

**Part-A**

**Tentative future requirements for next 10 years for equipment and material for which capacity is available in India but imported due to cost competitiveness or other reasons (Domestically insufficient)**

Sl. No	Item Description	Rating (indicative)	HSN Code	Tentative future requirements for next 10 years (Refer Note at the end)
				Quantity #
1	Vacuum belt filter for FGD System (This item is part of Gypsum Dewatering system as indicated at sl.no. 24. So requirement is taken accordingly)	32-48 Ton per hour	84212900	80 set 1 set=2 nos per FGD Packages
2	Slurry Recirculation Pump for FGD system	9000-13500 m3/Hr Head-16 to 28 metre liquid column	84137099	80 sets (1 set is item required for 1 absorber)
3	Mist Eliminator for FGD system	made up of Polysulphone	84213920	80 sets (1 set is item required for 1 absorber)
4	Boiler Feed Pump (BFP)	1570 m3/hr Head 3595 metre liquid column	84137095	21 No
5	Drive Turbine for Boiler Feed Pumps	18-25 MW power	84068200	14 No
6	Turbine Cycle Heaters	LP heaters Pressure- 40 kg/cm2, HP heaters- 300 kg/cm2, Flow 1500- 2500 Ton per hour	84195010	56 No
7	Tube side sentinel relief valve for HP heaters	1" size	84814000	56 No
8	HP heater 3 way bypass valves	388 mm Nominal Bore Flow 2500 TPH Pressure-300 kg/cm2	84818030	14 No

9	HP/LP bypass valves	High pressure Bypass- 270 kg/cm <sup>2</sup> Low Pressure Bypass- 65 kg/cm <sup>2</sup> , Flow 600-900 TPH	84811000	HP bypass-14 No, LP bypass-14 No
10	HP Bypass oil supply system	Discharge Pressure of oil supply system- 140-200 kg/Cm <sup>2</sup>	84818030	28 No
11	Lube oil pump	Head- 15 - 20 Bar Flow- 3500-5000 Litre Per Minute	84139120	21 No
12	Hydraulic Motor for wagon tippler	Specific Torque upto 250Nm/Bar, Specific displacement upto 30Litre per revolution, 350 Bar	84289010	5 No
13	Hydraulic Motor for staker reclaimers	Specific Torque upto 850Nm/Bar, Specific displacement upto 75Litre per revolution, 350 Bar	84829900	12 No
14	Flame scanners	0-100% intensity for protection of boiler	90278090	238 No
15	Gear Box for Air Cooled Condenser (ACC)	200-250KW	84834000	320 No
16	Turbine Main Steam and Reheat steam Valves	Pressure-270 kg/cm <sup>2</sup> Flow- 750-1250 TPH	84812000	42 No
17	Cold Reheat Non Return Valve	Size-30 " Flow 800-950 Ton per Hour	84813000	14 No
18	Flame TV Camera	High Definition flame camera	85258090	14 No
19	Condenser Vacuum Pumps	20/30/40 standard cubic feet per minute	84141000	29 No
20	Agitators for FGD	Side & top entry	84798200	80 sets 1 set=item required for 1 absorber and common system

21	Air Cooled Condenser	A frame, single row forced draft, pressure 106-196 mmHg	84042000	4 No
22	Tube bundles for Air Cooled Condenser	Tube dimension W-212.5xH-19.4xL-11452 mm	84049000	5040 No
23	Membranes for Reverse Osmosis (RO) plant	8"/40"-Flow 2400 m3/hr	84219900	1500 No
24	Gypsum Dewatering System (Vaccum Belt Filter + vacuum pump + Primary & Secondary Hydrocyclones and Accessories)	32-48 Ton per hour	84213990	80 sets 1 set=Item required for one FGD Package
25	DDCMIS - Distributed Digital Control Monitoring and Information System	Latest state of the art microprocessor based DDCMIS	90318000	7 Set (1 set= requirement for 1 unit)
26	Public address system (PA system)	Internet Protocol (IP) Based	85185000	4 Sets (1 set= requirement for 1 project)
27	BFP Hydraulic coupling	power transmission 15 MW, speed upto 6000 rpm	84834000	7 No
28	Solar modules	more than 330W	85414011	36000 MW
29	Solar Inverters	200KW to 3.25MW	85044090	24000 MW
30	Filler wire for Boiler (TGS-ICM/CrMo TIG/UNION 1 Cr Mo)	TIG 1 Cr Mo FILLER	83113090	400 No
31	Wheel & axle assembly (without bearings) for BOBR	915mm	86071910	400 No
32	Non Intrusive electrical actuator	415V 3Phase	84819090	4500 No

**Note: 1. The projected requirement is based on NTPC's current plan to set up coal based units and associated spares requirement thereof. In case of non award of such coal units due to change in policy / plan by GOI/NTPC the projected requirement shall be adversely impacted.**

**2. # The total projected quantity indicated have two components i.e. likely requirement for 7 units of proposed new projects and O&M requirement for next 10 years.**

**3. Quantity/requirements indicated above are total requirements. Import of same may depend upon demand/supply situation, particular OEM and other conditions etc at that Particular time.**

**Part-B**

**Tentative future requirements for next 10 years for equipemnts for which no capacity exists in India and are totally Imported (Mandatory Import)**

Sl. No	Item Description	Rating (Indicative)	HSN Code	Tentative future requirements for next 10 years (Refer Note at the end)
				Quantity #
1	RIP bushings	420kV ( 1600A,1250A,2000A), 245kV(1250A),	85469090	108 No (420KV 1600 Amps)
2	Gas Insulated Voltage Transformer (VT)	400kV / 110V	85043100	24 No
3	Boiler separator safety valves	Set pressure in the range of 336 to 341 kg/cm2 Capacity 436 to 442Ton per Hour(TPH)	84814000	56 No
4	Boiler Reheater Safety valve	Set pressure in the range of 62 to 66 kg/cm2, Capacity 278 to 361 Ton per Hour	84814000	70 No
5	Boiler safety valve SPARES	Set pressure in the range of 50 to 320 kg/cm2	84814000	56 No
6	Boiler safety valve ERV	Set pressure 292 kg/cm2, Capacity 102 TPH, Set Pressure 60 kg/cm2 capacity-163 Ton per Hour	84814000	42 No
7	Boiler super heater safety valve	Set pressure in the range of 308 to 321 kg/cm2, Capacity 353TPH	84814000	28 No
8	Nucleonic Density Meter	Range 0 to 1800 kg/m3	90278090	16 No
9	Acoustic Pyrometer	High temperature measurement, (100-2000 Deg C)	90251920	7 No
10	Electro Hydraulic Scoop Actuator for Boiler Feed Pump (8 digit HSCN code is common for the actuator and Torque convertor)	Pressure 8-10 bar	84834000	7 No

11	Steam Generator Start up drain Recirculation Pump motor	Motor(450 KW, 3.3 KV)	84133030	7 No
12	Steam Generator Start up drain Recirculation Pump	Pressure 315.6 kg/cm2 Flow 830 m3/hr	84133090	7 No
13	High Concentration Ash slurry pump	Flow- 174 m3/hr, Pressure 38 Bar	84137010	14 No
14	O <sub>2</sub> analyzer	0-10% of Oxygen.	90271000	98 No
15	Turbine Rotor Forgings	Alloy steel (9-12 Chrome & 10-50 Ton) and (3.5 Ni-1.75 Cr-Mo-V & 50-150 Ton)	84069000	28 No
16	Forging of Generator rotors and retaining rings	Alloy steel forgings (100-150 Tons)	85030010	7 Nos rotor forging 14 nos retaining rings forgings
17	Resin insulated Bushings for GIS	400kV	85479090	120 No
18	Hollow Polymer Housing for Substation/ Switchyard equipment (CT,LA,CVT)	400KV	85469090	235 No
19	Borosilicate lining, Adhesive, Primer(FGD System)	Borosilicate liner, Adhesive & primer	70200029 35069190 32089090	70 sets (1 set=liner required for one Chimney 4000 SqM)
20	Resins for Condensate polishing units (CPUs)	Cation Resin	34021200	120000 Litre
21	Resins for Condensate polishing units (CPUs)	Inert Resin	34021110	12000 Litre
22	Resins for Condensate polishing units (CPUs)	Anion Resin	34021300	100000 Litre
23	Spray Nozzle for FGD absorber	For Absorber for BHEL technology proprietary item	84244900	40 sets (1 sets- Nozzle required for one absorber)

24	Cladded Plates of C276/ Cladded plate of Titanium	Carbon steel + C276/ Carbon steel + Titanium	72107000 81089010	75 sets, (1 set required for one absorber)
25	Carbon Brush	300 to 600 Volts	85452000	1140 No
26	Alloy Steel Pipes / Tubes	SA335P92/P91, T92/ T91, SS 304, Super 304H/TP347H	84029020	P91/92- 5000 T, T91/92- 7700T, Super 304/TP347H- 6300T
27	EHG (Electro Hydraulic Governor) Spares	High pressure (100 - 160 kg/cm2) Governing system	90318000	7 sets (1set requirement for 1 unit)
28	Generator Terminal Bushing	In the range of 21-27 KV	85471030	46 (42 +4)No
29	Steam and water analysis system (SWAS) Analysers	Analysers for monitoring of steam and water quality.	98010013	367 (315+52) No
30	Turbine Supervisory (Sensors and Electronic Control Modules)	For measurement of Turbine axial shift/ vibration/expansion etc	98010013	7 set ( 1set requirement for 1 unit)
31	Programmable Logic Control with accessories	Microprocessor based Programmable Logic Controller for monitoring and operation of few plant auxiliary systems.	85389000	28 No
32	Turbine Control Valve Servo Controller Modules	For interfacing between DDCMIS and the Control Valve	84819090	7 sets ( 1 set Requirement for 1 unit)
33	Dry Bottom Ash (BA) Handling System	100-150 Ton per Hour	98010013	5 No
34	VMS (Vibration Monitoring System)	Vibration monitoring System including vibration sensors, phase marker sensors etc for diagnostics and analysis of equipments.	90318000	7 set (1 set is requirement for 1 unit)

35	Slew ring for Stacker Cum Reclaimer	Up to 5m diameter	8482	6 No
36	Quick erect scaffolding	Alluminium scaffolding	73084000	4 set (1 set for 1 project)
37	On line coal Analyser (Nucleonic source)	Elemental Analyser	90318000	0
38	Coalescer type oil purifier	Meeting NAS 7 Requirement	84211999	11 No
39	Inert Gas Fire extinguishing System Components	200- 300 Bar, upto 4000 m3	90268090	6 sets ( 1 set is requirement for 1 Control Room)
40	Microprocessor based fire alarm and detection system.	Microprocessor based Programmable Logic Controller	85311020	7 set (1 set is requirement for 1 unit)
41	Mineral Insulated Copper Conductor Cable (MICC Cable)	2 core 1.5 / 2.5 Sqmm	85444999	56 km
42	Linear heat sensing cable	Digital cable for sensing 70/90 Deg C	85444999	200 km
43	Infra Red Fire Detector	For Coal conveyers	90318000	168 (48 +120)No
44	Probe type heat detector	For Heavy Fuel Oil and Light Diesel Oil Tanks	85319000	48 No
45	Rubber Lining (Absorber Tanks, Auxilliary Absorbent Tank & Slurry Tanks)	Bromo Butyl rubber based lining	40169990	80 sets (1 set requirement for 1 FGD System)
46	CCTV System	Internet Protocol (IP) Based system	90063000	4 set (1 set for 1 project)



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