

SCADA BOQ for 1 No. 220kV / xx kV \pm 125MVAR, STATCOM Bay at 220kV SAGAPARA substation (To be Provided in STATCOM Building)				
Sr.No.	Particulars of Item	Unit	Erection Qty	Supply Qty
A	Supply, Erection, Testing and Commissioning of SCADA equipments and materials <u>(suitable to IEC 61850 Edition 2 as well as Cyber security compliant IEDs & system)</u> as per respective technical specifications and relevant special conditions and suitable for STATCOM System requirement in all respect			
1	Bay Control Unit / RTU for Substation Auxiliaries (If required separately)	Nos	1 #	1 #
2	Bay Control Unit for Protection Coupler of PLCC / FOTE **	Nos	0	0
3	HMI Server computer with required softwares***	Nos	2	2
4	DR workstation / Engineering PC***	No.	1	1
4a	DAS metering PC	No.		
5	Gateway for remote control with software	No	0	0
6	Gateway for SLDC Data with software	No	1	1
6a	Firewall	No	1	1
7	SCADA software (For local and Remote control centre)	No	1	1
8	Ethernet Fibre Switches*	Package	LS	LS
9	Line Interface unit - 4 Cable entry, 24 ports	Package	LS	LS
10	Line Interface unit - 8 Cable entry, 32 ports	Package	0	0
11	Dismantling of existing earth wire of the existing line portion	Km	0	0
12	Erection of OPGW on the whole line with all required accessories	Km		
13	OPGW Terminal equipments (FOTE) with required hardware and software for remote connectivity	Set	0	0
13A	Armoured Fibre Optic approach cable (Single mode) with HDPE duct for connecting OPGW to FOTE	MTR.	0	0
14	Laser Jet colour Printer	Nos	1	1
15	Laser Jet Printer	Nos	1	1
16	3 KVA UPS with Battery having Auto changeover scheme for seamless changeover (Battery - 12V SMF Battery set, Ah rating and Nos.shall be suitable for 2 hours back-up as per UPS DC Voltage rating)	Nos	0	0
17	3 KVA UPS without battery	Nos	0	0
18	Modem for RTU Data	Nos	0	0
19	Armoured Fibre Optic Cable with HDPE duct (Mutli mode)	Package	LS	LS
20	Yard Kiosk for 400KV Switchyard			
	Internal Dimensions - 4000 (L) X 3500 (W) X 3300 (H) mm	Nos	0	0
	Internal Dimensions - 5000 (L) X 3500 (W) X 3300 (H) mm	Nos	0	0
21	Yard Kiosk for 220KV Switchyard			
	Internal Dimensions - 4000 (L) X 3500 (W) X 3300 (H) mm	Nos	0	0
	Internal Dimensions - 5000 (L) X 3500 (W) X 3300 (H) mm	Nos	0	0
22	Yard Kiosk for 132KV Switchyard			
	Internal Dimensions - 4000 (L) X 3500 (W) X 3300 (H) mm	Nos	0	0
	Internal Dimensions - 5000 (L) X 3500 (W) X 3300 (H) mm	Nos	0	0
23	Yard Kiosk for 66KV Switchyard			
	Internal Dimensions - 4000 (L) X 3500 (W) X 3300 (H) mm	Nos	0	0
	Internal Dimensions - 5000 (L) X 3500 (W) X 3300 (H) mm	Nos	0	0
24	Panel for mounting SCADA equipments	Nos	1	1
25	Panel for mounting PLCC / FOTE BCU	Nos	0	0
26	Panel for mounting Station Auxiliaries BCU/RTU (If required)	Nos	1	1
27	False Flooring in SCADA Room of Control Building as per following ANNEXURE - 1	Sq Mtr	0	0
28	Furniture for SCADA equipments	Set	1	1
29	Panel for Mounting Spares	Nos	1	1

Sr.No.	Particulars of Item	Unit	Erection Qty	Supply Qty
	Spares for SCADA and Protection			
1	Transformer Differential Protection Relay	No	0	1
2	Bay control Unit (Highest configuration)	No	0	1
3	Ethernet Fibre Switch (Highest configuration)	No	0	1
4	LIU (Highest configuration)	No	0	1
5	STATCOM Branch Differential Protection Relay (If separate relay)	No	0	1

Note:

1) Any material/equipment accessories which are not listed in BOQ or scope of supply but required to complete the job shall be included and shown in technical bid.

2)*Ethernet switches shall have as many spare ports as utilized ports.

3) # Station Aux. BCU Panel shall be considered if required separately) If to be considered then, for station Auxiliary BCU shall have sufficient I/Os as per list or otherwise suitable RTU shall be provided.

4) Contractor shall be responsible for necessary co-ordination with FOTE and OPGW supplier & erection agency to establish remote connectivity and over all operation from Master Control Centre through SCADA system.

5)***UPS for monitor shall be provided as per Technical Specification.

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SCADA BOQ for 1 No. 220kV / xx kV \pm 125MVAR, STATCOM Bay at 220kV SAGAPARA substation (To be Provided in SAGAPARA Control Room)				
Sr.No.	Particulars of Item	Unit	Erection Qty	Supply Qty
A	Supply, Erection, Testing and Commissioning of SCADA equipments and materials <u>(suitable to IEC 61850 Edition 2 as well as Cyber security compliant IEDs & system)</u> as per respective technical specifications and relevant special conditions.			
1	HMI Server computer with required softwares**	Nos	1	1
2	DR workstation PC**	Nos	0	0
3	Gateway for remote control with software	Nos	0	0
4	Gateway for RTU Data with software	Nos	0	0
4a	Firewall	Nos	0	0
5	Ethernet Fibre Switch*	Job	LS	LS
6	Line Interface unit - 4 Cable entry, 24 ports	Nos	LS	LS
	Line Interface unit - 8 Cable entry, 32 ports		0	0
7	OPGW Terminal equipments (FOTE) with required hardware and software for remote connectivity	Set	0	0
7A	Armoured Fibre Optic approach cable with HDPE duct for connecting OPGW to FOTE	MTR.	0	0
8	Laser Jet colour Printer	Nos	1	1
9	Laser Jet Printer	Nos	1	1
10	3 KVA UPS with Battery having Auto changeover scheme for seamless changeover (Battery - 12V SMF Battery set, Ah rating and Nos.shall be suitable for 2 hours back-up as per UPS DC Voltage rating)	Nos	0	0
11	3 KVA UPS without battery	Nos	0	0
12	Modem for RTU Data	Nos	0	0
13	Yard Kiosk for 220 KV Switchyard	Nos	0	0
14	Yard Kiosk for 132 KV Switchyard	Nos	0	0
15	Yard Kiosk for 66 KV Switchyard	Nos	0	0
16	Panel for mounting SCADA equipments	Nos	1	1
17	Panel for mounting PLCC BCU	Nos	0	0
18	Panel for mounting Station Auxiliaries BCU/RTU	Nos	0	0
19	Furniture for SCADA equipments	Set	1	1

Note:

- 1) Any material/equipment accessories which are not listed in BOQ or scope of supply but required to complete the job shall be included and shown in technical bid.
- 2)*Ethernet switches shall have as many spare ports as utilized ports.
- 4)**UPS for monitor shall be provided as per Technical Specification.