall be carried out as per IS: 1161 & IS: 4923 respectively on finished product. 4. Each lot of delivery of finished product shall be accompanied with co-relatable Manufacturer's Test Certificate (MTC). 5. Employer will have access to carry out the surveillance checks for in-process stage. 6. In case of any defects are seen in the material, Main Contractor will replace the material without any cost implication to Employer. The specific methodology to be followed for above procurement through conversion route/BIS approved sources route shall be subject to approval by Employer in advance.			
KODERMA TPS PHASE-II (2X800MW) EPC PACKAGE	<table><tr><td>TECHNICAL SPECIFICATIONS SECTION VI, PART- B</td><td>SUB-SECTION-E-59 QA Civil</td><td>Page 3 of 6</td></tr></table>	TECHNICAL SPECIFICATIONS SECTION VI, PART- B	SUB-SECTION-E-59 QA Civil	Page 3 of 6
TECHNICAL SPECIFICATIONS SECTION VI, PART- B	SUB-SECTION-E-59 QA Civil	Page 3 of 6		

Vendor No	Vendor Name	Mat Group	Material Group Description	Size Detail	COUNTRY	EMAIL	Specification	CITY1	ADDRESS1	ADDRESS2	ADDRESS3	ADDRESS4	ADDRESS5	CITY	PHONE1	PHONE2	POST CODE	REGION	TRANSPOSE	Material Group Long Description
102216	Divyansh Steel Private Limited	STLHS	Structural Heavy Sec	ANGLES ONLY, A 130 MM FOR IS 2062 E250A	India	tender@divyanshsteel.com	IS2062 GRA/BE250FE410W	Nagpur	Plot No. 183,	1st Floor Small Factory Area	Bagdadn]			MH	9604525527	9373425516	440008	Nag	NAGPUR	Structurals: Heavy Section
101496	Savitaj Rolling & Engineering Ltd	STLHS	Structural Heavy Sec	A-250 MM, C- 400 MM, B- 600 MM	India	divyanshsteel@gmail.com	IS2062 GRA/BE250FE410W	Nagpur	9, Late Shri Puranlal]	Agrawal Road,	(Formerly Inmabada Road),			MH			440018	Nag	NAGPUR	Structurals: Heavy Section
100040	MADHAV STEELCO PVT. LTD.	STLHS	Structural Heavy Sec	ANGLES 130 TO 200 MM, CHANNEL 300 MM	India	arpit@madhavsteelco.com	IS2062 GRA/BE250FE410W	MANDI GOBINDGARH	TALWARA ROAD, SRINHO SIDE,					PB	05765-305600	9501040507	147301	MAH	LUGHANA	Structurals: Heavy Section
19740	BEKAY STRUCTURAL STEELS,	STLHS	Structural Heavy Sec	A130-200, B400-600, C300-400MM	India	structural@ekaysteel.com	IS2062 GRA/BE250FE410W	VISAAPATNAM	PLOT NO. 19-21 & 24-26,BLOCK E		UNIT-BEEKAY STEEL INDUSTRIES LTD,	AUTONAGAR,		AP	0891-6539029		530012	VIS	VIZAG	Structurals: Heavy Section
18396	NORTEL TECH INDUSTRIES PVT. LIMITED,	STLHS	Structural Heavy Sec	A130-200, B400-600, C300-400MM	India	algotstructural@yahoo.co.in	IS2062 GRA/BE250FE410W	KANCHIPURM DIST.	14/242, MELAPAKKAM VILLAGE,			UTHIRAMURUR TALUK		TN	044 2467 2501	0 93827 22212	603402	KAN	KANCHIPURM	Structurals: Heavy Section
18320	C.G.SPAT (P) LIMITED,	STLHS	Structural Heavy Sec	ANGLES 130 TO 200 MM ,CHANNEL 300 TO 400 MM,BEAM 400 TO 600 MM.	India	cgsipat@yahoo.com	IS2062 GRA/BE250FE410W	RAIPUR	VILL - BAHESAR,			NEAR SITARA PHASE II,		CH	0771 2303738		492001	RAI	RAIPUR	Structurals: Heavy Section
18185	SPLENDID METAL PRODUCTS LTD,	STLHS	Structural Heavy Sec	A130-200, B400-600, C300-400MM	India	simplexim@sujana.com	IS2062 GRA/BE250FE410W	VISAKHAPATNAM	SANIVADA VILLAGE,RAJEEV NAGAR					AP	0891-2187900		530046	VIS	VIZAG	Structurals: Heavy Section
17787	MYC BUSINESS PVT LTD	STLHS	Structural Heavy Sec	ANGLE:130-200 MM, BEAMS:400-500 MM, CHANNEL:300-400 MM	India	sachinparmar@mtcgroup.in	IS2062 GRA/BE250FE410W	CHENNAI	V I A' CALVE CHATEAU,			#808, POONAMALLEE HIGH ROAD,	KILPAUK,	TN	044 40858687	0 96771 27063	600010	CHI	CHENNAI	Structurals: Heavy Section
17617	VANDANA ISPAT LIMITED	STLHS	Structural Heavy Sec	ANGLES 130-200 MM,BEAMS:400-500 MM, CHANNELS: 300-400 MM	India	vandanaspat@gmail.com	IS2062 GRA/BE250FE410W	RAIPUR	VANDANA BUILDING, MG ROAD,					CH	0771 2535244	0771 2228355	492001	RAI	RAIPUR	Structurals: Heavy Section
16312	JEVAMA INDUSTRIES PVT LTD	STLHS	Structural Heavy Sec	ALL RANGE	India	jevakamel@gmail.com	IS2062 GRA/BE250FE410W	HYDERABAD	11-6-27/17, 1st FLOOR,			OPP .JCP, FACTORY,	BALANAGAR	TD	940 23773692	0 9440065038	500037	HYD	HYDERABAD	Structurals: Heavy Section
15539	KRYATI ISPAT LTD	STLHS	Structural Heavy Sec	ANGLE/CHANNEL: UPTO 200MM/300MM	India	thyati_ispat@yahoo.com	IS2062 GRA/BE250FE410W	RAIPUR	AT- JARWAT,			PO-HIRAPUR,		CH	0771 232 5519	0 98260 89373	492099	RAI	RAIPUR	Structurals: Heavy Section
15928	STEELAUTHORITY OF INDIA LTD,	STLHS	Structural Heavy Sec	A130-200, B400-600, C300-400MM	India		IS2062 GRA/BE250FE410W	BURNPUR	ISCO STEEL PLANT,					WB	0941 203906		713235	BUR	CALCUTTA	Structurals: Heavy Section
14892	SHRI BAIRANG ALLIANCE LTD,	STLHS	Structural Heavy Sec	ANGLE - 110 TO 250MM, BEAM 400 TO 500 MM CHANNEL 300 TO 400 MM	India	sales_sbi@goelmtm.com	IS2062 GRA/BE250FE410W	RAIPUR	521 - C, URLA INDUSTRIAL COMPLEX,			URLA, SARORA, BIRGAON,		CH	0771 428 8000	098264 22530	493221	RAI	RAIPUR	Structurals: Heavy Section
13989	SIS SPAT & POWER LTD,	STLHS	Structural Heavy Sec	A130-200, B400-600,C300-400MM	India	srh@sispat@sispat.com	IS2062 GRA/BE250FE410W	New Delhi	A-38C, Naraina Industrial Area,			Phase-2,		DL	011 25897779	0 9818114173	110028	Ne	DELHI	Structurals: Heavy Section
13541	PRIME SPAT LIMITED,	STLHS	Structural Heavy Sec	A130-200, B400-600, C300-400MM	India	pr@primespap.com	IS2062 GRA/BE250FE410W	RAIPUR	PIARELAL AGRAWAL MARG,			KAMAGAR PARA,		CH	0771 421 2345/06	92291 14111	492001	RAI	RAIPUR	Structurals: Heavy Section
13474	K I STEELS (P) LTD,	STLHS	Structural Heavy Sec	A130-200, B400-600, C300-400MM	India	director@kions.in	IS2062 GRA/BE250FE410W	GADABAD	G.T.BULANDSHAHAR ROAD,			NEAR LAL QUAN,		UP	0120 439 8405..	0 98710 13014	201009	GAZ	GADABAD	Structurals: Heavy Section
10786	NANDAN STEELS & POWER LTD.,	STLHS	Structural Heavy Sec	A130-200, B400-600, C300-400MM	India	office@nandansteels.com	IS2062 GRA/BE250FE410W	CHATTISGARH	199-C.GROUND FLOOR,MAIN ROAD,			SAMTA COLONY,	RAIPUR-492001	CH	0771-4078000/19	0 93032 61200		CHA	RAIPUR	Structurals: Heavy Section
12439	INDIAL STEEL & POWER LIMITED,	STLHS	Structural Heavy Sec	A130-200, B400-600, C300-400MM	India	kannan@jpl.com	IS2062 GRA/BE250FE410W	CHENNAI	PRINCE TOWERS,			DOOR NO. 25 & 26, 5TH FLOOR,	COLLEGE ROAD, NUNGAMBAKKAM,	TN	044-43448950	9444819597	600006	CHI	CHENNAI	Structurals: Heavy Section
11910	STEEL AUTHORITY OF INDIA LTD	STLHS	Structural Heavy Sec	A130-200, B400-600, C300-400MM	India	kam01ban@nail-steel.com	IS2062 GRA/BE250FE410W	BHILAI	SPAT BHAWAN, FIRST FLOOR			BHILAI (M.P.)		CH			490001	BHI	BHILAI	Structurals: Heavy Section
11906	STEEL AUTHORITY OF INDIA LTD	STLHS	Structural Heavy Sec	A130-200, B400-600, C300-400MM	India	kamch@nail-steel.com	IS2062 GRA/BE250FE410W	DURGAPUR	DURGAPUR STEEL PLANT					WB			711203	DUR	DURGAPUR	Structurals: Heavy Section
11338	RELIABLE SPONGE PVT.LTD,	STLHS	Structural Heavy Sec	A130-200, B400-600, C300-400MM	India	mvi.ind@gmail.com	IS2062 GRA/BE250FE410W	DIST.SUNDARGARH(ORISSA)	DUA COMPLEX,FAN POSH ROAD,			ROURKELA-769 004		OR	0661 2402344	0661 240 0234		DIS	ROURKELA	Structurals: Heavy Section
17017	VANDANA SPAT LIMITED,	STLHS	Structural Light Sec	BEAM 150-200 MM, CHANNELS: 125-150 MM	India	vandanaspat@gmail.com	IS2062 GRA E250FE410W	RAIPUR	VANDANA BUILDING, MG ROAD,					CH	0771 2535244	0771 2228355	492001	RAI	RAIPUR	Structurals: Heavy Section
17019	VANDANA ROLLING MILLS LIMITED	STLHS	Structural Light Sec	ANGLES:40-65 MM,BEAMS:125 MM, CHANNELS: 75 & 100 MM	India	vandanaspat@gmail.com	IS2062 GRA E250FE410W	RAIPUR	VANDANA BUILDING, MG ROAD,					CH	0771 2535244	0771 2228355	492001	RAI	RAIPUR	Structurals: Light Section
11910	STEEL AUTHORITY OF INDIA LTD	STLHS	Structural Light Sec	A40-65,125-200,C75-150MM	India	kam01ban@nail-steel.com	IS2062 GRA E250FE410W	BHILAI	SPAT BHAWAN, FIRST FLOOR			BHILAI (M.P.)		CH			490001	BHI	BHILAI	Structurals: Light Section
17787	MYC BUSINESS PVT LTD	STLHS	Structural Light Sec	(ANGLE:50-65 MM, BEAMS:125-200 MM, CHANNEL:75-150 MM)	India	sachinparmar@mtcgroup.in	IS2062 GRA E250FE410W	CHENNAI	V I A' CALVE CHATEAU,			#808, POONAMALLEE HIGH ROAD,	KILPAUK,	TN	044 40858687	0 96771 27063	600010	CHI	CHENNAI	Structurals: Light Section
18185	SPLENDID METAL PRODUCTS LTD,	STLHS	Structural Light Sec	A40-65,125-200,C75-150MM	India	simplexim@sujana.com	IS2062 GRA E250FE410W	VISAKHAPATNAM	SANIVADA VILLAGE,RAJEEV NAGAR					AP	0891-2187900		530046	VIS	VIZAG	Structurals: Light Section
18320	C.G.SPAT (P) LIMITED,	STLHS	Structural Light Sec	CHANNEL 125 TO 150 MM, BEAM 125 TO 200 MM	India	cgsipat@yahoo.com	IS2062 GRA E250FE410W	RAIPUR	VILL - BAHESAR,			NEAR SITARA PHASE II,		CH	0771 2303738		492001	RAI	RAIPUR	Structurals: Light Section
11906	STEEL AUTHORITY OF INDIA LTD	STLHS	Structural Light Sec	A40-65,125-200,C75-150MM	India	kamch@nail-steel.com	IS2062 GRA E250FE410W	DURGAPUR	DURGAPUR STEEL PLANT					WB			711203	DUR	DURGAPUR	Structurals: Light Section
18396	NORTEL TECH INDUSTRIES PVT. LIMITED,	STLHS	Structural Light Sec	A40-65,125-200,C75-150MM	India	algotstructural@yahoo.co.in	IS2062 GRA E250FE410W	KANCHIPURM DIST.	14/242, MELAPAKKAM VILLAGE,			UTHIRAMURUR TALUK		TN	044 2467 2501	0 93827 22212	603402	KAN	KANCHIPURM	Structurals: Light Section
18423	CHENNAI UNITED METAL INDUSTRIES	STLHS	Structural Light Sec	ANGLES: 40 TO 65 MM	India	chennalumi@yahoo.com	IS2062 GRA E250FE410W	GUMMIDIPUNDI	1002/1009 K.S.Road,			SIRUPUZHAI PETTAL, KETNAMALLE VILL.		TN	074011 20334	0 98400 80802	610201	GUM	CHENNAI	Structurals: Light Section
18782	PMP RON AND STEELS (INDIA) LTD	STLHS	Structural Light Sec	ANGLES 23X3 TO 63X6	India	prmpvenkat@gmail.com	IS2062 GRA E250FE410W	CHENNAI	NO.2, NELSON MANICKAM ROAD,			AMINIKURAI,		TN	04423745203	0 8939273962	600029	CHI	CHENNAI	Structurals: Light Section
19463	RAMONS CASTINGS PVT. LTD	STLHS	Structural Light Sec	35 TO 65 MM S 2062 - FE 430 GR A.	India	marketing@ramsons.co.in	IS2062 GRA E250FE410W	NAGPUR	A-301, NEETHI GAURAV COMPLEX,			CENTRAL BAZAR ROAD, RAMASASTH,		MH	07122435903	925237477	440010	NAG	NAGPUR	Structurals: Light Section
19740	BEKAY STRUCTURAL STEELS,	STLHS	Structural Light Sec	A40-65,125-200,C75-150MM	India	structural@ekaysteel.com	IS2062 GRA E250FE410W	VISAAPATNAM	PLOT NO. 19-21 & 24-26,BLOCK E		UNIT-BEEKAY STEEL INDUSTRIES LTD,	AUTONAGAR,		AP	0891-6539029		530012	VIS	VIZAG	Structurals: Light Section
11540	RASHTRIYA SPAT NIGAM LIMITED	STLHS	Structural Light Sec	A40-65,125-200,C75-150MM	India	riniboschenna@yahoo.com	IS2062 GRA E250FE410W	CHENNAI	RASHMI TOWERS,4th FLOOR NO.1,VLLAGE ROAD,			(VALLUVAR KOTTAM HIGH ROAD)	NUNGAMBAKKAM,	TN	044 - 28240557	0 9962035360	600034	CHI	CHENNAI	Structurals: Light Section
100040	MADHAV STEELCO PVT. LTD.	STLHS	Structural Light Sec	ANGLES:40 TO 65 MM, CHANNEL:125 TO 150 MM, BEAM:150 TO 200 MM	India	arpit@madhavsteelco.com	IS2062 GRA E250FE410W	MANDI GOBINDGARH	TALWARA ROAD, SRINHO SIDE,					PB	05765-305600	9501040507	147301	MAH	LUGHANA	Structurals: Light Section
101496	Savitaj Rolling & Engineering Ltd	STLHS	Structural Light Sec	A-65 MM, C- 100 MM, B- 200 MM	India		IS2062 GRA E250FE410W	Nagpur	9, Late Shri Puranlal]	Agrawal Road,	(Formerly Inmabada Road),			MH			440018	Nag	NAGPUR	Structurals: Light Section
10786	NANDAN STEELS & POWER LTD.,	STLHS	Structural Light Sec	A40-65,125-200,C75-150MM	India	office@nandansteels.com	IS2062 GRA E250FE410W	CHATTISGARH	199-C.GROUND FLOOR,MAIN ROAD,			SAMTA COLONY,	RAIPUR-492001	CH	0771-4078000/19	0 93032 61200		CHA	RAIPUR	Structurals: Light Section
102095	BALAJEE STRUCTURAL (INDIA) LTD	STLHS	Structural Light Sec	ANGLE:SA. 40- 65 MM, CHANNEL:ISM C 75 TO 200 MM AND BEAMS:ISM B 125-250 MM	India	marketing@balajeegroupindia.com	IS2062 GRA E250FE410W	RAIPUR	AKRASH CHOWK			BAIRANGNAGAR		CH	07714032090	9827126751	492001	RAI	RAIPUR	Structurals: Light Section
102216	Divyansh Steel Private Limited	STLHS	Structural Light Sec	ANGLES & CHANNELS ONLY, A- 40- 65 MM & C 75- 150 MM FOR IS 2062 E250A	India	tender@divyanshsteel.com	IS2062 GRA E250FE410W	Nagpur	Plot No. 183,	1st Floor Small Factory Area	Bagdadn]			MH	9604525527	9373425516	440008	Nag	NAGPUR	Structurals: Light Section
14771	KANDISH STEEL INDUSTRIES LM.,	STLHS	Structural Light Sec	A40-65,125-200,C75-150MM	India	obadhirnith@gmail.com	IS2062 GRA E250FE410W	CHENNAI	OLD # 4, NEW 7,			THIRU-VI-KA 3RD STREET,	ROYAPETTA HIGH ROAD, MYLAPORE,	TN	044-42919700		600004	CHI	CHENNAI	Structurals: Light Section
13474	K I STEELS (P) LTD,	STLHS	Structural Light Sec	A40-65,125-200,C75-150MM	India	director@kions.in	IS2062 GRA E250FE410W	GADABAD	G.T.BULANDSHAHAR ROAD,			NEAR LAL QUAN,		UP	0120 439 8405..	0 98710 13014	201009	GAZ	GADABAD	Structurals: Light Section
16312	JEVAMA INDUSTRIES PVT LTD	STLHS	Structural Light Sec	ALL RANGE	India	jevakamel@gmail.com	IS2062 GRA E250FE410W	HYDERABAD	11-6-27/17, 1st FLOOR,			OPP .JCP, FACTORY,	BALANAGAR	TD	940 23773692	0 9440065038	500037	HYD	HYDERABAD	Structurals: Light Section
14892	SHRI BAIRANG ALLIANCE LTD,	STLHS	Structural Light Sec	BEAM 100 TO 200 MM CHANNEL 125 TO 150 MM	India	sales_sbi@goelmtm.com	IS2062 GRA E250FE410W	RAIPUR	521 - C, URLA INDUSTRIAL COMPLEX,			URLA, SARORA, BIRGAON,		CH	0771 428 8000	098264 22530	493221	RAI	RAIPUR	Structurals: Light Section
15939	KRYATI ISPAT LTD	STLHS	Structural Light Sec	ANGLE/CHANNEL/BEAM: UPTO 65MM/150MM/200MM	India	thyati_ispat@yahoo.com	IS2062 GRA E250FE410W	RAIPUR	AT- JARWAT,			PO-HIRAPUR,		CH	0771 232 5519	0 98260 89373	492099	RAI	RAIPUR	Structurals: Light Section
12439	INDIAL STEEL & POWER LIMITED,	STLHS	Structural Light Sec	A40-65,125-200,C75-150MM	India	kannan@jpl.com	IS2062 GRA E250FE410W	CHENNAI	PRINCE TOWERS,			DOOR NO. 25 & 26, 5TH FLOOR,	COLLEGE ROAD, NUNGAMBAKKAM,	TN	044-43448950	9444819597	600006	CHI	CHENNAI	Structurals: Light Section
13541	PRIME SPAT LIMITED,	STLHS	Structural Light Sec	A40-65,125-200,C75-150MM	India	pr@primespap.com	IS2062 GRA E250FE410W	RAIPUR	PIARELAL AGRAWAL MARG,			KAMAGAR PARA,		CH	0771 421 2345/06	92291 14111	492001	RAI	RAIPUR	Structurals: Light Section
15928	STEELAUTHORITY OF INDIA LTD.,	STLHS	Structural Light Sec	A40-65,125-200,C75-150MM	India		IS2062 GRA E250FE410W	BURNPUR	ISCO STEEL PLANT,					WB	0941 203906		713235	BUR	CALCUTTA	Structurals: Light Section
15897	MADHAV STEEL INDUSTRIES LTD.	STLHS	Structural Light Sec	ANGLES: 10-65 MM, BEAMS: 125-200 MM & CHANNELS: 75-100 MM	India	rajeshchakra@rediffmail.com	IS2062 GRA E250FE410W	YAWAT	GAT NO.236/L,			PUNE SOLAPUR ROAD,		MH	022 6633 1210	0 92233 75674	412214	YAW	MUMBAI	Structurals: Light Section
13999	SIS SPAT & POWER LTD,	STLHS	Structural Light Sec	A40-65,125-200,C75-150MM	India	srh@sispat@sispat.com	IS2062 GRA E250FE410W	New Delhi	A-38C, Naraina Industrial Area,			Phase-2,		DL	011 25897779	0 9818114173	110028	Ne	DELHI	Structurals: Light Section
13338	RELIABLE SPONGE PVT.LTD,	STLHS	Structural Light Sec	A40-65,125-200,C75-150MM	India	mvi.ind@gmail.com	IS2062 GRA E250FE410W	DIST.SUNDARGARH(ORISSA)	DUA COMPLEX,FAN POSH ROAD,			ROURKELA-769 004		OR	0661 2402344	0661 240 0234		DIS	ROURKELA	Structurals: Light Section
19740	BEKAY STRUCTURAL STEELS,	STLMS	Structural MediumSec	A75-100, B250-350, C200-250MM	India	srh@sispat@sispat.com	IS2062 GRA/BE250FE410W	New Delhi	A-38C, Naraina Industrial Area,			Phase-2,		DL	011 25897779	0 9818114173	110028	Ne	DELHI	Structurals: Medium Section
19940	BEKAY STRUCTURAL STEELS,	STLMS	Structural MediumSec	A75-100, B250-350, C200-250MM	India	structural@ekaysteel.com	IS2062 GRA/BE250FE410W	VISAAPATNAM	PLOT NO. 19-21 & 24-26,BLOCK E		UNIT-BEEKAY STEEL INDUSTRIES LTD,	AUTONAGAR,		AP	0891-6539029		530012	VIS	VIZAG	Structurals: Medium Section
11540	RASHTRIYA SPAT NIGAM LIMITED	STLMS	Structural MediumSec	A75-100, B250-350, C200-250MM	India	riniboschenna@yahoo.com	IS2062 GRA/BE250FE410W	CHENNAI	RASHMI TOWERS,4th FLOOR NO.1,VLLAGE											

18120	C.G.SPAT (P) LIMITED.,	STLMS	Structural MediumSec	A 80-100,8.250-350,C200-250 MM	India	cgispat@yahoo.com	IS2062GRA/BE250F410W	RAIPUR	VILL : BAHESAR,			NEAR SITARA PHASE II,		CH	0771 2101738		492001	RAI	RAIPUR	Structurals: Medium Section
12439	JINDAL STEEL & POWER LIMITED,	STLMS	Structural MediumSec	A75-100, 8.250-350, C300-250MM	India	kannan@jspi.com	IS2062GRA/BE250F410W	CHENNAI	PRINCE TOWERS,			DOOR NO. 25 & 26, 5TH FLOOR,	COLLEGE ROAD, NUNGAMBAKKAM,	TN	044-43446950	9444819597	600006	CHE	CHENNAI	Structurals: Medium Section
11906	STEEL AUTHORITY OF INDIA LTD	STLMS	Structural MediumSec	A75-100, 8.250-350, C300-250MM	India	kamcho@sal-steel.com	IS2062GRA/BE250F410W	DURGAPUR	DURGAPUR STEEL PLANT					WB	713203			DUR	DURGAPUR	Structurals: Medium Section
18185	SPLENDID METAL PRODUCTS LTD,	STLMS	Structural MediumSec	A75-100, 8.250-350, C200-250MM	India	simplexnm@sujana.com	IS2062GRA/BE250F410W	VISAKHAPATNAM	SANIVADA VILLAGE,RAJEEV NAGAR					AP	8890-0387900		530046	VIS	VIDAG	Structurals: Medium Section
15928	STEELAUTHORITY OF INDIA LTD.,	STLMS	Structural MediumSec	A75-100, 8.250-350, C300-250MM	India		IS2062GRA/BE250F410W	BURNPUR	ISCO STEEL PLANT,					WB	0343 203506		713325	BUR	CALCUTTA	Structurals: Medium Section
17787	MYC BUSINESS PVT LTD	STLMS	Structural MediumSec	ANGLE-75-100 MM, BEAMS-250-350 MM, CHANNEL-200-250 MM	India	cachingsanmaar@mtcgroup.in	IS2062GRA/BE250F410W	CHENNAI	VI 'A' CALVE CHATZAU,			8808, POONAMALLEE HIGH ROAD,	KILPAUK,	TN	044 40858687	9 96771 27063	600010	CHE	CHENNAI	Structurals: Medium Section
17019	VANDANA ROLLING MILLS LIMITED	STLMS	Structural MediumSec	ANGLES:75-90 MM	India	vandanaispat@gmail.com	IS2062GRA/BE250F410W	RAIPUR.	VANDANA BUILDING, MG ROAD,					CH	0771 2535244	0771 2228355	492001	RAI	RAIPUR	Structurals: Medium Section
15989	GHYATI ISPAT LTD	STLMS	Structural MediumSec	ANGLE/CHANNEL/BELAM: LUPTO 100MM/250MM/250MM	India	ghyati_ispat@yahoo.com	IS2062GRA/BE250F410W	RAIPUR.	AT: JARINWARY,			PO-HIRAPUR,		CH	0771 232 5519	0 98260 89373	492099	RAI	RAIPUR	Structurals: Medium Section
17017	VANDANA ISPAT LIMITED	STLMS	Structural MediumSec	ANGLES:100 MM,BEAMS:250-350 MM, CHANNELS: 200-250 MM	India	vandanaispat@gmail.com	IS2062GRA/BE250F410W	RAIPUR.	VANDANA BUILDING, MG ROAD,					CH	0771 2535244	0771 2228355	492001	RAI	RAIPUR	Structurals: Medium Section
11910	STEEL AUTHORITY OF INDIA LTD	STLMS	Structural MediumSec	A75-100, 8.250-350, C200-250MM	India	kam01ben@sal-steel.com	IS2062GRA/BE250F410W	BHILAI	ISPAT BHAWAN, FIRST FLOOR			BHILAI (M.P.)		CH			490001	BHI	BHILAI	Structurals: Medium Section
16312	REEVAKA INDUSTRIES PVT LTD	STLMS	Structural MediumSec	ALL RANGE	India	reevakamail@gmail.com	IS2062GRA/BE250F410W	HYDERABAD	11-6-27/17, 1st FLOOR,			OPP .JICPL FACTORY,	BALANAGAR	TD	040 23773692	0 9440065038	500037	HYD	HYDERABAD	Structurals: Medium Section

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BHARAT HEAVY ELECTRICALS LIMITED, TIRUCHIRAPPALLI
OUTSOURCING DEPARTMENT
List of Vendors Approved for Heat treatment by BHEL

VENDOR	VENDOR NAME	Address	MOB NO	TEL_NUMBER	EMAIL_ADDR_STANDARD
13761	JMS ENGINEERING	JMS ENGINEERING P.B.NO.4442 12-D/1, MADUKKARAI ROAD, SIDCO, COIMBATORE COIMBATORE 641021 TN 641021	+919894729934	9894729934	jmsengineering@gmail.com
18979	ICE STEEL 1 PVT LTD	M/s. ICE STEEL 1 PVT LTD S3 TO S10 PHASE III SIPCOT INDUSTRIAL COMPLEX RANIPET 632405 TN 632405	+919047005945	04172-278100	mohit.more@steel1india.com
30056	BHARAKATH METAL BUILDERS	M/s. BHARAKATH METAL BUILDERS E-31,SIDCO INDUSTRIAL ESTATE PHASE - II, VALAVANTHAN KOTTAI THUVAKUDI-TRICHY 620015 TN 620015	+918012590949	8012590949	bharakathmetal@gmail.com
30084	NIRMAL ENTERPRISES	NIRMAL ENTERPRISES NO 3/989 1 ST STREET PUGAZH NAGAR (OPP.OIL MILL BUS STOP) TIRUCHIRAPALLI KATTUR 620019 TN 620019	+919894443932	98944 43932	try.nent@gmail.com
30090	R.K METAL INDUSTRIES	R.K METAL INDUSTRIES 32/4, III STREET,NEHRU NAGAR KAJAMALAI MAIN TIRUCHIRAPALLI TRICHY-TOWN 620023 TN 620023		0431/2420005	rkmetal2003@yahoo.com

BHARAT HEAVY ELECTRICALS LIMITED, TIRUCHIRAPPALLI
OUTSOURCING DEPARTMENT
List of Vendors Approved for Heat treatment by BHEL

VENDOR	VENDOR NAME	Address	MOB NO	TEL_NUMBER	EMAIL_ADDR_STANDARD
30114	VANGUARD INDUSTRIES	VANGUARD INDUSTRIES D2-B, INDL ESTATE THIRUVERUMBUR TIRUCHIRAPALLI THIRUVERUMBUR 620014 TN 620014	+919842412672	0431-2552233	30114van@gmail.com
30175	KATTHIRMALAI ENGINEERING WORKS	KATTHIRMALAI ENGINEERING WORKS G1 ANCILLARY INDUSTRIAL ESTATE THIRUVERUMBUR TIRUCHIRAPALLI TIRUCHIRAPALLI - 620 014 620014 TN 620014	+919942984454	9942984454	katthirmalai1977@gmail.com
30236	VIJJAAY COY INDUSTRIESS	M/s. VIJJAAY COY INDUSTRIESS SF44/2, SUGAR CANE ROAD MELAKALKANDAR KOTTAI TIRUCHIRAPPALLI 620011 TN 620011	+919952411462	9952411463	vcitry@yahoo.com
30255	DEVI STRUCTURALS	DEVI STRUCTURALS NO 7 SIDCO ANCY INDUSTRIAL ESTATE BOILER PLANT POST THIRUVERUMBUR THIRUVERUMBUR-TRICHY 620014 TN 620014	+919842208032	98422 08032	devistrl@yahoo.co.in
30265	JAYARAM ENGINEERING WORKS,	M/s. JAYARAM ENGINEERING WORKS, E-15 & 16,DEVELOPED PLOTS ESTATE, THUVAKUDI, TRICHY 620015 TN 620015	+919842455045	98424-55045	cmrao@jayaramengg.com

BHARAT HEAVY ELECTRICALS LIMITED, TIRUCHIRAPPALLI
OUTSOURCING DEPARTMENT
List of Vendors Approved for Heat treatment by BHEL

VENDOR	VENDOR NAME	Address	MOB NO	TEL_NUMBER	EMAIL_ADDR_STANDARD
30280	SREE ATREYA ENTERPRISES	Ms. SREE ATREYA ENTERPRISES 12, TAMIL SANGAM BUILDINGS WEST BOULEWARD ROAD TIRUCHIRAPALLI 620008 TN 620008	+919842470097	9842470097	sreeatreya.enterprises@gmail.com
30528	SOMIAH INDUSTRIES	M/s. SOMIAH INDUSTRIES D-30,DEVELOPED PLOTS ESTATE, TIRUCHIRAPALLI TIRUCHIRAPPALLI 620015 TN 620015	+919942988853	9942988853	somiahindustriesl70@gmail.com
30825	AANBAR INDUSTRIES,	M/s. AANBAR INDUSTRIES, PLOT NO.22, SIDCO INDL. ESTATE, TRICHY THIRUVERUMBUR 620014 TN 620014	+919750963331	9750963331	aanbarindustries@yahoo.com
30861	MARIYA ENGINEERING ENTERPRISES	MARIYA ENGINEERING ENTERPRISES SF.NO.22/1, TRICHY-TANJORE MAIN ROAD, ASSUR POST TRICHY-TIRUCHIRAPALLI-620 015 620015 TN 620015	+919865229911	9566663527	mariaenggenterprises@gmail.com
30885	K.R.MURTHE WELDING WORKS,	M/s. K.R.MURTHE WELDING WORKS, NO.175,THUVAKUDI SIDCO WOMEN INDUSTRIAL ESTATE,TRICHY VALAVANTHANKOTTAI 620015 TN 620015	+919942319533	9942319533	kr_murthe@yahoo.co.in

BHARAT HEAVY ELECTRICALS LIMITED, TIRUCHIRAPPALLI
OUTSOURCING DEPARTMENT
List of Vendors Approved for Heat treatment by BHEL

VENDOR	VENDOR NAME	Address	MOB NO	TEL_NUMBER	EMAIL_ADDR_STANDARD
30902	VEGA ASSOCIATES,	M/s. VEGA ASSOCIATES, SF NO.472/4C,VEERAM PATTY ROAD, T.NALLUR, KULATHUR (TK), PUDUKKOTTAI DIST. 622515 TN 622515	+918012591110	04339-250493	vegaassociates_2006@rediffmail.com
31025	MANI NAGGAPPA MOTORS MADURAI P LTD.	M/s. MANI NAGGAPPA MOTORS MADURAI P LTD. SL.NO.90/3 MADURAI-MELUR MAIN ROAD, NARASINGAMPATTI, MADURAI 625122 TN 625122	+919344101699	9344101699	nagauto@gmail.com
31321	WIRE AND WIRE PRODUCTS	M/s. WIRE AND WIRE PRODUCTS Phase-II No:21, SIDCO Industrial Estate, Valavanthankottai Trichy 620015 TN 620015	+919952411462	99524 11462	wwp620007@yahoo.co.in
31490	DREAMZ INDUSTRY	M/s. DREAMZ INDUSTRY NO.23, SIDCO INDL ESTATE TIRUVERAMBUR TIRUCHIRAPALLI 620014 TN 620014	+918012378290	8012378290	dreamzindustry2012@yahoo.com
31841	SREE SIVA SAKTHI ENGINEERING WORKS	SREE SIVA SAKTHI ENGINEERING WORKS PLOT No.11,12 & 13, SF.No.18/1 - C AVOOR MAIN ROAD MATHUR MATHUR-PUDUKKOTTAI 622515 TN 622515	+919842052200	9842052200	ssshangers@gmail.com

BHARAT HEAVY ELECTRICALS LIMITED, TIRUCHIRAPPALLI
OUTSOURCING DEPARTMENT
List of Vendors Approved for Heat treatment by BHEL

VENDOR	VENDOR NAME	Address	MOB NO	TEL_NUMBER	EMAIL_ADDR_STANDARD
31941	SOUTHERN METAL PROCESS	M/s. SOUTHERN METAL PROCESS C-15/A DP ESTATE THUVAKUDI TRICHY 620015 620015	+919445701314	9445701314	
32400	QUALITY INDUSTRIAL SERVICES	QUALITY INDUSTRIAL SERVICES THUVAKUDI PLOT W111, SIDCO WOMEN'S INDL ESTATE VALAVANTHANKOTTAI TRICHY-TRICHY 620015 620015			

LIST OF BHEL APPROVED BLASTING AND PAINTING VENDORS

SI No.	Vendor name	City	Telephone	Phone	Email Id
1	AIRTECH ENGINEERS	THANJAVUR	9842419388	0431-6547047	airtechengrs@gmail.com
2	AMARNATH ENGINEERING INDUSTRIES	THUVAKUDI	9842403881	9842403881	amarnath.engg@gmail.com
3	APT GLOBAL MARINE ENGINEERING PVT.L	CUDDALORE DIST.	0414-221 7051	9442170633	accounts2.india@aptglobalmarine.com
4	ARONE INDUSTRIES	TRICHY	9842415332	9842415332	arone.ind@gmail.com
5	ATMASTCO LIMITED	BHILAI	0788-2290064	98261-63926	atmastco.group@gmail.com
6	BANSAL FABWEL INDUSTRIES	JHANSI.	9415055435	9415055620	bansal.jhansi@gmail.com
7	BHARAKATH METAL BUILDERS	THUVAKUDI	8012590949	9842815916	bharakathmetal@gmail.com
8	CAPACITE STRUCTURES LIMITED	THANE.	0256-645601-25		cscapacite@gmail.com
9	CONTECH ENGINEERS PVT LTD.	PUDUKOTTAI.	0432 224 4058		contechengrs@gmail.com
10	CORE FAB PROJECTS PVT. LTD	BHILAI	7882296086		corefab@rediffmail.com
11	CORROSION PROTECTION ENGINEERS INDI	VELLORE	9686111985	9686111973	corrosionprotectionindia@gmail.com
12	DEVI STRUCTURALS	THIRUVERUMBUR	98422 08032	9942911030	devistrl@yahoo.co.in
13	DEVIBALA STRAKTURAL	THANJAVUR DIST	9444344765		devibalastraktural@yahoo.com
14	EESA FABRICATOR PVT LTD	VELLORE-	0416 2915159		senhil@eesafpl.com
15	ESR INDUSTRIES	TANJORE	9750075557		esrind16@gmail.com
16	FABRIMAX ENGINEERING PVT.LTD.,	NAGPUR	0710-423 2777		fepl_ngp@rediffmail.com
17	FERRO METALS	BHILAI-	0788-4086044	9009491999	ferro_metals@yahoo.com
18	FIROZE FABRICATORS.	METTUR DAM	0429 822 2322	04298222322	firoze.mettur@gmail.com
19	FIVE STAR ENGINEERING INDUSTRIES	TRICHY	9965278238	9965278238	starfive38@yahoo.co.in
20	FIVE STAR INDUSTRIES	MATHUR	04339-250569	9842450569	fivestarin@gmail.com
21	GISF ENGINEERING PRIVATE LIMITED	ISHOPUR	01732-203307		greatindiaunit2@gmail.com
22	GLOBAL ENERGY PRODUCTS	VALAVANTHANKOTTAI, Trichy	0431-2731222	9944 369 111	globalenergyproducts.trichy@gmail.com
23	GOODLUCK INDIA LIMITED	GHAZIABAD	9910496317		anindya.baksi@goodluckindia.com
24	HARYANA STEEL MONGERS PVT. LTD.	HARYANA	01244183330	9810403388	haryanasteelmongers@gmail.com
25	J.R ENGINEERING WORKS	THUVAKUDI, Trichy	0431-2511446	9843144430	rosan80@gmail.com
26	JJ INDUSTRIES	TRICHY	9789165090	9789165090	jjsahayaraj@yahoo.com
27	KOTHARI CHEMICALS	BHILAI	07882974016	9302291000	kcengggdiv@gmail.com
28	KRISHNAA LAKSHMI ENGINEERING	PUDUKKOTTAI	0 9942984421	0 9942984421	krishnaalakshmiengg@gmail.com
29	KUMAR INDUSTRIES	TRICHY	0431-2500493	98424-79079	kumar_industry@yahoo.com
30	M.L.S ENTERPRISES PVT LTD.	PUDUKOTTAI DIST.	0433 9250544	9842722776	mlsenterprises2012@gmail.com
31	MAHANDRA INDUSTRIES	TIRUCHIRAPALLI	022 - 5612567	9442661862	samymuthu85@yahoo.com
32	MANGAY INDUSTRIES	VENDAYAMPATTI.	9884046216	9840096216	mangayindustries@gmail.com
33	MANI NAGGAPPA MOTORS MADURAI P LTD.	MADURAI	9344101699	9442257004	nagauto@gmail.com
34	MARIYA INDUSTRIES	Pudhukottai	93622 12701	93622 12701	maryiains@yahoo.com
35	MARKHS ENGINEERING WORKS	Navalur Villag, Thanjavur	9842015953		markhsengtry@gmail.com
36	METAL FAB HIGHTECH PVT. LTD.,	NAGPUR	7104-231240		mfhpl@hotmail.com
37	MPIL STEEL STRUCTURES LTD.,	THANE	025 2527 0801		alok.gupta@mpil.in
38	NBS FAB TECH PVT. LTD.,	THANJAVUR DIST.	98429 77211	98424-15611	nbsfab@gmail.com
39	NECO HEAVY ENGINEERING AND	NAGPUR	07104 325682	0 93703 14479	gautam.mohanty@necoindia.com
40	PINAX STEEL INDUSTRIES PVT.LTD	KOLKATA.	06124-2266124	9263188410	steel@pinaxgroup.in
41	PINAXIS HI TECH ENGINEERING PVT LTD	DIST: KHEDA	7984122058	9725346881	info@pinaxisengg.com
42	PRADEEP ENGINEERING ENTERPRISES,	RANIPET	04172-291860		pradeepengv66@yahoo.com
43	PRUDENT ENGG	ARCOT	9585454728	9585454728	prudentengg@gmail.com
44	RAMNATH IRON & STEEL INDUSTRIES	HOWRAH.	0 99039 71567		ramnathiron@gmail.com
45	REGIONAL ENGG. WORKS	Tiruchirappalli	0431-2500187	2441767	regionalengineeringworks@gmail.com
46	REGIONAL ENGINEERING ENTERPRISES	TRICHY	8012591072	0431-2500187	regionalengineeringenterprises@gmail.com
47	RMK ENGINEERING	MATHUR.	9965597722	9842286314	rmkengg@gmail.com
48	SAHARANPUR ENGINEERING WORKS	UTTAR PRADESH-	0132 2790203	0 9837069115	sewpl@rediffmail.com
49	SALEM AUTOMECH (INDIA) Pvt. LTD.,	SALEM.	0427-2902596	97902 33635	salemautomechltd@gmail.com
50	SG HEAVY ENGINEERING PVT LTD	PALGHAR.	022 6756 4849	0 99670 02544	deepak.goyal@vggroup.org
51	SHREE SAI INFRA INDIA PVT LTD	BHILAI	0788-2352864	94792 59639	th.singh@shreesailinfra.org
52	SIMPLEX ENGINEERING & FOUNDRY	BHILAI	7882381054	7882381055	nipul.shah@simplexengg.in
53	SMK AUTOMATICS WORKS	TANJORE	9443747803	9443747803	smkautowork@yahoo.com
54	SREE KAMAKSHI INDUSTRIES	Tiruchirappalli	0431-2500170	2510870	skihf2013@gmail.com
55	SRI GANESHA ENTERPRISES	THANJAVUR	8012533367	8012590525	sriganeshainterprises2016@gmail.com
56	STAR ENTERPRISES	TANJORE	9688333300		starenterprisestrichy@gmail.com
57	SUCCESS ENGINEERING INDUSTRIES	TANJORE	04362-221306	9698120202	successengginds@yahoo.com
58	SUJAY INDUSTRIES	PUNE	9890704049	9822197743	sujoy.industriespune@gmail.com
59	SUN ENGINEERING (UNIT-II),	PUDUKKOTTAI	04322-244777	9865171961	vairava_r@yahoo.com
60	SURIYA ENGINEERING WORKS	THANJAVUR	0 94435 34224		suriyaengg@yahoo.com
61	TANJORE INDUSTRIALS	TRICHY	9842412121		tanj_indus06@yahoo.com
62	TIRUCHIRAPPALLI ENGINEERING AND	TRICHY	0431 2500606	0431 2421050	treat.trichy@gmail.com
63	TJSV STEEL FABRICATION&GALVANIZING(	UDUMALPET	9489092024	94890-92002	marketing@tjsvgalvan.com
64	TOOL FAB ENGINEERING INDUSTRIES	Tiruchirappalli	0431 250 0480	2500758	vasu@toolfabengg.in
65	TRP ENGINEERING	THANJAVUR	0431 2500305	9842479992	trpengg@yahoo.com
66	UNI PROFILES PVT.LTD	RAJGANGPUR.	0661-2660542		uniprofiles@uniprofiles.in
67	VASAN ENGINEERING INDUSTRIES	KULATHUR TK,PUDUKKOTTAI	04339-250425	9842450518	vasan.engineering@gmail.com
68	VJI ENGINEERING	TRICHY.	9363698603	6369821480	vjiengg1971@gmail.com
69	VISHWAA ENGINEERING	TRICHY	0431-2502589	9750965589	rmayilan18@gmail.com
70	VRINDA ENGINEERS P.LTD.,	KOLKATA	033-22274576	94334-96753	vefab@vrindaengineers.com
71	VRINDA ENGINEERS PVT.LTD	BHILAI	0788 2227 4576		bw@vrindaengineers.com
72	WELDKRAFT	PUDUKKOTTAI	04339-250563	9842450569	weldkraftin@gmail.com



CORPORATE QUALITY ASSURANCE/ कॉर्पोरेट गुणवत्ता आश्वासन
MAIN CONTRACTOR'S PROPOSAL CUM EVALUATION REPORT
मुख्य संविदाकार प्रस्ताव सह मूल्यांकन रिपोर्ट

Ref No: संदर्भ सं.:			Date: तिथि:		
i.	Main Contractor मुख्य संविदाकार				
ii.	Project परियोजना				
iii.	Package Name पैकेज का नाम			Package No पैकेज सं.	
iv.	Proposed Item/Scope of Sub-contracting उप-संविदा(अनुबंध) का प्रस्तावित मद/ दायरा				
v.	Item covered under निम्नलिखित के अंतर्गत शामिल मद	Schedule-1 /अनुसूची- 1		As per contract clause No- अनुबंध के अनुसार खंड सं.--	
		Schedule-2 अनुसूची- -2			
vi.	If item is Schedule-1 and proposed sub-vendor is indigenous, Main Contractor to explain how the contractual provisions will be fulfilled /यदि मद अनुसूची -1 है और प्रस्तावित उप-विक्रेता स्वदेशी है, तो मुख्य संविदाकार को स्पष्ट करना होगा कि संविदा/अनुबंध के प्रावधान कैसे पूरे किए जाएंगे				
vii.	Name and Address of the proposed Sub-vendor's works /प्रस्तावित सब-वेंडर का नाम तथा पता				
viii.	PO placement date/ Start of manufacturing (if self-manufactured) as per L2 network पीओ नियोजन की तिथि / एल- 2 नेटवर्क के अनुसार विनिर्माण (यदि स्व-निर्मित है) की शुरुआत				
ix.	Item Description (Type/Size/Rating/Scope of Sub-Contracting) मद का विवरण (प्रकार / आकार / रेटिंग / उप-अनुबंध का दायरा)	Total quantity of proposed item envisaged in this package (Nos/ Running Meters/ Kgs/ Tons etc) इस पैकेज में परिकल्पित प्रस्तावित मद की कुल मात्रा (संख्या / क्रियाशील मीटर /	Quantity proposed to be procured from proposed sub-vendor (Nos/ Running Meters /Kgs /Tons etc) प्रस्तावित उप-विक्रेता (संख्या / क्रियाशील मीटर / किलोग्राम / टन आदि) से खरीदी जाने वाली मात्रा	Timeline for quantity requirements as per project schedule & whether the proposed Sub-vendor equipped with adequate capacity to supply proposed order quantity in time / परियोजना समय सूची के अनुसार मात्रा आवश्यकताओं के लिए समय-सीमा और क्या प्रस्तावित उप-विक्रेता समय पर प्रस्तावित मांग की मात्रा की आपूर्ति करने में पूरी तरह से सक्षम है	
x.	Supply experience of the proposed sub-vendor (including supplies to Main Contractor, if any) for similar item/scope of sub-contracting, for last 3 years (Note:- Only relevant experience details w.r.t. proposed item/scope of subcontracting to be brought out here) पिछले 3 वर्षों के लिए उप-अनुबंध के समान मद / दायरे के लिए प्रस्तावित सब-वेंडर (मुख्य संविदाकार				

	CORPORATE QUALITY ASSURANCE/ कॉर्पोरेट गुणवत्ता आश्वासन	
	MAIN CONTRACTOR'S PROPOSAL CUM EVALUATION REPORT	
	मुख्य संविदाकार प्रस्ताव सह मूल्यांकन रिपोर्ट	

हेतु आपूर्ति, यदि कोई हो, सहित) का आपूर्ति अनुभव (नोट: - उप-अनुबंध के प्रस्तावित मद / दायरे के संबंध में केवल प्रासंगिक अनुभव के विवरण का उल्लेख हो									
Project/Package परियोजना/पैकेज	Customer Name ग्राहक का नाम	Supplied Item (Type/Rating/Model /Capacity/Size etc) आपूर्ति मद (प्रकार/रेटिंग /मॉडल /क्षमता/आकार आदि)	PO ref no/date पीओ संदर्भ सं. /तिथि	Supplied Quantity आपूर्ति की मात्रा	Date of Supply आपूर्ति की तिथि				
We confirm that as per our physical assessment, the proposed sub-vendor has requisite capabilities & supply experience and is suitable for supplying the proposed item/scope of sub-contracting/हम अपने आकलन के अनुसार इस बात की पुष्टि करते हैं कि, प्रस्तावित उप-विक्रेता के पास अपेक्षित क्षमता और आपूर्ति करने का अनुभव है और उप-अनुबंध के दायरे /प्रस्तावित मद की आपूर्ति के लिए उपयुक्त है।									
Name: नाम:		Desig: पद:		Contact No: दूरभाष सं.:		Sign: हस्ताक्षर:		Date: तिथि:	

Company's Seal/Stamp:- कंपनी का मुहर:-

	CORPORATE QUALITY ASSURANCE/ कॉर्पोरेट गुणवत्ता आश्वासन SUB-VENDOR QUESTIONNAIRE/ सब-वेंडर प्रश्नावली
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i.	Item/Scope of Sub-contracting उप-संविदा(अनुबंध) का मद/ दायरा			
ii.	Address of the registered office पंजीकृत कार्यालय का पता 	Details of Contact Person संपर्क व्यक्ति का विवरण (Name, Designation, Mobile, Email) (नाम, पदनाम, मोबाइल, ईमेल)		
iii.	Name and Address of the proposed Sub-vendor's works where item is being manufactured प्रस्तावित उप-विक्रेता के कार्यों का नाम और पता, जहां मद का निर्माण किया जा रहा है 	Details of Contact Person: संपर्क व्यक्ति का विवरण (Name, Designation, Mobile, Email) (नाम, पदनाम, मोबाइल, ईमेल)		
iv.	Annual Production Capacity for proposed item/scope of sub-contracting उप-संविदा(अनुबंध) के प्रस्तावित मद / दायरे के लिए वार्षिक उत्पादन क्षमता			
v.	Annual production for last 3 years for proposed item/scope of sub-contracting उप-संविदा(अनुबंध) के प्रस्तावित मद / दायरे के लिए पिछले 3 वर्षों का वार्षिक उत्पादन			
vi.	Details of proposed works प्रस्तावित कार्यों का विवरण			
1.	Year of establishment of present works वर्तमान फैक्टरी की स्थापना का वर्ष			
2.	Year of commencement of manufacturing at above works उपरोक्त फैक्टरी में निर्माण कार्य शुरू होने का वर्ष			
3.	Details of change in Works address in past (if any) पूर्व में फैक्टरी स्थल में परिवर्तन का विवरण (यदि कोई हो)			
4.	Total Area कल क्षेत्र Covered Area शामिल क्षेत्र			
5.	Factory Registration Certificate फैक्टरी पंजीकरण प्रमाण पत्र	Details attached at Annexure – F2.1 विवरण अनलग्नक- एफ 2.1 पर संलग्न है		
6.	Design/ Research & development set-up डिजाइन / अनुसंधान और विकास सेटअप (No. of manpower, their qualification, machines & tools employed etc.) (श्रमिकों की संख्या, उनकी योग्यता, मशीन और उपलब्ध उपकरण आदि)	Applicable / Not applicable if manufacturing is as per Main Contractor/purchaser design) Details attached at Annexure – F2.2 (if applicable) लागू / लागू नहीं, अगर विनिर्माण मुख्य संविदाकार / खरीददार के डिजाइन के अनुसार है) विवरण अनुलग्नक-एफ 2.2 पर संलग्न है। (यदि लागू हो)		
7.	Overall organization Chart with Manpower Details	Details attached at Annexure – F2.3 विवरण अनुलग्नक- एफ 2.3 में संलग्न है।		

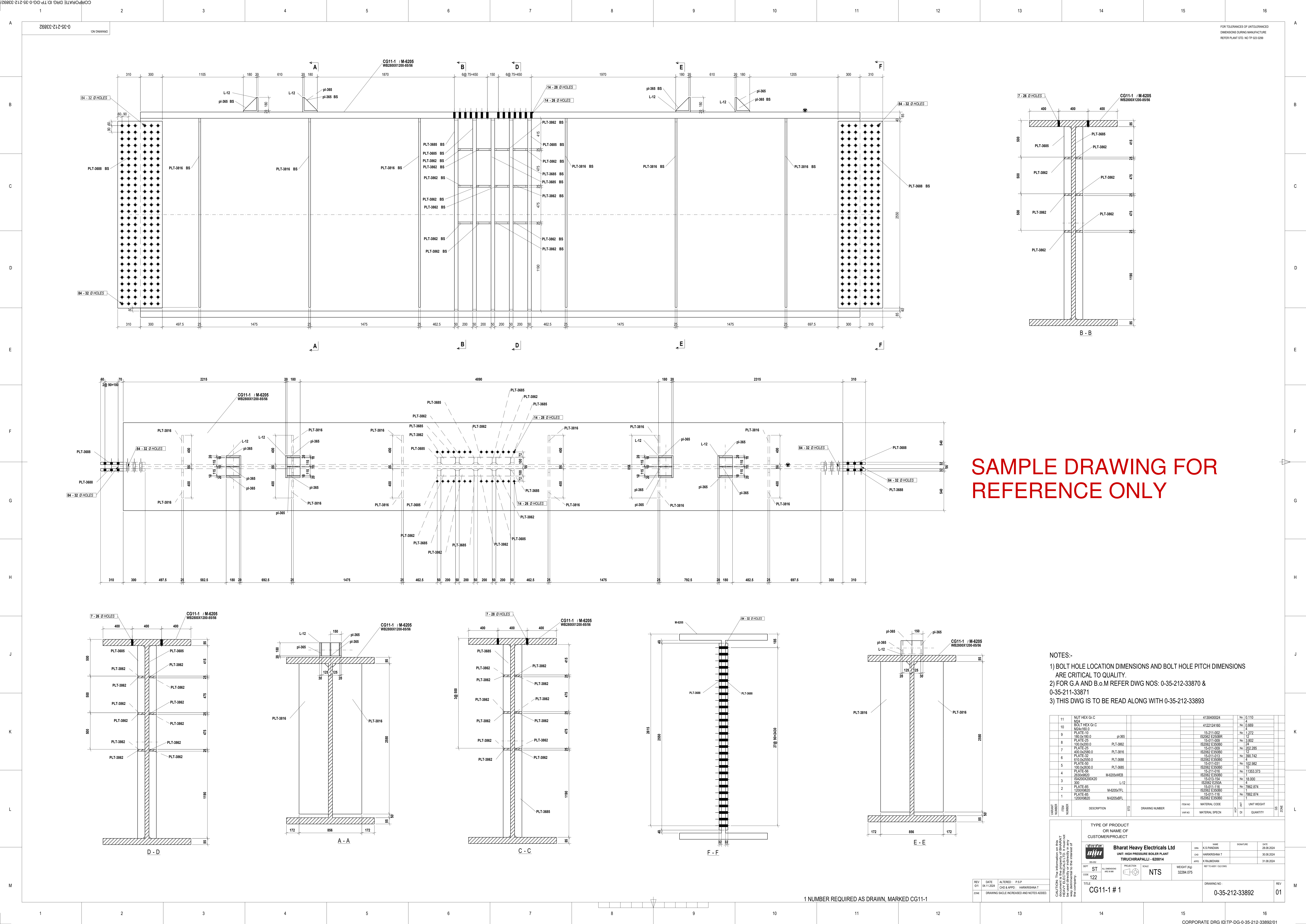
	CORPORATE QUALITY ASSURANCE/ कॉर्पोरेट गुणवत्ता आश्वासन SUB-VENDOR QUESTIONNAIRE/ सब-वेंडर प्रश्नावली
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	(Design/Manufacturing/Quality etc) मैनपावर विवरण के साथ समग्र संगठन का चार्ट(डिजाइन / विनिर्माण / गुणवत्ता मॉडल)	
8.	After sales service set up in India, in case of foreign sub-vendor(Location, Contact Person, Contact details etc.) भारत में बिक्री सेवा की स्थापना के बाद, विदेशी उप-विक्रेता के मामले में(स्थल, संपर्क व्यक्ति, संपर्क विवरण आदि)	Applicable / Not applicable लागू / लागू नहीं Details attached at Annexure – F2.4 विवरण अनुलग्नक -2.4 पर संलग्न है।
9.	Manufacturing process execution plan with flow chart indicating various stages of manufacturing from raw material to finished product including outsourced process, if any फ्लोचार्ट सहित विनिर्माण प्रक्रिया निष्पादन योजना, जिसमें आउटसोर्स प्रक्रिया, यदि कोई हो, सहित कच्चे माल से तैयार उत्पाद तक विनिर्माण के विभिन्न चरणों को दर्शाया गया हो,	Details attached at Annexure – F2.5 विवरण अनुलग्नक - F2.5में संलग्न है।
10.	Sources of Raw Material/Major Bought Out Item कच्चे माल के स्रोत / खरीदे हुए मुख्य मद	Details attached at Annexure – F2.6 विवरण अनुलग्नक - F2.6में संलग्न है।
11.	Quality Control exercised during receipt of raw material/BOI, in-process , Final Testing, packing कच्चे माल / खरीदे हुए मद, प्रक्रियाबद्ध, अंतिम परीक्षण, पैकिंग करते समय गुणवत्ता नियंत्रण	Details attached at Annexure – F2.7 विवरण अनुलग्नक - F2.7 पर संलग्न है
12.	Manufacturing facilities (List of machines, special process facilities, material handling etc.) विनिर्माण सुविधा(मशीनों की सूची, विशेष प्रक्रिया सुविधाएं, सामग्री रख-रखाव आदि)	Details attached at Annexure – F2.8 विवरण अनुलग्नक - F2.8में संलग्न है।
13.	Testing facilities (List of testing equipment) परीक्षण सुविधाएं(परीक्षण उपकरण की सूची)	Details attached at Annexure – F2.9 विवरण अनुलग्नक - F2.9 में संलग्न है।
14.	If manufacturing process involves fabrication then- यदि निर्माण प्रक्रिया में फेब्रिकेशन की गई है तो- List of qualified Welders पात्र वेल्डर की सूची List of qualified NDT personnel with area of specialization विशेषज्ञता के क्षेत्र सहित पात्र एनडीटी कार्मिकों की सूची	Applicable / Not applicable लागू / लागू नहीं Details attached at Annexure – F2.10 विवरण अनुलग्नक - F2.10में संलग्न है। (if applicable) लागू / लागू नहीं
15.	List of out-sourced manufacturing processes with Sub-Vendors' names & addresses सब-वेंडर द्वारा बाह्य स्रोतों (उनके नाम और पते सहित)से करवाएं गए निर्माण प्रक्रियाओं की सूची	Applicable / Not applicable लागू / लागू नहीं Details attached at Annexure. –F2.11 विवरण अनुलग्नक - F2.10में संलग्न है। (if applicable) (यदि लागू हो)
16.	Supply reference list including recent supplies नवीनतम आपूर्ति सहित आपूर्ति संदर्भ सूची	Details attached at Annexure – F2.12 विवरण अनुलग्नक - F2.12 में संलग्न है। (as per format given below) (नीचे दिए गए प्रारूप के अनुसार)

	CORPORATE QUALITY ASSURANCE/ कॉर्पोरेट गुणवत्ता आश्वासन SUB-VENDOR QUESTIONNAIRE/ सब-वेंडर प्रश्नावली
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Project/ package परियोजना /पैकेज	Customer Name ग्राहक का नाम	Supplied Item (Type/Rating/Model /Capacity/Size etc) आपूर्ति की गई वस्तु (प्रकार / रेटिंग / मॉडल / क्षमता / आकार आदि)	PO ref no/date पीओ संदर्भ सं. / तिथि	Supplied Quantity आपूर्ति की मात्रा	Date of Supply आपूर्ति की तारीख				
17.	Product satisfactory performance feedback letter/certificates/End User Feedback उत्पाद के संतोषजनक प्रदर्शन संबंधी फीडबैक पत्र / प्रमाण पत्र / अंतिम उपयोगकर्ता फीडबैक		Attached at annexure - F2.13 अनुलग्नक F2. 3पर संलग्न है						
18.	Summary of Type Test Report (Type Test Details, Report No, Agency, Date of testing) for the proposed product (similar or higher rating) प्रस्तावित उत्पाद (एक समान या उच्च रेटिंग वाले) के लिए टाइप टेस्ट रिपोर्ट (टाइप टेस्ट विवरण, रिपोर्ट संख्या, एजेंसी, जांच की तारीख) का सारांश नोट:- रिपोर्ट प्रस्तुत करने की आवश्यकता नहीं है Note:- Reports need not to be submitted		Applicable / Not applicable लागू / लागू नहीं Details attached at Annexure – F2.14 विवरण अनुलग्नक - F2.1 4में संलग्न है (if applicable) (यदि लागू हो)						
19.	Statutory / mandatory certification for the proposed product प्रस्तावित उत्पाद के लिए वैधानिक / अनिवार्य प्रमाणीकरण		Applicable / Not applicable लागू / लागू नहीं Details attached at Annexure – F2.15 (if applicable) (यदि लागू हो)						
20.	Copy of ISO 9001 certificate आईएसओ 9001 प्रमाण पत्र की प्रति (if available)(यदि उपलब्ध हो)		Attached at Annexure – F2.16 अनुलग्नक में संलग्न - F2.1 6 है						
21.	Product technical catalogues for proposed item (if available) प्रस्तावित मद के लिए उत्पाद तकनीकी कैटलॉग (यदि उपलब्ध हो)		Details attached at Annexure – F2.17 विवरण अनुलग्नक - F2.1 7 में संलग्न है						
<table border="1" style="width: 100%;"> <tr> <td style="width: 25%;">Name: नाम:</td> <td style="width: 25%;">Desig: पद:</td> <td style="width: 25%;">Sign: हस्ता क्षर:</td> <td style="width: 25%;">Date: तिथि:</td> </tr> </table>						Name: नाम:	Desig: पद:	Sign: हस्ता क्षर:	Date: तिथि:
Name: नाम:	Desig: पद:	Sign: हस्ता क्षर:	Date: तिथि:						

Company's Seal/Stamp:- कंपनी की मुहर/ मोहर: -



SAMPLE DRAWING FOR
REFERENCE ONLY

- NOTES:-
- 1) BOLT HOLE LOCATION DIMENSIONS AND BOLT HOLE PITCH DIMENSIONS ARE CRITICAL TO QUALITY.
 - 2) FOR G.A AND B.o.M REFER DWG NOS: 0-35-212-33870 & 0-35-211-33871
 - 3) THIS DWG IS TO BE READ ALONG WITH 0-35-212-33893

11	NUT HEX G 1/2	10	BOLT HEX G 1/2	M16x100	p.385	PLT-3862	PLT-3816	PLT-3868	PLT-3868	PLT-3868	M-6205/WEB	L-12	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL	M-6205/BFL
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1 NUMBER REQUIRED AS DRAWN, MARKED CG11-1

2x800 MW DVC Koderma

Material Composition - Bill of materials (BOM) for 1 Unit

RS01: CEILING GIRDER PACKAGE - 1 Unit								
Projects covered 2x800 MW DVC Koderma								
Material Type	Grade/ Code	% age in full BoM	MATERIAL Description	Weight (Kg)	Weight (MT)	% age in full BoM		
PLATES	E250 BR/A	10.00%	PLATE 10 MM-IS2062E250A	1569.12	194.36	0.08%		
			PLATE 10.0 MM - IS2062E250GRBR_N	10113.727		0.52%		
			PLATE 12.0 MM - IS2062E250A	1162.4		0.06%		
			PLATE 12.0 MM - IS2062E250GRBR_N	54286.98		2.79%		
			PLATE 130 MM - IS2062E250GRBR_N	4959.862		0.26%		
			PLATE 155 MM - IS2062E250GRBR_N	21044.516		1.08%		
			PLATE 16.0 MM - IS2062E250GRBR_N	27700.697		1.42%		
			PLATE 20.0 MM - IS2062E250GRBR_N	38174.391		1.96%		
			PLATE 25.0 MM - IS2062E250GRBR_N	22298.541		1.15%		
			PLATE 32.0 MM - IS2062E250GRBR_N	10549.404		0.54%		
			PLATE 36.0 MM - IS2062E250GRBR_N	957.132		0.05%		
			PLATE 45.0 MM - IS2062E250GRBR_N	952		0.05%		
	PLATE 5.0 MM - IS2062E250GRBR_N	494.544	0.03%					
	PLATE 8.0 MM - IS2062E250GRBR_N	100.104	0.01%					
	E350BR	79.66%	PLATE 10.0 MM-IS2062E350B0	73.572	1548.89	0.00%		
			PLATE 100.0 MM-IS2062E350B0	128253.108		6.60%		
			PLATE 12.0 MM-IS2062E350B0	24983.095		1.28%		
			PLATE 16 MM-IS2062E350B0	57716.316		2.97%		
			PLATE 20.0 MM-IS2062E350B0	28512.617		1.47%		
			PLATE 25.0 MM-IS2062E350B0	314014.217		16.15%		
			PLATE 28.0 MM-IS2062E350B0	1715.248		0.09%		
			PLATE 32.0 MM-IS2062E350B0	187554.408		9.65%		
			PLATE 36.0 MM-IS2062E350B0	166590.326		8.57%		
			PLATE 40.0 MM-IS2062E350B0	77796.786		4.00%		
			PLATE 50.0 MM-IS2062E350B0	62043.13		3.19%		
			PLATE 56 MM-IS2062E350B0	71264.572		3.67%		
			PLATE 63 MM - IS2062E350B0	12531.899		0.64%		
			PLATE 75.0 MM-IS2062E350B0	88351.708		4.54%		
			PLATE 85.0 MM-IS2062E350B0	86975.036		4.47%		
			PLATE-115X2000X8000-IS2062 E350GRB0	106013.904		5.45%		
			PLATE-50 MM -IS2062E350GRBR	4196.6		0.22%		
			PLATE-5X1500X6300-IS2062 E350GRB0	1763.12		0.09%		
			PLATE-8 -IS2062 E350GRB0	583.968		0.03%		
			PLATE-90X2000X8000-IS2062 E350GRB0	127954.216		6.58%		
								89.65%
ROLLED SECTIONS			E250 BR/A	10.23%		ANGLE 80 x 80 x 8 -IS2062E250A	12.672	198.90
	ANGLE 100 x 100 x 10-IS2062E250A	4165.76			0.21%			
	ANGLE 130 x 130 x 12-IS2062E250A	544.332			0.03%			
	ANGLE 200 x 200 x 20-IS2062E250A	288			0.01%			
	ANGLE 200X200X16 - IS2062E250A	27300.63			1.40%			
	BEAM 125 x 70 -IS2062E250A	2337.541			0.12%			
	BEAM 150 x 75 -IS2062E250A	4345.222			0.22%			
	BEAM 200 x 100 -IS2062E250A	21336			1.10%			
	BEAM 250 x 125 -IS2062E250A	7.236			0.00%			
	BEAM 300 x 140 -IS2062E250A	788.08			0.04%			
	BEAM 350 x 140 -IS2062E250A	5236.938			0.27%			
	BEAM 400 x 140 -IS2062E250A	81364.5			4.18%			
	BEAM 600 x 210 -IS2062E250A	3637.848			0.19%			
	CHANNEL 200 x 75 -IS2062E250A	19201.314			0.99%			
	CHANNEL 250 x 82 -IS2062E250A	17622.53			0.91%			
	CHANNEL 300 x 90 -IS2062E250A	5598.946			0.29%			
	CHANNEL 400 x 100 -IS2062E250A	5112.874			0.26%			
					10.23%			
SHEETS	IS 1079	0.01%	SHEET 2.5 MM - IS1079 Gr.HR2	223.452	0.62	0.01%		
						0.01%		
	IS 513	0.02%	SHEET 1.6 MM - IS513 Gr.CR2	395.64		0.02%		
						0.02%		
					0.03%			
ROD	SA105	0.08%	ROUND DIA 25 MM - SA105	397.548	1.64	0.02%		
	SA19387		DIA 110 MM- SA193B7	1243.698		0.06%		
					0.08%			
			TOTAL	19,44,412.03	1,944.41	100.00%		

NOTE:

1. Final design documents are yet to be released. So, the provided BoM includes a range of specific sizes for plates & rolled sections to offer an overall understanding of the material content, it's important to note that these percentages may vary within the types of materials. The composition of overall Plates & Rolled Sections may also exhibit slight variations but will remain within a close tolerance range.

1x800 MW DVC Koderma
Boiler Ceiling Girder Tentative Weight List

Sum of WT/JOB NO/ FINISHED WT	Column Labels								
Row Labels	U8/1848-DL-059-1-35-190	U8/1848-DL-060-1-35-211	U8/1848-DL-061-1-35-212	U8/1848-DL-062-1-35-213	U8/1848-DL-063-1-35-214	U8/1848-DL-064-1-35-222	U8/1848-DL-108-1-35-221	U8/1848-DL-114-1-35-390	Grand Total
ANGLE 80 x 80 x 8 -IS2062E250A							12.672		12.672
ANGLE 100 x 100 x 10-IS2062E250A						1174.26	2991.5		4165.76
ANGLE 130 x 130 x 12-IS2062E250A						164.568	379.764		544.332
ANGLE 200 x 200 x 20-IS2062E250A		144	144						288
ANGLE 200X200X16 - IS2062E250A						13456.436	13844.194		27300.63
BEAM 125 x 70 -IS2062E250A				40.284	26.052			2271.205	2337.541
BEAM 150 x 75 -IS2062E250A				5.82				4339.402	4345.222
BEAM 200 x 100 -IS2062E250A		12192	9144						21336
BEAM 250 x 125 -IS2062E250A					7.236				7.236
BEAM 300 x 140 -IS2062E250A						788.08			788.08
BEAM 350 x 140 -IS2062E250A						2170.49	3066.448		5236.938
BEAM 400 x 140 -IS2062E250A		46494	34870.5						81364.5
BEAM 600 x 210 -IS2062E250A				2536.014	1101.834				3637.848
CHANNEL 200 x 75 -IS2062E250A		19.268		1217.222	512.56	5112.578	12339.686		19201.314
CHANNEL 250 x 82 -IS2062E250A		29.272	29	1343.156	190.816	2208.708	13821.578		17622.53
CHANNEL 300 x 90 -IS2062E250A				338.914	173.512	1578.06	3508.46		5598.946
CHANNEL 400 x 100 -IS2062E250A		42.888		243.088	223.952	1803.246	2799.7		5112.874
PLATE 10 MM-IS2062E250A		896.64	672.48						1569.12
PLATE 10.0 MM - IS2062E250GRBR_N		30.528	30.528	4027.371	1276.29	2070.301	2678.709		10113.727
PLATE 10.0 MM-IS2062E350B0				73.572					73.572
PLATE 100.0 MM-IS2062E350B0		86652.192	41600.916						128253.108
PLATE 12.0 MM - IS2062E250A		650.944	511.456						1162.4
PLATE 12.0 MM - IS2062E250GRBR_N		712.748	446.912	8408.896	8464.63	23431.508	12822.286		54286.98
PLATE 12.0 MM-IS2062E350B0				13116.731	9356.828	1254.768	1254.768		24983.095
PLATE 130 MM - IS2062E250GRBR_N	4959.862								4959.862
PLATE 155 MM - IS2062E250GRBR_N	21044.516								21044.516
PLATE 16 MM-IS2062E350B0				32084.754	24404.682	613.44	613.44		57716.316
PLATE 16.0 MM - IS2062E250GRBR_N				1900.903	832.937	11019.357	13947.5		27700.697
PLATE 20.0 MM - IS2062E250GRBR_N			40.924	1257.728	408.358	18887.902	17579.479		38174.391
PLATE 20.0 MM-IS2062E350B0		1384.724	204.332	23684.653	3238.908				28512.617
PLATE 25.0 MM - IS2062E250GRBR_N	1923.104	1746.577	2955.205			10787.254	4886.401		22298.541
PLATE 25.0 MM-IS2062E350B0		119953.579	85615.897	67712.442	40732.299				314014.217
PLATE 28.0 MM-IS2062E350B0			1715.248						1715.248
PLATE 32.0 MM - IS2062E250GRBR_N						5221.612	5327.792		10549.404
PLATE 32.0 MM-IS2062E350B0		122844.52	29396.432	29017.878	6295.578				187554.408
PLATE 36.0 MM - IS2062E250GRBR_N						630.732	326.4		957.132
PLATE 36.0 MM-IS2062E350B0		75196.146	75521.108	11786.68	4086.392				166590.326
PLATE 40.0 MM-IS2062E350B0			57973.338	10265.916	9557.532				77796.786
PLATE 45.0 MM - IS2062E250GRBR_N						544	408		952
PLATE 5.0 MM - IS2062E250GRBR_N						247.272	247.272		494.544
PLATE 50.0 MM-IS2062E350B0		37077.824	18319.496		6645.81				62043.13
PLATE 56 MM-IS2062E350B0		22706.746	33722.206		14835.62				71264.572
PLATE 63 MM - IS2062E350B0					12531.899				12531.899
PLATE 75.0 MM-IS2062E350B0		59340.7	29011.008						88351.708
PLATE 8.0 MM - IS2062E250GRBR_N				66.736	33.368				100.104
PLATE 85.0 MM-IS2062E350B0		47649.684	39325.352						86975.036
PLATE-115X2000X8000-IS2062 E350GRB0		23399.28	82614.624						106013.904
PLATE-50 MM -IS2062E350GRBR		2350.096	1846.504						4196.6
PLATE-5X1500X6300-IS2062 E350GRB0				790.848	972.272				1763.12
PLATE-8 -IS2062 E350GRB0				370.32	213.648				583.968
PLATE-90X2000X8000-IS2062 E350GRB0		73698.404	54255.812						127954.216
ROUND DIA 25 MM - SA105	397.548								397.548
SHEET 1.6 MM - IS513 Gr.CR2		226.08	169.56						395.64
SHEET 2.5 MM - IS1079 Gr.HR2				223.452					223.452
DIA 110 MM- SA193B7	1243.698								1243.698
Grand Total	29568.728	735438.84	600136.838	210513.378	146123.013	103164.572	112856.049	6610.607	1944412.025

PGMA	Wt (Kg)	PGMA	Wt (Kg)
35-211 35-212	1335575.678	35-213 35-214	356636.391
Wt. (MT)	1335.58	Wt. (MT)	356.64
Wt. (MT)	1335	Wt. (MT)	357

PGMA	Wt (Kg)
35-221 35-222 35-390 35-190	252199.956
Wt. (MT)	252.20
Wt. (MT)	252

Total Weight for 1 Unit (MT)	1944
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Annexure-6

Trial Assembly Scope

Scope:

This procedure specifies the quality requirements for **trial assembly of the bolted type Ceiling girders** for "2x800 MW, DVC Koderma" at manufacturing works w.r.t fit-up, punching, bolting, match marking/level marking, and identification before dispatch.

Ceiling Girder trial assembly includes:

- Two and more consecutive ceiling girders for full length
- Cross Girders between main girders wherever applicable
- Welded beams between ceiling girders.
- Rolled beams with cleat angles bolted to welded beams.
- Horizontal bracings at Ceiling Girder TOS

1. Before carrying out compartmental trial assembly of ceiling girders, End pieces and Middle piece of the ceiling girder shall be trial assembled.
2. Trial assembly position "I" (web vertical) and water level between Girders shall be within 2mm and alignment of the Individual girders shall be checked by plumb and piano wire method.
3. Check the flatness of end plates / rest plates of the individual Ceiling girder using straight edge and feeler gauge. For end flanges/ splice plates, the flatness shall be within 0.3mm. Local depressions up to 0.5mm (within 20% area) are acceptable
4. Check the gap between flanges of mating Girder by feeler gauge. Up to 0.5 mm gap between end flanges is permitted. However, 80% contact (zero gap) area between the end flanges of mating Ceiling Girder pieces shall be ensured.
5. All the bolt holes of end flanges/ cleats shall be match drilled on with Girders/welded beams as shown in drawing. All the bolt holes as per drawing shall be match drilled through the flange plates at one operation with provision for subsequent reaming/drilling as per drawing requirements.
6. After trial assembly of end pieces and middle piece of the ceiling girder, compartmental trial assembly shall be done involving minimum two and more consecutive main ceiling girders along with cross girders and welded beams between main ceiling girders and rolled beams bolted to welded beams and horizontal bracings as per SIP NP 20.
7. Ensure proper supports and restraints for doing the compartmental trial assembly.
8. Check the squareness of the girder compartment by verifying the spacing between the girders and diagonals between work points.
9. Centerline alignment of welded beams, rolled beams shall be within 2 mm.
10. On satisfactory completion of trial assembly, ensure proper match marking / punching of all members connected at all joints including end plates / lug plates in the respective girders / welded / rolled beams / bracings and ensure these match marks shall also be stenciled after painting as per SIP NP 20.

MANUFACTURER'S NAME & ADDRESS BHEL : TIRUCHIRAPPALLI/ APPD.SUBCONTRACTORS			MANUFACTURING QUALITY PLAN						PROJECT: DVC, Koderma TPS Ph-II (2X800 MW) PACKAGE: SG (2X800 MW) CONTRACT NO: DVC/C&M/Engineering/KTPS (2X800 MW)/EPC/IPHB/LOI/FC/1015 BHEL CUST NO: 1848 & 1849						
			ITEM : Columns & Ceiling Girders				CQP 6827 Rev 00								
			Built- up beams				DATE. 30.12.2024								
			SUB-SYSTEM : SG & SCR Structures				PAGE 1 OF 5								
SL. NO.	COMPONENT & OPERATIONS	CHARACTERISTICS	Class	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	AGENCY			REMARKS			
1	2	3	4	5	M/C 6	7	8	9	M	C	N	11			
									10						

1.0	MATERIAL (Materials shall be as per drawing)										
1.1	Plates & Rolled sections ASTM A36, IS 2062 E250 Gr A&BR,E350 Gr B0	Chemical and Mechanical Properties	Critical	T.C.Verifi Cation	100% \$	As per Material Spec.	Mfg TC	P	V	V \$	\$ Raw.matl. correlated to TC for t > 40 mm on receipt. Further correlation to W.O. number & Matl. Grade. Plates of IS 2062 E 250 Gr BR & E350 Gr BO shall be: i. Fully killed and impact tested ii. Plates of thickness lesser than and including 12mm- as -rolled. iii. Plates of thickness beyond 12 mm to and including 40 mm- Normalizing Rolling iv. Plates of thickness greater than 40 mm- Furnace normalized In addition, for plates of t > 40 mm: Vacuum degassing shall be done.
		Soundness(UT@)	Critical	T.C.Verifi cation	100%	ASTM A578 Level B-S2	R	P	V	V	@ UT for plates of t >40 mm.

		LEGEND : *M: Manufacturer / Sub- contractor, C : BHEL / Nominated Inspection agency. N: Customer/ Nominated Inspection agency. P: Perform, W: Witness, R -Records V: Verification of records for "W" Marked items at the time of inspection. TC: Mill/ Mfr. Test certificate,WPS: Weld Procedure Specification PQR: Procedure Qualification Record, WQR: Welder Qualification Record	FOR CUSTOMER USE	DOC NO.	
Jeyaram M	V Deepesh		REVIEWED BY	NAME & SIGN. OF APPROVING AUTHORITY & SEAL	
PREPARED BY	REVIEWED & APPROVED BY				
NAME & SIGNATURE					

MANUFACTURER'S NAME & ADDRESS BHEL : TIRUCHIRAPPALLI/ APPD.SUBCONTRACTORS		MANUFACTURING QUALITY PLAN						PROJECT: DVC, Koderma TPS Ph-II (2X800 MW) PACKAGE: SG (2X800 MW) CONTRACT NO: DVC/C&M/Engineering/KTPS (2X800 MW)/EPC/IPHB/LOI/FC/1015 BHEL CUST NO: 1848 & 1849				
		ITEM : Columns & Ceiling Girders Built- up beams SUB-SYSTEM : SG & SCR Structures			CQP 6827 Rev 00 DATE. 30.12.2024 PAGE 2 OF 5							
SL. NO.	COMPONENT & OPERATIONS	CHARACTERISTICS	Class	TYPE OF CHECK	QUANTUM OF CHECK M/C	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	AGENCY			REMARKS
1	2	3	4	5	6	7	8	9	M	C	N	11
									10			

2.0	INPROCESS CONTROLS										
2.1	Edge preparation after cutting.	NDE (Shop welds)	Minor	LPI/MPI @	100% *	BHE:NDT:PB PT01 (Latest) BHE:NDT:PB: MT 01(latest)	R	P	W	V	* For Flame cut edges of 't'=> 38mm Surface shall be ground before welding
@ For Flame cut edges, 100% for t>=38mm.,10% for t>= 20mm < 38mm. 100% all bevel edges of t >= 20mm prior to welding.											
2.2	Welding	For shop edge prepared ends (for welding at site)		MPI / UT	100% \$	BHE:NDT:PB :MT01(latest) BHE:NDT:SS :UT31(latest)	R	P	W		\$ Only for ceiling girder butt joints of all thickness,UT/MPI to be done for a width of 100 mm from the edge (after edge preparation)
		Procedure Qlfn	Major	Review of Documents	100%	SIP:NP:07(latest)	WPS/ WQR	P	V		
		Personnel Qlfn		Review of Documents	100%	SIP:NP:07(latest)	R	P	V		
2.3	Welding Inspn.	Weld Size and Weld quality	Minor	Visual and Measure ment	100% Random	Drawing , SIP:NP:06(latest)	-	P	W		

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Jeyaram M	V Deepesh					
PREPARED BY	REVIEWED & APPROVED BY					
NAME & SIGNATURE			REVIEWED BY		NAME & SIGN. OF APPROVING AUTHORITY & SEAL	

MANUFACTURER’S NAME & ADDRESS BHEL : TIRUCHIRAPPALLI/ APPD.SUBCONTRACTORS			MANUFACTURING QUALITY PLAN						PROJECT: DVC, Koderma TPS Ph-II (2X800 MW) PACKAGE: SG (2X800 MW) CONTRACT NO: DVC/C&M/Engineering/KTPS (2X800 MW)/EPC/IPHB/LOI/FC/1015 BHEL CUST NO: 1848 & 1849				
			ITEM : Columns & Ceiling Girders Built- up beams SUB-SYSTEM : SG & SCR Structures			CQP 6827 Rev 00 DATE. 30.12.2024 PAGE 3 OF 5							
SL. NO.	COMPONENT & OPERATIONS	CHARACTERISTICS	Class	TYPE OF CHECK	QUANTUM OF CHECK M/C	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD 9	AGENCY			REMARKS 11	
1	2	3	4	5	6	7	8	9	M	C	N		
									10				

2.3.1	NDE of Butt welds	Weld quality	Major	RT *	100% *	BHE:NDT:SS:RT-5(latest)	R	-	W	V	*RT / UT for t ≥32mm. \$ for t>25< 32mm.10% of joints per vendor. # for t≤25mm.
2.3.2	Fillet Welds	Surface check	Major	RT MPI MPI	10% \$ 100% \$ 10% #	BHE:NDT:PB:MT01(latest)	R	P	W		\$ When 't' in both plates is 25mm and above #Other fillet welds.
2.3.3	Production test coupons for butt and fillet welds of Main columns and Ceiling Girders.	Weld fusion and soundness	Major	LPI/MPI	100% \$ 10% #	BHE:NDT:PB:MT01(latest) BHE:NDT:PB PT01 (Latest)	R	P	W	V	*ReferNote-1
2.4	Heat Treatment for butt welds	Time & Temp	Major	RT*/ Macroetch	One test coupon per Vendor per unit. 100%#	BHE:NDT:SS:RT-5(latest) AWS D1.1	R	P	V	V	# C.S: for 't' > 50mm A.S: for 't' > 16mm.

		LEGEND : *M: Manufacturer / Sub- contractor, C : BHEL / Nominated Inspection agency. N: Customer/ Nominated Inspection agency. P: Perform, W: Witness, R -Records V: Verification of records for “W” Marked items at the time of inspection. TC: Mil/ Mfr. Test certificate,WPS: Weld Procedure Specification PQR: Procedure Qualification Record, WQR: Welder Qualification Record	FOR CUSTOMER USE	DOC NO.	
Jeyaram M	V Deepesh				
PREPARED BY	REVIEWED & APPROVED BY				
NAME & SIGNATURE			REVIEWED BY	NAME & SIGN. OF APPROVING AUTHORITY & SEAL	

MANUFACTURER'S NAME & ADDRESS BHEL : TIRUCHIRAPPALLI/ APPD.SUBCONTRACTORS		MANUFACTURING QUALITY PLAN						PROJECT: DVC, Koderma TPS Ph-II (2X800 MW) PACKAGE: SG (2X800 MW) CONTRACT NO: DVC/C&M/Engineering/KTPS (2X800 MW)/EPC/IPHB/LOI/FC/1015 BHEL CUST NO: 1848 & 1849				
		ITEM : Columns & Ceiling Girders Built- up beams SUB-SYSTEM : SG & SCR Structures			CQP 6827 Rev 00 DATE. 30.12.2024 PAGE 4 OF 5							
SL. NO.	COMPONENT & OPERATIONS	CHARACTERISTICS	Class	TYPE OF CHECK	QUANTUM OF CHECK M/C	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	AGENCY			REMARKS
1	2	3	4	5	6	7	8	9	M	C	N	11
									10			

3.0	Final Inspection.											
3.1	Individual Pieces	Shape,Size & Overall dimns. Length Orientations	Major	Visual & Verification. Measurment	100%	Drawing		R	P	W		
3.2	Trial Assy. of main columns, Ceiling girders.	Overall Dimensions. Alignment,Match marking	Major	Visual & Measurment	100%	Drawing & SIP:NP:02(latest)		R	P	W	W \$	\$ 1 main column & 1 Ceiling Girder Assembly/ Unit.
3.3	Verification of completion	Overall Dimensions. Orientations Compilations	Major	Verification Visual	100%	As per Drawing		-	P	V		
3.4	Painting , Preservation & protection	Surface preparation Finish & coat thickness	Minor	Visual Measure ment	100% Random	As per approved painting scheme PL:C3-PS/1848			P	W		
3.5	Identification	W.O NO ,DU Project	Minor	Visual	100%	Drawing			P	V		

 		LEGEND : *M: Manufacturer / Sub- contractor, C : BHEL / Nominated Inspection agency. N: Customer/ Nominated Inspection agency. P: Perform, W: Witness, R -Records V: Verification of records for "W" Marked items at the time of inspection. TC: Mill/ Mfr. Test certificate,WPS: Weld Procedure Specification PQR: Procedure Qualification Record, WQR: Welder Qualification Record	FOR CUSTOMER USE		DOC NO.	
Jeyaram M	V Deepesh					
PREPARED BY	REVIEWED & APPROVED BY					
NAME & SIGNATURE			REVIEWED BY		NAME & SIGN. OF APPROVING AUTHORITY & SEAL	

MANUFACTURER'S NAME & ADDRESS BHEL : TIRUCHIRAPPALLI/ APPD.SUBCONTRACTORS		MANUFACTURING QUALITY PLAN						PROJECT: DVC, Koderma TPS Ph-II (2X800 MW) PACKAGE: SG (2X800 MW) CONTRACT NO: DVC/C&M/Engineering/KTPS (2X800 MW)/EPC/IPHB/LOI/FC/1015 BHEL CUST NO: 1848 & 1849				
		ITEM : Columns & Ceiling Girders Built- up beams SUB-SYSTEM : SG & SCR Structures			CQP 6827 Rev 00 DATE. 30.12.2024 PAGE 5 OF 5							
SL. NO.	COMPONENT & OPERATIONS	CHARACTERISTICS	Class	TYPE OF CHECK	QUANTUM OF CHECK M/C	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	AGENCY			REMARKS
1	2	3	4	5	6	7	8	9	M	C	N	
									10			
												11

Note -1:

FILLET WELDS: (FOR MAIN COLUMNS (-Plus type) & CEILING GIRDERS):

Two macros from the first piece and the last piece of main column of higher thickness and one macro for ceiling girder individual piece of higher thickness shall be tested after removing the start on / run off pieces.

The starting or Run off plates (S/R) shall be as follows:

Length at least 50 mm on both ends, Thickness: Same as job thickness, Plate Size: 100x150x T, 100x50xT where 'T' is the higher thickness of flange/web

Fillet size shall be same as the weld on column pieces. After welding completion of the first column piece and the last piece (as per the manufacturing sequence), both the pieces shall be offered to BHEL-QC inspection for macro-examination. Based on acceptance of macro examination by BHEL-QC, all welds covered in the lot, I, box or plus sections shall be cleared. In case of any unacceptable fusion during macro examination the relevant defective welds shall be reworked in accordance with AWS D 1.1 for acceptance by BHEL-QC.

BUTT WELDS: (MAIN COLUMNS (-Plus type) & CEILING GIRDERS).

The test coupon shall be attached on column/girder piece representing higher thickness plate of Length 300 mm and Plate size: 300x150xT-Max.2nos where, 'T' is the higher thickness of flange/web.

The Test coupon shall be 100% RT tested before taking up for mechanical testing.

The test coupon shall be subjected to the following mechanical tests:

a. Side bend test - 180 deg. with mandrel of 4t, where 't' is the thickness of the specimen.

Tensile test - shall meet the minimum requirements of parent material.

In case of any failure, the cause of the failure shall be clearly established & agreed by BHEL-QC. On final acceptance by BHEL-QC, all welds covered in the lot, I, box or plus sections shall be cleared. In case of any defect/failure, the relevant defective welds shall be reworked in accordance with AWS D 1.1 for acceptance by BHEL-QC.

				LEGEND : *M: Manufacturer / Sub- contractor, C : BHEL / Nominated Inspection agency. N: Customer/ Nominated Inspection agency. P: Perform, W: Witness, R -Records V: Verification of records for "W" Marked items at the time of inspection. TC: Mill/ Mfr. Test certificate,WPS: Weld Procedure Specification PQR: Procedure Qualification Record, WQR: Welder Qualification Record	FOR CUSTOMER USE	DOC NO.	
Jeyaram M	V Deepesh						
PREPARED BY	REVIEWED & APPROVED BY						
NAME & SIGNATURE					REVIEWED BY	NAME & SIGN. OF APPROVING AUTHORITY & SEAL	

**BHARAT HEAVY ELECTRICALS LIMITED, TIRUCHIRAPPALLI-14****QUALITY ASSURANCE****PGMA Categorisation list (Mechanical items) for Koderma TPS Ph-II (2X800 MW) ,**

Doc.No. 1848-1849 PGMA Structures Catlist			Rev.:00	DATE:30.1.2025	
Sl.No.	PG	MA	DESCRIPTIONS	Doc No.	Category
1	35	010	FOUNDATION MATERIALS	Drawing/GMS	III
2	35	141	Auxiliary Columns LHS 1st Tier	CQP 6827	I
3	35	152	AUXCOL RHSMID 1&2PAS	CQP 6827	I
4	35	131	Middle Columns RHS 1st Tier	CQP 6827	I
5	35	133	Middle Columns RHS 3rd Tier	CQP 6827	I
6	35	134	Middle Columns RHS 4th Tier	CQP 6827	I
7	35	153	AUXCOL RHSUPR 1&2PAS	CQP 6827	I
8	35	311	HORIZONTAL BRACING I	Drawing/GMS	III
9	35	321	HORIZ BRACING I PASS	Drawing/GMS	III
10	35	322	HORIZ BRACING II PAS	Drawing/GMS	III
11	35	332	HORIZ BRACING II PAS	Drawing/GMS	III
12	35	441	Horil Beams First Pass-Tier-1	Drawing/GMS	III
13	35	442	Horil Beams First Pass-Tier-2	Drawing/GMS	III
14	35	451	Hor Beam-Second Pass- Tier-1	Drawing/GMS	III
15	35	452	Hor Beam-Second Pass- Tier-2	Drawing/GMS	III
16	35	511	Front Bracing-Tier-1	Drawing/GMS	III
17	35	521	Side Bracing-Tier-1	Drawing/GMS	III
18	35	523	Side Bracing-Tier-3	Drawing/GMS	III
19	35	531	Rear Bracing-Tier-1	Drawing/GMS	III
20	35	532	Rear Bracing-Tier-2	Drawing/GMS	III
21	35	811	FLOOR GRILLS AND GUARD PLATE	VQP	II
22	35	312	HORIZ BRACING II PAS	Drawing/GMS	III
23	35	331	HORIZ BRACING I PASS	Drawing/GMS	III
24	35	341	HORIZ BRACING I PASS	Drawing/GMS	III
25	35	342	HORIZ BRACING II PAS	Drawing/GMS	III
26	35	351	HORIZ BRACING I PASS	Drawing/GMS	III
27	35	381	Landing & Connecting Platforms Tier-1	Drawing/GMS	III
28	35	382	Landing & Connecting Platforms Tier-2	Drawing/GMS	III
29	35	384	Landing & Connecting Platforms Tier-4	Drawing/GMS	III
30	35	443	Horil Beams First Pass-Tier-3	Drawing/GMS	III
31	35	444	Horil Beams First Pass-Tier-4	Drawing/GMS	III
32	35	453	Hor Beam-Second Pass- Tier-3	Drawing/GMS	III
33	35	454	Hor Beam-Second Pass- Tier-4	Drawing/GMS	III
34	35	512	Front Bracing-Tier-2	Drawing/GMS	III
35	35	514	Front Bracing-Tier-4	Drawing/GMS	III
36	35	522	Side Bracing-Tier-2	Drawing/GMS	III
37	35	524	Side Bracing-Tier-4	Drawing/GMS	III
38	35	534	Rear Bracing-Tier-4	Drawing/GMS	III
39	35	535	Rear Bracing-Tier-5	Drawing/GMS	III
40	35	812	Edge Strip And Guard Plate	Drawing/GMS	III
41	35	146	Auxiliary Columns LHS 6th Tier	CQP 6827	I
42	35	156	Auxiliary Columns RHS 6th Tier	CQP 6827	I
43	35	352	HORIZ BRACING II PAS	Drawing/GMS	III
44	35	361	HORIZ BRACING I PASS	Drawing/GMS	III
45	35	362	HORIZ BRACING II PAS	Drawing/GMS	III
46	35	383	Landing & Connecting Platforms Tier-3	Drawing/GMS	III
47	35	386	Landing & Connecting Platforms Tier-6	Drawing/GMS	III
48	35	387	Landing & Connecting Platforms Tier-7	Drawing/GMS	III
49	35	536	Rear Bracing-Tier-6	Drawing/GMS	III
50	35	821	STAIRS - LOWER	Drawing/GMS	III

Doc.No. 1848-1849 PGMA Structures Catlist Rev.:00				DATE:30.1.2025	
Sl.No.	PG	MA	DESCRIPTIONS	Doc No.	Category
51	35	822	STAIRS - MIDDLE	Drawing/GMS	III
52	35	823	STAIRS - UPPER	Drawing/GMS	III
53	35	851	HAND RAILS AND POSTS	Drawing/GMS	III
54	35	995	CHUTE PIPE AND LADDE	Drawing/GMS	III
55	35	138	MIDDLE COLUMNS 8TH TIER	CQP 6827	I
56	35	148	AUXILIARY COLUMNS LHS 8TH TIER	CQP 6827	I
57	35	188	MAIN COLUMNS 8TH TIER	CQP 6827	I
58	35	190	GIRDER PIN CONNECTIO	Drawing/GMS	III
59	35	211	CEILING STRUCTUREMAI	CQP 6827	I
60	35	212	CEILING STRUCTUREMAI	CQP 6827	I
61	35	213	CEIL STRUCT -CROSS W	CQP 6827	I
62	35	214	CEIL STRUCT -CROSS W	CQP 6827	I
63	35	222	CEILING STRUCTURE RO	Drawing/GMS	III
64	35	445	Horil Beams First Pass-Tier-5	Drawing/GMS	III
65	35	446	Horil Beams First Pass-Tier-6	Drawing/GMS	III
66	35	513	Front Bracing-Tier-3	Drawing/GMS	III
67	35	515	Front Bracing-Tier-5	Drawing/GMS	III
68	35	516	Front Bracing-Tier-6	Drawing/GMS	III
69	35	517	Front Bracing-Tier-7	Drawing/GMS	III
70	35	527	Side Bracing-Tier-7	Drawing/GMS	III
71	35	533	Rear Bracing-Tier-3	Drawing/GMS	III
72	35	721	HSFG FASTENERS FOR 35PG - TIER 1	Drawing/GMS	III
73	35	722	HSFG FASTENERS FOR 35PG - TIER 2	Drawing/GMS	III
74	35	724	HSFG FASTENERS FOR 35PG - TIER 4	Drawing/GMS	III
75	35	725	HSFG FASTENERS FOR 35PG - TIER 5	Drawing/GMS	III
76	35	726	HSFG FASTENERS FOR 35PG - TIER 6	Drawing/GMS	III
77	35	727	HSFG FASTENERS FOR 35PG - TIER 7	Drawing/GMS	III
78	35	728	HSFG FASTENERS FOR 35PG - TIER 8	Drawing/GMS	III
79	35	730	HSFG FASTENERS - CEILING	Drawing/GMS	III
80	35	132	Middle Columns RHS 2nd Tier	CQP 6827	I
81	35	135	Middle Columns RHS 5th Tier	CQP 6827	I
82	35	136	Middle Columns RHS 6th Tier	CQP 6827	I
83	35	137	Middle Columns RHS 7th Tier	CQP 6827	I
84	35	142	Auxiliary Columns LHS 2nd Tier	CQP 6827	I
85	35	143	Auxiliary Columns LHS 3rd Tier	CQP 6827	I
86	35	144	Auxiliary Columns LHS 4th Tier	CQP 6827	I
87	35	145	Auxiliary Columns LHS 5th Tier	CQP 6827	I
88	35	147	Auxiliary Columns LHS 7th Tier	CQP 6827	I
89	35	151	AUXCOL LHSLWR 1&2PAS	CQP 6827	I
90	35	154	Auxiliary Columns RHS 4th Tier	CQP 6827	I
91	35	155	Auxiliary Columns LHS 7th Tier	CQP 6827	I
92	35	157	Auxiliary Columns RHS 7th Tier	CQP 6827	I
93	35	181	Main Columns 1st Tier	CQP 6827	I
94	35	182	Main Columns 2nd Tier	CQP 6827	I
95	35	183	Main Columns 3rd Tier	CQP 6827	I
96	35	184	Main Columns 4th Tier	CQP 6827	I
97	35	185	Main Columns 5th Tier	CQP 6827	I
98	35	186	Main Columns 6th Tier	CQP 6827	I
99	35	187	Main Columns 7th Tier	CQP 6827	I
100	35	231	CEILING STRUCTURE HO	Drawing/GMS	III
101	35	232	CEILING STRUCTURE HO	Drawing/GMS	III
102	35	385	Landing & Connecting Platforms Tier-5	Drawing/GMS	III
103	35	455	Hor Beam-Second Pass- Tier-5	Drawing/GMS	III
104	35	525	Side Bracing-Tier-5	Drawing/GMS	III
105	35	528	Side Bracing-Tier-8	Drawing/GMS	III

Doc.No. 1848-1849 PGMA Structures Catlist Rev.:00				DATE:30.1.2025	
Sl.No.	PG	MA	DESCRIPTIONS	Doc No.	Category
106	35	221	CEILING STRUCTURE RO	Drawing/GMS	III
107	35	371	Horizontal Bracing@79100 (MBL-7)1st Pass	Drawing/GMS	III
108	35	372	Horizontal Bracing @79100(MBL-7)2nd Pass	Drawing/GMS	III
109	35	388	Landing & Connecting Platforms Tier-8	Drawing/GMS	III
110	35	390	MISC STRUCTURES	Drawing/GMS	III
111	35	447	Horil Beams First Pass-Tier-7	Drawing/GMS	III
112	35	448	Horil Beams First Pass-Tier-8	Drawing/GMS	III
113	35	456	Hor Beam-Second Pass- Tier-6	Drawing/GMS	III
114	35	457	Hor Beam-Second Pass- Tier-7	Drawing/GMS	III
115	35	458	Hor Beam-Second Pass- Tier-8	Drawing/GMS	III
116	35	518	Front Bracing-Tier-8	Drawing/GMS	III
117	35	526	Side Bracing-Tier-6	Drawing/GMS	III
118	35	537	Rear Bracing-Tier-7	Drawing/GMS	III
119	35	538	Rear Bracing-Tier-8	Drawing/GMS	III
120	35	701	HSFG FASTENERS	Drawing/GMS	III
121	35	993	CONSUMABLESANDERECTI	Drawing/GMS	III
122	35	158	AUXILIARY COLUMNS RHS 8TH TIER	Drawing/GMS	III
123	35	723	HSFG FASTENERS FOR 35PG - TIER 3	Drawing/GMS	III
124	35	374	Horizontal Bracing@87500(MBL-8) 1st Pass	Drawing/GMS	III
125	35	375	Horizontal Bracing@87500(MBL-8) 2nd Pass	Drawing/GMS	III
126	36	346	NON-MBL FLOOR BETWEE	Drawing/GMS	III
127	36	322	MAIN FLOOR II MBL 2ND	Drawing/GMS	III
128	36	321	MAIN FLOOR II MBL IST	Drawing/GMS	III
129	36	721	HSFG FASTENERS FOR 36PG - TIER 1	Drawing/GMS	III
130	36	722	HSFG FASTENERS FOR 36PG - TIER 2	Drawing/GMS	III
131	36	723	HSFG FASTENERS FOR 36PG - TIER 3	Drawing/GMS	III
132	36	993	CONSUMABLESANDERECIT	Drawing/GMS	III
133	36	313	NON-MBL FLOOR BETWEE	Drawing/GMS	III
134	36	314	NON-MBL FLOOR BETWEE	Drawing/GMS	III
135	36	383	LAND & CONN PLAT UPP	Drawing/GMS	III
136	36	820	STAIRS AND LADDERS	Drawing/GMS	III
137	36	821	STAIRS AND LADDERS	Drawing/GMS	III
138	36	822	STAIRS AND LADDERS	Drawing/GMS	III
139	36	823	STAIRS AND LADDERS	Drawing/GMS	III
140	36	324	NON-MBL FLOOR BETWEE	Drawing/GMS	III
141	36	325	NON-MBL FLOOR BETWEE	Drawing/GMS	III
142	36	326	NON-MBL FLOOR BETWEE	Drawing/GMS	III
143	36	323	NON-MBL FLOOR BETWEE	Drawing/GMS	III
144	36	333	NON-MBL FLOOR BETWEE	Drawing/GMS	III
145	36	335	NON-MBL FLOOR BETWEE	Drawing/GMS	III
146	36	375	Floor Beams @ 87500 (MBL-8) 2nd Pass	Drawing/GMS	III
147	36	376	Floor Beams @ 90500 (Tier-8)2nd Pass	Drawing/GMS	III
148	36	851	HANDRAILS AND POSTS	Drawing/GMS	III
149	36	311	MAIN FLOOR I MBL 1ST	Drawing/GMS	III
150	36	345	NON-MBL FLOOR BETWEE	Drawing/GMS	III
151	36	352	MAIN FLOOR V MBL II ND	Drawing/GMS	III
152	36	111	COLUMNS NEAR APH Tier 1	CQP 6827	I
153	36	112	COLUMNS NEAR APH Tier 2	CQP 6827	I
154	36	113	COLUMNS NEAR APH Tier 3	CQP 6827	I
155	36	151	BEAMS AND BRACINGS NEAR APH Tier 1	Drawing/GMS	III
156	36	152	BEAMS AND BRACINGS NEAR APH Tier 2	Drawing/GMS	III
157	36	153	BEAMS AND BRACINGS NEAR APH Tier 3	Drawing/GMS	III
158	36	353	NON-MBL FLOOR BETWEE	Drawing/GMS	III
159	36	355	NON-MBL FLOOR BETWEE	Drawing/GMS	III
160	36	362	MAIN FLOOR VI MBL 2ND	Drawing/GMS	III

Doc.No. 1848-1849 PGMA Structures Catlist Rev.:00				DATE:30.1.2025	
Sl.No.	PG	MA	DESCRIPTIONS	Doc No.	Category
161	36	814	FLOORGRILLSANDGUARDP	VQP	II
162	36	853	HANDRAILS AND POSTS	Drawing/GMS	III
163	36	354	NON-MBL FLOOR BETWEE	Drawing/GMS	III
164	36	356	NON-MBL FLOOR BETWEE	Drawing/GMS	III
165	36	363	NON_MBL FLOOR ABOVE	Drawing/GMS	III
166	36	364	NON MBL FLOOR ABOVE MBL VI	Drawing/GMS	III
167	36	365	NON MBL FLOOR ABOVE MBL VI	Drawing/GMS	III
168	36	366	NON MBL FLOOR ABOVE MBL VI	Drawing/GMS	III
169	36	371	Floor Beams @ 79100 (MBL-7) 1st Pass	Drawing/GMS	III
170	36	372	Floor Beams @ 79100 (MBL-7) 2nd Pass	Drawing/GMS	III
171	36	373	Floor Beams @ 83400 (Tier-8)	Drawing/GMS	III
172	36	374	Floor Beams @ 87500 (MBL-8) 1st Pass	Drawing/GMS	III
173	36	377	Floor Beams 2nd Pass Tier-8	Drawing/GMS	III
174	36	610	BOILER ROOF STRUCTUR	Drawing/GMS	III
175	36	611	BOILER ROOF SHEETING	VQP	I
176	36	813	FLOORGRILLSANDGUARDP	VQP	II
177	36	341	MAIN FLOOR IV MBL 1ST	Drawing/GMS	III
178	36	342	MAIN FLOOR IV MBL 2ND	Drawing/GMS	III
179	36	343	NON-MBL FLOOR BETWEE	Drawing/GMS	III
180	36	344	NON-MBL FLOOR BETWEE	Drawing/GMS	III
181	36	351	MAIN FLOOR V MBL IST	Drawing/GMS	III
182	36	361	MAIN FLOOR VI MBL 1ST	Drawing/GMS	III
183	36	852	HANDRAILS AND POSTS	Drawing/GMS	III
184	36	331	MAIN FLOOR III MBL 1	Drawing/GMS	III
185	36	332	MAIN FLOOR III MBL 2	Drawing/GMS	III
186	36	334	NON-MBL FLOOR BETWEE	Drawing/GMS	III
187	36	336	NON-MBL FLOOR BETWEE	Drawing/GMS	III
188	36	337	NON-MBL FLOOR BETWEE	Drawing/GMS	III
189	36	338	NON-MBL FLOOR BETWEE	Drawing/GMS	III
190	36	812	FLOORGRILLSANDGUARDP	VQP	II
191	36	312	MAIN FLOOR I MBL 2ND	Drawing/GMS	III
192	36	315	NON-MBL FLOOR BETWEE	Drawing/GMS	III
193	36	316	NON-MBL FLOOR BETWEE	Drawing/GMS	III
194	36	740	POSTS AND HANGERS	Drawing/GMS	III
195	36	811	FLOORGRILLSANDGUARDP	VQP	II
196	36	700	Hsfg Bolts	Drawing/GMS	III
197	36	701	Fasteners	Drawing/GMS	III
198	36	381	LAND & CONN PLAT LOW	Drawing/GMS	III
199	36	382	LAND & CONN PLAT MID	Drawing/GMS	III
200	36	398	HEAVY SLIDE BEARING PLATES	Drawing/GMS	III
201	36	620	BOILER SIDE CLADDING	VQP	I
202	36	613	RAIN WATER PIPES and	Drawing/GMS	III
203	36	392	MISCELLANEOUS PLATFO	Drawing/GMS	III
204	36	395	MISCELLANEOUS PLATFO	Drawing/GMS	III
205	36	396	Slide Bearing Plates	Drawing/GMS	III
206	36	621	BOILER SIDE CLADDING	VQP	I
207	36	630	OTHER BOILER SIDING	Drawing/GMS	III
208	36	631	OTHER BOILER SIDING SHEETING	Drawing/GMS	III
209	36	393	APH, SCAPH, HANDLING	Drawing/GMS	III
210	36	391	MISCELLANEOUS PLATFO	Drawing/GMS	III
211	36	394	MISCELLANEOUS PLATFO	Drawing/GMS	III
212	38	410	MILL MAINTANANCE PLA	Drawing/GMS	III
213	38	810	FLOORGRILLS AND GUAR	VQP	II
214	38	310	CONN PLATFORMS TO MI	Drawing/GMS	III
215	38	710	LIFT MACHINE ROOM DE	Drawing/GMS	III

Doc.No. 1848-1849 PGMA Structures Catlist Rev.:00				DATE:30.1.2025	
Sl.No.	PG	MA	DESCRIPTIONS	Doc No.	Category
216	38	510	LIFT BEAMS AND BRACI	Drawing/GMS	III
217	38	210	INTER CONN PLATFORMS	Drawing/GMS	III
218	38	611	ELEVATOR CLADDING SH	VQP	I
219	38	299	MILL HANDLING MONORA	Drawing/GMS	III
220	38	610	ELEVATOR CLADDING ST	VQP	I
221	38	850	HAND RAILS AND HAND	Drawing/GMS	III
222	38	820	STAIRS AND LADDERS	Drawing/GMS	III
223	38	993	CONSUMABLES AND EREC	Drawing/GMS	III
224	39	012	FOUNDATION MATERIALS	Drawing/GMS	III
225	39	993	CONSUMABLES AND EREC	Drawing/GMS	III
226	39	141	COLS FRAMES NEAR ID	Drawing/GMS	III
227	39	142	COLS FRAMES NEAR ID	Drawing/GMS	III
228	39	700	HSFG FASTENERS FOR P	Drawing/GMS	III
229	39	820	STAIRS	Drawing/GMS	III
230	39	150	COL FRAMES BETN I.D.	Drawing/GMS	III
231	39	101	COLUMNS FRAMES BEFOR	Drawing/GMS	III
232	39	299	Platforms - Before ESP	Drawing/GMS	III
233	39	300	PLATFORMS - AFTER ESP	Drawing/GMS	III
234	39	850	HAND RAIL AND HAND R	Drawing/GMS	III
235	39	305	FAN HANDLING STRUCTU	Drawing/GMS	III
236	39	306	FAN HANDLING STRUCTU	Drawing/GMS	III
237	39	102	COLUMNS FRAMES BEFOR	Drawing/GMS	III
238	39	810	FLOOR GRILL	Drawing/GMS	III
239	39	304	FAN HANDLING STRUCTU	Drawing/GMS	III

Notes:

Category I : Quality plan approval by M/s DVC & physical inspection as per the approved quality plan is envisaged.
Category II : Quality plan approval by M/s DVC & physical inspection as per the approved quality plan only by BHEL/ BHEL's TPIA.
Category III : Inspection will be done by BHEL/BHEL's TPIA . Clearance by M/s DVC is based on COC submitted by BHEL. Painting will be done as per BHEL Standard painting scheme.All other PGMA's & items which are not indicated in the above list, are to be considered as Category III items



JEYARAM .M

Sr. Manager /QA/BHEL Trichy

BHARAT HEAVY ELECTRICALS LIMITED
Tiruchirapalli - 620 014

DVC – KODERMA TPS, PHASE-II (2X800MW) - UNIT-III & IV

Ref: PL: C3-PS/1848-Rev.00 & customer comments on painting schedule submitted.

BHEL Reply against DVC comments/ observations on the referred painting schedule as follows

1. **DVC comment:** Sheet 3 of 13, Sl. No. 2, primer coat shall be Red Oxide Zinc Phosphate Dip coat primer to PR: CHEM: 09 – 03, DFT=35µm per coat.

BHEL reply: These components are basically having threaded and machined surfaces. As per DVC spec, Part B, Book 4 of 5-Civil, Section –VI, Sub section D-1-6, Page 23 of 26, Cl. 6.04.02 B) - All threaded and other surfaces of foundation bolts and its materials, insulation pins, Anchor channels, sleeves, etc. shall be coated with temporary rust preventive fluid. Hence painting scheme retained as submitted earlier.

2. **DVC comment:** Sheet 6 of 13, Sl. No. 8 – Items should be segregated based upon temperature exposure and accordingly applicable painting schedule may be incorporated.

BHEL Reply: Noted. Temperature is indicated in the description. Painting scheme has been incorporated in line with spec, section-VI, part B, sub sec A-12, page 06 of 08, Cl. B-01) All surface with temperature 95°C or less. This scheme has been followed for NTPC projects as well.

3. **DVC comment:** Sheet 7 of 13, Sl. No. 9 – As per temperature, applicable painting shall be as per PS9* (heat resistant aluminium paint to IS13183 Gr.II) – Refer NIT clause B.2 under Sl.no.1.06.11, book 1 of 5.

BHEL Reply: These components will be exposed to flue gas path. Therefore, painting scheme of section-VI, part B, sub sec A-12, page 06 of 08, Cl. B). Note-1.0. has been proposed. Tender specification is complied.

4. **DVC comment:** Sheet 8 of 13, Sl. No. 11, Forged valves – painting scheme shall be heat resistant aluminium paint to IS13183 Gr.I/II.

BHEL Reply: Reference clause is section-VI, part B, sub sec A-12, page 06 of 08, point no.2. Phosphate coating has been proposed in line with tender spec. Tender specification is complied. This scheme has been followed for NTPC projects as well.

5. **DVC comment:** Sheet 8 of 13, Sl. No. 11 soot blower components. – painting scheme shall be heat resistant aluminium paint to IS13183 Gr.I/II.

BHEL Reply: soot blower housing will be having maximum temperature up to 90 deg.C only. Hence heat resistant aluminium paint is technically not suitable for these surfaces. Therefore, painting has been proposed as per tender spec section-VI, part B, sub sec A-12, page 04 of 08, Cl. B-01) All surface with temperature 95⁰C or less. For high temperature surface of valve head assembly, heat resistant aluminium paint was indicated in note 19, Sheet 11 of 13. Tender specification is complied. This scheme has been followed for NTPC projects as well.

Revised document is submitted for approval.

DVC- KODERMA TPS, PHASE-II (2X800MW)

KODERMA DIST, JHARKHAND

CUSTOMER NO: U8-1848/1849 UNIT – III&IV

PAINTING SCHEDULE

Prepared by	K. Srinivasan Manager/ Plant Lab		Document No: PL: C3 - PS / 1848
Reviewed by	K. Rajmohan AGM/ PE/ FB		Revision No: 01 Dated: 05-04-2025
Approved by	A. Santhakumari AGM / Plant Lab		Sheet No. 01 of 13.

Customer Drawing No. : 3112-001-102-PVM-H-006A

JOB NO :

PROJECT: 2X800 MW DVC KODERMA TPS PHASE-II

STATUS: CONTRACT

DISTRIBUTION



DAMODAR VALLEY CORPORATION

TO									
No. of									
REV.	Date	ALTD	CHD	APPD					

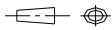


BHARAT HEAVY ELECTRICALS LTD.
UNIT: HIGH PRESSURE BOILER PLANT
TIRUCHIRAPPALLI – 620 014

Dept Code	Name	Sign	Date
DRN			
DESN	KS	-sd-	05.04.25
CHD	KR	-sd-	05.04.25
APPD	AS	-sd-	05.04.25

TITLE:

Painting schedule for SG & Auxiliaries

						DEPT.	SCALE	DRAWING. NO. PL: C3 - PS / 1848
						SIGN.		SHEET 1 OF 13
						DATE.		REV 01

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APPROVED

By OM PRAKASH at 7:12 pm, Apr 18, 2025

RECORD OF REVISIONS

Rev. No	Date	Details of revision	Remarks
00	30-01-2025	New	Prepared in line with Bidding Doc. No. DVC/C&M/ENGINEERING/KTPS (2X800MW)/EPC/IPHB & related amendments and corrigendum No.10 (technical clarification no.2) Dt.30.12.2023 to Bidding Documents.
01	05-04-2025	Sheet 06 – Temperature is indicated in the description.	Modified as per DVC comments for approval.

Sl. No.	PGMA / Description	Surface Preparation & Surface Profile	Primer coat		Intermediate coat		Finish coat			Total DFT μm (min)
			Paint	No. of coats	Paint	No. of coats	Paint	No. of coats	Shade	
1 PS10	<u>Collector & Separator Vessels (Except Internals), Supports</u> 04 –321,323;	SSPC-SP3/ Power Tool Cleaning	Heat Resistant Aluminum Paint to IS 13183 Gr. I DFT 20 μm per coat	1	--	--	Heat Resistant Aluminum Paint to IS 13183 Gr. I DFT 20 μm per coat	1	Aluminum	40
2 PS5	<u>Collector & Separator Vessels internals and Dd items (threaded and machined surfaces only)</u> 04-347;07-331, 360, 361, 362, 393; 08-911,912,913;09-304;12-306, 314, 317, 12-324, 327, 328, 344, 348, 354, 393; 17-304,306,319;19-306,307; 28-700; 32-700; 35-190, 701,721,722,723,724, 725, 726,727; 35-728,730;36-700, 701, 721, 722, 723; 39- 700; 41-710;42-700,710;43-710; 45-710;47-710; 48-019,700;65-710;67-710; <u>Foundation materials:</u> 35-010; 39-012;	SSPC – SP3 Power Tool Cleaning	Rust Preventive Fluid to PR: CHEM: 09 – 04 DFT=25 μm per coat	1	--	--	--	--	25	
3 PS19S1	<u>Boiler supporting structures, Columns, Girders, Bracings</u> 35-131 to 138,141 to 148,151 to 158; 35-181 to 188,211,212; 35-311,312,321,322,331,332,341,342; 35-351,352,361,362,371,372,374,375; 35-511 to 518,521 to 528,531 to 538;	Blast cleaning to SA2 ½ (Near white metal) conforming to ISO 8501-1 with surface profile 40-60 μm	Inorganic Ethyl Zinc Silicate Primer DFT=70 μm per coat (refer sheet 12 Sl.no.11 for details)	1	Polyamide cured epoxy with MIO content. Minimum DFT 100 μm per coat (refer sheet 12 Sl.no.10 for details)	1	Aliphatic isocyanate cured acrylic finish paint DFT 70 μm (refer sheet 12 Sl.no.2 for details)	1	Smoke Grey Shade No: 692 of IS: 5	240

For structural steel, all coats shall be applied at shop.

S. No.	PGMA / Description	Surface Preparation & Surface Profile	Primer coat		Intermediate coat		Finish coat			Total DFT μm (min)
			Paint	No. of coats	Paint	No. of coats	Paint	No. of coats	Shade	
3 PS19S1 (Contd.)	<u>Galleries, Stair-ways & inter connecting Walkways</u> 36-111 to 113,151 to 153,311 to 316,321 to 326, 36-331 to 338,341 to 346,351 to 356,361 to 366, 36-371 to 377,381 to 383,391 to 395, 36-610,613,620,621,630,631,740,993; 38-210,299,310,410,510,610,710,993; <u>ID system structures.</u> 39-101,102,141,142,150,299,300; 39-304,305,306,993; <u>Duct supports</u> 48-015,115,145,205,225,265,385,435,465; 48-485,495,665; <u>Buck stays</u> 08-001,003,006,007,111,380,501,503,901,910; <u>Platforms & Beams:</u> 35-213,214,221,222,231,232; 35-381 to 388,390,441 to 448,451 to 458,993,995;	Blast cleaning to SA2 ½ (Near white metal) conforming to ISO 8501-1 with surface profile 40-60 μm	Inorganic Ethyl Zinc Silicate Primer DFT=70 μm per coat (refer sheet 12 Sl.no.11 for details)	1	Polyamide cured epoxy with MIO content. Minimum DFT 100 μm per coat (refer sheet 12 Sl.no.10 for details)	1	Aliphatic isocyanate cured acrylic finish paint DFT 70 μm (refer sheet 12 Sl.no.2 for details)	1	Smoke Grey Shade No: 692 of IS: 5	240
4 PS9	<u>Components >95° C Insulated other than components in Sl.No.7 &9</u> <u>Max temperature 400 deg.C</u> Ring Headers, Down Comers, Hot air Headers outside the gas path etc. 05-137,147,155,227,231,251,327,330,350; 07-102,110,125,217,223,231,232; 12-178, 850,852, 900; 17-407,476,807; 18-001,002,010,701; 19-701,702,903;	SSPC-SP3/ Power Tool Cleaning	Heat Resistant Aluminium Paint to IS 13183 Gr. II DFT 20 μm per coat	1	--	--	Heat Resistant Aluminium Paint to IS 13183 Gr. II DFT 20 μm per coat	1	Aluminum	40
For structural steel, all coats shall be applied at shop.										

Sl. No.	PGMA / Description	Surface Preparation & Surface Profile	Primer coat		Intermediate Coat		Finish coat			Total DFT μm (min)
			Paint	No. of coats	Paint	No. of coats	Paint	No. of coats	Shade	
4 PS9 (Contd.)	Hot Air: 48-018,022,116,202,204,207,208,212; 48-214,222,224,262,264,267,662,664,667; Flue Gas: 48-372,382, 384,386, 48-432,434,462,464,482,484,492,494,496,498;	SSPC-SP3/ Power Tool Cleaning	Heat Resistant Aluminium Paint to IS 13183 Gr. II DFT 20 μm per coat	1	--	--	Heat Resistant Aluminium Paint to IS 13183 Gr. II DFT 20 μm per coat	1	Aluminum	40
5 PS 9	<u>Components >95° C uninsulated other than components coming in gas path.</u> Temp: >95°C & <400°C 42-200,300; Instrument tappings, doors: 48-200,915;	SSPC-SP3/ Power Tool Cleaning	Heat Resistant Aluminium Paint to IS 13183 Gr. II DFT 20 μm per coat	1	--	--	Heat Resistant Aluminium Paint to IS 13183 Gr. II DFT 20 μm per coat	1	Aluminum	40
6 PS 10	Components uninsulated other than components coming in gas path. (Temp: >400°C & <600°C) 09-003,004,005; 28-220; Components insulated (Temp: >400°C & <600°C) RH & SH headers 10-135,174,176,178,191,235,274,276,278,283, 10-284,285,291; 15-136, 178,236,278;	SSPC-SP3/ Power Tool Cleaning	Heat Resistant Aluminium Paint to IS 13183 Gr. I DFT 20 μm per coat	1	--	--	Heat Resistant Aluminium Paint to IS 13183 Gr. I DFT 20 μm per coat	1	Aluminum	40
7 PS2	<u>Loose tubes, SH, RH & Eco. coils</u> 11-074,078,374,378,406,467,469, 11-487,491,494,606,608,684,694,716,717,718, 11-767,768,769,787,791,916,917,918,967,968, 11-969,987,991;12-179,181,184,187,368, 12-405,514,524,544,554; 12-800,803,805,862,903,914,917,924,927,928,944,948; 12-954,968; 16-201,202,203,270,278,379; 19-092,402,804,814,824,853,884,914,924,984;	SSPC – SP2 or SSPC – SP3 Hand tool / Power tool cleaning	Red Oxide Zinc Phosphate Dip coat primer to PR: CHEM: 09 – 03 DFT=35 μm per coat	1*	--	--	No paint	No paint	Red Oxide	35

*-In lieu of dip painting, 2 coats of brush painting of Red Oxide Zinc Phosphate primer to a coating thickness of 60 μ is also permitted in line with Sr.No.9.

Sl. No.	PGMA / Description	Surface Preparation & Surface Profile	Primer coat		Intermediate Coat		Finish coat			Total DFT μm (min)
			Paint	No. of coats	Paint	No. of coats	Paint	No. of coats	Shade	
8 PS1A1	Components <95°C (Spec, section-VI, part B, sub sec A-12, page 06 of 08, Cl. B,-01) Miscellaneous and casing sheets 04-147,547; 07-409,431,460,461,462,502,503,509,531,560; 12-506,600,906,907;17-919; 30-233,234; 36-396,398,611; 38-611; Fuel firing: 41-350,390,500,997; Steam blowing piping 42-001,002,005,010,046,065,070,120,152,154, 42-157,997; 43-004,005,104,105,200,997; 45-200,801,802, 804,805,858,997; 47-281,283, 858,997; Duct plates, expansion joints 48-911,912; Coal Feeding 65-736,997; 67-204,272,276, 283,801,802,803,997; 95-088,091,485;97-585, 592; \$Handling equipment:99-099,100,300,400,600; Impulse lines: 24-800 Seal air ducting: Cold Air duct:48-012,014, 112,114, 141; Tempering Air: 48-142,144; (Refer note 22 for chequered plates)	SSPC-SP3/ Power Tool Cleaning	Red Oxide Zinc Phosphate Primer (Alkyd Base) to IS 12744 DFT= 30 μm per coat	2	--	--	Synthetic Enamel paint (Long Oil Alkyd) to IS 2932 DFT= 20 μm per coat	2	Smoke Grey Shade No: 692 of IS: 5	100

\$ - Final Shade is Golden yellow for under hung crane, Chain Pulley Block, Ratchet Lever and Trolley with hoist. Black shade for Hook.

Sl. No.	PGMA / Description	Surface Preparation & Surface Profile	Primer coat		Intermediate coat		Finish coat			Total DFT μm (min)
			Paint	No. of coats	Paint	No. of coats	Paint	No. of coats	Shade	
9 PS3	<u>Components >95° C coming in the gas path, Headers, Commissioning Spares & erection Materials etc.,</u> 06-400,401,431,434,437,441,444, 06-447,451, 453,455,500,501,515,731,732, 06-734,735,737,741,744,745,747,751,752,753, 06-755, 759; 07-309,315,316,318,423, 993; 10-182,183,184,185; 11-474; 12-993;17-174,504,506,900,903; 19-704,753,763,783,793,802,850,851,852; 20-988,998; 30-103,105,212,215,219,223,224,235; 31-010,104; 32-010,210,810; 37-010; 41-988; 42-858,988; 48-993; 65-200; 67-200; 95-988;96-193; 97-282,287,297,298,407,577,590,591; 97-593,599;99-501,514; (Refer note 20 for info about 32-210)	SSPC-SP3/ Power Tool Cleaning	Red Oxide Zinc Phosphate Primer (Alkyd Base) to IS 12744 DFT= 30 μm per coat	2	--	--	No paint	No paint	Red oxide	60
10 PS6	<u>Hand rails and posts, ladders / rungs</u> 35-821,822,823,851; 36-820,821,822,823,851,852,853; <u>Floor Grills, Step treads</u> 35 – 811,812; 36-811,812,813,814; 38-810,820,850; 39-810,820,850;	SSPC – SP8/ Acid pickling	Hot dip Galvanizing to a coating weight of 610 g/m ² (minimum) and to a coating thickness of 85 μm . Refer Notes given below **							

Notes **: The Guard plates, Hood Ladders, Stringer channels, angles and plates shall be painted as per painting scheme prescribed in Sl. No: 03.

PAINTING SCHEME FOR VALVES

Sl.No.	PGMA / Description	Surface Preparation & Surface Profile	Primer coat		Intermediate coat		Finish coat			Total DFT μm (min)
			Paint	No. of coats	Paint	No. of coats	Paint	No. of coats	Shade	
11 @PS 9/10	<u>Cast carbon steel valves (Conventional)</u> <u>Cast alloy steel valves (Conventional)</u> <u>All API valves, QCNRV, SV & SRV Silencers,</u> <u>Safety valves & ERV</u>	SSPC-SP3/ Power Tool Cleaning	Heat Resistant Aluminium Paint to IS 13183 Gr.II/I DFT= 20 μm per coat	1	--	--	Heat Resistant Aluminium Paint to IS 13183 Gr.II/I DFT= 20 μm per coat	1	Aluminum	40
	Forged valves	Chemical cleaning	Phosphating to a coating weight of 1500 mg per Sq.ft.	--	--	--	--	--	--	--
1AS2	<u>Soot Blower components</u> 20-051,054,201,204,511,794,962 (Refer note 19 for valve head assembly)	Blast cleaning to SA2 1/2 (Near white metal) with surface profile 15-30 μm	Red Oxide Zinc Phosphate Primer (Alkyd Base) to IS 12744 DFT= 30 μm per coat	2	--	--	Syn. Enamel paint (Long Oil Alkyd) to IS 2932 DFT= 20 μm per coat	2	Verdigris Green Shade No. 280 of IS5	100
	HP / LP system	SSPC-SP3/ Power Tool Cleaning	Heat Resistant Aluminium Paint to IS 13183 Gr.I DFT= 20 μm per coat	1	--	--	Heat Resistant Aluminium Paint to IS 13183 Gr.I DFT= 20 μm per coat	1	Aluminum	40

@ Heat resistant silicone based aluminum paint to IS 13183 Gr.II shall be applied for temperature up to 400 deg.C, Gr. I shall be applied for temperature >400 deg.C and up to 600 deg.C.

Sl. No.	PGMA / Description	Surface Preparation & Surface Profile	Primer coat		Intermediate coat		Finish coat			Total DFT μm (min)
			Paint	No. of coats	Paint	No. of coats	Paint	No. of coats	Shade	
12 PS15	<u>For CLH & VLH*</u> PGs 07,08,12,17,19,21,24,47,48 &80 07-402,403,405;12-517,528; 17-904,906; 19-506,507,904,905, 906,907; 48-206,395;	Blast cleaning to SA2 ½ (Near white metal) with surface profile 35-50 μm	Epoxy zinc rich primer To IS 14589 Gr. II (latest) %VS=35, (min) DFT=40 microns per coat	1	--	--	Aliphatic acrylic Poly-urethane paint to IS13213 (latest) %VS=40.0 (min) DFT= 30.0 microns per coat	1	Phirozi Blue Shade No. 176 of IS5	70
13 PS8C	<u>Components > 95°C & <200 °C, un-insulated Fuel pipes</u> 47-200, 289;	SSPC-SP3/ Power Tool Cleaning	Heat Resistant Aluminium Paint to IS 13183 Gr. III DFT 20 μm per coat	1	--	--	Heat Resistant Aluminium Paint to IS 13183 Gr. III DFT 20 μm per coat	1	Aluminum	40
14 PS 1BE	All Columns below '0' level (embedded in concrete) PGs 34,35,36,38, 39	SSPC-SP3/ Power Tool Cleaning	HB Chlorinated Rubber Based Zinc Phosphate primer %VS=40, (min) DFT=50 microns per coat	1	--	--	No paint	No paint	Grey	50

*- For components other than CLH & VLH, painting scheme shall be as given in Sl. No. 8.

NOTES:

1. Rust Preventive Coating should be given on HSFG Bolt and nut threads. After torque tightening of the same, Zinc rich epoxy primer to 70μ shall be applied after power tool cleaning.
2. Machined surfaces and all retainers are to be applied with a coating of Temporary Rust Preventive oil.
3. All threaded and other surfaces of foundation bolts and its materials, insulation pins, Anchor channels, Sleeves, shall be coated with Temporary Rust Preventive Fluid and during execution of civil works; the dried film of coating shall be removed using organic solvents.
4. Ground shade/ Colour of Finish paints & identification tag/Band for equipments, pipings pipe service, boiler supporting structures and other boiler components shall be followed as per DVC color coding scheme.
5. PGMA's under Sub-Vendor items are not indicated. For all bought-out and sub-vendors items including PGMA's mentioned above falling under the scope of BHEL the same scheme as for main equipment as covered in this document shall be followed. Vendor standard practice has to be followed for PGMA not specified in this document.
6. This painting Schemes is valid for only Customer No: U8/1848 & 1849, DVC KODERMA - 2X800 MW.
7. No painting is required for Stainless Steel, non-ferrous & galvanized components.
08. Wherever inside surfaces of components under PGMA 48 – XXX & others, need protection till erection, two coats of Red-oxide zinc phosphate primer paint to IS12744 to a DFT of 60 microns shall be applied, after power tool cleaning. This includes duct inside surfaces, truss, beams, gusset plate, guide vanes, divider plates, rectifier, divider vanes etc. coming in the gas path.
09. The Temporary Rust Preventive coating that already been applied on any components, tubes, pipes etc., shall be visually inspected for good adherence. If the coating is intact, direct coating of alkyd based red oxide paints over the coating is permitted. In case, the coating has peeled off over a large area, then the coating is to be removed by suitable solvents / heating to 350 –400 °C for an hour before primer paint application –but, in this case, it should be ensured that the minimum surface cleanliness required for primer paint application shall be SSPC – SP2 (equivalent – Hand Tool cleaning).
10. In components, wherever plates / sheets of thickness less than or equal to 5 mm and rods of ≤ 25 mm/tubes/drain pipes & bent rods are used, power tool / hand tool cleaning to SSPC – SP3 / SP2 shall be followed and the painting shall be done as described in SL.No.8.
11. For all commissioning components-erection materials (xx-993) two coats of Red oxide Zinc Phosphate Primer shall be applied to meet the temporary protection till erection, after power tool cleaning.
12. Touch-up paintings, making good any damaged shop painting and completing any unfinished portion of the shop coat shall be carried out as per clause applicable painting scheme.
13. All components covered under different PGMA's are to be painted. In case any component is left out, the same shall be deemed to be included under the relevant section based on paint logic approved.
14. For very small components like clamps, bent rods, small plates etc. which are not having feasible dimensions for blast cleaning, painting scheme of SL.No.8 shall be followed.

15. For very small components with weldable primer at edges, the entire component shall be applied with weldable primer. Structural members having welded connections at site, relevant area can be painted with weldable primer.

16. Painting scheme for all temporary structures like 04-196 shall be PS 1AE i.e. 1 coat of Red oxide Zinc Phosphate primer (Alkyd Base) to IS 12744-DFT-30 μ and 2 coats of Synthetic Enamel paint (Long Oil Alkyd) to IS 2932-DFT-2X20 μ Shade Yellow –Shade No. 356 of IS 5- Total DFT 70 μ . These are to be cut & removed at site after erection. (It excludes components covered under Sr. No. 3 & 10 of description table).

17. For internal protection of Pipes, tubes, headers and other pressure parts, Volatile Corrosion Inhibitor (VCI) pellets shall be put (after sponge testing/ draining/ or drying) and subsequently end capped. The dosage of VCI pellets shall be approximately 100 g/ Cu.m. For tubes typically 4 – 5 tablets per end are to be put. For C & I items the dosage of self-indicating Silica Gel (colourless) shall be 250 g/ cu.m. (About 2 to 3 bags weighing approximately 100 grams each). VCI pellets shall not be used for stainless steel components and its composite associates.

18. All threaded components of spring assemblies and turnbuckles shall be galvanized and achromatized to 15 microns minimum thickness.

19. Soot blower components i.e Valve head assembly having high surface temperature (> 200 and <600 deg. C) shall be applied with protective coating as per PS9 (up to 400 deg.C) and PS10 (up to 600 deg.C)

20. Corner plate, sheet channel and fixing pins of PGMA 32-210 shall be painted as per scheme PS3 to total DFT of 60 microns.

21. It is mandatory that for finish coat each layer shall have a permanent DFT and free from any paint defects like sags, wrinkles etc. Total DFT of a component correspond to respective painting scheme has to be ensured and recorded by inspection agency as per QP. Where measured total dry film thickness falls below the specified minimum, an additional coat of finish paint shall be applied.

22. For chequered plates having thickness ≤ 5 , surface preparation can be power tool cleaning to St3 and painting shall be in line with Sl. No. 8.

23. Handrails, step treads of PGMA under Sl. No. 3 need to be galvanized in line with scheme for handrails (i.e. Sl .No. 10).

24. Inside surfaces of fabricated structure (e.g. Box type column) shall be painted with two coats of red oxide primer paint during fit up stage.

25. Painting of bunker structures to be in line with painting scheme of supporting structures (Sl. No. 3).

26. All steel structures shall be provided with painting as given in the specification. Further, painting system shall also meet the requirements of corrosivity category C3 (durability high) as per ISO 12944.

27. For items meant for Spares and subcontracting where no further processing is involved, the painting scheme selected shall be the same as that of similar product configuration/ description.

28. The paint/primer manufacturer's instructions covering thinning, mixing, method of application, handling and drying time shall be strictly followed.

Painting Scheme – Details for procurement & application purposes

Sl. No.	Generic nature of paint	Theoretical Covering Capacity Sq.m per Litre.	No. of pack	Volume solids, % (min)	DFT in microns per coat (approx.)	Shade	Shade No. to IS5	Mode of appln.	Over coating interval, Hrs.
1	Epoxy Zinc rich primer to IS14589 Gr.II (latest)	8	2	35	50	Grey	--	Spray	24
2	Two-pack aliphatic Isocyanate cured acrylic finish paint (solid by volume minimum 55% (min) with Gloss retention (SSPC Paint Spec No 36, ASTM D 4587, D 2244, D 523) of Level 2 (after minimum 1000 hours exposure, Gloss loss less than 30 and colour change less than 2.0 Delta – E).	13	2	55	70	Smoke Grey/ Phirozi blue	692/ 176	Airless Spray	24
3	Heat resistant Aluminium paint to IS 13183 Grade I/II (latest)	10	1	-	20	--	--	Brush / Spray	24
4	Red oxide zinc phosphate primer paint to IS 12744 (latest)	10	1	--	30	-	--	Brush / Spray	12
5	Red oxide Zinc Phosphate Dip coat primer paint to PR: CHEM: 09-03	10	1	--	35	--	---	Dip	12
6	Long oil alkyd synthetic enamel finish paint to IS2932 (latest)	17	1	--	20	Reqd. shade	Corrpdg. Shade no.	Brush / Spray	12
7	Temporary Rust preventive fluid to PR: CHE: 09 – 04	10	1	--	25	--	--	--	12
8	General purpose Aluminium paint to IS 2339 (latest)	10	2	--	20	Aluminum	--	Brush	12
9	HB Chlorinated Rubber Based Zinc Phosphate Primer-Colour Grey	8	1	40	50	Grey	--	Brush / Spray	12
10	Two component polyamide cured epoxy based polyamide cured MIO pigmented intermediate coat. (containing lamellar MIO minimum 30% on pigment)	8	2	80	100 (min)	Brown/ grey	--	Airless Spray	24
11	Two component moisture curing zinc (ethyl) silicate primer, metallic Zinc content 80% (min), Zinc dust quality shall be as per ASTM D 520 Type 2.	8	2	60	70 (min)	Grey	--	Airless Spray	24

The covering capacity of paints specified is only approximate. The paints and Rust Preventive fluid shall be procured from BHEL's approved suppliers.

Painting of Damaged Areas

(Areas where the paint has deteriorated badly by erosion and areas where the paint film has lost its adhesion and where the steel has rusted appreciably, should be repainted as follows)

Sl.No.	Components	Surface Prepa- ration	Primer coat		Intermediate coat		Finish coat			Total DFT μm
			Paint	No. of coats	Paint	No. of coats	Paint	No. of coats	Shade	
1	Paint damaged components fall under Sl.no: 3	Power tool cleaning of minimum 6" of surrounding areas to bare metal	Epoxy zinc rich primer to IS 14589 Grade II	2 T.DFT 70μ (min)	As given in scheme	1	As given in scheme	1	As given in scheme	As given in scheme