

Project : 220 kV GIS at 2x60 MW Vyasi HEP
Customer : UJVN Ltd.

Breakup of Mandatory Spares			
S. No.	Item Description	Unit	Qty.
A.	Spares for 220kV GIS		
1	GIS Spares List		
1.1	Disconnecting switch complete with Operating mechanism and all necessary apparatus etc	Nos.	1
1.2	Safety Earth switch complete with Operating mechanism and all necessary connecting apparatus.	Nos.	1
1.3	Spare auxiliary contacts for disconnecting and safety grounding switches	Nos.	1
1.4	MCB (as applicable) of each type and rating (Document enclosed)	Nos.	1
1.5	Current Transformers complete in all respect including terminal connectors etc. (Secondary winding)	Nos.	1
1.6	220 kV Bus PT complete in all respect including terminal connectors etc.	Nos.	1
1.7	Circuit breakers complete with operating mechanism and all necessities apparatus	Set	1
1.8	Single phase SF6 gas insulated zinc oxide surge arrester	Nos.	1
1.9	Trip coils for circuit breaker	Nos.	3
1.10	Closing coils for circuit breaker	Nos.	3
1.11	SF6 gas cylinder with 40 kgs of SF6 gas	Nos.	1
1.12	SF6 to air Bushing (1-ph) (Polymer/ Composite/ Porcelain)	Nos.	1
2	Tools and Tackles and Testing Equipment		
2.1	SF6 gas filling and Evacuation equipment portable	Nos.	1
2.2	SF6 gas filtering, drying, storage and recycling plant	Nos.	1
2.3	SF6 Gas detector	Nos.	2
B.	Pothead Yard Equipment (AIS)		
1	Surge Arrester		
1.1	198 kV, 25mm/kV Surge arrester (single phase) complete with all accessories like corona ring(if required), terminal pad, surge counter, leakage/grading current meter, insulating base, lugs for connecting cable, fixing hardware etc.	Nos.	1
2	Capacitor Voltage Transformer		
2.1	220kV CVT complete with accessories excluding connector	Nos.	1
3	Wave Trap		
3.1	220kV, 1600A, 1.0mH, 50kA for 1 Sec, 1ph Wave Trap excluding insulators and structure	Nos.	1
4	ACSR Moose Conductor	m	200
C.	Secondary System		
1	Control, Protection and SAS		
1.1	C & R panels	Lot	1
1.2	SAS Panels	Lot	1
2	PLCC for 2 Lines		
2.1	For Vyasi S/s		
2.1.1	Power Supply card	Nos.	6
2.1.2	Power Amplifier card	Nos.	4
2.1.3	VF Interface Card	Nos.	4
2.1.4	Channel Modem card with TPG piggy	Nos.	4
2.1.5	Data Interface Card	Nos.	4
2.1.6	Supervisory card	Nos.	4
2.1.7	HF Hybrid Card	Nos.	4
2.1.8	HF RX Filter card	Nos.	4
2.1.9	HF TX Filter Module, consisting of HF filter high	Nos.	4
2.1.10	Mirco phones for direct voice communication	Nos.	4
2.1.11	Indicating lamps of each type	Nos.	3
2.1.12	Fuses of each types	Nos.	2
2.1.13	EPABX: CPU	Nos.	2
2.1.14	EPABX: PSU	Nos.	4
2.1.15	EPABX: Analog Line card	Nos.	2
2.1.16	EPABX: Junction card (E & M)	Nos.	2
2.1.17	Telephone 2 wire	Nos.	10
2.1.18	Line Matching Unit	Nos.	1
2.2	For Lakhwar & Dehradun S/s		
2.2.1	Telephone 2 wire	Nos.	10
3	48V Battery		
3.1	Battery Cells	Nos.	4
3.2	Connector Bolts (20% of installed Qty)	Lot	1
3.3	Inter cell connectors	Nos.	10
3.4	Vent plugs/caps/hardware of each type (10% of installed Qty)	Lot	1
3.5	Electrolyte (10% of installed Qty)	Lot	1
4	Battery Charger		
4.1	Ammeter and Voltmeter of each type used	Nos.	1
4.2	Shunt resistor of each type used in charger	Nos.	1
4.3	Diode/Thyristor or module of each type used	Nos.	3

4.4	Printed circuit cards of each type used	Nos.	2
4.5	Semi conducting type fast fuse	Nos.	20
4.6	Auxiliary fuse	Nos.	20
4.7	Auto Transformer	Nos.	1
4.8	Circuit Breaker of each type and size used in DB	Nos.	1
4.9	Indicating lamps of each type used in DB	Nos.	2
4.1	Control switch and supervision relay used in DB	Nos.	1
4.11	Voltmeter used in DB	Nos.	1
5	L.T. Switchgear		
5.1	Spares-DCDB		
5.1.1	Circuit Breaker of each type and size used	Nos.	5
5.1.2	Indicating lamps of each type	Nos.	20
5.1.3	Control switch and supervision relay of each type	Nos.	2
5.1.4	Voltmeter	Nos.	1
5.2	Spares-ACDB		
5.2.1	Push buttons of each type	Set	2
5.2.2	Fuses of all type used	Nos.	10
5.2.3	MCCB of each type used	Nos.	2
5.2.4	CTs and PTs of each type and rating	Nos.	3
5.2.5	Supporting insulator of each type used	Nos.	6
5.2.6	Contactors of each type used	Nos.	4
5.2.7	Indicating instruments of each type	Nos.	2
5.2.8	Under Voltage relays	Nos.	2
5.2.9	Over Current and E/F relays	Nos.	2
5.2.10	Indicating lamps used including assemblies	Nos.	10
5.2.11	Control and instrumentation switches	Nos.	3
D.	Auxilliary System		
1	Fire Detection and Protection system		
1.1	Hydrant Valve	Lot	1
1.2	Branch Pipe & Nozzle	Lot	1
1.3	Detector	Lot	1
1.4	Detection Cable	Lot	1
2	Ventilation System		
2.1	Filters	Lot	1
2.2	V Belts	Lot	1
3	10T EOT Crane	Lot	1