

Procurement projections for next Three years (2021-2024)

Name of the Organisation- **Central Power Research Institute (CPRI)**

Website link – <https://cpri.res.in>

Ministry/Department – **Ministry of Power**

Sl. No.	Description of item	Broad Specification Parameters
1.	1400 MVA, 14/448kV single phase transformers	1400 MVA,14/448kV single phase
2.	Capacitor bank	11kV, 10.0 MVAR
3.	Master Circuit Breaker	14kV, 120kArms for 1 Second, 50Hz, Single pole Master Circuit Breaker
4.	Make Switch	1250MVA, 14kV, 120kArms for 1 second, 360kA peak
5.	Short circuit Current Limiting Reactor bank	Voltage rating : 14kVrms Tap reactance range at 50Hz : 0.74 to 5800 mΩ Rated tap short time current : 140 to 1.4 kArms for 1Second duration
6.	Data Acquisition System- Control & Automation	32-channel Data Acquisition System, it mainly consists of <ul style="list-style-type: none"> ✓ Mainframe based Control Unit ✓ Acquisition cards ✓ fiber-optic channels connected to separated measuring modules & transmitters by digital fiber-optic cables; ✓ Software tool with Human machine interface (HMI) 3 phase 33/11kV, 10/12.5MVA Tranformer,3 phase 11kV/(0-600V), 10/12.5MVA variable ratio transformer,3 phase 600/300V, 10MVA low impedance transformer,33kV , 11kV switchgear and control panel and Switchgear control for capacitor bank
7.	Bus Bar System	
8.	Three phase coupling Decoupling Network (CON) and Accessories for the existing EFT/Burst immunity test system (Model AX05 5 EFT/Burst make Haefely)	

9.	Automated Electric Vehicle Supply Test Facility Equipment	
10.	Sub Station and Allied equipment for establishing Online short circuit test facility	Isolators (220kV, 33kV,11kV), CT PT ((220kV, 33kV,11kV), Circuit breaker (220kV, 33kV,11kV)
11.	10/350 μ s Impulse Current Generator comprises of : (Capacitor, Inductors, dividers, shunts, charging rectifier, additional test items/ accessories etc.)	10/350 μ s
	Crowbar Sphere Gap 100 kV with Motorized distance setting of Crow-bar gaps, mobile base frame	
	Impulse Voltage Generator for triggering the crowbar	
	Impulse Analyzing System	
12.	Synthetic Test facility comprises of: New Oscillating Circuit (NOC) comprising of Charging Transformer, Reactors and Capacitors, Spark Gap, Short Line fault elements, Post Insulators, Pneumatic systems, etc.,	
13.	Feeders (for power testing and reactor switching) comprising busbars, EHV bushings, Disconnectors, Earthing Switches etc.,	
14.	Synthetic Making Circuits	
15.	Six position Fully Automatic Meter Test System (MTS) for whole current/ LTCT/HTCTPT operated Meter for active reactive and Apparent Energy- 0.02 Class reference Standard	
16.	Digital Insulation Tester	
17.	High Voltage Test Equipment	
18.	Portable Three phase Source with Reference Meter	Class 0.05 (Direct Mode), Class 0.2 (Clamp on Mode)

19.	3x10 kVA Online UPS for Backup of Equipment	
20.	AC Three Phase Phantom Load Source and load	
21.	Test Tool – CTT (Conformance Test Tool) for Protocol Testing (Static & Smart Meters, RTUs & IEDs)	
22.	Test Tool -FET (Functional Evaluation Tool) Indigenous for Protocol Testing (Static Meter)	
23.	Test Tool -FET (Functional Evaluation Tool) Indigenous for Protocol Testing (Smart Meter)	
24.	EMI/EMC Anechoic test chamber and measuring equipment for measurement of radiated emission of Smart meter	
25.	Climatic Chamber	
26.	Tamper Simulator	
27.	Flux meter	
28.	Security Conformance test tool for RTUs & IEDs	
29.	Motor-Generator Set	100 kVA, 0-470V, 50 to 100 Hz, three phase
30.	3 Phase Transformer	1. 100kVA, 440/880V, 50Hz, 2. 100kVA, 440/24000V, 50Hz,
31.	Digital Insulation Tester	1000V, 2000 MΩ
32.	Digital Power Analyzer, Four input element	1000V, 40A, Basic acc. 0.02, TFT LCD display
33.	Capacitor for bank for load loss measurement	864kVA, 1.039kV, 3 phase, 50Hz
34.	Current Transformer	1) 1.1kV (200-400)/5A 2) 1.1kV (50-100)/5A 3) 33kV 5/5 & 1/1A
35.	Voltage Transformer	(22-11)kV/ $\sqrt{3}$ /110/ $\sqrt{3}$

36.	Three phase Automatic Transformer Turns Ratio Meter/	(0.8 to 20000)/Acc. Class 0.1
37.	Dual channel transformer winding resistance meter	2mΩ to 2kΩ, 100mA-50A, 0.1 Acc. class
38.	High voltage power frequency set up with 100kV capacitive divider	100kV, 250mA.
39.	Impulse Generator	400kV, 20kJ
40.	MG Set / Transformer for Temperature rise test	100kVA
41.	Static Frequency Converter (SFC)	
42.	LV voltage EMI filters	
43.	.1200 kV, 12 A, Series Resonant Test (SRT) system with PD/RIV measuring system	1200 kV, 12 A
44.	High frequency EMI filters	(test frequency range 40-200 Hz)
45.	HF Reactors for compensations	
46.	Coupling Capacitor cum voltage divider	50 kV
47.	Partial discharge measuring system-Three dual channel (PD signal +Voltage input)	
48.	Partial discharge detector	
49.	Shielded room for equipment rating up to system	800 kV
50.	Step up transformer	1) (0-3.2 kV) 2) (0-24.5 kV)

51.	Impulse Voltage Generator	3200 kVp, 320 kJ
52.	Multiple chopped Gap arrangement	3200 kVp
53.	Universal Resistive divider	1000 kVp/600 kVp/350 kVrms/400 kVdc
54.	Capacitor banks	1) - 1 kV 2) - 3.2 kV
55.	Transformer winding Ratio Meter	
56.	Transformer winding Resistance Meter	
57.	Insulation resistance and Polarization index meter	
58.	Capacitance and dielectric dissipation factor meter	
59.	Power Analyzer	
60.	30 channel RTD temperature sensor with data logging	
61.	Current transformer	
62.	Voltage transformers	
63.	Outdoor HVDC 1000 kV, 2A DC/6A AC / AC –test set up with measuring system	
64.	Tower Crane	Height 105 m, Jib 74 m & Maximum capacity 5.60 ton at 74 m
65.	Mobile crane/ Material handling system (Hydra, Forklift, rigging winches /hoisting for winches at anchor towers, hand operated chain hoists) etc.	
66.	Universal Testing Machine (UTM)	100 ton

67.	Workshop Machinery & accessories etc.,	
	a. Radial Drilling Machine	
	b. Grinding Machine	
	c. Hydraulic Press /bending M/C	
	d. Hydraulic Torque wrench	
	e. Welding Machines (DO, SO, Portable), Cable, Screen etc.,	
	f. Hand held Machines	
68.	Hardwares (Shackles, Fasteners, Sheave pulley blocks), Steel wire ropes/slings & Accessories (Come Along Clamps, Wedge sockets), etc.,	
	a. Steel Wire Ropes & Accessories.	
	b. Sheave Pulley Blocks	
	c. D-Shackles	
	d. Come along Clamps	
	e. Pulleys	
	f. Fasteners	
	g. Socket Clamps	
69.	Meter Test System (MTS)	Six position Fully Automatic with 0.02 Class reference Standard for whole current/ LTCT/HTCTPT operated Meter for active reactive and apparent Energy
70.	Portable Three phase Source with Reference Meter	Class 0.05 (Direct Mode), Class 0.2 (Clamp on Mode)
71.	Torsion Test Equipment	
72.	Bending Test Equipment	
73.	Axial Pull Test Apparatus	
74.	Sun simulator	capacity of 500 Wp
75.	Damp heat chamber	
76.	UV (Ultra Violet) Pre-conditioning chamber	
77.	Salt Spray tester	
78.	Steady state Simulator	
79.	EL (Electroluminescence) tester	

80.	Draught proof Enclosure / Cap temperature rise measuring apparatus	
81.	Protection against electric shock test unit	
82.	Test Tool - CTT for Protocol Testing (Static & Smart Meters)	
83.	Test Tool -FET Indigenous for Protocol Testing (Static Meter)	
84.	Test Tool -FET Indigenous for Protocol Testing (Smart Meter)	
85.	Solar Pyranometers	
86.	Weather Station	
87.	SPV panel mounting structure	
88.	Mechanical Load tester	
89.	Hail stone tester	
90.	Solar array simulator	
91.	Fully Automatic 3 Positions, 200 A Energy Meter Test System.	-----
92.	Fully Automatic Ten Positions EnergyMeter Test System	-----
93.	Three Phase Variable Resistive Load	Operating Voltage: - Three phase 3x240 \pm 5%, 50Hz. Output voltage: Three Phase 3x240V \pm 5%, 50Hz current 0.5A to 50A and PF. 1.0
94.	Portable Three Phase Energy Meter Test System with Integrated Power Source and Reference Meter of Class 0.05	Test system shall be CE compliant for operating and safety requirements. sShall meet requirement of IEC60736. Voltage source range 30V to 500V (Phase-Neutral) Current source range: 1mA to 120A.
95.	Hot and Cold Test Chamber	-----
96.	Tamper simulator for single phase energy meter	Input supply 240/440V Output supply 0 to 240 V
97.	Magnetic Influence Test Setup	-----
98.	Portable Three Phase Electronic Reference Standard Meter	-----
99.	500MHz Digital Storage Oscilloscope.	-----
100.	Damp Heat Cyclic Climatic Chamber.	-----

101	Transformer Routine and Temperature Rise Test Lab for Distribution and Power Transformers.	-----
102	800kV, 80kJ Impulse Voltage test System.	Generator output 800Kvp energy 80kj
103	Glow wire Test Apparatus.	-----
104	Three Phase Line Impedance Stabilization Network (LISN).	-----
105	Hand Held Hall Effect Gauss Meter.	-----
106	Test set-up for Short Time Over Current (6000A) Test on Energy Meters.	-----
107	12kV Combination wave Generator.	1.2 / 50 microseconds combination wave generator.
108	Three phase A.C. phantom source for energy meter testing.	-----
109	Combined temperature and damp heat cyclic climatic test chamber.	
110	Electrostatic discharge simulator (ESD) for energy meter testing.	Contact discharge ± 2 kv to 8 kv
111	Electric fast transient burst generator.	-----
112	Ingress Protection against water test system for IPX1 and IPX2.	
113	Dust Test Chamber for Conducting Ingress of Particles (IP) Test - 5X.	-----
114	RF Immunity Test Set-up by using GTEM Cell with Control Unit.	
115	Supply, Installation, Commissioning And Testing Of Isolation Amplifier (16 Channel)	
116	Voltage Dividers	52kv class.
117	Shunts For Measurement Of Current During Short Circuit Testing At OnLine Testing Laboratory	-----
118	High Speed Data Acquisition System (16 Channels)	-----
119	Automated Test Sequencer (32 Channel)	-----
120	Three Numbers Single Phase Current Limiting Reactor Banks X(52)	-----
121	High Voltage Test Equipment	5kv 200 mA.

122	Supply, Installation & Commissioning of 100MVA 12kV/550V - 750V Three Phase High Current Short Circuit Transformer T2.	-----
123	Supply, Installation & Commissioning of Rogowski Coils (06 Nos.).	-----
124	Supply, Installation & Commissioning of Earthing System for 800kV, 80kJ Impulse Lab (Including earthing work and material).	-----
125	10k V rms, 300kA peak, Rogowski Coils.	-----
126	"The Three Phase Coupling Decoupling Network (CDN) and accessories" compatible to the existing Surge Test System – Telecom Tester (Model MIG 0603IN2 S-T, Make EMC Partner).	----- -
127	"±1500 kV 50 mA HVDC test system"	----- -
128	-1000 kV _{DC} , 1 A HVDC test system along with Data Acquisition System (DAS)	----- -
129	SF6 Gas filling and evacuation station along with gas leakage detector	----- -

