MAHATRANSCO
Maharashtra State Electricity Transmission Co. Ltd.

Quarterly Schedules of Rates (SoR) for Supply, ETC of materials for 400kV & below projects and O&M works for Substations & Lines (SoR APR-2025)

MAHATRANSCO
Maharashtra State Electricity Transmission Co. Ltd.

MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO. LTD.
(CIN NO. U40109MH20055GC153646)

From,	To,
The Office of Chief Engineer (Projects), 5th Floor, A-Wing, Prakashganga, C-19, "E" Block, Bandra – Kurla Complex, Bandra (East), Mumbai – 400 051. Tel: 022-2659 5125 (O)/022-2659 5124 (P) E-mail: cecm@mahatransco.in	**The Chief Engineer,** EHV PC O&M Zone, Amravati/ Ch. Sambhajinagar/ Karad/ Nagpur/ Nashik/ Pune/ Vashi

MSECL/CO/Projects/Pre-Tender/SOR/QREV/ 005573 **Date:** 19 JUN 2025

CIRCULATION N0.6 (SoR APR-2025)

Subject: Circulation of Quarterly Schedules of Rates (SoR) for Supply & Erection, Testing & Commissioning of 400kV & Below materials pertaining to project works for Substation & Lines and O&M Works.

Ref: 1) Approval No. CMD/MSETCL/No. 871 dtd. 17.10.2023.
2) Approval No. MSETCL/CE/Projects/1085 Dtd. 17.01.2025. by SoR Empowered Committee
3) L. No. MSETCL/CO/Projects/Pre-tender/SoR/Qrev/900 Dtd. 31.01.2025.
4) L. No. MSETCL/CO/Projects/Pre-tender/SoR/Qrev/1026 Dtd. 05.02.2025.
5) Approval No. MSETCL/CE/Projects/447 Dtd. 17.06.2025 by SoR Empowered Committee

The Quarterly revised /updated for SoR Jan-2025 for supply & Erection, Testing & Commissioning of materials for 400kV & below projects for Substations & Lines and O&M works was circulated vide reference (3) and correction slip issued vide ref. (4).

In Quarterly revision for SoR Apr-2025, the rates of following items have been revised

i) HPC conductors, associated hardware & accessories and HPC stringing work,
ii) Wave Traps, PLCC terminal equipments, coupling devices.
iii) Circuit Breakers, Isolators, CT/PT/CVT, Power Transformers/ICT,
iv) All types of Bay Control and Protection Panels.
v) Materials related to new methodology for EHV cable laying.

In addition to above, as proposed by O&M Section & approved by SoR empowered committee, while preparation of estimate for the scope of O&M works, wherein 2 (Two) or Less end bay works or EHV line work below 2 (Two) km is involved 25% additional cost over and above project SoR rates for both materials & services shall be considered.

Subject: Circulation of Quarterly Schedules of Rates (SoR) for supply & Erection, Testing & Commissioning of materials for 400kV & below projects for Substation & Lines and O&M Works.

Thus, the proposal for Quarterly Schedules of Rates (SoR) for Supply & Erection, Testing & Commissioning of materials for 400kV & below projects for Substation & Lines and O&M Works is prepared and put up for approval vide O. N. MSETCL/CO/Projects/447 dated 17.06.2025 under reference (5) & is approved by Empowered Committee.

The revised SoR for Quarter Apr-2025 as approved as above is being circulated herewith for implementation with immediate effect.

GNJ

Chief Engineer (Projects)

Copy s.w.rs. to:

1) The Chairman and Managing Director, MSETCL, C.O. Mumbai.
2) The Director (Operations)/Director (Projects)/ Director (Finance), MSETCL, C.O. Mumbai.

Copy f.w.cs. to:

1) The Chief Engineer (O&M)/ (Project Schemes)/CPA/AC&I/ Design/ STU/ Civil, MSETCL, C.O .Mumbai.
2) The Chief General Manager (F&A), MSETCL, C.O. Mumbai.

Note to the enduser:-

1) In case any additional items/materials/services are to be added in BOQ, same may please be audited by concerned field unit and communicated to SoR cell, CO, Mumbai with attached audited copy.
2) In case any ambiguity observed in SoR, the same may please be conveyed to SoR Cell though email.
3) Also, in case of any suggestion/correction in respect of circulated SoR, please mail to SoR cell.
4) Mail ID for correspondence to SoR cell is: sorcell@mahatransco.in.

SCHEDULE OF RATES (SoR) for 400kV Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate in ₹**
1	500006160	3 Phase 400 kV Circuit Breaker, 1-Pole tripping type with controlled switching device **(Without PIR)** alongwith common control cabinet,support structure and other allied equipments/items 420 kV, 3150A, 50kA/3 sec. with Spring-Spring operating mechanism, Class C2-M2 **as per MSETCL Specification.**	EA	39,08,378.44	47,51,165.54
2	500006162	3 Phase 400 kV Circuit Breaker, 1-Pole tripping type **with PIR** alongwith common control cabinet,support structure and other allied equipments/items 420 kV, 3150A, **50kA/3 sec**. with Spring-Spring operating mechanism, Class C2-M2 **as per MSETCL Specification.**	EA	44,10,384.66	53,61,422.37
3	500006161	1 Phase 400kV Circuit Breaker **without PIR** alongwith control cabinet **for spare ICT**, support structure and other allied equipments/ items 420kV, 3150A, **50 kA/3 sec**. with Spring-Spring operating mechanism,Class C2-M2 **as per MSETCL Specification.**	EA	14,38,244.77	17,48,382.12
4	500006163	3 Phase,400kV Center Break **Isolator with one E/S,** Motor operated type alongwith support structure and insulator for isolator- 420kV,3150A,50KA/3sec, insulator (420kV,8KN,13020mm creepage)**as per MSETCL Specification**.	EA	10,76,958.50	13,09,189.52
5	500006164	3 Phase, 400 kV **Center Break Isolator with two E/S** Motor operated type alongwith support structure and insulator for isolator- 420kV, 3150A,50KA/3 sec, insulator. (420kV,8KN,13020 mm creepage)**as per MSETCL Specification.**	EA	12,45,391.94	15,13,943.28
6	500006165	1 Phase, 400 kV **Center Break Isolator with one E/S** Motor operated type alongwith support structure and insulator for isolator- 420kV, 3150A,50KA/3 sec, insulator. (420kV,8KN,13020mm creepage)**as per MSETCL Specification.**	EA	3,99,451.20	4,85,587.26
7	500006548	1 Phase, 400 kV **Center Break Isolator without E/S** Motor operated type alongwith support structure and insulator for isolator- 420kV, 3150A,50KA/3 sec, insulator. (420kV,8KN ,13020 mm creepage)**as per MSETCL Specification.**	EA	3,99,451.20	4,85,587.26
8	500006166	3 Phase, 400 kV **Bus Earthing Switch** alongwith support structure and insulator for isolator- 420kV, 3150A, ,50KA/3 sec, insulator. (420kV,8KN,13020 mm creepage)**as per MSETCL Specification.**	EA	2,50,135.13	3,04,073.26
9	500006167	**3 Pole,400kV** Pentograph Motor Operated Isolator along with Support Structure ,Support Insulators for isolator -420kV 3150A 40kA/3sec,insulator(420kV, 10500mm creepage) **as per MSETCL Specification**	EA	13,88,678.78	16,88,127.92
10	500024106	400 kV **Live Tank Current Transformer**, 420kV,3000-1500-750/1A, 5 Core, Accuracy Class PS-PS-0.2s-PS-PS, 63kA/1 sec. Insulator Creepage 13020 mm **as per MSETCL Specification**	EA	8,41,717.24	10,23,221.77
11	500006169	400 kV **Live Tank Current Transformer for metering**, 420kV,3000/1A, 1 Core, Accuracy Class 0.2s, 63kA/1 sec. Insulator Creepage 13020 mm **as per MSETCL Specification**	EA	8,41,717.24	10,23,221.77
12	500021302	400 kV **Live Tank Current Transformer**, 420kV,2000-1000-500/1A, 5 Core, Accuracy Class PS-PS-0.2s-PS-PS, 63kA/1 sec. Insulator Creepage 13020 mm **as per MSETCL Specification**	EA	8,41,717.24	10,23,221.77
13	500002957	400 kV **CVT with terminal connector**, 420kV. 400kV/√3/110V/√3 - 110V/√3 - 110V/√3 3 Core, Insulator Creepage 13020 mm **as per MSETCL Specification**	EA	5,32,693.73	6,47,561.68
14	500022057	390 kV Gapless type, **Porcelain** Lightning Arrester, station Class with insulating base alongwith terminal connectors and discharge counter 390kV, 10kA, **as per MSETCL Specification.**	EA	1,43,183.48	1,74,058.99
15	500022056	390 kV Gapless type, **Polymer** Lightning Arrester, station Class with insulating base alongwith terminal connectors and discharge counter 390kV, 10kA, **as per MSETCL Specification.**	EA	1,56,951.12	1,90,795.43
16	500000605	3 x 167 MVA, 400/√3/220/√3/33 kV ICT alongwith terminal connectors, Oil and all accessories including N2 injection stir & drain type fire protection system, online DGA etc. **as per specification**	EA	27,00,00,000.00	32,82,21,720.00
17	500000374	1 x 167 MVA, 400/220/33 kV ICT alongwith terminal connectors, oil and all accessories including N2 injection stir & drain type fire protection system, online DGA etc. **as per specification**	EA	9,00,00,000.00	10,94,07,240.00
18	500004352	3 x 105 MVA, 400/220/33kV ICT alongwith terminal connectors,oil and all accessories including N2 injection stir & drain type fire protection system, online DGA etc. **as per specification**	EA	20,80,47,790.00	25,29,10,383.24

SCHEDULE OF RATES (SoR) for 400kV Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate in ₹**
19	500020435	1 x 105 MVA, 400/220/33kV ICT alongwith terminal connectors, oil and all accessories including N2 injection stir & drain type fire protection system, online DGA etc. as per specification as per specification	EA	6,92,90,500.00	8,42,32,026.26
20	500028540	3 Phase 200 MVA, 400/220/33 kV ICT alongwith terminal connectors,oil and all accessories including N2 injection stir & drain type fire protection system, online DGA etc. as per specification	Set	10,10,65,300.00	12,28,58,617.03
21	500020823	3 Phase 315 MVA, 400/220/33 kV ICT alongwith terminal connectors,oil and all accessories including N2 injection stir & drain type fire protection system, online DGA etc. as per specification	EA	15,60,27,710.00	18,96,72,901.27
22	500015083	125 MVAR, 400 kV, 3phase Reactor alongwith terminal connectors, oil and all accessories including N2 injection stir & drain type fire protection system, online DGA etc. as per specification.	EA	11,60,00,000.00	14,10,13,776.00
23		80 MVAR, 400kV, 3 Phase Reactor for line **along with NGR**, Oil, Terminal connectors accessories including N2 injection stir & drain type fire protection system, online DGA etc. as per specification.	EA	9,06,25,000.00	11,01,67,012.50
24	500000133	**600W PEP COUPLING DEVICE** Coupling Device suitable for Phase to Phase coupling not less than 650watts power (PEP) for 400kv Lines	EA	1,05,500.00	1,28,249.60
25	500024077	400kV **Pedestal Mounted** Wave Trap with support structure & insulator,420kV ,3150A, 1mH, 40kA,**as per MSETCL specification.**	EA	7,90,918.00	9,61,468.39
26	500024076	400kV **Hanging Type** Wave Trap with support structure & insulator,420kV ,3150A, 1mH, 40kA,**as per MSETCL specification**.	EA	6,27,552.00	7,62,874.80
27	500000571	**PLC Terminal SC 1x4 kHz SSB 40W 400kV** Single Channel Analog PLCC terminal with 4 command tele-protection interface, speech interface, Field Tunable Single 1x4 kHz SSB 40W/50W outpot power (PEP) having operating band of 40KHz-500kHz for 400kV Lines.	EA	9,90,000.00	12,03,479.64
28	500002992	**PLC Terminal TC 2x4 kHz SSB 40W 400kV** Twin Channel Analog PLCC terminal with 4 command tele-protection interface, speech interface, Field Tunable Single 2x4 kHz SSB 40W/50W outpot power (PEP) having operating band of 40KHz-500kHz for 400kV Lines.	EA	10,19,560.00	12,39,413.84
29	500000135	Electronic micro Processor based private Automatic Exchange equipment (EPAX)(20/8) for PLCC operation **as per MSETCL specification** .	EA	4,21,519.86	5,12,414.72
30	500000706	HF Cable ,75Ω Impedance Unbalanced High frequency Coaxial Cable **as per MSETCL specification.**	KM	1,43,241.12	1,74,129.07
31	500000137	Substation Automation System for Supervisory Control & Data Acquisition of 400/220/33kV switchyard. SAS shall also include accessories such as GPS clock, Inverter, remote gateways for LDC, furniture etc. **as per MSETCL specification**	EA	1,22,61,295.66	1,49,05,272.41
32		**Upgradation** of existing Substation Automation System for Supervisory Control & Data Acquisition of 400/220/33kV switchyard. SAS shall also include accessories such as GPS clock, Inverter, remote gateways for LDC, furniture etc. **as per MSETCL specification**	Set	61,30,647.83	74,52,636.20
33	500021629	Additional Hardware (Including BCU, Ethernet Switches, LIU, patch cord, Media converter, etc.) and necessary changes/enhancement in the existing substation automation system in order to integrate the additional (new) bay in the SAS - **(For Same Make as that of existing system)as per MSETCL specification**	EA	8,51,674.05	10,35,325.63
34	500028546	Additional Hardware (Including BCU, Ethernet Switches, LIU, patch cord, Media converter, etc.) and necessary changes/enhancement in the existing substation automation system in order to integrate the additional (new) bay in the SAS - **(For different Make as that of existing system) as per MSETCL specification**	Set	12,77,511.07	15,52,988.45
35		SAS Software licence for 400 kV substation (8000 tags)	EA	16,33,092.60	19,85,246.16
36		**400kV BCU based Bay Control & Protection Panels (BCPPs) - 400/220kV S/s**			
36 A		**BCPPs for 400kV Line**			
a	500030025	**400KV LINE 3B(2M+1T) BCU CRP** BCU Based Bay Control & Protection Panels for 400kV Line 3 Bus (2 Main +1 Transfer) as per MSETCL specification	Set	22,09,400.00	26,85,826.18
b	500030022	**400KV LINE 1&½ B BCU CRP** BCU Based Bay Control & Protection Panels for 400kV Line (One and Half Breaker Scheme) as per MSETCL specification	Set	22,09,400.00	26,85,826.18

SCHEDULE OF RATES (SoR) for 400kV Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate in ₹**
c	500030024	**400KV LINE 2M BUS GIS BCU CRP** BCU Based Bay Control & Protection Panels for 400kV Line 2 Main Bus (GIS) as per MSETCL specification	Set	22,09,400.00	26,85,826.18
d	500030023	**400KV LINE 1&½B GIS BCU CRP** BCU Based Bay Control & Protection Panels for 400kV Line (One and Half Breaker Scheme) (GIS) as per MSETCL specification	Set	22,09,400.00	26,85,826.18
36 B		**BCPPs for 400/220/33kV ICT**			
a	500029983	**400/220KV ICT HV-3B IV-3B BCU CRP** BCU Based Bay Control & Protection Panels for 400/220/33kV ICT (HV+IV+LV), Both HV & IV 3 Bus (2 Main +1 Transfer) as per MSETCL specification	Set	34,20,017.24	41,57,496.07
b	500029982	**400/220KV ICT HV-3B IV-2B BCU CRP** BCU Based Bay Control & Protection Panels for 400/220/33kV ICT (HV+IV+LV), HV- 3 Bus (2 Main +1 Transfer) & IV- 2 Bus (1 Main +1 Transfer) as per MSETCL specification	Set	33,78,122.52	41,06,567.35
c	500029981	**400/220KV ICT HV-3B IV-1B BCU CRP** BCU Based Bay Control & Protection Panels for 400/220/33kV ICT (HV+IV+LV), HV- 3 Bus (2 Main +1 Transfer) & IV- 1 M Bus as per MSETCL specification	Set	33,78,122.52	41,06,567.35
d	500029977	**400/220KV ICT HV(1&½B) IV-3B BCU CRP** BCU Based Bay Control & Protection Panels for 400/220/33kV ICT (HV+IV+LV) HV- (One and Half Breaker Scheme) & IV- 3 Bus (2 Main +1 Transfer) as per MSETCL specification	Set	35,04,894.84	42,60,676.34
e	500029978	**400/220KV ICT HV(1&½B) IV-2B BCU CRP** BCU Based Bay Control & Protection Panels for 400/220/33kV ICT (HV+IV+LV) HV- (One and Half Breaker Scheme) & IV- 2 Bus (1 Main +1 Transfer) as per MSETCL specification	Set	34,63,000.13	42,09,747.62
f	500029976	**400/220KV ICT HV(1&½B) IV-1B BCU CRP** BCU Based Bay Control & Protection Panels for 400/220/33kV ICT (HV+IV+LV) HV- (One and Half Breaker Scheme) & IV- 1 M Bus as per MSETCL specification	Set	34,63,000.13	42,09,747.62
g	500029980	**400/220KV ICT HV-2B IV-2B GIS BCU CRP** BCU Based Bay Control & Protection Panels for 400/220/33kV ICT (HV+IV+LV) Both HV & IV 2 M Bus for GIS as per MSETCL specification	Set	33,48,197.73	40,70,189.69
h	500029979	**400/220KV ICT HV(1&½B) IV-2B GIS BCU CRP** BCU Based Bay Control & Protection Panels for 400/220/33kV ICT (HV+IV+LV) HV- (One and Half Breaker Scheme , GIS) & IV- 2 M Bus (GIS) as per MSETCL specification	Set	34,63,000.13	42,09,747.62
36 C		**BCPPs for 400kV TBC**			
a	500030028	**400KV TBC 3B(2M+1T) BCU CRP** BCU Based Bay Control & Protection Panels for 400kV TBC bay for 3 Bus (2 Main +1 Transfer) as per MSETCL specification	Set	9,08,959.92	11,04,964.40
36 D		**BCPPs for 400kV BC**			
a	500029985	**400KV BC 3B(2M+1T) BCU CRP** BCU Based Bay Control & Protection Panels for 400kV BC bay 3 Bus (2 Main +1 Transfer) as per MSETCL specification	Set	9,87,462.63	12,00,395.12
b	500029984	**400KV BC 2B GIS BCU CRP** BCU Based Bay Control & Protection Panels for 400kV BC bay 2 Bus (GIS) as per MSETCL specification	Set	9,87,462.63	12,00,395.12
36 E		**BCPPs for 400kV TIE BAY**			
a	500030029	**400KV TIE BAY BAY 1&½B BCU CRP** BCU Based Bay Control & Protection Panels for 400kV Tie bay (One and Half Breaker Scheme) as per MSETCL specification	Set	9,87,462.63	12,00,395.12
b	500030030	**400KV TIE BAY BAY 1&½B GIS BCU CRP** BCU Based Bay Control & Protection Panels for 400kV Tie bay (One and Half Breaker Scheme) (GIS) as per MSETCL specification	Set	9,87,462.63	12,00,395.12
36 F		**BCPPs for 400/220/33kV GT/ST**			
a	500029975	**400/220KV GT/ST 3B(2M+1T) BCU CRP** BCU Based Bay Control & Protection Panels for 400/220/33kV GT/ST (HV+IV+LV), 3 Bus (2 Main +1 Transfer) as per MSETCL specification	Set	31,26,572.87	38,00,774.54

SCHEDULE OF RATES (SoR) for 400kV Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate in ₹**
b	500029972	**400/220KV GT/ST (1&½B) BCU CRP** BCU Based Bay Control & Protection Panels for 400/220/33kV GT/ST (HV+IV+LV) (One and Half Breaker Scheme) as per MSETCL specification	Set	32,17,435.44	39,11,230.34
c	500029974	**400/220KV GT/ST 2B GIS BCU CRP** BCU Based Bay Control & Protection Panels for 400/220/33kV GT/ST (HV+IV+LV) 2 M Bus (GIS) as per MSETCL specification	Set	31,75,540.72	38,60,301.62
d	500029973	**400/220KV GT/ST (1&½B) GIS BCU CRP** BCU Based Bay Control & Protection Panels for 400/220/33kV GT/ST (HV+IV+LV) (One and Half Breaker Scheme) (GIS) as per MSETCL specification	Set	32,17,435.44	39,11,230.34
36 G		**BCPPs for 400/220/33kV Spare ICT**			
a	500030060	**400/220KV 1Ø SPARE ICT BCU CRP** BCU Based Bay Control & Protection Panels for 400/220/33kV Spare ICT as per MSETCL specification	Set	16,80,638.79	20,43,045.02
36 H		**400kV Busbar Protection Panel**			
a	500030018	**400KV DIS. BBR 3B(2M+1T) RP (10 BAYS)** 400kV Distributed Busbar Protection Panel (10 Bays)3 Bus (2 Main +1 Transfer) as per MSETCL specification	Set	47,87,750.00	58,20,161.26
b	500030019	**400KV DIS. BBR 3B(2M+1T) RP (15 BAYS)** 400kV Distributed Busbar Protection Panel (15 Bays)3 Bus (2 Main +1 Transfer) as per MSETCL specification	Set	71,85,000.00	87,34,344.66
c	500030020	**400KV DIS. BBR 3B(2M+1T) RP (20 BAYS)** 400kV Distributed Busbar Protection Panel (20 Bays)3 Bus (2 Main +1 Transfer) as per MSETCL specification	Set	95,75,500.00	1,16,40,322.52
d	500030021	**400KV DIS. BBR 3B(2M+1T) RP (30 BAYS)** 400kV Distributed Busbar Protection Panel (30 Bays)3 Bus (2 Main +1 Transfer) as per MSETCL specification	Set	1,63,30,405.00	1,98,51,828.21
e	500030002	**400KV CENT. BBR 3B(2M+1T) RP (10 BAYS)** 400kV Centralised Busbar Protection Panel (10 Bays)3 Bus (2 Main +1 Transfer) as per MSETCL specification	Set	44,75,000.00	54,39,971.10
f	500030003	**400KV CENT. BBR 3B(2M+1T) RP (15 BAYS)** 400kV Centralised Busbar Protection Panel (15 Bays)3 Bus (2 Main +1 Transfer) as per MSETCL specification	Set	47,66,250.00	57,94,025.09
g	500030004	**400KV CENT. BBR 3B(2M+1T) RP (20 BAYS)** 400kV Centralised Busbar Protection Panel (20 Bays)3 Bus (2 Main +1 Transfer) as per MSETCL specification	Set	52,46,250.00	63,77,530.37
h	500030005	**400KV CENT. BBR 3B(2M+1T) RP (30 BAYS)** 400kV Centralised Busbar Protection Panel (30 Bays)3 Bus (2 Main +1 Transfer) as per MSETCL specification	Set	66,71,400.00	81,09,994.01
i	500030010	**400KV DIS. BBR 1&½B RP (10 BAYS)** 400kV Distributed Busbar Protection Panel (10 Bays)(One and Half Breaker Scheme) as per MSETCL specification	Set	47,87,750.00	58,20,161.26
j	500030011	**400KV DIS. BBR 1&½B RP (15 BAYS)** 400kV Distributed Busbar Protection Panel (15 Bays)(One and Half Breaker Scheme) as per MSETCL specification	Set	71,85,000.00	87,34,344.66
k	500030012	**400KV DIS. BBR 1&½B RP (20 BAYS)** 400kV Distributed Busbar Protection Panel (20 Bays)(One and Half Breaker Scheme) as per MSETCL specification	Set	95,75,500.00	1,16,40,322.52
l	500030013	**400KV DIS. BBR 1&½B RP (30 BAYS)** 400kV Distributed Busbar Protection Panel (30 Bays)(One and Half Breaker Scheme) as per MSETCL specification	Set	1,63,30,405.00	1,98,51,828.21
m	500029994	**400KV CENT. BBR 1&½B RP (10 BAYS)** 400kV Centralised Busbar Protection Panel (10 Bays)(One and Half Breaker Scheme) as per MSETCL specification	Set	37,50,000.00	45,58,635.00
n	500029995	**400KV CENT. BBR 1&½B RP (15 BAYS)** 400kV Centralised Busbar Protection Panel (15 Bays)(One and Half Breaker Scheme) as per MSETCL specification	Set	45,95,750.00	55,86,759.15
o	500029996	**400KV CENT. BBR 1&½B RP (20 BAYS)** 400kV Centralised Busbar Protection Panel (20 Bays)(One and Half Breaker Scheme) as per MSETCL specification	Set	48,75,000.00	59,26,225.50

SCHEDULE OF RATES (SoR) for 400kV Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate in ₹**
p	500029997	**400KV CENT. BBR 1&½B RP (30 BAYS)** 400kV Centralised Busbar Protection Panel (30 Bays)(One and Half Breaker Scheme) as per MSETCL specification	Set	66,71,400.00	81,09,994.01
q	500030014	**400KV DIS. BBR 2M BUS(GIS) RP (10 BAYS)** 400kV Distributed Busbar Protection Panel (10 Bays)2 Main Bus (GIS) as per MSETCL specification	Set	47,87,750.00	58,20,161.26
r	500030015	**400KV DIS. BBR 2M BUS(GIS) RP (15 BAYS)** 400kV Distributed Busbar Protection Panel (15 Bays)2 Main Bus (GIS) as per MSETCL specification	Set	71,85,000.00	87,34,344.66
s	500030016	**400KV DIS. BBR 2M BUS(GIS) RP (20 BAYS)** 400kV Distributed Busbar Protection Panel (20 Bays)2 Main Bus (GIS) as per MSETCL specification	Set	95,75,500.00	1,16,40,322.52
t	500030017	**400KV DIS. BBR 2M BUS(GIS) RP (30 BAYS)** 400kV Distributed Busbar Protection Panel (30 Bays)2 Main Bus (GIS) as per MSETCL specification	Set	1,63,30,405.00	1,98,51,828.21
u	500029998	**400KV CENT. BBR 2M BUS(GIS) RP (10 BAYS)** 400kV Centralised Busbar Protection Panel (10 Bays)2 Main Bus (GIS) as per MSETCL specification	Set	40,50,000.00	49,23,325.80
v	500029999	**400KV CENT. BBR 2M BUS(GIS) RP (15 BAYS)** 400kV Centralised Busbar Protection Panel (15 Bays)2 Main Bus (GIS) as per MSETCL specification	Set	45,95,750.00	55,86,759.15
w	500030000	**400KV CENT. BBR 2M BUS(GIS) RP (20 BAYS)** 400kV Centralised Busbar Protection Panel (20 Bays)2 Main Bus (GIS) as per MSETCL specification	Set	48,75,000.00	59,26,225.50
x	500030001	**400KV CENT. BBR 2M BUS(GIS) RP (30 BAYS)** 400kV Centralised Busbar Protection Panel (30 Bays)2 Main Bus (GIS) as per MSETCL specification	Set	66,71,400.00	81,09,994.01
y	500030006	**400KV DIS. BBR 1&½B (GIS) RP (10 BAYS)** 400kV Distributed Busbar Protection Panel (10 Bays)(One and Half Breaker Scheme) (GIS) as per MSETCL specification	Set	47,87,750.00	58,20,161.26
z	500030007	**400KV DIS. BBR 1&½B (GIS) RP (15 BAYS)** 400kV Distributed Busbar Protection Panel (15 Bays)(One and Half Breaker Scheme) (GIS) as per MSETCL specification	Set	71,85,000.00	87,34,344.66
aa	500030008	**400KV DIS. BBR 1&½B (GIS) RP (20 BAYS)** 400kV Distributed Busbar Protection Panel (20 Bays)(One and Half Breaker scheme) (GIS) as per MSETCL specification	Set	95,75,500.00	1,16,40,322.52
ab	500030009	**400KV DIS. BBR 1&½B (GIS) RP (30 BAYS)** 400kV Distributed Busbar Protection Panel (30 Bays)(One and Half Breaker Scheme) (GIS) as per MSETCL specification	Set	1,63,30,405.00	1,98,51,828.21
ac	500029990	**400KV CENT. BBR 1&½B (GIS) RP (10 BAYS)** 400kV Centralised Busbar Protection Panel (10 Bays)(One and Half Breaker Scheme) (GIS) as per MSETCL specification	Set	37,50,000.00	45,58,635.00
ad	500029991	**400KV CENT. BBR 1&½B (GIS) RP (15 BAYS)** 400kV Centralised Busbar Protection Panel (15 Bays)(One and Half Breaker Scheme) (GIS) as per MSETCL specification	Set	45,95,750.00	55,86,759.15
ae	500029992	**400KV CENT. BBR 1&½B (GIS) RP (20 BAYS)** 400kV Centralised Busbar Protection Panel (20 Bays)(One and Half Breaker Scheme) (GIS) as per MSETCL specification	Set	48,75,000.00	59,26,225.50
af	500029993	**400KV CENT. BBR 1&½B (GIS) RP (30 BAYS)** 400kV Centralised Busbar Protection Panel (30 Bays)(One and Half Breaker Scheme) (GIS) as per MSETCL specification	Set	70,78,250.00	86,04,575.52
ag	500030061	**ADDL BAY UNIT,MODULE,TRIP RELAY-BBR PROT** Additional Bay units, Input modules, Trip relays etc. in order to integrate the new bay in the existing Busbar protection scheme as per MSETCL specification (Including ETC.)	Set	8,50,000.00	10,33,290.60
36 I		**BCPPs for 400kV Bus Reactor**			
a	500029989	**400KV BR 3B(2M+1T) BCU CRP** BCU Based Bay Control & Protection Panels for 400kV, 3 phase, Bus Reactor 3 Bus (2 Main +1 Transfer) as per MSETCL specification	Set	22,66,800.00	27,55,603.68
b	500029986	**400KV BR 1&½B BCU CRP** BCU Based Bay Control & Protection Panels for 400kV, 3 phase, Bus Reactor (One and Half Breaker Scheme) as per MSETCL specification	Set	22,66,800.00	27,55,603.68
c	500029988	**400KV BR 2M GIS BCU CRP** BCU Based Bay Control & Protection Panels for 400kV, 3 phase, Bus Reactor 2 Main Bus (GIS) as per MSETCL specification	Set	22,66,800.00	27,55,603.68

SCHEDULE OF RATES (SoR) for 400kV Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate in ₹**
d	500029987	**400KV BR 1&½B GIS BCU CRP** BCU Based Bay Control & Protection Panels for 400kV, 3 phase, Bus Reactor (One and Half Breaker Scheme) (GIS) as per MSETCL specification	Set	22,66,800.00	27,55,603.68
36 J		**BCPPs for 400kV Line Reactor**			
a	500030026	**400KV LINE REACTOR 3Ø BCU CRP** BCU Based BCU Based BCU Based Bay Control & Protection Panels for 400kV, 3 phase, Line Reactor as per MSETCL specification	Set	17,13,467.14	20,82,952.34
b	500030027	**400KV LINE REACTOR 3Ø GIS BCU CRP** BCU Based BCU Based Bay Control & Protection Panels for 400kV, 3 phase, Line Reactor GIS as per MSETCL specification	Set	17,13,467.14	20,82,952.34
36K		**TEED Protection Relay**			
a	500030059	**TEED PROT RELAY WT AUX IN TIE BAY PANEL** Teed Protection Relays (one each of high impedance and low impedance type) along with necessary auxilliary and Trip Relays in the existing Tie Bay Panel in order to Make fully functional complete diameter of 1 and a half Bus configuration. (If there is no space available in the existing Tie Bay Panel, Bidder shall provide seperate Panel for above detailed Relays) as per MSETCL specifications.	Set	10,61,431.29	12,90,314.08
37		**220kV BCU based Bay Control & Protection panels (BCPPs) - 400/220kV S/s**			
37 A		**BCPPs for 220kV Line**			
a	500029951	**220KV LINE 1M BUS(M1+M2 DIF)BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 1 Main Bus - M1 + M2 Protection (Both Line Differential with inbuilt Distance) as per MSETCL specification.	Set	24,09,686.56	29,29,301.73
b	500029893	**220KV LINE 1M BUS (M1 DIS+M2 DIF)BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 1 Main Bus - M1 + M2 Protection (M1- Line Distance, M2- Line Differential with inbuilt Distance) as per MSETCL specification.	Set	21,38,292.00	25,99,384.73
c	500029894	**220KV LINE 1M BUS(M1 DIF+M2 B/U)BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 1 Main Bus - M1 + Backup Protection (M1- Line Differential with inbuilt Distance) as per MSETCL specification.	Set	18,77,186.56	22,81,975.56
d	500029950	**220KV LINE 1M BUS(M1 DIS+M2 B/U)BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 1 Main Bus - M1 + Backup Protection (M1- Line Distance) as per MSETCL specification.	Set	17,41,164.76	21,16,622.57
e	500029956	**220KV LINE 2B(1M+1T) M1+M2 DIF BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 2 Bus (1 Main +1 Transfer) - M1 + M2 Protection (Both Line Differential with inbuilt Distance) as per MSETCL specification.	Set	24,38,659.21	29,64,521.92
f	500029959	**220KV LINE 2B(1M+1T) M1DIS+M2DIF BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 2 Bus (1 Main +1 Transfer) - M1 + M2 Protection (M1- Line Distance, M2- Line Differential with inbuilt Distance) as per MSETCL specification.	Set	21,38,292.00	25,99,384.73
g	500029957	**220KV LINE 2B(1M+1T) M1DIF+M2B/U BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 2 Bus (1 Main +1 Transfer) - M1 + Backup Protection (M1- Line Differential with inbuilt Distance) as per MSETCL specification.	Set	19,06,159.21	23,17,195.75
h	500029958	**220KV LINE 2B(1M+1T) M1DIS+M2B/U BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 2 Bus (1 Main +1 Transfer) - M1 + Backup Protection (M1- Line Distance) as per MSETCL specification.	Set	17,70,137.41	21,51,842.76
i	500029964	**220KV LINE 3B(2M+1T) M1+M2 DIF BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 3 Bus (2 Main +1 Transfer) - M1 + M2 Protection (Both Line Differential with inbuilt Distance) as per MSETCL specification.	Set	24,65,020.23	29,96,567.33
j	500029967	**220KV LINE 3B(2M+1T) M1DIS+M2DIF BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 3 Bus (2 Main +1 Transfer) - M1 + M2 Protection (M1- Line Distance, M2- Line Differential with inbuilt Distance) as per MSETCL specification.	Set	22,22,498.43	27,01,749.10

SCHEDULE OF RATES (SoR) for 400kV Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate in ₹**
k	500029965	**220KV LINE 3B(2M+1T) M1DIF+M2B/U BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 3 Bus (2 Main +1 Transfer) - M1 + Backup Protection (M1- Line Differential with inbuilt Distance) as per MSETCL specification.	Set	19,31,848.00	23,48,423.98
l	500029966	**220KV LINE 3B(2M+1T) M1DIS+M2B/U BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 3 Bus (2 Main +1 Transfer) - M1 + Backup Protection (M1- Line Distance) as per MSETCL specification.	Set	17,96,498.43	21,83,888.17
m	500029963	**220KV LINE 2M(M1+M2 DIF) GIS BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 2 Main Bus (GIS) - M1 + M2 Protection (Both Line Differential with inbuilt Distance) as per MSETCL specification.	Set	24,38,659.21	29,64,521.92
n	500029962	**220KV LINE 2M(M1 DIS+M2 DIF) GIS BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 2 Main Bus (GIS) - M1 + M2 Protection (M1- Line Distance, M2- Line Differential with inbuilt Distance) as per MSETCL specification.	Set	21,96,137.41	26,69,703.69
o	500029960	**220KV LINE 2M(M1 DIF+M2 B/U) GIS BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 2 Main Bus (GIS) - M1 + Backup Protection (M1- Line Differential with inbuilt Distance) as per MSETCL specification.	Set	19,06,159.21	23,17,195.75
p	500029961	**220KV LINE 2M(M1 DIS+M2 B/U) GIS BCU CR**P BCU Based Bay Control & Protection Panels for 220kV Line 2 Main Bus (GIS) - M1 + Backup Protection (M1- Line Distance) as per MSETCL specification.	Set	17,70,137.41	21,51,842.76
q	500029955	**220KV LINE 1M(M1+M2 DIF) GIS BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 1 Main Bus (GIS) - M1 + M2 Protection (Both Line Differential with inbuilt Distance) as per MSETCL specification.	Set	24,09,686.56	29,29,301.73
r	500029954	**220KV LINE 1M(M1 DIS+M2 DIF) GIS BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 1 Main Bus (GIS) - M1 + M2 Protection (M1- Line Distance, M2- Line Differential with inbuilt Distance) as per MSETCL specification.	Set	22,73,664.76	27,63,948.74
s	500029952	**220KV LINE 1M(M1 DIF+B/U) GIS BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 1 Main Bus (GIS) - M1 + Backup Protection (M1- Line Differential with inbuilt Distance) as per MSETCL specification.	Set	18,77,186.56	22,81,975.56
t	500029953	**220KV LINE 1M(M1 DIS+B/U) GIS BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 1 Main Bus (GIS) - M1 + Backup Protection (M1- Line Distance) as per MSETCL specification.	Set	17,41,164.76	21,16,622.57
37 B		**BCPPs for 220kV BC**			
a	500029907	**220KV BC 3B(2M+1T) BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Bus Coupler 3 Bus (2 Main +1 Transfer) as per MSETCL specification	Set	8,04,088.19	9,77,478.55
b	500029906	**220KV BC 2M BUS(GIS) BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Bus Coupler 2 Main Bus (GIS) as per MSETCL specification	Set	7,89,888.19	9,60,216.52
37 C		**BCPPs for 220kV BS**		-	
a	500029908	**220KV BS 1B BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Bus Sectionaliser 1 Main Bus as per MSETCL specification	Set	7,89,888.19	9,60,216.52
b	500029909	**220KV BS 2B(1M+1T) BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Bus Sectionaliser 2 Bus (1 Main +1 Transfer) as per MSETCL specification	Set	8,04,088.19	9,77,478.55
37 D		**BCPPs for 220kV TBC**			
a	500029896	**220KV TBC 3B(2M+1T) BCU CRP** BCU Based Bay Control & Protection Panels for 220kV TBC 3 Bus (2 Main +1 Transfer) as per MSETCL specification	Set	7,58,585.04	9,22,163.28
b	500029895	**220KV TBC 2B(1M+1T) BCU CRP** BCU Based Bay Control & Protection Panels for 220kV TBC 2 Bus (1 Main +1 Transfer) as per MSETCL specification	Set	7,45,989.42	9,06,851.59

SCHEDULE OF RATES (SoR) for 400kV Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate in ₹**
37 E		**220kV Busbar Protection Panel**			
a	500029914	**220KV CENT. BBR 1M BUS RP (10 BAYS)** 220kV Centralised Busbar Protection Panel 1 Main Bus (10 Bays)as per MSETCL specification	Set	24,51,100.00	29,79,645.40
b	500029915	**220KV CENT. BBR 1M BUS RP (15 BAYS)** 220kV Centralised Busbar Protection Panel 1 Main Bus (15 Bays)as per MSETCL specification	Set	25,11,050.00	30,52,522.78
c	500029916	**220KV CENT. BBR 1M BUS RP (20 BAYS)** 220kV Centralised Busbar Protection Panel 1 Main Bus (20 Bays)as per MSETCL specification	Set	27,42,300.00	33,33,638.60
d	500029917	**220KV CENT. BBR 1M BUS RP (30 BAYS)** 220kV Centralised Busbar Protection Panel 1 Main Bus (30 Bays)as per MSETCL specification	Set	34,04,600.00	41,38,754.33
e	500029918	**220KV CENT. BBR 2B(1M+1T) RP (10 BAYS)** 220kV Centralised Busbar Protection Panel 2 Bus (1 Main +1 Transfer) (10 Bays)as per MSETCL specification	Set	24,51,100.00	29,79,645.40
f	500029919	**220KV CENT. BBR 2B(1M+1T) RP (15 BAYS)** 220kV Centralised Busbar Protection Panel 2 Bus (1 Main +1 Transfer) (15 Bays)as per MSETCL specification	Set	25,11,050.00	30,52,522.78
g	500029920	**220KV CENT. BBR 2B(1M+1T) RP (20 BAYS)** 220kV Centralised Busbar Protection Panel 2 Bus (1 Main +1 Transfer) (20 Bays)as per MSETCL specification	Set	27,42,300.00	33,33,638.60
h	500029921	**220KV CENT. BBR 2B(1M+1T) RP (30 BAYS)** 220kV Centralised Busbar Protection Panel 2 Bus (1 Main +1 Transfer) (30 Bays)as per MSETCL specification	Set	34,04,600.00	41,38,754.33
i	500029929	**220KV CENT. BBR 3B(2M+1T) RP (10 BAYS)** 220kV Centralised Busbar Protection Panel 3 Bus (2 Main +1 Transfer) (10 Bays)as per MSETCL specification	Set	24,51,100.00	29,79,645.40
j	500029930	**220KV CENT. BBR 3B(2M+1T) RP (15 BAYS)** 220kV Centralised Busbar Protection Panel 3 Bus (2 Main +1 Transfer) (15 Bays)as per MSETCL specification	Set	25,11,050.00	30,52,522.78
k	500029931	**220KV CENT. BBR 3B(2M+1T) RP (20 BAYS)** 220kV Centralised Busbar Protection Panel 3 Bus (2 Main +1 Transfer) (20 Bays)as per MSETCL specification	Set	27,42,300.00	33,33,638.60
l	500029932	**220KV CENT. BBR 3B(2M+1T) RP (30 BAYS)** 220kV Centralised Busbar Protection Panel 3 Bus (2 Main +1 Transfer) (30 Bays)as per MSETCL specification	Set	34,04,600.00	41,38,754.33
m	500029922	**220KV CENT. BBR 2M BUS(GIS) RP (10 BAYS)** 220kV Centralised Busbar Protection Panel 2 Main Bus (GIS) (10 Bays)as per MSETCL specification	Set	24,51,100.00	29,79,645.40
n	500029923	**220KV CENT. BBR 2M BUS(GIS) RP (15 BAYS)** 220kV Centralised Busbar Protection Panel 2 Main Bus (GIS) (15 Bays)as per MSETCL specification	Set	25,11,050.00	30,52,522.78
o	500029924	**220KV CENT. BBR 2M BUS(GIS) RP (20 BAYS)** 220kV Centralised Busbar Protection Panel 2 Main Bus (GIS) (20 Bays)as per MSETCL specification	Set	27,42,300.00	33,33,638.60
p	500029925	**220KV CENT. BBR 2M BUS(GIS) RP (30 BAYS)** 220kV Centralised Busbar Protection Panel 2 Main Bus (GIS) (30 Bays)as per MSETCL specification	Set	34,04,600.00	41,38,754.33
q	500029933	**220KV DIS. BBR 1M BUS RP (10 BAYS)** 220kV Distributed Busbar Protection Panel 1 Main Bus (10 Bays)as per MSETCL specification	Set	30,64,337.00	37,25,118.37
r	500029934	**220KV DIS. BBR 1M BUS RP (15 BAYS)** 220kV Distributed Busbar Protection Panel 1 Main Bus (15 Bays)as per MSETCL specification	Set	43,66,988.00	53,08,667.82
s	500029935	**220KV DIS. BBR 1M BUS RP (20 BAYS)** 220kV Distributed Busbar Protection Panel 1 Main Bus (20 Bays)as per MSETCL specification	Set	56,69,638.00	68,92,216.06
t	500029936	**220KV DIS. BBR 1M BUS RP (30 BAYS)** 220kV Distributed Busbar Protection Panel 1 Main Bus (30 Bays)as per MSETCL specification	Set	82,74,939.00	1,00,59,313.75
u	500029937	**220KV DIS. BBR 2B(1M+1T) RP (10 BAYS)** 220kV Distributed Busbar Protection Panel 2 Bus (1 Main +1 Transfer) (10 Bays)as per MSETCL specification	Set	30,64,337.00	37,25,118.37

SCHEDULE OF RATES (SoR) for 400kV Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate in ₹**
v	500029938	**220KV DIS. BBR 2B(1M+1T) RP (15 BAYS)** 220kV Distributed Busbar Protection Panel 2 Bus (1 Main +1 Transfer) (15 Bays)as per MSETCL specification	Set	43,66,988.00	53,08,667.82
w	500029939	**220KV DIS. BBR 2B(1M+1T) RP (20 BAYS)** 220kV Distributed Busbar Protection Panel 2 Bus (1 Main +1 Transfer) (20 Bays)as per MSETCL specification	Set	56,69,638.00	68,92,216.06
x	500029940	**220KV DIS. BBR 2B(1M+1T) RP (30 BAYS)** 220kV Distributed Busbar Protection Panel 2 Bus (1 Main +1 Transfer) (30 Bays)as per MSETCL specification	Set	82,74,939.00	1,00,59,313.75
y	500029945	**220KV DIS. BBR 3B(2M+1T) RP (10 BAYS)** 220kV Distributed Busbar Protection Panel 3 Bus (2 Main +1 Transfer) (10 Bays)as per MSETCL specification	Set	30,64,337.00	37,25,118.37
z	500029946	**220KV DIS. BBR 3B(2M+1T) RP (15 BAYS)** 220kV Distributed Busbar Protection Panel 3 Bus (2 Main +1 Transfer) (15 Bays)as per MSETCL specification	Set	43,66,988.00	53,08,667.82
aa	500029947	**220KV DIS. BBR 3B(2M+1T) RP (20 BAYS)** 220kV Distributed Busbar Protection Panel 3 Bus (2 Main +1 Transfer) (20 Bays)as per MSETCL specification	Set	56,69,638.00	68,92,216.06
ab	500029948	**220KV DIS. BBR 3B(2M+1T) RP (30 BAYS)** 220kV Distributed Busbar Protection Panel 3 Bus (2 Main +1 Transfer) (30 Bays)as per MSETCL specification	Set	82,74,939.00	1,00,59,313.75
ac	500029941	**220KV DIS. BBR 2M BUS(GIS) RP (10 BAYS)** 220kV Distributed Busbar Protection Panel 2 Main Bus (GIS) (10 Bays)as per MSETCL specification	Set	30,64,337.00	37,25,118.37
ad	500029942	**220KV DIS. BBR 2M BUS(GIS) RP (15 BAYS)** 220kV Distributed Busbar Protection Panel 2 Main Bus (GIS) (15 Bays)as per MSETCL specification	Set	43,66,988.00	53,08,667.82
ae	500029943	**220KV DIS. BBR 2M BUS(GIS) RP (20 BAYS)** 220kV Distributed Busbar Protection Panel 2 Main Bus (GIS) (20 Bays)as per MSETCL specification	Set	56,69,638.00	68,92,216.06
af	500029944	**220KV DIS. BBR 2M BUS(GIS) RP (30 BAYS)** 220kV Distributed Busbar Protection Panel 2 Main Bus (GIS) (30 Bays)as per MSETCL specification	Set	82,74,939.00	1,00,59,313.75
38		**Bus Post Insulators for 400 kV Switchyard**			
a	500000606	420kV Solid Core Bus Post Insulator(BPI) 8KN Creepage 10500mm as per MSETCL Specification.	EA	47,454.00	57,686.79
b	500000342	36kV Solid Core Bus Post Insulator(BPI)4KN Creepage 840 mm as per MSETCL Specification.	EA	5,343.26	6,495.46
39	500000069	4" Aluminium IPS Tube Heavy duty SCH: 80, 114.3 mm OD, 97.18 mm ID, as per MSETCL Specification.	mtr	1,657.20	2,014.55
40		**Control & Power Cables (FRLS Type)**			
a	500005048	1.1 kV LT PVC FRLS 2 Core x 10 mm² Aluminium Conductor Armored Power Cable as per MSETCL specification	KM	75,884.65	92,248.11
b	500000767	1.1 kV LT PVC FRLS 4 Core x 10 mm² Aluminium Conductor Armored Power Cable as per MSETCL specification	KM	1,10,624.80	1,34,479.49
c	500000769	1.1 kV LT PVC FRLS 3.5 Core x 35 mm² Aluminium Conductor Armored Power Cable as per MSETCL specification	KM	1,62,257.42	1,97,245.96
d	500000770	1.1 kV LT PVC FRLS 3.5 Core x 50 mm² Aluminium Conductor Armored Power Cable as per MSETCL specification	KM	1,76,737.40	2,14,848.35
e	500000778	1.1 kV LT PVC FRLS 3.5 Core x 70 mm² Aluminium Conductor Armored Power Cable as per MSETCL specification	KM	2,45,008.88	2,97,841.61
f	500000780	1.1 kV LT XLPE FRLS 3.5 Core x 120 mm² Aluminium Conductor Armored Power Cable as per MSETCL specification	KM	3,60,572.04	4,38,324.35
g	500000782	1.1 kV LT XLPE FRLS 3.5 Core x 185 mm² Aluminium Conductor Armored Power Cable as per MSETCL specification	KM	6,13,408.07	7,45,680.93
h	500000783	1.1 kV LT XLPE FRLS 3.5 Core x 240 mm² Aluminium Conductor Armored Power Cable as per MSETCL specification	KM	8,42,888.86	10,24,646.04
i	500000776	1.1 kV LT XLPE FRLS 1 Core x 185 mm² Aluminium Conductor Armored Power Cable as per MSETCL specification	KM	2,47,071.12	3,00,348.55
j	500000777	1.1 kV LT XLPE FRLS 1 Core x 630 mm² Aluminium Conductor Armored Power Cable as per MSETCL specification	KM	6,06,990.13	7,37,879.05
k	500000754	1.1 kV PVC FRLS 2 Core x 2.5 mm² Copper conductor Armored Control Cable as per MSETCL specification	KM	86,824.40	1,05,546.87
l	500000721	1.1 kV PVC FRLS 4 Core x 2.5 mm² Copper conductor Armored Control Cable as per MSETCL specification	KM	1,34,158.02	1,63,087.32

SCHEDULE OF RATES (SoR) for 400kV Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate in ₹**
m	500000720	1.1 kV PVC FRLS 5 Core x 2.5 mm² Copper conductor Armored Control Cable as per MSETCL specification	KM	1,65,287.83	2,00,929.84
n	500000719	1.1 kV PVC FRLS 7 Core x 2.5 mm² Copper conductor Armored Control Cable as per MSETCL specification	KM	2,10,546.98	2,55,948.49
o	500000764	1.1 kV PVC FRLS 10 Core x 2.5 mm² Copper conductor Armored Control Cable as per MSETCL specification	KM	2,62,181.02	3,18,716.69
p	500000757	1.1 kV PVC FRLS 12 Core x 2.5 mm² Copper conductor Armored Control Cable as per MSETCL specification	KM	3,24,906.39	3,94,967.91
q	500000723	1.1 kV PVC FRLS 14 Core x 2.5 mm² Copper conductor Armored Control Cable as per MSETCL specification	KM	3,52,806.69	4,28,884.51
r	500000759	1.1 kV PVC FRLS 19 Core x 2.5 mm² Copper conductor Armored Control Cable as per MSETCL specification	KM	4,71,919.99	5,73,682.93
s	500000718	1.1 kV LT PVC FRLS 2 Core x 50 mm² Aluminium Conductor Armored Power Cable as per MSETCL specification	KM	1,62,005.30	1,96,939.48
41		**Batteries , Chargers and DCDB**			
a	500017343	220 V,500 AH, SAN Container Tubular Lead Acid Battery Set with all accessories as per MSETCL specification	EA	13,09,062.50	15,91,343.50
b		MP Based Duel Float Cum Boost Battety Chargers 220V 100A (40A (load) +50A(Boost)) suitable for 220V,500AH Lead Acid Tubular SAN Container / VRLA / Ni-Cad Battery Set as per MSETCL specification	EA	7,50,000.00	9,11,727.00
c	500000166	DCDB Indoor 220 V, 2-incomer & BSS interlocked for 440kV S/s as per MSETCL specification	EA	3,52,000.00	4,27,903.87
d	500027643	48 V,1000 AH, SAN Container Tubular Lead Acid Battery Set as per MSETCL specification	EA	5,30,000.00	6,44,287.08
e		MP Based Duel Float Cum Boost Battety Chargers 48V 150A (50A (load) +100A(Boost)) suitable for48V,1000AH Lead Acid Tubular SAN Container / VRLA / Ni-Cad Battery Set as per MSETCL specification	EA	6,25,000.00	7,59,772.50
f	500000061	DCDB Indoor 48 V, 2-incomer & BSS interlocked for 400KV S/s as per MSETCL specification	EA	3,00,000.00	3,64,690.80
42		**Insulators**			
a	500000331	Disc Insulator (Antifog) 160 KN as per MSETCL specification	EA	1,554.28	1,889.44
b	500000330	Disc Insulator (Antifog) 120KN as per MSETCL specification	EA	1,010.30	1,228.16
c	500000322	Disc Insulator (Antifog) 70KN as per MSETCL specification	EA	848.22	1,031.13
43		**Hardware & Spacers for 400kV S/Y (Sub Conductor spacing 450mm)**			
a	500002875	Double tension hardware suitable for quadruple conductor (DTQ 450) as per MSETCL specification	EA	25,143.99	30,565.94
b	500002876	Double tension hardware suitable for twin conductor (DTT 450) as per MSETCL specification	EA	16,504.52	20,063.49
c	500000074	Single suspension hardware with drop clamp for twin conductor (SSDT 450) as per MSETCL specification	EA	9,400.35	11,427.40
d	500000075	Single suspension hardware with straight clamp suitable for quadruple conductor (SSSQ 450) as per MSETCL specification	EA	21,701.97	26,381.70
e	500000076	Spacers for quadruple conductor with 450mm Sub conductor spacing (SPQ 450) as per MSETCL specification	EA	1,619.97	1,969.30
f	500000077	Spacers for twin conductor with 450mm Sub conductor spacing (SPT 450) as per MSETCL specification	EA	659.28	801.44
44		**Hardware & Spacers for 220kV S/Y (Sub Conductor spacing 350mm)**			
a	500024108	Double tension hardware without turnbuckle suitable for quadruple conductor (DTQ 350) as per MSETCL Specification	EA	17,932.58	21,799.49
b	500006140	Double tension hardware with turnbuckle suitable for quadruple conductor (DTQ-T 350) as per MSETCL Specification	EA	19,938.63	24,238.12
c		Double tension hardware without turnbuckle suitable for twin conductor (DTT 350) as per MSETCL Specification	EA	12,478.86	15,169.75
d	500006141	Double tension hardware with turnbuckle suitable for twin conductor (DTT-T 350) as per MSETCL Specification	EA	14,548.13	17,685.24
e		Single tension hardware without turnbuckle suitable for twin conductor (STT 350) as per MSETCL Specification	EA	9,402.61	11,430.15
f	500006142	Single tension hardware with turnbuckle suitable for twin conductor (STT-T 350) as per MSETCL Specification	EA	12,394.19	15,066.83
g	500024109	Single tension hardware without turnbuckle suitable for single conductor (STS 350)	EA	3,933.09	4,781.20
h	500006143	Single tension hardware with turnbuckle suitable for single conductor (STS-T 350) as per MSETCL Specification	EA	5,065.37	6,157.65

SCHEDULE OF RATES (SoR) for 400kV Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate in ₹**
i	500000083	Single suspension hardware with drop clamp/straight clamp suitable for quadruple conductor (SSDQ/SSSQ 350) as per MSETCL Specification	EA	8,257.90	10,038.60
j	000084/500000	Single suspension hardware with drop clamp/straight clamp suitable for twin conductor (SSDT/SSST 350) as per MSETCL Specification	EA	4,266.11	5,186.04
k	000086/500000	Single suspension hardware with drop clamp/straight clamp suitable for single conductor (SSSS/SSDS 350) as per MSETCL Specification	EA	1,905.58	2,316.50
l	500002943	Spacers for quadruple conductor with 350mm Sub conductor spacing (SPQ 350) as per MSETCL specification	EA	1,175.18	1,428.60
m	500026370	Spacers for twin conductor with 350mm Sub conductor spacing (SPT 350) as per MSETCL specification	EA	463.98	564.03
n	500000801	Tension clamp suitable for 7/3.66 mm Earth wire (compression Type)as per MSETCL specification	EA	1,119.87	1,361.35
45		**Clamps & Connectors for 400 kV Switchyard (Sub conductor spacing 450mm)**			
a	500000089	Expansion type Bus Post Clamp suitable for 4" IPS tube as per MSETCL specification	EA	6,624.39	8,052.84
b	500007165	Expansion type terminal connector on CB to suit 4"IPS AL tube. 3150 Amps as per MSETCL specification	EA	6,483.27	7,881.30
c	500007167	Expansion type terminal connector on CT to suit 4"IPS AL tube (Twin Stud) as per MSETCL specification	EA	7,644.91	9,293.43
d	500007040	Fixed type terminal connector on CT to suit 4"IPS AL tube (Twin Stud) as per MSETCL specification	EA	5,325.02	6,473.29
e	500006132	Terminal connector on CT to suit "Twin AAAC Morculla"(Twin Stud) as per MSETCL specification	EA	4,802.34	5,837.90
f	500006133	Terminal connector on Isolator to suit "Twin AAAC Morculla"as per MSETCL specification	EA	2,920.46	3,550.22
g	500024110	Fixed type terminal connector on Isolator to suit 4"IPS AL tubeas per MSETCL specification	EA	3,207.20	3,898.79
h	500002720	Expansion type terminal connector on Isolator to suit 4"IPS AL tube as per MSETCL specification	EA	7,358.17	8,944.86
i	500006136	Terminal connector on CVT to suit Twin AAAC Morculla as per MSETCL specification	EA	2,441.81	2,968.35
j	500024112	Expansion type terminal connector on CVT to suit 4" IPS AL tube as per MSETCL specification	EA	4,448.99	5,408.36
k	500007044	Fixed type terminal connector on CVT to suit 4" IPS AL tubeas per MSETCL specification	EA	3,207.20	3,898.79
l	500000095	Corona Bell to suit 4" IPS AL tubeas per MSETCL specification as per MSETCL specification	EA	1,028.43	1,250.19
m	500006139	Terminal connector on Earth switch to suit Twin AAAC Morculla as per MSETCL specification	EA	2,728.55	3,316.93
n	500007164	Rigid Spacer for Quadruple conductor 450mm. Sub conductor spacing as per MSETCL specification	EA	2,166.13	2,633.23
o	500006150	Rigid Spacer for Twin conductor 450mm. Sub cond.spacing as per MSETCL specification	EA	626.54	761.64
p	500006144	Welding sleeve suitable for 4"IPS 'AL'Tube as per MSETCL specification	EA	865.87	1,052.58
q	500000090	Fixed & sliding type Bus Post Clamp suitable for 4" IPS tube as per MSETCL specification	EA	1,469.83	1,786.78
r	500029291	T' Clamp suitable for "Twin AAAC Morculla" on main & tap as per MSETCL specification	EA	1,772.37	2,154.56
s	500006145	Inverted "V" type clamp to suit 4"IPS ALTube as per MSETCL specification	EA	4,353.04	5,291.71
t	500025509	10deg. Angle connector 4"IPS AL Tube on main & tap as per MSETCL specification	EA	2,920.46	3,550.22
u	500000091	T' Clamp suitable for 4" IPS on main and twin conductor on tap (T2) as per MSETCL specification	EA	2,035.41	2,474.31
v	500000092	T' Clamp suitable for quadruple conductor on main and twin conductor on tap (T3) as per MSETCL specification	EA	3,681.34	4,475.17
w	500000094	Strain clamp (STE) as per MSETCL specification	EA	2,515.19	3,057.55
x	500007041	Rigid Type Terminal Connector on Isolator to suit 4' IPS AL Tube 3150 as per MSETCL specification	EA	5,325.02	6,473.29
y	500007040	Rigid Type Terminal Connector for CT to suit 4' IPS AL Tube 3150 as per MSETCL specification	EA	5,325.02	6,473.29
z	500000093	T Clamp suitable for single conductor on main and Tap (T1) as per MSETCL specification	EA	1,214.70	1,476.63

SCHEDULE OF RATES (SoR) for 400kV Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate in ₹**
46		**Clamps & Connectors for 220 kV Switchyard (Sub conductor spacing 350mm)**			
a	500000096	Bus post clamp suitable for quadruple Morculla conductor (BPQ) for BPI as per MSETCL specification	EA	3,367.51	4,093.66
b	500000097	Bus post clamp suitable for twin Morculla conductor (BPT) for BPI as per MSETCL specification	EA	1,746.41	2,123.00
c	500000098	Bus post clamp suitable for single Morculla conductor for BPI as per MSETCL specification	EA	790.23	960.63
d	500022505	Palm type TC for breaker suitable for single Morculla conductor as per MSETCL specification	EA	975.37	1,185.69
e	500022502	U' type connecting plates for connection to palm type terminals of CB suitable for twin Morculla conductor as per MSETCL specification	EA	2,077.18	2,525.09
f	500021614	TC for CT twin stud to twin Morculla conductor as per MSETCL specification	EA	3,370.90	4,097.78
g		TC for CT twin stud to twin Morculla conductor Through type as per MSETCL specification	EA	3,137.21	3,813.71
h	500021594	TC for CT twin stud to quadruple Morculla conductor as per MSETCL specification	EA	5,096.98	6,196.08
i	500021612	TC for CT single stud to single Morculla conductor Through type as per MSETCL specification	EA	1,396.45	1,697.57
j		TC for CT single stud to single Morculla conductor Through type as per MSETCL specification	EA	1,396.45	1,697.57
k	500022506	Palm type terminal connector suitable for single Morculla conductor for Isolator as per MSETCL specification	EA	1,027.30	1,248.82
l	500022503	U' type connecting plates for connection to palm type terminals for twin Morculla conductor for Isolator as per MSETCL specification	EA	2,112.17	2,567.63
m	500021599	T' Clamp suitable for single Morculla conductor on main and tap (T1) as per MSETCL specification	EA	886.19	1,077.28
n	500028026	T' Clamp suitable for quadruple Morculla conductor on main and twin Morculla conductor on tap (T3) as per MSETCL specification	EA	3,028.84	3,681.97
o		T' Clamp suitable for quadruple Morculla conductor on main and single Morculla conductor on tap as per MSETCL specification	EA	3,182.37	3,868.60
p	500021597	T' Clamp suitable for twin Morculla conductor on main and single Morculla conductor as per MSETCL specification	EA	1,792.69	2,179.26
q	500021598	T' Clamp suitable for twin Morculla conductor on main and Twin Morculla conductor	EA	1,753.18	2,131.23
r	500022054	Rigid Spacer for Twin conductor 350mm. Sub cond.spacing as per MSETCL specification as per MSETCL specification	EA	478.65	581.87
s	500007833	36 KV Terminal connectors-interconnector to suit 4" IPS Al tube on main single AAAC morculla as per MSETCL specification	EA	1,630.13	1,981.65
t	500007831	T connectors to suit 4" IPS Al tube on main and quard AAAC morculla on tap as per MSETCL specification	EA	2,035.41	2,474.31
u	500007832	T connectors to suit quard AAAC morculla on both ways as per MSETCL specification	EA	1,380.64	1,678.36
47		**36 kV Terminal Connector for ICT Delta formation**			
a	500028545	Through type Bus Post Clamp suitable for 4" IPS tube 3150 Amps as per MSETCL Specification	No.	1,380.64	1,678.36
b	500000112	Terminal connectors suitable for 33 kV PT stud to single conductor suitable for EC copper grade, 30mm dia, 80mm long stud type as per MSETCL Specification	EA	1,526.27	1,855.39
c	500000113	Angular clamp for 4" IPS tube on main and tap as per MSETCL Specification	EA	3,020.94	3,672.36
d	500000114	I Bend 'T' clamp for 4" IPS tube on main and tap as per MSETCL Specification	EA	2,580.67	3,137.15
e	500000115	T' connector for 4" IPS tube on main and single conductor on tap as per MSETCL Specification	EA	1,547.72	1,881.47
48		**AC / DC Distribution Board for 400kV S/S**			
a	500000319	ACDB Indoor 440 V, 2-incomer, DG set feed Nos & BS interlocked as per MSETCL Specification	EA	16,98,048.31	20,64,208.66
b	500020800	DCDB outdoor 220 V incomer & 12 outgoing (10 amp) as per MSETCL Specification	EA	2,16,648.80	2,63,366.08
c	500002941	Main AC lighting board (Indoor) as per MSETCL Specification	EA	1,18,030.35	1,43,481.94
d	500000167	Main DC Emergency Lighting DB (Indoor) as per MSETCL Specification	EA	29,687.20	36,088.83
e	500002932	AC lighting DB (Outdoor) as per MSETCL Specification	EA	22,308.33	27,118.81
f	500018890	AC auxiliary DB (Outdoor) as per MSETCL Specification	EA	38,391.16	46,669.67

SCHEDULE OF RATES (SoR) for 400kV Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate in ₹**
g	500003496	LTDB - 200kVA, for filter m/c supply as per MSETCL Specification	EA	33,211.71	40,373.35
h	500017591	200kVA LTDB wt MCCB as per MSETCL Specification	EA	31,222.33	37,954.99
i		200 KVA ACMB as per MSETCL Specification	EA	15,608.62	18,974.40
j	500003526	Lighting ACDB Outdor type as per MSETCL Specification	EA	20,972.06	25,494.39
k	500002262	AC/DC Distribution Box 12 way with MCB as per MSETCL Specification	EA	10,571.46	12,851.05
49		**Cable Trays for 400kV S/S**			
a	500002877	80mm x 20mm x 1.6mm Perforated G.I. Cable Trays as per MSETCL Specification	RMT	242.83	295.19
b	500021943	200mm x 40mm x 2mm perforated G.I. Cable Trays as per MSETCL Specification	RMT	282.41	343.31
c	500002918	400mm x 40mm x 2mm Perforated G.I. Cable Trays as per MSETCL Specification	RMT	512.88	623.48
d	500003417	300mm x 40mm x 2mm perforated G.I. Cable Trays as per MSETCL Specification	RMT	361.49	439.44
e	500002935	500mm x 40mm x 2mm perforated G.I. Cable Trays as per MSETCL Specification	RMT	612.27	744.30
f	500003418	600mm x 40mm x 2mm perforated G.I. Cable Trays as per MSETCL Specification	RMT	680.08	826.73
50		**Marshalling Boxes**			
a	500003416	200 Ways Marshalling Kiosk with Stud type connector as per MSETCL Specification	EA	31,084.26	37,787.15
b	500000320	120 Ways Marshalling Kiosk with Stud type connector as per MSETCL Specification	EA	21,049.82	25,588.92
c	500000864	60 Ways Marshalling Kiosk with Stud type connector as per MSETCL Specification	EA	18,070.30	21,966.91
d	500002926	150 Ways Marshalling Kiosk with Stud type connector as per MSETCL Specification	EA	29,112.07	35,389.68
e	500003670	45 Ways Marshalling Kiosk with Stud type connector as per MSETCL Specification	EA	18,007.08	21,890.06
f	500000321	50 Ways Marshalling Kiosk with Stud type connector as per MSETCL Specification	EA	18,007.08	21,890.06
51		**33-22kV Equipment**			
a	500000141	Station T/F 500kVA, 33/0.433kV as per MSETCL Specification	EA	8,20,934.79	9,97,957.89
b	500000686	54 kV 10 kA **Polymer type** Station Class Metal Oxide (Gapless) Surge Arrester alongwith terminal connector accessories as per MSETCL Specification.	EA	25,381.14	30,854.23
c	500000630	39 kV 10 kA **Polymer type** Station Class Metal Oxide (Gapless) Surge Arrester alongwith terminal connector accessories as per MSETCL Specification.	EA	10,673.43	12,975.01
d	500000626	30 kV 10 kA **Porcelain type** Station Class Metal Oxide (Gapless) Surge Arrester alongwith terminal connector accessories as per MSETCL Specification.	EA	6,920.55	8,412.87
e	500020760	30 kV 10 kA **Polymer type** Station Class Metal Oxide (Gapless) Surge Arrester alongwith terminal connector accessories as per MSETCL Specification.	EA	6,854.64	8,332.75
f	500000052	18 kV 10 kA **Polymer type** Station Class Metal Oxide (Gapless) Surge Arrester alongwith terminal connector accessories as per MSETCL Specification.	EA	6,854.64	8,332.75
g		18 kV 10 kA **Porcelain type** Station Class Metal Oxide (Gapless) Surge Arrester alongwith terminal connector accessories as per MSETCL Specification.	EA	6,920.55	8,412.87
h	500000054	33 kV Potential Transformer, 33kV/√3/110V/√3 3 Core as per MSETCL Specification.	EA	48,775.68	59,293.47
i	500000055	22 kV Potential Transformer, (22kV/√3/110V/√3) 3 Core as per MSETCL Specification.	EA	48,775.68	59,293.47
52		**220kV Equipment**			
a	500015494	245 kV Circuit Breaker for 1PH trip alongwith support structure 2000A, 245kV, 50KA/3Sec (Operating Mechanism: Spring-Spring) as per MSETCL Specification.	EA	16,84,966.29	20,48,305.68
b	500015493	245 kV MGO Circuit Breaker for 3PH trip alongwith support structure 2000A, 245kV, 50KA/3Sec (Operating Mechanism: Spring-Pneumatic) as per MSETCL Specification.	EA	16,50,535.59	20,06,450.48
c	500015495	245 kV MGO Circuit Breaker for 3PH trip alongwith support structure 2000A, 245kV, 50KA/3Sec (Operating Mechanism: Spring-Spring) as per MSETCL Specification.	EA	16,50,535.59	20,06,450.48

SCHEDULE OF RATES (SoR) for 400kV Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate in ₹**
53	500026327	245kV, 2000A, 40kA/3s, 3 Phase Double Break Motor Operated Isolator with **Earthing Switch** along with Insulator (6125 mm Creepage, 4 kN) and Support Structures as per MSETCL Specification.	EA	5,66,335.74	6,88,458.11
54	500026326	245kV, 2000A, 40kA/3s 3 Phase Double Break Motor Operated Isolator **without Earthing Switch** along with Insulator (6125 mm Creepage, 4 kN) and Support Structures as per MSETCL Specification.	EA	5,31,081.05	6,45,601.24
55	500029176	245kV 2000A 40kA/3s 1 Phase Double Break Manually Operated Isolator **with two Earthing Switch** along with Insulator (6125 mm Creepage ,4 kN) and Support Structures as per MSETCL Specification.	EA	2,22,493.07	2,70,470.59
56	500026328	245kV 2000A 40kA/3s 1 Phase Double Break **Manually Operated** Isolator **with one Earthing Switch** along with Insulator (6125 mm Creepage, 4 kN) and Support Structures as per MSETCL Specification.	EA	2,22,493.07	2,70,470.59
57	500026329	245kV 2000A 40kA/3s 1 Phase Double Break **Manually Operated** Isolator with **without Earthing Switch** along with Insulator (6125 mm Creepage, 4 kN) and Support Structures as per MSETCL Specification.	EA	1,96,733.33	2,39,156.12
58	500028606	245 kV, 800-400/1A, 5C, 50kA , 0.2 S Live Tank Current Transformer as per MSETCL Specification.	EA	3,92,997.96	4,77,742.47
59	500023710	245 kV, 800-400-200/1A, 5C, 50kA, 0.2s Live Tank Current Transformer as per MSETCL Specification.	EA	3,92,989.82	4,77,732.57
60	500028609	245 kV, 2400-1200/1A, 50kA 5C, 0.2s Live Tank Current Transformer as per MSETCL Specification.	EA	3,92,989.82	4,77,732.57
61	500003747	220 kV **Bus Post Insulator (BPI)** 245kV, 6125mm Cr, 6KN as per MSETCL Specification.	EA	22,372.54	27,196.87
62	500000629	198 kV Gapless type, **Porcelain Lightning Arrester**, Station Class with insulating base alongwith terminal connectors and discharge counter 220kV, 10kA, 6125mm Creepage as per MSETCL Specification.	EA	59,543.75	72,383.52
63	500022060	198 kV Gapless type, **Polymer Lightning Arreste**r, Station Class with insulating base alongwith terminal connectors and discharge counter 220kV, 10kA, 6125mm Creepage as per MSETCL Specification.	EA	65,269.11	79,343.47
64	500000648	220 kV PT,3 CORE , 220kV/√3/110V/√3-110V/√3 -110V/√3 as per MSETCL Specification.	EA	4,11,635.63	5,00,399.09
65	500000575	Coupling Capacitor alongwith support structure 220 kV, 6600pf as per MSETCL Specification.	EA	2,82,877.92	3,43,876.58
66	500020880	**200W PEP COUPLING DEVICE** Coupling Device suitable for Phase to Phase coupling not less than 200watts power (PEP) for 220/132kv Lines	EA	71,865.61	87,362.42
67	500026560	220kV Wave Trap (Pedastal type) with support insulators & support structures 2000A, 0.5mH,40KA as per MSETCL Specification.	EA	3,79,400.00	4,61,212.30
68	500026559	220kV Wave Trap (Suspended type) with support insulators & support structures 2000A, 0.5mH,40KA as per MSETCL Specification.	EA	3,74,407.00	4,55,142.63
69	500024070	220kV Wave Trap (Pedastal type) with support insulators & support structures 1250A, 0.5mH,40KA as per MSETCL Specification.	EA	2,91,886.18	3,54,827.35
70	500024039	220kV Wave Trap (Suspended type) with support insulators & support structures 1250A, 0.5mH as per MSETCL Specification.	EA	2,40,834.74	2,92,767.38
71	500006233	**PLC Terminal SC 1x4 kHz SSB 40W 220/132kV** Single Channel Analog PLCC terminal with 4 command tele-protection interface, speech interface, Field Tunable, 1x4 kHz SSB 40W/50W outpot power (PEP) having operating band of 40KHz-500kHz for 220/132kV Lines.	EA	9,90,000.00	12,03,479.64
72	500000570	**PLC Terminal TC 2x4 kHz SSB 40W 220/132kV** Twin Channel Analog PLCC terminal with 4 command tele-protection interface, speech interface, Field Tunable, 2x4 kHz SSB 40W/50W outpot power (PEP) having operating band of 40KHz-500kHz for 220/132kV Lines.	EA	10,19,560.00	12,39,413.84
73	500000706	HF Cable ,75Ω Impedance Unbalanced High frequency Coaxial Cable for 220KV SS as per MSETCL specification.	KM	1,43,241.12	1,74,129.07
74	500000775	33kV, XLPE, FRLS, 3Cx300 Aluminium, Armoured Power Cable as per MSETCL specification.	KM	15,05,390.80	18,30,007.25
75	500000001	Cable support Take off for 33 kV cable and with copper busbar arrangement, support insulators etc.- complete as per MSETCL specification.	EA	56,921.93	69,196.35
76	500022058	2 pole structure for Horn Gap, AB switch & other required material like LA etc. suitable for station T/F as per MSETCL specification.	SET	11,129.31	13,529.19
77	500000014	*(400kV CR)* Lighting fixtures & electrification of C.R.Building & Bay C.R. alongwith required materials like switches,J.B., MCB, Wires, Boards etc. 240V AC , various types **with ETC** as per MSETCL specification.	EA	15,02,943.97	18,27,032.80

SCHEDULE OF RATES (SoR) for 400kV Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate in ₹**
78	500000015	Emergency Lighting Fixtures alongwith required materials like switches, J.B., MCB, Wires, Boards in 400kV CR Building and Bay CR etc 220V DC Emergency lighting circuit **with ETC** as per MSETCL specification.	EA	4,67,375.74	5,68,158.78
79	500000009	Streetlight pole with foundation With junction boxes as per MSETCL specification.	EA	11,753.22	14,287.64
80	500000010	1 x 150W HPSV Fixture for Streetlight With controlgear as per MSETCL specification.	EA	6,447.37	7,837.66
81	500000011	2 x 400W HPSV Fixture for LM With controlgear as per MSETCL specification.	EA	7,507.65	9,126.57
82	500003544	Galvanised Gantry structure, equipement support Structure, Lighting Mast(21 Meter) with foundation bolts as per MSETCL specification.	MT	94,405.41	1,14,762.61
83	500003545	Galvanised Nuts & Bolts as per MSETCL specification.	MT	1,57,266.73	1,91,179.10
84		**Conductor, Cable & Accessories**			
a	500007160	Conductor AAAC Morculla,640 sq mm as per MSETCL Specification	KM	4,47,319.81	5,43,778.06
b	500010452	7/3.66 sq mm GI Earthwire as per MSETCL Specification	KM	74,501.07	90,566.18
c	500028025	Earthing Strips for Earth Mat 75 x 12 mm, MS as per MSETCL Specification	MT	58,410.60	71,006.02
d	500003348	Earthing Strips for Risers. 50 x 8 mm, G.I.as per MSETCL Specification	RMT	209.92	255.19
e	500002933	Earthing Strips for Transformer. 50 x 6 mm, Tinned copper E.C. Grade copper strips for Transformer neutral earthing as per MSETCL Specification	RMT	992.96	1,207.08
f	500000849	Earthing Set Station type CI Pipes including earthing materials as per MSETCL Specification.	EA	9,702.85	11,795.13
g	500000063	Flexible copper earth bond	EA	784.39	953.53
h	500000801	Tension clamp suitable for 7/3.66 mm G.I. earthwire (Compression Type) as per MSETCL Specification	EA	1,119.87	1,361.35
85		Necessary arrangement for station auxiliary supply Termination of incoming 33 kV line and further arrangement upto station transformer including 33 kV as per detailed drawing and specification	EA	2,22,728.57	2,70,756.87
86	500003471	250KVA Diesel Generator set as per MSETCL Specification	EA	12,54,218.76	15,24,673.48
87		**FOTE (Fiber Optic Terminal Eqpt) System**			
a	500020728	FOTE panel including 1. SDH Base Equipment & its related accessories 2. PDH equipment & its related accesssories 3. Networking equipment and VOIP phone 4. Amplifier/Booster if required 5. NMS with Hardware & accessories including license OS with PC 6. Inlcuding configuration, testing & commissioning as per MSETCL specification	SET	29,10,007.55	35,37,509.94
b	500018938	48 Core (DWSM) Fibre Optic Cable as per MSETCL specification	KM	73,772.08	89,680.00
88		**Interface Energy Meters (IEMs) along with Automated Meter Reading (AMR) system**			
a	500025610	**AMR Panel** suitable for housing 8 Nos of IEM(Interface energy Meters), 1 No DCU, 2 Nos of Network switches, 1 No LIU (if required) with provision for TTBs for CT/PT secondary wiring to IEMs, TBs for terminating cables of AC/DC supply, with seperate MCB for AC/DC supply to DCU, Network switch with necessary internal pane wiring up to TBs.	EA	1,30,000.00	1,58,032.68
b	500025636	**3 Phase 4 Wire IEM**, Rated Current -/1A, rated voltage - 3 x 63.5V (P-N), Frequency - 50Hz, Accuracy class-0.2 S , Standard applicable - IS 14679, IEC 62052-11, ICE 62052-22, CBIP 325, Power Consumption - As per IS 14679, Ingress protection - IP51, Energy Measurement - 4 Quadrent measurement of kWh, kVArh and kVAh, Comm interface - RS232/RS 485/ TCP/IP, Protocol Support - IEC/DLMS/MODBUS. IEM shall be DLMS complient and suitable for AMR system implemented in MSETCL	EA	55,000.00	66,859.98
c	500017565	**Data Concentrator(DCU)** / Communication Gateway (IG)	EA	1,20,000.00	1,45,876.32
d	500003608	**Network switch (industial Grade)-** 8 port unmanaged	EA	35,963.93	43,719.05
e	500005823	**CMRI Hand Held unit (HHU)** alongwith the software for reading data downloded through CMRI	EA	48,506.93	58,966.77
f	500023601	Cat 6 LAN cable	mtr	15.22	18.50

SCHEDULE OF RATES (SoR) for 400kV Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate in ₹**
g	500025637	PVC Condute Pipe- 3/4"	mtr	17.10	20.78
h	500002956	Cu conductor, 3 core, 2.5 sq.mm steel Armoured, FRLS control cable	KM	55,519.05	67,490.95
i	500000721	Cu conductor, 4 core, 2.5 sq.mm steel Armoured, FRLS control cable	KM	1,34,158.02	1,63,087.32
j	500021119	Armoured FO cable-2 Pair	mtr	23.91	29.07
k	500022191	Line interface Unit(LIU) with Patch Cords - 8 Ports	EA	7,673.19	9,327.81
89		**VSAT Link**			
a	500027967	Installation of VSAT (Very Small Aperture Terminal). One time set up charges EX-C 1.2 Mtr Antena with 2W BUC, Gillat Sky edge IIC Modem, 40*2 Mtr Cable, 1 Mtr Patchcord, DC-toDC converter, Transportation, Installation and Commisioning	Set	1,02,225.76	1,24,269.31
b	300001491	VSAT Bandwidth Recurring Charges, Satellite Bandwidth plan 128Kbps	EA	57,080.14	69,388.67

SCHEDULE OF RATES (SoR) for 400kV Sub-Station - ETC Part					
Sr. No.	**Service No**	**Item/Description with rating**	**UOM**	**Ex-works in ₹**	**Unit Rate in ₹**
1	300006714	Installation, Testing and commissioing of **3 Phase 400 kV Circuit Breaker,** 1-Pole tripping type with controlled switching device **(Without PIR)** alongwith common control cabinet,support structure and other allied equipments/ items 420kV, 3150A, 50kA/3 sec. with Spring-Spring operating mechanism, Class C2-M2	Set	46,624.40	55,566.96
2	300006718	Installation, Testing and commissioing of **3 Phase 400 kV Circuit Breaker,** 1-Pole tripping type **with PIR** alongwith common control cabinet,support structure and other allied equipments/ items 420kV, 3150A, 50kA/3 sec. with Spring- Spring operating mechanism, Class C2-M2	Set	38,999.11	46,479.14
3	300006716	Installation, Testing and commissioing of **1 Phase 400 kV Circuit Breaker without PIR a**longwith control cabinet for spare ICT, support structure and other allied equipments/ items 420kV, 3150A, 50kA/3 sec.,with Spring-Spring operating mechanism, Class C2-M2	Set	10,828.06	12,904.88
4	300001703	Installation, Testing and commissioing of Control switching Device (CSD) for 400kV CB	EA	2,08,319.50	2,48,275.18
5	300001645	Installation, testing and commissioning of 400 kV **3 Ph** Center Break **Isolator with one E/S,** Motor operated type alongwith support structure and insulator for isolator-3150A, 420kV,50KA/3 sec, insulator.: 420kV,10500mm	Set	25,758.81	30,699.35
6	300006729	Installation, testing and commissioning of 400 kV **3 Ph** Center Break **Isolator with two E/S** Motor operated type alongwith support structure and insulator for isolator-3150A, 420kV,50KA/3 sec, insulator.: 420kV,13020mm	Set	26,544.59	31,635.85
7	300006721	Installation, testing and commissioning of 400 kV **single phase** Center Break **Isolator with one E/S** Motor operated type alongwith support structure and insulator for isolator-3150A, 420kV,50KA/3 sec, for insulator.: 420kV,13020mm	Set	9,884.18	11,779.97
8	300006723	Installation, testing and commissioning of 400kV **single phase** Center Break Isolator **without E/S** Motor operated type alongwith support structure and insulator for isolator-3150A, 420kV,50KA/3 sec., for insulator.: 420kV,13020mm	Set	9,884.18	11,779.97
9	300002288	Installation, testing and commissioning of 400 kV **3 Ph Bus Earthing** Switch Motor operated type along with support structure and Insulator for E/S-3150A, 420kV,50KA/3 sec., for insulator.: 420kV,13020mm	Set	8,753.07	10,431.91
10	300002283	Installation, testing and commissioning of 400 kV **PG Isolato**r 3150A, 420kV, 40KA/3 sec Motor operated type with support structure and with support insulator,. For insulator : 420 kV, 10500mm	Set	40,408.51	48,158.86
11	300002243	Installation, testing and commissioning of **400 kV CT** (for all Ratios)	EA	9,015.00	10,744.07
12	300002421	Installation, testing and commissioning of **400 kV CVT** , 400kV/√3/110V/√3 - 110V/√3 - 110V/√3	EA	11,540.45	13,753.91
13	300002085	Installation, testing and commissioning of **390 kV LA** alongwith terminal connectors and discharge counter 390kV, 10kA, 10500mm Cr.	EA	5,288.07	6,302.32
14	300004025	Installation, testing and commissioning of **3 x 167 MVA, 400/220/33 kV ICT** alongwith terminal connectors,oil and all accessories including N2 injection stir & drain type fire protection system, online DGA etc.	Set	19,63,449.07	23,40,038.60
15	300002419	Installation, testing and commissioning of **1 x 167 MVA, 400/220/33 kV ICT** alongwith terminal connectors, oil and all accessories including N2 injection stir & drain type fire protection system, online DGA etc. as per specification	Set	6,47,000.06	7,71,094.67
16	300004026	Installation, testing and commissioning of **3 x 105 MVA, 400/220/33 kV ICT** alongwith terminal connectors,oil and all accessories including N2 injection stir & drain type fire protection system, online DGA etc.	Set	12,64,222.48	15,06,700.36
17	300006801	Installation, testing and commissioning of **1 x 105 MVA, 400/220/33 kV ICT** alongwith terminal connectors, oil and all accessories including N2 injection stir & drain type fire protection system, online DGA etc. as per specification	Set	4,21,407.49	5,02,233.45
18	300002418	Installation, testing and commissioning of **3Ph 315 MVA, 400/220/33 kV ICT** alongwith terminal connectors, oil and all accessories including N2 injection stir & drain type fire protection system, online DGA etc. as per specification	Set	6,23,327.55	7,42,881.77
19	300008033	Installation, testing and commissioning of **125 MVAR, 400 kV**, 3phase reactor alongwith terminal connectors, oil and all accessories including N2 injection stir & drain type fire protection system, online DGA etc.	Set	6,47,000.06	7,71,094.67

SCHEDULE OF RATES (SoR) for 400kV Sub-Station - ETC Part					
Sr. No.	**Service No**	**Item/Description with rating**	**UOM**	**Ex-works in ₹**	**Unit Rate in ₹**
20	300001643	Installation, testing and commissioning of **80 MVAR, 400 kV, 3phase reactor** alongwith NGR, Oil, Terminal connectors accessories including N2 injection stir & drain type fire protection system, online DGA etc.	Set	6,47,000.06	7,71,094.67
21	300002437	**600W PEP COUPLING DEVICE** Coupling Device suitable for Phase to Phase coupling not less than 650watts power (PEP) for 400kv Lines	Set	2,732.65	3,256.77
22	300006758	400kV **Pedestal Mounted** Wave Trap with support structure & insulator,420kV ,3150A, 1mH 40kA,**as per MSETCL specification.**	EA	11,144.30	13,281.78
23	300006758	400kV **Hanging Type** Wave Trap with support structure & insulator,420kV ,3150A, 1mH 40kA,**as per MSETCL specification**.	EA	11,144.30	13,281.78
24	300002502	**PLC Terminal SC 1x4 kHz SSB 40W 400kV** Single Channel Analog PLCC terminal with 4 command tele-protection interface, speech interface, Field Tunable Single 1x4 kHz SSB 40W/50W outpot power (PEP) having operating band of 40KHz-500kHz for 400kV Lines.	Set	7,176.29	8,552.71
25	300002501	**PLC Terminal TC 2x4 kHz SSB 40W 400kV** Twin Channel Analog PLCC terminal with 4 command tele-protection interface, speech interface, Field Tunable Single 2x4 kHz SSB 40W/50W outpot power (PEP) having operating band of 40KHz-500kHz for 400kV Lines.	EA	13,203.23	15,735.61
26	300002507	EPAX 20/8, suitable for PLCC	Set	3,373.78	4,020.87
27	300002509	Push Button Telephone	EA	390.11	464.94
28	300002511	Express telephone	Set	1,147.17	1,367.20
29	300002870	HF Cable, 75Ω unbalance	kM	13,142.83	15,663.62
30		**Substation Automation System**			
a	300005923	Substation Automation System for Supervisory Control & Data Acquisition of 400/220/33 kV switchyard. SAS shall also include accessories such as GPS clock, Inverter, remote gateways for LDC, furniture etc. as per specification	Set	4,20,316.78	5,00,933.54
b	300002013	Additional Hardware and necessary changes/enhancement in the existing Substation Automation System in order to integrate the additional(new) bay in the SAS as per specification	Per bay	Included in Supply	
c	300004534	Bay integration charges for 765/400 kV New Sub-stn For less than 6 bays	EA	1,61,881.19	1,92,930.00
d	300004535	Bay integration charges for 765/400 kV New Sub-stn For more than 6 bays	EA	3,23,762.37	3,85,860.00
e	300004840	For 400 /765 kV voltage level Integration of **New Bay** into **exiting SAS system**. as per MSETCL specification for any make.	EA	80,940.60	96,465.01
f	300004843	For 400 /765 kV voltage level Integration of **exiting Bays** into **new SAS System** as per MSETCL specification for any make.	EA	80,940.60	96,465.01
31		**400 kV Bay Control & Protection Panels (BCPPs)**			
a	300004487	BCPPs for 400 kV Line as per Specification	Set	11,073.93	13,197.91
b	300004491	BCPPs for 400/220/33 kV ICT as per Specification	Set	6,935.22	8,265.39
c		BCPPs for 400kV TBC Bay as per Specification	Set	6,935.22	8,265.39
d		BCPPs for 400kV Bus Coupler Bay as per Specification	Set	6,935.22	8,265.39
e		BCPPs for 400 kV GT/ST Bay as per Specification	Set	6,935.22	8,265.39
f	300004488	BCPPs for 400 kV Tie Bay as per Specification	Set	8,762.19	10,442.78
g	300004490	BCPPs for Spare ICT as per Specification	Set	3,467.61	4,132.69
h	300002517	400kV Busbar Protection Panel as per specification	Set	11,410.14	13,598.60
i	300009398	Additional Bay units/input modules/trip relays etc. in order to integrate the new bay in the existing busbar protection scheme. as per Specification	Per bay	Included in Supply	
j	300008034	BCPPs for 400kV, 3ph. 125 MVAR reactor as per Specification	Set	6,935.22	8,265.39
k	300008037	Providing TEEd Protection Relays (one each of high impedance and low impedance type) along with necessary auxilliary and Trp Relays in the existing Tie Bay Panel in order to Make fully functional complete diameter of 1 and a half Bus configuration. (If there is no space available in the existing Tie Bay Panel, Bidder shall provide seperate Panel for above detailed Relays) as Per Specifications.	Set	8,762.19	10,442.78
32		**Bus Post Insulators for 400kV S/Y:**			
a	300002423	400kV Bus Post Insulators (BPI)	EA	2,025.05	2,413.46
b	300002426	33kV BPI	EA	1,053.03	1,255.00
33		**Lighting Masts For 400 & 220 kV S/Y**			
a	300002935	Erection	MT	4,343.40	5,176.46
b	300009081	Grouting	CuM	6,580.85	7,843.05
c	300002611	Erection of lighting fixtures on existing tower with minor works such as drilling,welding etc. including electrical connections as per requirement.	EA	658.19	784.43

SCHEDULE OF RATES (SoR) for 400kV Sub-Station - ETC Part					
Sr. No.	**Service No**	**Item/Description with rating**	**UOM**	**Ex-works in ₹**	**Unit Rate in ₹**
34	300004577	4" Aluminium IPS Tube Heavy duty SCH: 80, 114.3 mm OD, 97.18 mm ID, as per MSETCL Specification.	RMT	224.14	267.13
35		**Laying , dressing and clamping of LT control & LT Power cable (inclusive of clamping material, cable tie, aluminium sheet clamp etc.)**			
a	300002168	2C x 10 sqmm Aluminium, Armoured	kM	13,142.83	15,663.63
b	300002184	2C x 50 sqmm Aluminium, Armoured	kM	19,658.41	23,428.89
c	300002172	4C x 10 sqmm Aluminium, Armoured	kM	19,658.41	23,428.89
d	300002180	3.5C x 35 sqmm Aluminium, Armoured	kM	26,630.60	31,738.35
e	300006740	3.5C x 50 sq mm Aluminium, Armoured	kM	26,630.60	31,738.35
f	300002192	3.5C x 70 sqmm Aluminium, Armoured	kM	26,630.60	31,738.35
g	300002197	3.5C x 120 sqmm, XLPE Aluminium, Armoured	kM	66,570.58	79,338.82
h	300006736	3.5C x 185 sqmm, XLPE Aluminium, Armoured	kM	93,613.68	1,11,568.78
i	300002205	3.5C x 240 sqmm, XLPE Aluminium, Armoured	kM	76,300.00	90,934.34
j	300002189	1C x 185 sqmm, XLPE Aluminium, Armoured	kM	37,150.70	44,276.21
k	300005947	1C x 630 sqmm, XLPE Aluminium, Armoured	kM	92,842.23	1,10,649.37
l	300002135	2C x 2.5 sqmm Copper, Armoured	kM	13,142.83	15,663.62
m	300002136	4C x 2.5 sqmm Copper, Armoured	kM	19,658.41	23,428.89
n	300002137	5C x 2.5 sqmm Copper, Armoured	kM	19,658.41	23,428.89
o	300002138	7C x 2.5 sqmm Copper, Armoured	kM	19,658.41	23,428.89
p	300002139	10C x 2.5 sqmm Copper, Armoured	kM	26,173.98	31,194.15
q	300002140	12C x 2.5 sqmm Copper, Armoured	kM	26,173.98	31,194.15
r	300002141	14C x 2.5 sqmm Copper, Armoured	kM	26,173.98	31,194.15
s	300002142	19C x 2.5 sqmm Copper, Armoured	kM	26,173.98	31,194.15
36		**Erection / Assembly of battery set (Assembly of stand, painting with Bituminous/ acid proof plant, erection of cells, interconnecting the cells with interconnecting links etc.) and Battery Charging (including connections of AC/DC cabling works etc.)**			
a	300002469	Battery Set- 220 V,500 AH As per Specification	Set	31,587.76	37,646.30
b	300009472	Battery Set- 48V,1000 AH As per Specification	Set	25,563.34	30,466.39
c	300001736	Battery Charger for the above 220 V(40+50)A As per Specification	Set	16,888.46	20,127.67
d	300002489	Battery Charger-48V,1000 AH for the above.48V,300A/100A alongwith DCDB As per Specification Combined unit comprising of 2 float charger of 300A rating	Set	13,031.22	15,530.61
37		**Insulators**			
a	300002613	Disc Insulator (Antifog) 160KN	EA	31.27	37.27
b	300002615	Disc Insulator (Antifog) 120KN	EA	27.37	32.61
c	300002617	Disc Insulator (Antifog) 70KN	EA	27.37	32.61
38		**Hardware & Spacers for 400 kV Switchyard (Sub Conductor spacing 450mm)**			
a	300002687	Double tension hardware suitable for quadruple conductor (DTQT450) with turn buckle	EA	1,166.29	1,389.99
b	300002687	Double tension hardware suitable for quadruple conductor (DTQ 450)	EA	1,153.26	1,374.46
c	300001681	Double tension hardware suitable for twin conductor (DTT 450) with turn buckle	EA	1,008.62	1,202.07
d	300002690	Double tension hardware suitable for twin conductor (DTT 450)	EA	996.89	1,188.09
e	300002698	Single suspension with drop clamp for twin conductor (SSDT 450)	EA	698.47	832.44
f	300002708	Single suspension hardware with straight clamp suitable for quadruple conductor (SSSQ 450)	EA	781.87	931.84
g	300003055	Rigid Spacers for quadruple conductor (SPQ 450)	EA	188.95	225.19
h	300003058	Rigid Spacers for twin conductor (SPT 450)	EA	188.95	225.19
39		**Hardware & Spacers for 220 kV Switchyard (Sub Conductor spacing 350mm)**			
a	300002686	Double tension hardware without turnbuckle suitable for quadruple conductor (DTQ 350)	EA	936.94	1,116.65
b	300006741	Double tension hardware with turnbuckle suitable for quadruple conductor (DTQ-T 350)	EA	926.52	1,104.23
c	300002689	Double tension hardware without turnbuckle suitable for twin conductor (DTT 350)	EA	869.18	1,035.89
d	300006742	Double tension hardware with turnbuckle suitable for twin conductor (DTT-T 350)	EA	858.76	1,023.47
e	300002712	Single tension hardware without turnbuckle suitable for twin conductor (STT 350)	EA	957.79	1,141.50

SCHEDULE OF RATES (SoR) for 400kV Sub-Station - ETC Part					
Sr. No.	**Service No**	**Item/Description with rating**	**UOM**	**Ex-works in ₹**	**Unit Rate in ₹**
f	300006743	Single tension hardware with turnbuckle suitable for twin conductor (STT-T 350)	EA	346.63	413.11
g	300002721	Single tension hardware without turnbuckle suitable for single conductor (STS 350)	EA	676.32	806.04
h	300006744	Single tension hardware with turnbuckle suitable for single conductor (STS-T 350)	EA	346.63	413.11
i	300002705/ 300002706	Single suspension hardware with drop clamp/straight clamp suitable for quadruple conductor (SSDQ/SSSQ 350)	EA	710.20	846.42
j	300002696/ 300002697	Single suspension hardware with drop clamp/straight clamp suitable for twin conductor (SSDT/SSST 350)	EA	688.05	820.02
k	300002732/ 300002733	Single suspension hardware with drop clamp/straight clamp suitable for single conductor (SSDS/SSSS 350)	EA	654.17	779.64
l	300003054	Rigid Spacers for quadruple conductor (SPQ 350)	EA	155.07	184.81
m	300003057	Rigid Spacers for twin conductor (SPT 350)	EA	149.86	178.60
n	300002996	Tension clamp suitable for 7/3.66mm	EA	346.63	413.11
40		**Clamps & Connectors for 400kV S/Y (Sub conductor spacing 450mm)**			
a	300002822	Expansion type Bus Post Clamp suitable for 4" IPS tube	EA	155.07	184.81
b	300001801	Expansion type terminal connector on CB to suit 4"IPS AL tube.3150 Amps	EA	153.77	183.26
c	300006746	Expansion type terminal connector on CT to suit 4"IPS AL tube (Twin Stud).	EA	153.77	183.26
d	300006747	Fixed type terminal connector on CT to suit 4"IPS AL tube (Twin Stud).	EA	153.77	183.26
e	300006748	Terminal connector on CT to suit "Twin AAAC Morculla"(Twin Stud).	EA	153.77	183.26
f	300006749	Terminal connector on Isolator to suit "Twin AAAC Morculla".	EA	153.77	183.26
g		Fixed type terminal connector on Isolator to suit 4"IPS AL tube.	EA	153.77	183.26
h	300001665	Expansion type terminal connector on Isolator to suit 4"IPS AL tube.	EA	153.77	183.26
i	300006752	Terminal connector on CVT to suit Twin AAAC Morculla.	EA	153.77	183.26
j	300001978	Expansion type terminal connector on CVT to suit 4" IPS AL tube.	EA	153.77	183.26
k	300001684	Fixed type terminal connector on CVT to suit 4" IPS AL tube.	EA	153.77	183.26
l	300003087	Corona Bell to suit 4" IPS AL tube.	EA	153.77	183.26
m	300006755	Terminal connector on Earth switch to suit Twin AAAC Morculla.	EA	153.77	183.26
n	300003069	Rigid Spacer for Quadruple conductor 450mm. Sub conductor spacing.	EA	153.77	183.26
o	300003060	Rigid Spacer for Twin conductor 450mm. Sub cond.spacing.	EA	153.77	183.26
p	300006756	Welding sleeve suitable for 4"IPS 'AL'Tube.	EA	153.77	183.26
q	300002826	Fixed & sliding type Bus Post Clamp suitable for 4" IPS tube	EA	155.07	184.81
r	300002835	T' Clamp suitable for "Twin AAAC Morculla" on main & tap	EA	153.77	183.26
s	300006757	Inverted "V" type clamp to suit 4"IPS ALTube.	EA	153.77	183.26
t	300002837	10deg. Angle connector 4"IPS AL Tube on main & tap.	EA	153.77	183.26
u		T' Clamp suitable for 4" IPS on main and twin conductor on tap (T2)	EA	155.07	184.81
v	300002834	T' Clamp suitable for quadruple conductor on main and twin conductor on tap(T3)	EA	155.07	184.81
w	300002836	Strain clamp (STE)	EA	155.07	184.81
x		Rigid Type Terminal Connector on Isolator to suit 4' IPS AL Tube 3150Amp	EA	153.77	183.26
y		Rigid Type Terminal Connector for CT to suit 4' IPS AL Tube 3150Amp	EA	153.77	183.26
z	300009343	T Clamp suitable for single conductor on main and Tap (T1)	EA	153.77	183.26
41		**Clamps & Connectors for 220kV S/Y (Sub conductor spacing 350mm)**			
a	300002829	Bus post clamp suitable for quadruple Morculla conductor (BPQ) for BPI.	EA	153.77	183.26
b	300002828	Bus post clamp suitable for twin Morculla conductor (BPT) for BPI.	EA	153.77	183.26
c	300002827	Bus post clamp suitable for single Morculla conductor for BPI.	EA	153.77	183.26
d		Palm type TC for breaker suitable for single Morculla conductor.	EA	153.77	183.26
e	300003089	U' type connecting plates for connection to palm type terminals of CB suitable for twin Morculla conductor	EA	153.77	183.26
f		TC for CT twin stud to twin Morculla conductor	EA	153.77	183.26
g	300001687	TC for CT twin stud to twin Morculla conductor Through type	EA	153.77	183.26
h		TC for CT twin stud to quadruple Morculla conductor	EA	153.77	183.26
i	300009336	TC for CT single stud to single Morculla	EA	153.77	183.26
j	300002786	TC for CT single stud to single Morculla conductor Through type	EA	153.77	183.26
k		Palm type terminal connector suitable for single Morculla conductor for Isolator	EA	153.77	183.26
l	300003090	U' type connecting plates for connection to palm type terminals for twin Morculla conductor for Isolator	EA	153.77	183.26

SCHEDULE OF RATES (SoR) for 400kV Sub-Station - ETC Part					
Sr. No.	**Service No**	**Item/Description with rating**	**UOM**	**Ex-works in ₹**	**Unit Rate in ₹**
m		T' Clamp suitable for single Morculla conductor on main and tap (T1)	EA	153.77	183.26
n	300007362	T' Clamp suitable for quadruple Morculla conductor on main and twin Morculla conductor on tap (T3)	EA	153.77	183.26
o		T' Clamp suitable for quadruple Morculla conductor on main and single Morculla conductor on tap	EA	153.77	183.26
p		T' Clamp suitable for twin Morculla conductor on main and single Morculla conductor	EA	153.77	183.26
q	300007361	T' Clamp suitable for twin Morculla conductor on main and Twin Morculla conductor	EA	153.77	183.26
r		Spacer for Twin Morculla.	EA	153.77	183.26
s		36 KV Terminal connectors-interconnector to suit 4" IPS Al tube on main single AAAC morculla on tap.	EA	153.77	183.26
t		T connectors to suit 4" IPS Al tube on main and quard AAAC morculla on tap.	EA	153.77	183.26
u	300007360	T connectors to suit quard AAAC morculla on both ways.	EA	153.77	183.26
42		**36kV Terminal Connector for ICT Delta formation**			
a		Through type Bus Post Clamp suitable for 4" IPS tube 3150 Amp	EA	153.77	183.26
b		Terminal connectors suitable for 33kV PT stud to single conductor suitable for EC copper grade30mm dia, 80mm long stud type	EA	153.77	183.26
c		Angular clamp for 4" IPS tube on main and tap	EA	153.77	183.26
d	300002840	I Bend 'T' clamp for 4" IPS tube on main and tap	EA	153.77	183.26
e		T' connector for 4" IPS tube on main and single conductor on tap	EA	153.77	183.26
43		**AC / DC Distribution Board for 400 kV S/S**			
a	300002112	ACDB Indoor 440V, 2-incomer, DG set feed Nos & BS interlocked	EA	14,267.88	17,004.46
b	300002492	DCDB Indoor 220V, 2-incomer & BSS interlocked	EA	8,328.25	9,925.61
c	300002493	DCDB outdoor 220V incomer & 12 outgoing (10 amp)	EA	5,660.76	6,746.50
d	300003096	Main AC lighting board (Indoor)	EA	3,063.60	3,651.20
e	300003093	Main DC Emergency Lighting DB(Indoor)	EA	2,211.45	2,635.61
f	300003097	AC lighting DB (Outdoor)	EA	1,604.14	1,911.82
g	300003101	AC auxiliary DB (Outdoor)	EA	1,604.14	1,911.82
h	300002497	LTDB - 200kVA,for filter m/c supply	EA	1,334.92	1,590.95
44		**Cable trays for 400kV S/S**			
a	300002104	80mm x 20mm x 1.6mm Perforated G.I.	RMT	23.57	28.09
b	300008035	200mmx 40mm x 2.0mm Perforated G.I.	RMT	33.88	40.38
c	300002108	400mm x 40mm x 2mm Perforated G.I.	RMT	45.61	54.35
d	300002107	300mm x 40mm x 2mm perforated G.I.	RMT	39.09	46.59
e	300002109	500mm x 40mm x 2mm perforated G.I.	RMT	66.46	79.21
f	300002110	600mm x 40mm x 2mm perforated G.I.	RMT	71.67	85.41
45		**Marshalling Boxes**			
a	300002102	200 Ways Stud type connector	EA	2,774.35	3,306.47
b	300002100	120 Ways Stud type connector	EA	1,797.01	2,141.67
c	300002099	60 Ways Stud type connector	EA	1,030.77	1,228.47
d	300002101	150 Ways	EA	753.20	897.67
e	300005925	45 Ways	EA	753.20	897.67
f	300002098	50 Ways	EA	753.20	897.67
46	300002449	Station Trf. 500kVA, 33/0.433kV	EA	13,357.00	15,918.87
47	300002093	54 kV LA	EA	1,549.41	1,846.59
48	300002092	39 kV LA	EA	1,316.26	1,568.72
49	300002094	22 or 33 kV LA	EA	922.61	1,099.57
50	300002465	33 kV PT, 33kV/√3/110V/√3	EA	1,316.26	1,568.72
51	300002947	Structures + Foundation Bolts for Galvanised Support Structures /Gantry Structures /Lighting Mast	MT	4,343.40	5,176.46
52	300002949	Nuts & Bolts for above	MT	4,343.40	5,176.46
53	300002125	220 kV Circuit Breaker for 1PH trip alongwith support structure 2000A, 245kV, 40KA/3Sec	Set	32,903.79	39,214.73
54	300002124	220 kV MGO type Circuit Breaker for 3PH trip alongwith support structure 2000A, 245kV, 40KA/3Sec	Set	32,903.79	39,214.73
55	300002260	220 kV Double Break Isolator with E/S motor operated typr alongwith support structures insulators.2000A, 245kV, 40KA/3Sec, 6125mm Cr., 4KN	Set	21,058.46	25,097.48
56	300002254	220 kV Double Break Isolator without E/S motor operated type alongwith support structures insulators. 2000A, 245kV, 40KA/3Sec, 6125mm Cr., 4KN	Set	19,742.32	23,528.90
57	300009464	220 kV Double Break Isolator without E/S motor operated type alongwith insulators - 1 phase 2000A, 245kV, 40KA/3Sec, 6125mm Cr., 4KN,	Set	7,818.73	9,318.36

SCHEDULE OF RATES (SoR) for 400kV Sub-Station - ETC Part					
Sr. No.	**Service No**	**Item/Description with rating**	**UOM**	**Ex-works in ₹**	**Unit Rate in ₹**
58	300002236	220 kV CT, 245kV, 800-400-200/1A, 5C, 0.2s	EA	3,948.56	4,705.89
59	300002238	220 kV CT, 245kV, 2400-1200/1A, 5C, 0.2s	EA	3,948.56	4,705.89
60	300002424	220 kV Bus Post Insulator **(BPI)**245kV, 6125mm Cr, 6KN	EA	1,579.49	1,882.43
61	300002086	198 kV LA alongwith power connectors & discharge counter 220kV, 6125mm Cr.	EA	3,948.56	4,705.89
62	300002462	220 kV PT, 220kV/√3/110V/√3-110V/√3 -110V/√3	EA	3,948.56	4,705.89
63	300002429	Coupling Capacitor alongwith support structure 220 kV, 6600pf	EA	3,948.56	4,705.89
64	300002436	**200W PEP COUPLING DEVICE** Coupling Device suitable for Phase to Phase coupling not less than 200watts power (PEP) for 220 kv Lines	EA	2,756.10	3,284.72
65	300002433	220kV Wave Trap (Pedastal type) with support insulators & support structures	EA	5,264.70	6,274.47
66	300002433	220kV Wave Trap (Suspended Type) with support insulators.	EA	7,897.05	9,411.70
67	300002502	**PLC Terminal SC 1x4 kHz SSB 40W 220/132kV** Twin Channel Analog PLCC terminal with 4 command tele-protection interface, speech interface, Field Tunable, 1x4 kHz SSB 40W/50W outpot power (PEP) having operating band of 40KHz-500kHz for 220/132kV Lines.	EA	7,176.29	8,552.71
68	300002501	**PLC Terminal TC 2x4 kHz SSB 40W 220/132kV** Twin Channel Analog PLCC terminal with 4 command tele-protection interface, speech interface, Field Tunable, 2x4 kHz SSB 40W/50W outpot power (PEP) having operating band of 40KHz-500kHz for 220/132kV Lines.	EA	13,203.23	15,735.61
69	300002506	ETC-EPAX-12/8	EA	1,523.89	1,816.17
70	300002870	HF Cable,75Ω Unbalance For 220 kV S/S (0.75km/line bay)	kM	13,142.83	15,663.62
71	300002210	HT power cable with required termination kits 36 kV, 300 sqmm, 3 Core, XLPE, FRLS	kM	1,06,561.50	1,26,999.99
72	300001982	Cable support Take off for 33 kV cable and with copper busbar arrangement, support insulators etc complete	Set	15,219.16	18,138.20
73	300006138	2 pole structure for Horn Gap, AB switch & other required material like LA etc. Suitable for station T/F	Set	2,281.77	2,719.41
74	300010111	Air Conditioing (spilt type) for main control room & PLCC room. 2.0T	EA	2,455.21	2,926.12
75	300002585	Air Conditioing (Window type) for BCRs in switchyard 2.0T	EA	2,455.21	2,926.12
76	300002594	Ceiling Fans 240V AC , 1200mm sweep	EA	72.01	85.82
77	300002600	Streetlight pole with foundation With junction boxes	EA	5,796.83	6,908.66
78	300002609	1 x 150W HPSV Fixture for Streetlight With controlgear	EA	675.02	804.49
79	300002610	2 x 400W HPSV Fixture for LM With controlgear	EA	1,300.52	1,549.95
80	300009161	Lighting fixtures & electrification of C.R. Building and Bay C.R. Along with required material like switches, boards, mcbs, junction boxes, wires ,etc.240 VAC, various types.	LOT	39,240.00	46,766.23
81	300009162	Emergency Lighting Fixtures along with wiring juntion boxes wires switches	LOT	2,896.82	3,452.43
82	300002947	Structures + Foundation Bolts Galvanised Support Structures / Gantry Structures including the Foundation Bolts , Nuts & Bolts	MT	4,343.40	5,176.46
83	300002395	50MVA, 220/22 kV, Power Transformer alongwith terminal connectors,oil and all accessories including N2 injection stir & drain type Fire Protection System	EA	2,96,133.19	3,52,931.53
84		**Conductor, Cable & Accessories:**			
a	300002851	Conductor AAAC Morculla, 640 sqmm	kM	26,760.91	31,893.66
b	300002858	Earthwire 7/3.66 sq mm GI	kM	12,471.50	14,863.53
c	300006732	Earthing Strips for Earth Mat 75 x 12 mm, MS	MT	9,228.71	10,998.78
d	300002861	Earthing Strips for Risers. 50 x 8 mm, G.I.	RMT	30.01	35.77
e	300002863	Earthing Strips for Transformer. 50 x 6 mm, Tinned copper E.C. Grade copper strips for Transformer neutral earthing	RMT	39.09	46.59
f		**Earthing (including cost of Salt/ Coal/ Black soil) Excavation of earth pit, fixing of C.I. and G. I. pipe, backfilling with coal, salt and black soil in layer etc. as per standard procedure that to the extent to get satisfactory results.**			
f(i)	300009100	Normal	EA	5,922.77	7,058.76
f(ii)	300009101	Rocky	EA	10,529.29	12,548.80
g	300002738	Flexible copper earth bond	EA	33.88	40.38
h	300002996	Tension clamp suitable for 7/3.66 mm earthwire	EA	346.63	413.11
85		**Bay Control & Protection panels (BCPPs) for 220 kV bays**			
a	300005717	BCPPs for 220 kV line as per Specification	Set	3,909.37	4,659.18
b	300004398	BCPPs for 220/33 kV T/F as per Specification	Set	3,909.37	4,659.18
c	300002526	BCPPs 220 kV Bus Coupler bay as per Specification	Set	3,909.37	4,659.18

SCHEDULE OF RATES (SoR) for 400kV Sub-Station - ETC Part					
Sr. No.	**Service No**	**Item/Description with rating**	**UOM**	**Ex-works in ₹**	**Unit Rate in ₹**
d	300004471	BCPPs 220 kV Transfer Bus Coupler bay as per Specification	Set	3,909.37	4,659.18
e	300002527	220 kV Busbar Protection panel (suitable for 16 bays including Bus coupler & TBC) as per Specification	Set	3,909.37	4,659.18
f	300009398	Additional Bay units/input modules/trip relays etc. in order to integrate the new bay in the existing busbar protection scheme as per Specification	Per bay	1,30,311.69	1,55,305.47
g		Necessary arrangement for station auxiliary supply Termination of incoming 33kV line and further arrangement upto station transformer including 33kV as per detailed drawing and specification	Lumpsum	83,221.28	99,183.12
h	300003426	250KVA Diesel Generator set as per specification	Set	21,732.93	25,901.30
86		**FOTE panel, FOC laying & Termination**			
a	300009075	FOTE panel (Erection & grouting)	Sets	3,853.15	4,592.18
b	300003450	Fibre optics cable (laying &termination)	kM	7,134.39	8,502.76
87		**AMR panel Installation**			
a	300001761	Installation and commissioning of Meter housing panel (AMR Panel) along with all cabling, glanding, ferruling and terminating.	SET	2,727.32	3,250.42
b	300001961	Installation of IEM on existing Metering Panel within the control rooma long with all cabling, glanding, ferruling and terminating.	EA	5,454.64	6,500.84
c	300001962	Installation of DCU/Gateway, LAN switches ets. (alongwith all control and and communication cable)	EA	18,218.50	21,712.81

SCHEDULE OF RATES (SoR) for 400kV LINE - Suuply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works in ₹**	**Unit Rate in ₹**
1	500000038	Fabrication, Galvanising, Supply of 400 kV D/C & S/C towers (Viz. 2 deg ,15 deg, 30 deg, 60 deg) of normal type, its extensions, special towers, with set of stubs, Superstructure, step bolts, U-bolts, D'Shackles, links etc, complete in all respect as per approved design & drawings provided by the Purchaser. Design & supply of special towers, higher extension etc. (if required)	MT	95,099.62	1,15,606.52
2	500000039	Supply of Galvanised Nut & Bolts with spring washers , plain washers, etc.	MT	1,57,266.73	1,91,179.10
3	500000707	Supply of Pipe type Earthing sets as per MSETCL' s approved drawing & technical specification	EA	3,175.61	3,860.38
4	500004334	Supply of Counter poise type Earthing sets as per MSETCL' s approved drawing & technical specification	EA	7,017.72	8,530.99
5	500010452	7/3.66 sq mm GI Earthwire	KM	74,501.07	90,566.18
6	500000330	Supply of Disc insulator 120 KN (AF)	EA	1,010.30	1,228.16
7	500000331	Supply of Disc insulator 160 KN (AF)	EA	1,554.28	1,889.44
8	500006147	Supply of M.S. Compression joint for 640 sq.mm AAA Conductor	EA	1,267.74	1,541.11
9	500006148	Supply of Repair sleeves for 640 sq.mm AAA Conductor	EA	560.97	681.94
10	500006149	Supply of Twin spacer damper for 640 sq.mm AAA Conductor	EA	1,642.65	1,996.87
11	500006150	Supply of Twin rigid spacer for 640 sq.mm AAA Conductor	EA	601.24	730.89
12	500007164	Supply of Quad rigid spacer for 640 sq.mm AAA Conductor	EA	2,166.13	2,633.23
13	500007163	Supply of Quad spacer damper for 640 sq.mm AAA Conductor	EA	3,593.56	4,368.46
14	500000801	Supply of Tension clamps for GI 7/3.66 mm Earthwire	EA	1,119.87	1,361.35
15	500000800	Supply of Suspension clamps for GI 7/3.66 mm Earthwire	EA	1,067.79	1,298.05
16	500000803	Supply of M.S. Compression joint for GI 7/3.66 mm Earthwire	EA	455.44	553.65
17	500000804	Supply of Vibration damper for GI 7/3.66 mm Earthwire	EA	584.58	710.63
18	500021414	Double Tension String (DTN) hardwares suitable for 640 sq.mm AAAC twin bundle Conductor	EA	23,739.99	28,859.18
19		Double 'I' Suspension String (DSN) hardwares suitable for 640 sq.mm AAAC twin bundle Conductor	EA	18,116.37	22,022.91
20	500021412	Single 'I' Suspension String (SSN) hardwares suitable for 640 sqmm AAAC twin bundle Conductor	EA	13,468.91	16,373.29
21	500006154	Pilot Insulator String for 640 sq.mm	EA	12,734.36	15,480.35
22	500028542	Quad tension string hardwares suitable for 640 sq.mm AAAC quad bundle Conductor	Set	74,503.88	90,569.60
23	500028541	Double Suspension String hardwares suitable for 640 sq.mm AAAC Quad bundle Conductor	Set	33,940.25	41,259.00
24		**Accessories for 640 Sq.mm AAAC Morculla conductor**			-
a	500006147	a) Mid Span Joints	EA	1,267.74	1,541.11
b	500006148	b) Repair Sleeves	EA	560.97	681.94
c	500004335	c) P. A. rods	EA	2,283.00	2,775.30
d	500001109	d) Vibration dampers.	EA	2,475.00	3,008.70
e	500006150	e) Twin rigid spacer	EA	601.24	730.89
25		**Hardwares suitable for High Ampacity / High performance conductor**			
a		SSN H/W suitable for CCC HPC Conductor Equivalent 0.5 ACSR Moose conductor.	EA	34,676.92	42,154.52
b		DTN H/W suitable for CCC HPC Conductor Equivalent 0.5 ACSR Moose conductor.	EA	95,361.54	1,15,924.92
c		DSN H/W suitable for CCC HPC Conductor Equivalent 0.5 ACSR Moose conductor.	EA	38,144.62	46,369.97
d	500020592	SSN/SSA for 520sqmm High Ampacity/Performance Conductor	EA	18,218.70	22,147.31
e	500020583	DSN/DSA for 520sqmm High Ampacity/Performance Conductor	EA	24,575.96	29,875.43
f	500020595	STN/STA for 520sqmm High Ampacity/Performance Conductor	EA	88,871.46	1,08,035.35
g	500020586	DTN/DTA for 520sqmm High Ampacity/Performance Conductor	EA	99,539.68	1,21,004.02
26		**Accessories for High Ampacity / High performance conductor**			
a		Vibration Damper suitable for CCC HPC Conductor Equivalent 0.5 ACSR Moose conductor.	EA	10,403.08	12,646.36
b		Twin Spacer suitable for CCC HPC Conductor Equivalent 0.5 ACSR Moose conductor.	EA	8,669.23	10,538.63
c	500020589	Mid Span Joints for 520mm² CCC High Ampacity/Performance Conductor	EA	1,04,798.28	1,27,396.56
d	500020619	Repair Sleeves for 520mm² CCC High Ampacity/Performance Conductor	EA	5,649.74	6,868.03
e	500020604	P. A. rods for 520mm² CCC High Ampacity/Performance Conductor	Set	2,256.12	2,742.62

SCHEDULE OF RATES (SoR) for 400kV LINE - Suuply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works in ₹**	**Unit Rate in ₹**
f	500020598	Vibration damper for 520mm² CCC High Ampacity/Performance Conductor	EA	2,080.48	2,529.10
g		Terminal Pad assy for 520mm² CCC High Ampacity/Performance Conductor	EA	15,580.80	18,940.58
h		Single T-clamp with palm for 520mm² CCC High Ampacity/Performance Conductor	EA	12,734.56	15,480.59
27		CCC HPC Conductor Equivalent 0.5 ACSR Moose conductor.	KM	21,50,751.07	26,14,530.43
28		520 sq.mm. HPC conductor Equivalent 0.4 ACSR Zebra conductor.	KM	13,62,386.11	16,56,165.60
29	500009489	0.5 ACSR Moose Conductor	KM	3,86,900.00	4,70,329.57
30	500007160	640 sq.mm AAA Conductor (Morculla)	KM	4,47,319.81	5,43,778.06
31	500000772	560 sq.mm AAA Conductor	KM	4,20,000.00	5,10,567.12
32	500006302	525 sq.mm AAA Conductor	KM	3,85,000.00	4,68,019.86

SCHEDULE OF RATES (SoR) for 400kV Line - ETC Part					
Sr. No.	**Serrvice No**	**Item/Description with rating**	**UOM**	**Ex-works in ₹**	**Unit Rate in ₹**
1	300008620	**Preliminary survey** with GPS, theodilite/Total station, Marking route on topo sheets and village map representing actual field conditions etc., complete in all respect.	kM	16,347.34	19,482.76
2	300006597	**Detailed survey** including tower spotting and tower profiles, Detailed survey with GPS, Total station, Digital theodilite etc. along the approved alignment, preparation of profiles, tower spotting, tower schedules and soil resistivity,marking of route on topo sheet and village map, collection of 7/12 of corridor, identification of forest/hatching to mimimize the forest etc., and submission of .KML files.	kM	28,675.86	34,175.90
3	300002036	**Check survey** to carry out the checks as per approved profiles with Digital Theodalite/total station/GPS etc. and location marking by fixing three pegs in alignment for suspension tower and by fixing five pegs in bisection for angle tower including bush cutting along the centre line of alignment and repeg marking if necessary etc. complete in all respect. Check survey including revision of profiles if required.	kM	16,347.34	19,482.76
4	300008621	Excavation of trial pits of standard dimension of 1mtrx1mtr width upto 3mtrs depth at 1KM interval or where ever there is abnormal change in topography and taking observation of soil strata for classification of foundation and backfilling the trial pits after vetting by Departmental officials.	Per Pit	5,000.00	5,959.00
5		**Excavation of pits for tower footings in earth soil of all types, sand gravel and normal soil including removing of excavated material beyond tower locations upto 50 M lead and all lifts, shoring, shuttering, preparing the bed for foundation and necessary back filling after stub setting, compacting, finishing and curing complete in all respect as per drawing & direction of Engr. In-charge.**			
a	300002037	Normal soil/Yellow/Sandy/Loose soil with lime and clay boulders	CuM	218.87	260.85
b	300002039	BC Soil/Submerged soil	CuM	368.71	439.43
c		Hard murum/soft rock/Dry Fissured Rock	CuM	1,102.28	1,313.69
d	300002041	Hard Rock by chiseling	CuM	1,428.51	1,702.50
e	300004001	Hard Rock by blasting	CuM	1,428.51	1,702.50
6		**For wet foundation:** Excavation of pits for tower footings in earth for soils ofall types including removing of excavated material beyond tower limits upto 50 mtrs at all lead and all lifts, shoring, shuttering, dewatering, prepa ration of bed for foundation and back filling after casting and curing of foundations with ramming etc complete as per drawing & direction o f Engineer-in charge.			
a	300004524	Normal soil/Yellow/Sandy/Loose soil with lime and clay boulders	CuM	240.78	286.96
b	300004522	BC Soil/Submerged soil	CuM	404.17	481.69
c	300004521	Hard murum/soft rock/Dry Fissured Rock	CuM	1,212.49	1,445.05
d	300004523	Hard Rock by chiseling	CuM	1,565.84	1,866.17
e		Hard Rock by blasting	CuM	1,565.84	1,866.17
7		Concreting of foundation: Providing and casting in situ cement concrete of trap metal of size 20 to 40 mm as applicable, including fixing oc stub unit with bolt and nut with fixing of stub setting templates, form boxes, finishing, compacting , coping and curing for 21 days complete in all respect, as per drawing and direction of Engr.In-charge in the following grades-			
a	300006066	Casting in-situ CC M30	CuM	8,555.34	10,196.26
b	300000636	M 20 (1:1.5:3) with metal size 20mm graded (7.10 bag of cement per CuM)	CuM	8,396.66	10,007.14
c	300006571	M 15 (1:2:4)with graded metal for foundation / coping(6.27 bag of cement per CuM)	CuM	7,789.90	9,284.01
d	300002042	M 10 (1:3:6) with graded metal for foundation / bedding (4.40 bag of cement per CuM)	CuM	6,960.72	8,295.78
e	300006592	M 7.5 (1:4:8)with graded metal for foundation / bedding (3.42 bag of cement per CuM)	CuM	6,510.71	7,759.47
8		Lime and sand padding(10:1) only for foundations in BC Soil	CuM	2,827.98	3,370.39
9	300002044	Providing and fixing in position Steel Reinforcement in concrete foundation including supply of TMT bars of various diameters for R.C.C. work like raft, footing of column etc. as per drawing and direction which will be furnished by the owner including cutting, bending , hooking the bars, binding with binding wire or tackwelding etc. complete as directed.(Steel to be provided by contractor)	MT	95,685.99	1,14,038.57

SCHEDULE OF RATES (SoR) for 400kV Line - ETC Part					
Sr. No.	**Serrvice No**	**Item/Description with rating**	**UOM**	**Ex-works in ₹**	**Unit Rate in ₹**
10	300005981	Dewatering of excavated pits and preparation of pit for concreting.	Per HP/8 Hrs.	248.99	296.74
11	300002045	**Earthing of towers with pipe type earthing** including excavation of pits/trenches, laying of earthing pipe, strips, flats etc and supply and laying of salt, coke and G.I. pipe and G.I. strip / Flat & Nuts and bolts as per drawing including back filling, complete in all respect as per direction of Engr. In-charge.	EA	6,029.71	7,186.20
12	300002046	**Earthing of towers with Counter Poise type earthing** including excavation of pits/trenches, laying of earthwire and fitting plates to tower legs as per the drawing and back filling, complete in all respect Including G.I. Wire,lugs,nuts & bolts etc.as per direction of Engr. In-charge.	EA	13,472.14	16,056.09
13	300002047	**Complete erection of towers** (including special towers) with its extensions. Tightening, punching, tack welding, fixing of tower accessories and anticlimbing devices including fixing of bolts & nuts and transportation of materials from site stores to work site.	MT	7,912.31	9,429.89
14		**Protection of Tower footing by uncoursed rubble stone.** Excavation for foundation of revetment wall/ protection wall in all type of soil, sand, gravels, soft murum. Soft murum with boulders, normal soil including shoring, shuttering wherever necessary & disposing of the excavated stuff as directed upto 50mtrs. Lead in			
a	300008641	Normal soil/Yellow/Sandy/Loose soil with lime and clay boulders	CuM	218.09	259.92
b	300008642	BC Soil/Submerged soil	CuM	368.71	439.43
c		Hard murum/soft rock/Dry Fissured Rock	CuM	1,102.28	1,313.69
d	300008645	Hard Rock by chiseling	CuM	1,423.49	1,696.51
e		Hard Rock by blasting	CuM	1,423.49	1,696.51
15	300008646	Providing & casting in situ cement concrete of 1:2:4 of trap metal for copping of retaining wall including cost of the cement, sand, metal, water, dewatering, form work, compaction & curing etc. complete in all respect.	CuM	7,667.96	9,138.68
16	300008647	Providing & casting in situ cement concrete of 1:3:6 of trap metal for copping of retaining wall including cost of the cement, sand, metal, water and form work, compaction & curing etc. complete in all respect.	CuM	6,838.78	8,150.46
17	300008648	Providing & constructing of UCR masonry of trap stone in cement mortar 1:6 in super structure including racking out joints on the inside as no plastering to be done from inside, scaffolding, dewatering, compacting, curing etc. complete in all respects as per the drawings to be furnished by the MSETCL. All the material such as trap stones, cement, sand, metal, water etc. to be provided by the contractor as his own cost including following activities.	CuM	3,008.80	3,585.89
a		Providing & fixing PVC/ AC Pipes of 75mm diameter for weep holes & headers of average 0.9 mtr in 3 rows at a distance of 1mtr from centre to centre in alternate row as directed.(including cost of all the material)		Rate Included in Sr. No. 17	
b		Tuck pointing of exposed face with 1:3 cement motar(including cost of all the material).		Rate Included in Sr. No. 17	
c		Providing and filling in plinth for retaining wall with approved soil or murum in 15 cm to 20 cm layers including watering, compacting, complete as directed by the Engineer-in- charge(including cost of all the material).		Rate Included in Sr. No. 17	
d	300009307	Rubble soling / Dry rubble pitching with 230 mm thick stone and filling of gap with broken metals etc. complete as per drawing and direction of Engr.In-charge.	CuM	2,204.56	2,627.39
18		**Benching:** Earth cutting/benching for the purpose of preparing a minimum square platform for the tower footing on the top of a hilllock including removal of the excavated material beyond tower location upto 50 M lead or filling it in the adjecent portion of the tower footing area in normal soil. soft murum, soft murum with boulders. (upto 1.00mtr depth not payable			
a	300009199	Normal Soil/Sand/Gravel/Soft Murum	CuM	218.87	260.85
b	300009200	Black cotton soil/Submerged soil	CuM	368.72	439.44
c	300009201	Soft rock/Hard Murum	CuM	453.11	540.02
d	300009202	Dry Fissured Rock	CuM	1,106.16	1,318.32
e	300009203	Hard rock by Chiseling	CuM	1,428.52	1,702.50

SCHEDULE OF RATES (SoR) for 400kV Line - ETC Part					
Sr. No.	**Serrvice No**	**Item/Description with rating**	**UOM**	**Ex-works in ₹**	**Unit Rate in ₹**
19	300007213	Stringing of six phases of line with 640 sq.mm AAAC twin conductors for each phases + stringing of 2 nos of 7/3.66 mm earthwire alongwith paving, rough & final sagging, clipping, fixing of all accessories & hardwares, hoisting of insulators, jumpering etc for D/C line on D/C towers complete with clearance of site with tree cutting as per drawing & direction of Engr. in-charge.	Route kM	3,63,650.85	4,33,399.08
20	300005029	Stringing of six phases of line with 640 sq.mm AAA Quad conductors for each phase + stringing of two 7/3.66 sq.mm earthwires alongwith paving, rough & final sagging, clipping, fixing of all accessories, hoisting of insulators , hardwares, jumpering etc for D/C line on D/C tower complete with clearance of site and tree cutting	Route kM	6,82,140.46	8,12,975.00
21	300002068	400kV Line Stringing of 7/3.66 mm G.I. Earthwire including transportation of earthwire and required material from site store to site locations,laying, fixing hardware,fixing accessories, paving out earth wire, jointing, tensioning, stringing and clamping etc.	kM	16,109.48	19,199.28
22		Dismantling of existing twin 0.5 Moose Conductor with transportation of dismantled material to site Store as directed and Stringing of CCC HP conductor equivalant to 0.5 Moose conductor along with hardware & accessories etc. Strining of three phases i.e. R,Y,B of line per circuit with HPC conductor at a time on S/C, D/C , M/C Tower on dead lines having other circuit of D/C, M/C line is live.	kM	18,24,802.07	21,74,799.11

SCHEDULE OF RATES (SoR) for Upto 220KV Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
		220 kV Equipment			
1	500015494	245 kV Circuit Breaker for 1PH trip alongwith support structure 2000A, 245kV, 50KA/3Sec (Operating Mechanism: Spring-Spring) as per MSETCL Specification.	EA	16,84,966.29	20,48,305.68
2	500015493	245 kV MGO Circuit Breaker for 3PH trip alongwith support structure 2000A, 245kV, 50KA/3Sec (Operating Mechanism: Spring-Pneumatic) as per MSETCL Specification.	EA	16,50,535.59	20,06,450.48
3	500015495	245 kV MGO Circuit Breaker for 3PH trip alongwith support structure 2000A, 245kV, 50KA/3Sec (Operating Mechanism: Spring-Spring) as per MSETCL Specification.	EA	16,50,535.59	20,06,450.48
4	500008372	Supply of 245 kV Hybrid switchgear (for Bus Sectionalizer) 2500A, 40 KA, for 1 Sec,220V DC including 2 nos. of Isolator with ES, 1 No. of CB, 1 set of ring type CT (max. 5 cores) with LCC & GI Supporting Structure Along with required quantity of SF6 gas and suitable Clamps Connectors along with Supply of Miscellanous items as follows: a)Terminal connectors suitable for Hybrid switchgear - 6 nos b)Control and Power Cable with glands & lugs c)SF6 gas for Hybrid switchgear module d)Other miscellaneous items if any.	EA	1,22,39,601.33	1,48,78,900.00
5	500012161	Supply of 145kV Hybrid switchgear (for Bus Sectionalizer) 2500A, 40 KA for 1 Sec, including 2 nos. of Isolator with ES, 1 No. of CB, 1 set of ring type CT (max. 5 cores) with LCC & GI Supporting Structure Along with required quantity of SF6 gas and suitable Clamps Connectors along with Supply of Miscellanous items as follows: a)Terminal connectors suitable for Hybrid switchgear - 6 nos b)Control and Power Cable with glands & lugs c)SF6 gas for Hybrid switchgear module d)Other miscellaneous items if any	EA	82,00,460.09	99,68,774.50
6	500018704	Supply of 145 kV Hybrid switchgear (for Line/Transformer Bay) 2500A, 40 KA for 1 Sec, including 2 nos. of Isolator with ES, 1 No. of CB, 1 set of ring type CT (max. 5 cores) with LCC & GI Supporting Structure Along with required quantity of SF6 gas and suitable Clamps Connectors along with Supply of Miscellanous items as follows: a)Terminal connectors suitable for Hybrid switchgear - 6 nos b)Control and Power Cable with glands & lugs c)SF6 gas for Hybrid switchgear module d)Other miscellaneous items if any	EA	82,00,460.09	99,68,774.50
7	500026327	245kV, 2000A, 40kA/3s, **3 Phase Double Break Motor Operated Isolator with Earthing Switch** along with Insulator (6125 mm Creepage, 4 kN) and Support Structures as per MSETCL Specification.	EA	5,66,335.74	6,88,458.11
8	500026326	245kV, 2000A, 40kA/3s **3 Phase Double Break Motor Operated Isolator without Earthing Switch** along with Insulator (6125 mm Creepage, 4 kN) and Support Structures as per MSETCL Specification.	EA	5,31,081.05	6,45,601.24
9	500026328	245kV 2000A 40kA/3s 1 Phase Double Break **Manually Operated** Isolator **with one Earthing Switch** along with Insulator (6125 mm Creepage, 4 kN) and Support Structures as per MSETCL Specification.	EA	2,22,493.07	2,70,470.59
10	500026329	245kV 2000A 40kA/3s 1 Phase Double Break **Manually Operated** Isolator with **without Earthing Switch** along with Insulator (6125 mm Creepage, 4 kN) and Support Structures as per MSETCL Specification.	EA	1,96,733.33	2,39,156.12
11	500000390	245kV 2000A 40kA/3s **3 Phase Double Break Manually Operated** Isolator **with Earthing Switch** along with Insulator (6125 mm Creepage, 4 kN) and Support Structures as per MSETCL Specification.	EA	5,17,785.56	6,29,438.77
12	500000387	245kV 2000A 40kA/3s **3 Phase Double Break Manually Operated** Isolator with **without Earthing Switch** along with Insulator (6125 mm Creepage, 4 kN) and Support Structures as per MSETCL Specification.	EA	4,91,822.76	5,97,877.45
13	500028606	245 kV, 800-400/1A, 5C, 50kA , 0.2 S Live Tank Current Transformer as per MSETCL Specification.	EA	3,92,997.96	4,77,742.47
14	500023710	245 kV, 800-400-200/1A, 5C, 50kA, 0.2s Live Tank Current Transformer as per MSETCL Specification.	EA	3,92,989.82	4,77,732.57
15	500021303	245 kV, 2400-1200-800/-1A,, 5C, 50kA , 0.2 S Live Tank Current Transformer as per MSETCL Specification.	EA	3,92,989.82	4,77,732.57
16	500028608	245 kV, 1600-800/-1A, 5C, 50kA , 0.2 S Live Tank Current Transformer as per MSETCL Specification.	EA	3,92,997.96	4,77,742.47

SCHEDULE OF RATES (SoR) for Upto 220KV Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
17	500028607	245 kV, 1200-600/-1A, 5C, 50kA , 0.2 S Live Tank Current Transformer as per MSETCL Specification.	EA	3,92,997.96	4,77,742.47
18	500020469	245 kV , 50/1A, 0.2 S, Live Tank Metering Current Transformer as per MSETCL Specification.	EA	3,93,034.70	4,77,787.13
19	500020471	245 kV , 100/1A, 0.2 S, Live Tank Metering Current Transformer as per MSETCL Specification.	EA	3,93,044.35	4,77,798.86
20	500014576	245 kV , 150/1A, 0.2 S, Live Tank Metering Current Transformer as per MSETCL Specification.	EA	3,93,044.35	4,77,798.86
21	500003747	220 kV **Bus Post Insulator (BPI)** 245kV, 6125mm Cr, 6KN as per MSETCL Specification.	EA	22,372.54	27,196.87
22	500000629	198 kV Gapless type, **Porcelain Lightning Arrester**, Station Class with insulating base alongwith terminal connectors and discharge counter 220kV, 10kA, 6125mm Creepage **as per MSETCL Specification.**	EA	59,543.75	72,383.52
23	500022060	198 kV Gapless type, **Polymer Lightning Arreste**r, Station Class with insulating base alongwith terminal connectors and discharge counter 220kV, 10kA, 6125mm Creepage **as per MSETCL Specification.**	EA	65,269.11	79,343.47
24	500000648	220 kV PT,3 CORE , 220kV/√3/110V/√3-110V/√3 -110V/√3 **as per MSETCL Specification.**	EA	4,11,635.63	5,00,399.09
25	500000698	220kV CVT (220kV/√3)/(110V/√3) 3C as per MSETCL Specification.	EA	1,72,185.39	2,09,314.76
26	500000649	220 kV Metering PT, 220/√3kV / 110 / √3V, 1 Core, 0.2 Cl as per MSETCL Specification.	EA	4,09,246.09	4,97,494.27
27	500000575	Coupling Capacitor alongwith support structure 220 kV, 6600pf as per MSETCL Specification.	EA	2,82,877.92	3,43,876.58
28	500026560	220kV Wave Trap (Pedastal type) with support insulators & support structures 2000A, 0.5mH,40KA as per MSETCL Specification.	EA	3,79,400.00	4,61,212.30
29	500026559	220kV Wave Trap (Suspended type) with support insulators & support structures 2000A, 0.5mH,40KA as per MSETCL Specification.	EA	3,74,407.00	4,55,142.63
30	500024070	220kV Wave Trap (Pedastal type) with support insulators & support structures 1250A, 0.5mH,40KA as per MSETCL Specification.	EA	2,91,886.18	3,54,827.35
31	500024039	220kV Wave Trap (Suspended type) with support insulators & support structures 1250A, 0.5mH as per MSETCL Specification.	EA	2,40,834.74	2,92,767.38
32		**Power Transformer**			
a	500000023	Power transformer alongwith accessories with oil including N2 injection fire protection system 1] 220/132 kV, 100MVA T/F	EA	6,45,68,887.72	7,84,92,264.39
b		Power transformer alongwith accessories with oil including N2 injection fire protection system 1] 220/100 kV, 100MVA T/F	EA	6,45,68,887.72	7,84,92,264.39
c	500000022	Power transformer alongwith accessories with oil including N2 injection fire protection system 1] 220/132 kV, 200MVA T/F	EA	11,40,42,984.38	13,86,34,757.36
d		Power transformer alongwith accessories with oil including N2 injection fire protection system 1] 220/100 kV, 200MVA T/F	EA	11,40,42,984.38	13,86,34,757.36
e	500000361	Power transformer alongwith accessories with oil 1] 220/33 kV, 25 MVA T/F	EA	3,91,14,379.29	4,75,48,847.58
f	500000358	Power transformer alongwith accessories with oil 1] 220/22 kV, 25 MVA T/F	EA	3,91,14,379.29	4,75,48,847.58
g	500017985	Power transformer alongwith accessories with oil 1] 220/33 kV, 50 MVA T/F	EA	5,87,79,214.84	7,14,54,129.61
h	500017984	Power transformer alongwith accessories with oil 1] 220/22 kV, 50 MVA T/F	EA	5,87,79,214.84	7,14,54,129.61
i	500017982	Power transformer alongwith accessories with oil 1)132/33 kV, 50 MVA T/F	EA	4,08,99,417.44	4,97,18,804.22
j	500017778	Power transformer alongwith accessories with oil 1)132/22 kV, 50 MVA T/F	EA	4,08,99,417.44	4,97,18,804.25
k		Power transformer alongwith accessories with oil 1)100/33 kV, 50 MVA T/F	EA	3,39,37,544.76	4,12,55,701.16
l	500017981	Power transformer alongwith accessories with oil 1)100/22 kV, 50 MVA T/F	EA	3,39,37,544.76	4,12,55,701.16
m	500000354	Power transformer alongwith accessories with oil 1] 132/33 kV, 25 MVA T/F	EA	3,02,45,889.86	3,67,67,992.57

SCHEDULE OF RATES (SoR) for Upto 220KV Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
n	500000351	Power transformer alongwith accessories with oil 1] 132/22 kV, 25 MVA T/F	EA	3,02,45,889.86	3,67,67,992.57
o		Power transformer alongwith accessories with oil 1] 100/33 kV, 25 MVA T/F	EA	3,02,45,889.86	3,67,67,992.57
p	500000346	Power transformer alongwith accessories with oil 1] 100/22 kV, 25 MVA T/F	EA	3,02,45,889.86	3,67,67,992.57
q	500017980	Power transformer alongwith accessories with oil 1] 220/33-33 kV, 100 MVA T/F	EA	7,13,08,771.89	8,66,85,510.23
r	500021534	Power transformer alongwith accessories with oil 1] 220/22-22 kV, 100 MVA T/F	EA	7,13,08,771.89	8,66,85,510.23
		132/100 kV Equipment			
33	500015492	145 kV MGO Circuit Breaker for 3PH trip alongwith support structure 2000A, 145kV, 40KA/3Sec (Operating Mechanism: Spring-Spring) as per MSETCL Specification.	EA	7,24,518.03	8,80,750.20
34	500008214	145kV 2000A 40kA/3s **3 Phase Double Break Motor Operated Isolator with Earthing Switch** along with Insulator (3625 mm Creepage, 4 kN) and Support Structures as per MSETCL Specification.	EA	4,01,788.75	4,88,428.87
35	500000043	145kV 2000A 40kA/3s **3 Phase Double Break Motor Operated Isolator without Earthing Switch** along with Insulator (3625 mm Creepage, 4 kN) and Support Structures as per MSETCL Specification.	EA	3,70,368.48	4,50,233.26
36	500000044	145kV 1250A 40kA/3s **3 Phase Double Break Motor Operated Isolator with Earthing Switch** along with Insulator (3625 mm Creepage, 4 kN) and Support Structures as per MSETCL Specification.	EA	3,70,368.48	4,50,233.26
37	500000045	145kV 1250A 40kA/3s **3 Phase Double Break Motor Operated Isolator without Earthing Switch** along with Insulator (3625 mm Creepage, 4 kN) and Support Structures as per MSETCL Specification.	EA	3,57,325.28	4,34,377.47
38	500000392	145kV 1250A 40kA/3s **3 Phase Double Break Manually Operated Isolator without Earthing Switch** along with Insulator (3625 mm Creepage, 4 kN) and Support Structures as per MSETCL Specification.	EA	3,57,325.28	4,34,377.47
39	500000046	145kV 1250A 40kA/3s **3 Phase Double Break Manually Operated Isolator with Earthing Switch** along with Insulator (3625 mm Creepage, 4 kN) and Support Structures as per MSETCL Specification.	EA	3,34,330.31	4,06,423.96
40	500025306	145 kV 800-400-200/1A, 5C, 0.2 S Live Tank Current Transformer as per MSETCL Specification	EA	1,80,823.36	219815.39
41	500025112	132 kV CT, 800-400/1A, 5C, 0.2 S Live Tank Current Transformer as per MSETCL Specification	EA	1,60,469.34	195072.31
42	500025302	132 kV CT, 2400-1200/1A, 5C, 0.2 S Live Tank Current Transformer as per MSETCL Specification	EA	1,98,578.53	241399.21
43	500025301	132 kV CT, 1600-800/1A, 5C, 0.2 S Live Tank Current Transformer as per MSETCL Specification	EA	2,14,852.46	261182.39
44	500000343	132 kV Bus post insulator (BPI) 145KV, 3625mm Cr , 4KN as per MSETCL Specification	EA	13,344.20	16,221.68
45	500012068	120 kV Gapless type, **Polymer Lightning Arrester**, Station Class with insulating base alongwith terminal connectors and discharge counter 132kV, 10kA, 3625mm Creepage as per MSETCL Specification.	EA	48,608.17	59,089.84
46	500000628	120 kV Gapless type, **Porcelain Lightning Arrester**, Station Class with insulating base alongwith terminal connectors and discharge counter 132kV, 10kA, 3625mm Creepage as per MSETCL Specification.	EA	40,187.85	48,853.80
47	500000635	100 kV Lightning Arrestor Alongwith power connectors & discharge counter as per MSETCL Specification.	EA	38,301.77	46,561.01
48	500000057	132 kV Potential Transformer, 132 /√3 kV / 110/√3V, 3C, 0.2 CL as per MSETCL Specification.	EA	1,55,618.74	1,89,175.74
49	500015991	110 kV Potential Transformer, 110 /√3 kV / 110/√3V, 3C, 0.2 CL as per MSETCL Specification.	EA	1,55,618.74	1,89,175.74
50	500000056	100 kV Potential Transformer, 100 /√3 kV / 110/√3V, 3C, 0.2 CL as per MSETCL Specification.	EA	1,55,618.74	1,89,175.74
51	500000643	145kV Potential Transformer (132-**100k**V/√3)/(110V/√3) 3C as per MSETCL Specification.	EA	1,55,618.74	1,89,175.74
52	500000644	145kV Potential Transformer (132-**110**kV/√3)/(110V/√3) 3C as per MSETCL Specification.	EA	1,55,618.74	1,89,175.74
53	500000646	132 kV Metering Potential Transformer, 132/√3kV / 110 / √3V, 1 Core, 0.2 Cl as per MSETCL Specification.	EA	1,55,618.74	1,89,175.74

SCHEDULE OF RATES (SoR) for Upto 220KV Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
54	500000641	100 kV Metering Potential Transformer 100/√3kV / 110 / √3V, 1 Core, 0.2 Cl as per MSETCL Specification.	EA	1,55,618.74	1,89,175.74
55	500000574	132 kV Coupling capacitor alongwith support structure & terminal connection 6600 PF as per MSETCL Specification.	EA	1,81,575.83	2,20,730.11
56	500024037	Wave trap (Pedestal type) alongwith support insulators and support structure & terminal connection for 132 kV 1250 A, 0.5mH, as per MSETCL Specification.	EA	1,84,105.83	2,23,805.67
57	500024038	Wave trap (Hanging type) alongwith support insulators and support structure & terminal connection for 132 kV 1250 A, 0.5mH, as per MSETCL Specification.	EA	1,19,730.53	1,45,548.74
58	500024219	Wave trap (Pedestal type) alongwith support insulators and support structure & terminal connection for 132 kV 630 A, 0.5mH, as per MSETCL Specification.	EA	1,84,105.83	2,23,805.67
59	500024218	Wave trap (Hanging type) alongwith support insulators and support structure & terminal connection for 132 kV 630 A, 0.5mH, as per MSETCL Specification.	EA	1,19,730.53	1,45,548.74
		33/22 kV Equipment			
60	500000469	33 kV 3P Circuit Breaker alongwith support structure 36 kV,1600A, 25KA - 3 Sec as per MSETCL Specification.	EA	270779.34	329169.12
61	500000040	33 kV Isolator **with EB** alongwith Insulators and support structure 36 kV,800A, 25KA - 3 Sec, 25mm/kV Creepage Distance, 4KN as per MSETCL Specification.	EA	108175.10	131501.54
62	500000041	33 kV Isolator **without EB** 36 kV, 1600A, 25KA-3 Sec, 25mm/kV Creepage Distance, 4KN as per MSETCL Specification	EA	108175.10	131501.54
63	500000042	33 kV Isolator **without EB** alongwith insulator and support structure 36 kV, 800A, 25 KA-3 sec., 25mm/KV Creepage Dist., 4KN as per MSETCL Specification	EA	77252.79	93911.27
64	500020343	33 kV CT, 1600-800/IA, 4C, 0.2S Class as per MSETCL Specification	EA	77,327.77	94,002.42
65	500022878	33 kV CT,400-200/IA, 3C, 0.2S Class as per MSETCL Specification	EA	61,686.85	74,988.75
66	500022879	33 kV CT,800-400/IA, 3C, 0.2S Class as per MSETCL Specification	EA	61,686.85	74,988.75
67		33 kV Neutral CT, 2000/IA, 2C as per MSETCL Specification	EA	50,678.43	61,606.53
68		33kV Metering CT as per MSETCL Specification	EA	52,655.16	64,009.50
69	500000626	30 kV LA Porcelain type for 33 KV system as per MSETCL Specification	EA	6,920.55	8,412.87
70	500020760	30 kV LA Polymer Type for 33 KV system as per MSETCL Specification	EA	6,854.64	8,332.75
71	500000052	18 kV LA (Polymer type) for 22kv system as per MSETCL Specification	EA	6,854.64	8,332.75
72		18 kV LA (Porcelain type) for 22kv system as per MSETCL Specification	EA	6,920.55	8,412.87
73	500000054	33 kV Potential Transformer 33 kV/√3 / 110V/√3, 3C, 0.2S CL as per MSETCL Specification	EA	48,775.68	59,293.47
74	500014021	33kV Metering Potential Transformer as per MSETCL Specification	EA	41,634.34	50,612.20
75	500000055	22 kV Potential Transformer 22 kV/√3 / 110V/√3, 3C, 0.2S CL as per MSETCL Specification	EA	48,775.68	59,293.47
76	500000342	33 kV **Bus post insulator (BPI)**36 kV, 127 mm PCD, 25 mm/KV Creepage Dist., 6 KN as per MSETCL Specification	EA	5,343.26	6,495.46
77		**Battery and Battery Charger and DCDB**			
a	500027640	220 V,300 AH, SAN Container Tubular Lead Acid Battery Set	Set	8,25,000.00	10,02,899.70
b		MP Based Duel Float Cum Boost Battety Chargers 220V 60A (30A (load) +30A(Boost)) suitable for 220V,300AH Lead Acid Tubular SAN Container / VRLA / Ni-Cad Battery Set	EA	6,30,000.00	7,65,850.68
c		220V, DCDB suitble for 220kV S/s as per MSETCL Specification	EA	1,38,000.00	1,67,757.77
d		220 V,200 AH, SAN Container Tubular Lead Acid Battery Set as per MSETCL Specification	Set	6,82,900.00	8,30,157.82
e		MP Based Duel Float Cum Boost Battety Chargers 220V 50A (30A (load) +20A(Boost)) suitable for 220V,200AH Lead Acid Tubular SAN Container / VRLA / Ni-Cad Battery Set as per MSETCL Specification	EA	6,07,000.00	7,37,891.05
f		220V, DCDB suitable for 132-110-100kV S/s as per MSETCL Specification	EA	1,38,000.00	1,67,757.77
g	500027642	48 V,200 AH, SAN Container Tubular Lead Acid Battery Set as per MSETCL Specification	Set	1,65,000.00	2,00,579.94
h		MP Based Duel Float Cum Boost Battety Chargers 48V 50A (10A (load) +20A(Boost)) suitable for48V,200AH Lead Acid Tubular SAN Container / VRLA / Ni-Cad Battery Set as per MSETCL Specification	EA	4,05,000.00	4,92,332.58

SCHEDULE OF RATES (SoR) for Upto 220KV Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
i		48V, DCDB suitable for 220-132-110-100kV S/s as per MSETCL Specification	EA	1,10,000.00	1,33,719.96
j	500027641	110 V,200 AH, SAN Container Tubular Lead Acid Battery Set as per MSETCL Specification	Set	3,18,000.00	3,86,572.25
k		MP Based Duel Float Cum Boost Battety Chargers 110V 50A (20A (load) +20A(Boost)) suitable for 110V,200AH Lead Acid Tubular SAN Container / VRLA / Ni-Cad Battery Set as per MSETCL Specification	EA	4,60,000.00	5,59,192.56
l	500015410	110V, DCDB suitable for 220-132-110-100kV S/s as per MSETCL Specification	EA	1,10,000.00	1,33,719.96
78		**ACDB**			
a	500000317	ACDB, 440V, 2-incomer & B/S interlocked (A type)	EA	5,20,213.36	6,32,390.09
b	500000318	ACDB,440V, 2-incomer & B/S interlocked (B type)	EA	2,67,532.28	3,25,221.87
c	500018890	440V Aux ACDB (O/d)	EA	38,391.16	46,669.68
d	500005281	250A O/d ACDB	EA	1,50,000.00	1,82,345.40
79		**220kV BCU based Bay Control & Protection Panels (BCPPs) - 220kV & Below S/s**			
79A		**BCPPs for 220kV Line**			
a	500029951	**220KV LINE 1M BUS(M1+M2 DIF)BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 1 Main Bus - M1 + M2 Protection (Both Line Differential with inbuilt Distance) as per MSETCL specification.	Set	24,09,686.56	29,29,301.73
b	500029893	**220KV LINE 1M BUS (M1 DIS+M2 DIF)BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 1 Main Bus - M1 + M2 Protection (M1- Line Distance, M2- Line Differential with inbuilt Distance) as per MSETCL specification.	Set	21,38,292.00	25,99,384.73
c	500029894	**220KV LINE 1M BUS(M1 DIF+B/U) BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 1 Main Bus - M1 + Backup Protection (M1- Line Differential with inbuilt Distance) as per MSETCL specification.	Set	18,77,186.56	22,81,975.56
d	500029950	**220KV LINE 1M BUS(M1 DIS+B/U) BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 1 Main Bus - M1 + Backup Protection (M1- Line Distance) as per MSETCL specification.	Set	17,41,164.76	21,16,622.57
e	500029956	**220KV LINE 2B(1M+1T) M1+M2 DIF BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 2 Bus (1 Main +1 Transfer) - M1 + M2 Protection (Both Line Differential with inbuilt Distance) as per MSETCL specification.	Set	24,38,659.21	29,64,521.92
f	500029959	**220KV LINE 2B(1M+1T) M1DIS+M2DIF BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 2 Bus (1 Main +1 Transfer) - M1 + M2 Protection (M1- Line Distance, M2- Line Differential with inbuilt Distance) as per MSETCL specification.	Set	21,38,292.00	25,99,384.73
g	500029957	**220KV LINE 2B(1M+1T) M1 DIF+B/U BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 2 Bus (1 Main +1 Transfer) - M1 + Backup Protection (M1- Line Differential with inbuilt Distance) as per MSETCL specification.	Set	19,06,159.21	23,17,195.75
h	500029958	**220KV LINE 2B(1M+1T) M1 DIS+B/U BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 2 Bus (1 Main +1 Transfer) - M1 + Backup Protection (M1- Line Distance) as per MSETCL specification.	Set	17,70,137.41	21,51,842.76
i	500029964	**220KV LINE 3B(2M+1T) M1+M2 DIF BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 3 Bus (2 Main +1 Transfer) - M1 + M2 Protection (Both Line Differential with inbuilt Distance) as per MSETCL specification.	Set	24,65,020.23	29,96,567.33
j	500029967	**220KV LINE 3B(2M+1T) M1DIS+M2DIF BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 3 Bus (2 Main +1 Transfer) - M1 + M2 Protection (M1- Line Distance, M2- Line Differential with inbuilt Distance) as per MSETCL specification.	Set	22,22,498.43	27,01,749.10
k	500029965	**220KV LINE 3B(2M+1T) M1 DIF+B/U BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 3 Bus (2 Main +1 Transfer) - M1 + Backup Protection (M1- Line Differential with inbuilt Distance) as per MSETCL specification.	Set	19,31,848.00	23,48,423.98

SCHEDULE OF RATES (SoR) for Upto 220KV Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
l	500029966	**220KV LINE 3B(2M+1T) M1 DIS+B/U BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 3 Bus (2 Main +1 Transfer) - M1 + Backup Protection (M1- Line Distance) as per MSETCL specification.	Set	17,96,498.43	21,83,888.17
m	500029963	**220KV LINE 2M(M1+M2 DIF) GIS BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 2 Main Bus (GIS) - M1 + M2 Protection (Both Line Differential with inbuilt Distance) as per MSETCL specification.	Set	24,38,659.21	29,64,521.92
n	500029962	**220KV LINE 2M(M1 DIS+M2 DIF) GIS BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 2 Main Bus (GIS) - M1 + M2 Protection (M1- Line Distance, M2- Line Differential with inbuilt Distance) as per MSETCL specification.	Set	21,96,137.41	26,69,703.69
o	500029960	**220KV LINE 2M(M1 DIF+B/U) GIS BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 2 Main Bus (GIS) - M1 + Backup Protection (M1- Line Differential with inbuilt Distance) as per MSETCL specification.	Set	19,06,159.21	23,17,195.75
p	500029961	**220KV LINE 2M(M1 DIS+B/U) GIS BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 2 Main Bus (GIS) - M1 + Backup Protection (M1- Line Distance) as per MSETCL specification.	Set	17,70,137.41	21,51,842.76
q	500029955	**220KV LINE 1M(M1+M2 DIF) GIS BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 1 Main Bus (GIS) - M1 + M2 Protection (Both Line Differential with inbuilt Distance) as per MSETCL specification.	Set	24,09,686.56	29,29,301.73
r	500029954	**220KV LINE 1M(M1 DIS+M2 DIF) GIS BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 1 Main Bus (GIS) - M1 + M2 Protection (M1- Line Distance, M2- Line Differential with inbuilt Distance) as per MSETCL specification.	Set	22,73,664.76	27,63,948.74
s	500029952	**220KV LINE 1M(M1 DIF+B/U) GIS BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 1 Main Bus (GIS) - M1 + Backup Protection (M1- Line Differential with inbuilt Distance) as per MSETCL specification.	Set	18,77,186.56	22,81,975.56
t	500029953	**220KV LINE 1M(M1 DIS+B/U) GIS BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Line 1 Main Bus (GIS) - M1 + Backup Protection (M1- Line Distance) as per MSETCL specification.	Set	17,41,164.76	21,16,622.57
79B		**BCPPs for 220/132, 220/110 and 220/100 kV ICT**			
a	500029892	**220/132KV ICT HV-3B LV-3B BCU CRP** BCU Based Bay Control & Protection Panels for 220/132kV ICT (HV+LV), Both 3 Bus (2 Main +1 Transfer) as per MSETCL specification	Set	24,61,683.69	29,92,511.31
b	500029891	**220/132KV ICT HV-3B LV-2B BCU CRP** BCU Based Bay Control & Protection Panels for 220/132kV ICT (HV+LV), HV- 3 Bus (2 Main +1 Transfer) LV- 2 Bus (1 Main +1 Transfer) as per MSETCL specification	Set	24,39,049.66	29,64,996.58
c	500029890	**220/132KV ICT HV-3B LV-1B BCU CRP** BCU Based Bay Control & Protection Panels for 220/132kV ICT (HV+LV), HV- 3 Bus (2 Main +1 Transfer) LV- 1 Main Bus as per MSETCL specification	Set	24,22,581.96	29,44,977.84
d	500029888	**220/132KV ICT HV-2B LV-2B BCU CRP** BCU Based Bay Control & Protection Panels for 220/132kV ICT (HV+LV), Both 2 Bus (1 Main +1 Transfer) as per MSETCL specification	Set	24,19,408.11	29,41,119.60
e	500029887	**220/132KV ICT HV-2B LV-1B BCU CRP** BCU Based Bay Control & Protection Panels for 220/132kV ICT (HV+LV), HV- 2 Bus (1 Main +1 Transfer) LV- 1 Main Busas per MSETCL specification	Set	24,02,940.41	29,21,100.87
f	500029886	**220/132KV ICT HV-1B LV-1B BCU CRP** BCU Based Bay Control & Protection Panels for 220/132kV ICT (HV+LV), Both 1 Main Bus as per MSETCL specification	Set	23,81,983.98	28,95,625.48
g	500029889	**220/132KV ICT HV-2B LV-2B GIS BCU CRP** BCU Based Bay Control & Protection Panels for 220/132kV ICT (HV+LV), Both 2 Main Bus (GIS) as per MSETCL specification	Set	24,19,408.11	29,41,119.60
h	500029877	**220/110KV ICT HV-3B LV-3B BCU CRP** BCU Based Bay Control & Protection Panels for 220/110kV ICT (HV+LV), Both 3 Bus (2 Main +1 Transfer) as per MSETCL specification	Set	24,61,683.69	29,92,511.31

SCHEDULE OF RATES (SoR) for Upto 220KV Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
i	500029876	**220/110KV ICT HV-3B LV-2B BCU CRP** BCU Based Bay Control & Protection Panels for 220/110kV ICT (HV+LV), HV- 3 Bus (2 Main +1 Transfer) LV- 2 Bus (1 Main +1 Transfer) as per MSETCL specification	Set	24,39,049.66	29,64,996.58
j	500029875	**220/110KV ICT HV-3B LV-1B BCU CRP** BCU Based Bay Control & Protection Panels for 220/110kV ICT (HV+LV), HV- 3 Bus (2 Main +1 Transfer) LV- 1 Main Bus as per MSETCL specification	Set	24,22,581.96	29,44,977.84
k	500029873	**220/110KV ICT HV-2B LV-2B BCU CRP** BCU Based Bay Control & Protection Panels for 220/110kV ICT (HV+LV), Both 2 Bus (1 Main +1 Transfer) as per MSETCL specification	Set	24,19,408.11	29,41,119.60
l	500029872	**220/110KV ICT HV-2B LV-1B BCU CRP** BCU Based Bay Control & Protection Panels for 220/110kV ICT (HV+LV), HV- 2 Bus (1 Main +1 Transfer) LV- 1 Main Busas per MSETCL specification	Set	24,02,940.41	29,21,100.87
m	500029871	**220/110KV ICT HV-1B LV-1B BCU CRP** BCU Based Bay Control & Protection Panels for 220/110kV ICT (HV+LV), Both 1 Main Bus as per MSETCL specification	Set	23,81,983.98	28,95,625.48
n	500029874	**220/110KV ICT HV-2B LV-2B GIS BCU CRP** BCU Based Bay Control & Protection Panels for 220/110kV ICT (HV+LV), Both 2 Main Bus (GIS) as per MSETCL specification	Set	24,19,408.11	29,41,119.60
o	500029870	**220/100KV ICT HV-3B LV-3B BCU CRP** BCU Based Bay Control & Protection Panels for 220/100kV ICT (HV+LV), Both 3 Bus (2 Main +1 Transfer) as per MSETCL specification	Set	24,61,683.69	29,92,511.31
p	500029869	**220/100KV ICT HV-3B LV-2B BCU CRP** BCU Based Bay Control & Protection Panels for 220/100kV ICT (HV+LV), HV- 3 Bus (2 Main +1 Transfer) LV- 2 Bus (1 Main +1 Transfer) as per MSETCL specification	Set	24,39,049.66	29,64,996.58
q	500029868	**220/100KV ICT HV-3B LV-1B BCU CRP** BCU Based Bay Control & Protection Panels for 220/100kV ICT (HV+LV), HV- 3 Bus (2 Main +1 Transfer) LV- 1 Main Bus as per MSETCL specification	Set	24,22,581.96	29,44,977.84
r	500029866	**220/100KV ICT HV-2B LV-2B BCU CRP** BCU Based Bay Control & Protection Panels for 220/100kV ICT (HV+LV), Both 2 Bus (1 Main +1 Transfer) as per MSETCL specification	Set	24,19,408.11	29,41,119.60
s	500029865	**220/100KV ICT HV-2B LV-1B BCU CRP** BCU Based Bay Control & Protection Panels for 220/100kV ICT (HV+LV), HV- 2 Bus (1 Main +1 Transfer) LV- 1 Main Busas per MSETCL specification	Set	24,02,940.41	29,21,100.87
t	500029864	**220/100KV ICT HV-1B LV-1B BCU CRP** BCU Based Bay Control & Protection Panels for 220/100kV ICT (HV+LV), Both 1 Main Bus as per MSETCL specification	Set	23,81,983.98	28,95,625.48
u	500029867	**220/100KV ICT HV-2B LV-2B GIS** BCU CRPBCU Based Bay Control & Protection Panels for 220/100kV ICT (HV+LV), Both 2 Main Bus (GIS) as per MSETCL specification	Set	24,19,408.11	29,41,119.60
79C		**BCPPs for 220/33, 220/22 and 220/11kV 2-Winding Transformer (T/F)**			
a	500029905	**220/33KV T/F HV-3B LV-1B BCU CRP** BCU Based Bay Control & Protection Panels for 220/33kV Transformer (HV+LV), HV- 3 Bus (2 Main +1 Transfer) LV- 1 Main Bus as per MSETCL specification	Set	21,49,930.79	26,13,533.27
b	500029903	**220/33KV T/F HV-2B LV-1B BCU CRP** BCU Based Bay Control & Protection Panels for 220/33kV Transformer (HV+LV), HV- 2 Bus (1 Main +1 Transfer) LV- 1 Main Bus as per MSETCL specification	Set	21,30,289.24	25,89,656.30
c	500029902	**220/33KV T/F HV-1B LV-1B BCU CRP** BCU Based Bay Control & Protection Panels for 220/33kV Transformer (HV+LV), Both HV & LV- 1 Main Bus as per MSETCL specification	Set	21,09,332.82	25,64,180.91
d	500029904	**220/33KV T/F HV-2B LV-1B GIS BCU CRP** BCU Based Bay Control & Protection Panels for 220/33kV Transformer (HV), HV- 2 Main Bus (GIS) as per MSETCL specification	Set	21,30,289.24	25,89,656.30

SCHEDULE OF RATES (SoR) for Upto 220KV Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
e	500029767	**220/22KV T/F HV-3B LV-1B BCU CRP** BCU Based Bay Control & Protection Panels for 220/22kV Transformer (HV+LV), HV- 3 Bus (2 Main +1 Transfer) LV- 1 Main Bus as per MSETCL specification	Set	21,49,930.79	26,13,533.27
f	500029759	**220/22KV T/F HV-2B LV-1B BCU CRP** BCU Based Bay Control & Protection Panels for 220/22kV Transformer (HV+LV), HV- 2 Bus (1 Main +1 Transfer) LV- 1 Main Bus as per MSETCL specification	Set	21,30,289.24	25,89,656.30
g	500029758	**220/22KV T/F HV-1B LV-1B BCU CRP** BCU Based Bay Control & Protection Panels for 220/22kV Transformer (HV+LV), Both HV & LV- 1 Main Bus as per MSETCL specification	Set	21,09,332.82	25,64,180.91
h	500029766	**220/22KV T/F HV-2B LV-1B GIS BCU C** BCU Based Bay Control & Protection Panels for 220/22kV Transformer (HV), HV- 2 Main Bus (GIS) as per MSETCL specification	Set	21,30,289.24	25,89,656.30
i	500029885	**220/11KV T/F HV-3B LV-1B BCU CRP** BCU Based Bay Control & Protection Panels for 220/11kV Transformer (HV+LV), HV- 3 Bus (2 Main +1 Transfer) LV- 1 Main Bus as per MSETCL specification	Set	21,49,930.79	26,13,533.27
j	500029883	**220/11KV T/F HV-2B LV-1B BCU CRP** BCU Based Bay Control & Protection Panels for 220/11kV Transformer (HV+LV), HV- 2 Bus (1 Main +1 Transfer) LV- 1 Main Bus as per MSETCL specification	Set	21,30,289.24	25,89,656.30
k	500029882	**220/11KV T/F HV-1B LV-1B BCU CRP** BCU Based Bay Control & Protection Panels for 220/11kV Transformer (HV+LV), Both HV & LV- 1 Main Bus as per MSETCL specification	Set	21,09,332.82	25,64,180.91
l	500029884	**220/11KV T/F HV-2B LV-1B GIS BCU CRP** BCU Based Bay Control & Protection Panels for 220/11kV Transformer (HV), HV- 2 Main Bus (GIS) as per MSETCL specification	Set	21,30,289.24	25,89,656.30
79D		**BCPPs for 220/33-33, 220/22-22, 220/11-11 kV 3-Winding Transformer (T/F)**			
a	500029901	**220/33-33KV T/F HV-3B LV-1B BCU CRP** BCU Based Bay Control & Protection Panels for 220/33-33kV Transformer (HV+LV), HV- 3 Bus (2 Main +1 Transfer) LV- 1 Main Bus as per MSETCL specification	Set	14,37,426.00	17,47,386.79
b	500029769	**220/33-33KV T/F HV-2B LV-1B BCU CR** BCU Based Bay Control & Protection Panels for 220/33-33kV Transformer (HV+LV), HV- 2 Bus (1 Main +1 Transfer) LV- 1 Main Bus as per MSETCL specification	Set	14,37,426.00	17,47,386.79
c	500029768	**220/33-33KV T/F HV-1B LV-1B BCU CR** BCU Based Bay Control & Protection Panels for 220/33-33kV Transformer (HV+LV), Both HV & LV- 1 Main Bus as per MSETCL specification	Set	14,37,426.00	17,47,386.79
d	500029900	**220/33-33KV T/F HV-2B LV-1B GIS BCU CRP** BCU Based Bay Control & Protection Panels for 220/33-33kV Transformer (HV), HV- 2 Main Bus (GIS) as per MSETCL specification	Set	14,37,426.00	17,47,386.79
e	500029757	**220/22-22KV T/F HV-3B LV-1B BCU CR** BCU Based Bay Control & Protection Panels for 220/22-22kV Transformer (HV+LV), HV- 3 Bus (2 Main +1 Transfer) LV- 1 Main Bus as per MSETCL specification	Set	14,37,426.00	17,47,386.79
f	500029755	**220/22-22KV T/F HV-2B LV-1B BCU CR** BCU Based Bay Control & Protection Panels for 220/22-22kV Transformer (HV+LV), HV- 2 Bus (1 Main +1 Transfer) LV- 1 Main Bus as per MSETCL specification	Set	14,37,426.00	17,47,386.79
g	500029754	**220/22-22KV T/F HV-1B LV-1B BCU CR** BCU Based Bay Control & Protection Panels for 220/22-22kV Transformer (HV+LV), Both HV & LV- 1 Main Bus as per MSETCL specification	Set	14,37,426.00	17,47,386.79
h	500029756	**220/22-22KV T/F HV-2B LV-1B GIS BC** BCU Based Bay Control & Protection Panels for 220/22-22kV Transformer (HV), HV- 2 Main Bus (GIS) as per MSETCL specification	Set	14,37,426.00	17,47,386.79
i	500029881	**220/11-11KV T/F HV-3B LV-1B BCU CRP** BCU Based Bay Control & Protection Panels for 220/11-11kV Transformer (HV+LV), HV- 3 Bus (2 Main +1 Transfer) LV- 1 Main Bus as per MSETCL specification	Set	14,37,426.00	17,47,386.79

SCHEDULE OF RATES (SoR) for Upto 220KV Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
j	500029879	**220/11-11KV T/F HV-2B LV-1B BCU CRP** BCU Based Bay Control & Protection Panels for 220/11-11kV Transformer (HV+LV), HV- 2 Bus (1 Main +1 Transfer) LV- 1 Main Bus as per MSETCL specification	Set	14,37,426.00	17,47,386.79
k	500029878	**220/11-11KV T/F HV-1B LV-1B BCU CRP** BCU Based Bay Control & Protection Panels for 220/11-11kV Transformer (HV+LV), Both HV & LV- 1 Main Bus as per MSETCL specification	Set	14,37,426.00	17,47,386.79
l	500029880	**220/11-11KV T/F HV-2B LV-1B GIS BCU CRP** BCU Based Bay Control & Protection Panels for 220/11-11kV Transformer (HV), HV- 2 Main Bus (GIS) as per MSETCL specification	Set	14,37,426.00	17,47,386.79
79E		**BCPPs for 220kV BC**			
a	500029907	**220KV BC 3B(2M+1T) BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Bus Coupler 3 Bus (2 Main +1 Transfer) as per MSETCL specification	Set	8,04,088.19	9,77,478.55
b	500029906	**220KV BC 2M BUS(GIS) BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Bus Coupler 2 Main Bus (GIS) as per MSETCL specification	Set	7,89,888.19	9,60,216.52
79F		**BCPPs for 220kV BS**			
a	500029908	**220KV BS 1B BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Bus Sectionaliser 1 Main Bus as per MSETCL specification	Set	7,89,888.19	9,60,216.52
b	500029909	**220KV BS 2B(1M+1T) BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Bus Sectionaliser 2 Bus (1 Main +1 Transfer) as per MSETCL specification	Set	8,04,088.19	9,77,478.55
79G		**BCPPs for 220kV TBC**			
a	500029896	**220KV TBC 3B(2M+1T) BCU CRP** BCU Based Bay Control & Protection Panels for 220kV TBC 3 Bus (2 Main +1 Transfer) as per MSETCL specification	Set	7,58,585.04	9,22,163.28
b	500029895	**220KV TBC 2B(1M+1T) BCU CRP** BCU Based Bay Control & Protection Panels for 220kV TBC 2 Bus (1 Main +1 Transfer) as per MSETCL specification	Set	7,45,989.42	9,06,851.59
79H		**BCPPs for 220kV Capacitor Bank**			
a	500029910	**220KV CAP. BANK 1B BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Capacitor Bank 1 Main Bus as per MSETCL specification	Set	7,67,477.48	9,32,973.26
b	500029911	**220KV CAP. BANK 2B(1M+1T) BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Capacitor Bank 2 Bus (1 Main +1 Transfer) as per MSETCL specification	Set	7,74,641.30	9,41,681.85
c	500029913	**220KV CAP. BANK 3B(2M+1T) BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Capacitor Bank 3 Bus (2 Main +1 Transfer) as per MSETCL specification	Set	7,90,329.15	9,60,752.56
d	500029912	**220KV CAP. BANK 2M BUS(GIS) BCU CRP** BCU Based Bay Control & Protection Panels for 220kV Capacitor Bank 2 Main Bus (GIS) as per MSETCL specification	Set	7,74,641.30	9,41,681.85
79I		**220kV Busbar Protection Panel**			
a	500029914	**220KV CENT. BBR 1M BUS RP (10 BAYS)** 220kV Centralised Busbar Protection Panel 1 Main Bus (10 Bays)as per MSETCL specification	Set	24,51,100.00	29,79,645.40
b	500029915	**220KV CENT. BBR 1M BUS RP (15 BAYS)** 220kV Centralised Busbar Protection Panel 1 Main Bus (15 Bays)as per MSETCL specification	Set	25,11,050.00	30,52,522.78
c	500029916	**220KV CENT. BBR 1M BUS RP (20 BAYS)** 220kV Centralised Busbar Protection Panel 1 Main Bus (20 Bays)as per MSETCL specification	Set	27,42,300.00	33,33,638.60
d	500029917	**220KV CENT. BBR 1M BUS RP (30 BAYS)** 220kV Centralised Busbar Protection Panel 1 Main Bus (30 Bays)as per MSETCL specification	Set	34,04,600.00	41,38,754.33
e	500029918	**220KV CENT. BBR 2B(1M+1T) RP (10 BAYS)** 220kV Centralised Busbar Protection Panel 2 Bus (1 Main +1 Transfer) (10 Bays)as per MSETCL specification	Set	24,51,100.00	29,79,645.40

SCHEDULE OF RATES (SoR) for Upto 220KV Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
f	500029919	**220KV CENT. BBR 2B(1M+1T) RP (15 BAYS)** 220kV Centralised Busbar Protection Panel 2 Bus (1 Main +1 Transfer) (15 Bays)as per MSETCL specification	Set	25,11,050.00	30,52,522.78
g	500029920	**220KV CENT. BBR 2B(1M+1T) RP (20 BAYS)** 220kV Centralised Busbar Protection Panel 2 Bus (1 Main +1 Transfer) (20 Bays)as per MSETCL specification	Set	27,42,300.00	33,33,638.60
h	500029921	**220KV CENT. BBR 2B(1M+1T) RP (30 BAYS)** 220kV Centralised Busbar Protection Panel 2 Bus (1 Main +1 Transfer) (30 Bays)as per MSETCL specification	Set	34,04,600.00	41,38,754.33
i	500029929	**220KV CENT. BBR 3B(2M+1T) RP (10 BAYS)** 220kV Centralised Busbar Protection Panel 3 Bus (2 Main +1 Transfer) (10 Bays)as per MSETCL specification	Set	24,51,100.00	29,79,645.40
j	500029930	**220KV CENT. BBR 3B(2M+1T) RP (15 BAYS)** 220kV Centralised Busbar Protection Panel 3 Bus (2 Main +1 Transfer) (15 Bays)as per MSETCL specification	Set	25,11,050.00	30,52,522.78
k	500029931	**220KV CENT. BBR 3B(2M+1T) RP (20 BAYS)** 220kV Centralised Busbar Protection Panel 3 Bus (2 Main +1 Transfer) (20 Bays)as per MSETCL specification	Set	27,42,300.00	33,33,638.60
l	500029932	**220KV CENT. BBR 3B(2M+1T) RP (30 BAYS)** 220kV Centralised Busbar Protection Panel 3 Bus (2 Main +1 Transfer) (30 Bays)as per MSETCL specification	Set	34,04,600.00	41,38,754.33
m	500029922	**220KV CENT. BBR 2M BUS(GIS) RP (10 BAYS)** 220kV Centralised Busbar Protection Panel 2 Main Bus (GIS) (10 Bays)as per MSETCL specification	Set	24,51,100.00	29,79,645.40
n	500029923	**220KV CENT. BBR 2M BUS(GIS) RP (15 BAYS)** 220kV Centralised Busbar Protection Panel 2 Main Bus (GIS) (15 Bays)as per MSETCL specification	Set	25,11,050.00	30,52,522.78
o	500029924	**220KV CENT. BBR 2M BUS(GIS) RP (20 BAYS)** 220kV Centralised Busbar Protection Panel 2 Main Bus (GIS) (20 Bays)as per MSETCL specification	Set	27,42,300.00	33,33,638.60
p	500029925	**220KV CENT. BBR 2M BUS(GIS) RP (30 BAYS)** 220kV Centralised Busbar Protection Panel 2 Main Bus (GIS) (30 Bays)as per MSETCL specification	Set	34,04,600.00	41,38,754.33
q	500029933	**220KV DIS. BBR 1M BUS RP (10 BAYS)** 220kV Distributed Busbar Protection Panel 1 Main Bus (10 Bays)as per MSETCL specification	Set	30,64,337.00	37,25,118.37
r	500029934	**220KV DIS. BBR 1M BUS RP (15 BAYS)** 220kV Distributed Busbar Protection Panel 1 Main Bus (15 Bays)as per MSETCL specification	Set	43,66,988.00	53,08,667.82
s	500029935	**220KV DIS. BBR 1M BUS RP (20 BAYS)** 220kV Distributed Busbar Protection Panel 1 Main Bus (20 Bays)as per MSETCL specification	Set	56,69,638.00	68,92,216.06
t	500029936	**220KV DIS. BBR 1M BUS RP (30 BAYS)** 220kV Distributed Busbar Protection Panel 1 Main Bus (30 Bays)as per MSETCL specification	Set	82,74,939.00	1,00,59,313.75
u	500029937	**220KV DIS. BBR 2B(1M+1T) RP (10 BAYS)** 220kV Distributed Busbar Protection Panel 2 Bus (1 Main +1 Transfer) (10 Bays)as per MSETCL specification	Set	30,64,337.00	37,25,118.37
v	500029938	**220KV DIS. BBR 2B(1M+1T) RP (15 BAYS)** 220kV Distributed Busbar Protection Panel 2 Bus (1 Main +1 Transfer) (15 Bays)as per MSETCL specification	Set	43,66,988.00	53,08,667.82
w	500029939	**220KV DIS. BBR 2B(1M+1T) RP (20 BAYS)** 220kV Distributed Busbar Protection Panel 2 Bus (1 Main +1 Transfer) (20 Bays)as per MSETCL specification	Set	56,69,638.00	68,92,216.06
x	500029940	**220KV DIS. BBR 2B(1M+1T) RP (30 BAYS)** 220kV Distributed Busbar Protection Panel 2 Bus (1 Main +1 Transfer) (30 Bays)as per MSETCL specification	Set	82,74,939.00	1,00,59,313.75
y	500029945	**220KV DIS. BBR 3B(2M+1T) RP (10 BAYS)** 220kV Distributed Busbar Protection Panel 3 Bus (2 Main +1 Transfer) (10 Bays)as per MSETCL specification	Set	30,64,337.00	37,25,118.37
z	500029946	**220KV DIS. BBR 3B(2M+1T) RP (15 BAYS)** 220kV Distributed Busbar Protection Panel 3 Bus (2 Main +1 Transfer) (15 Bays)as per MSETCL specification	Set	43,66,988.00	53,08,667.82

SCHEDULE OF RATES (SoR) for Upto 220KV Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
aa	500029947	**220KV DIS. BBR 3B(2M+1T) RP (20 BAYS)** 220kV Distributed Busbar Protection Panel 3 Bus (2 Main +1 Transfer) (20 Bays)as per MSETCL specification	Set	56,69,638.00	68,92,216.06
ab	500029948	**220KV DIS. BBR 3B(2M+1T) RP (30 BAYS)** 220kV Distributed Busbar Protection Panel 3 Bus (2 Main +1 Transfer) (30 Bays)as per MSETCL specification	Set	82,74,939.00	1,00,59,313.75
ac	500029941	**220KV DIS. BBR 2M BUS(GIS) RP (10 BAYS)** 220kV Distributed Busbar Protection Panel 2 Main Bus (GIS) (10 Bays)as per MSETCL specification	Set	30,64,337.00	37,25,118.37
ad	500029942	**220KV DIS. BBR 2M BUS(GIS) RP (15 BAYS)** 220kV Distributed Busbar Protection Panel 2 Main Bus (GIS) (15 Bays)as per MSETCL specification	Set	43,66,988.00	53,08,667.82
ae	500029943	**220KV DIS. BBR 2M BUS(GIS) RP (20 BAYS)** 220kV Distributed Busbar Protection Panel 2 Main Bus (GIS) (20 Bays)as per MSETCL specification	Set	56,69,638.00	68,92,216.06
af	500029944	**220KV DIS. BBR 2M BUS(GIS) RP (30 BAYS)** 220kV Distributed Busbar Protection Panel 2 Main Bus (GIS) (30 Bays)as per MSETCL specification	Set	82,74,939.00	1,00,59,313.75
80		**132(or 110 or 100)kV BCU based Bay Control & Protection Panels (BCPPs) - 220kV & Below S/s**			
80A		**BCPPs for 132(or 110 or 100)kV Line**			
a	500029774	**100-132KV LINE 1B(M1+M2 DIF) BCU C** BCU Based Bay Control & Protection Panels for 132kV or 110kV or 100kV Line 1 Main Bus - M1 + M2 Protection (Both Line Differential with inbuilt Distance) as per MSETCL specification.	Set	21,16,580.00	25,72,990.84
b	500029773	**100-132KV LINE 1B(M1 DIS+M2 DIF) B** BCU Based Bay Control & Protection Panels for 132kV or 110kV or 100kV Line 1 Main Bus - M1 + M2 Protection (M1- Line Distance, M2- Line Differential with inbuilt Distance) as per MSETCL specification.	Set	19,46,118.83	23,65,772.11
c	500029771	**100-132KV LINE 1B(M1 DIF+ B/U) B** BCU Based Bay Control & Protection Panels for 132kV or 110kV or 100kV Line 1 Main Bus - M1 + Backup Protection (M1- Line Differential with inbuilt Distance) as per MSETCL specification.	Set	14,71,442.00	17,88,737.87
d	500029772	**100-132KV LINE 1B(M1 DIS+ B/U) B** BCU Based Bay Control & Protection Panels for 132kV or 110kV or 100kV Line 1 Main Bus - M1 + Backup Protection (M1- Line Distance) as per MSETCL specification.	Set	14,01,399.00	17,03,591.07
e	500029782	**100-132KV LINE 2B(M1+M2 DIF) BCU C** BCU Based Bay Control & Protection Panels for 132kV or 110kV or 100kV Line 2 Bus (1 Main +1 Transfer) - M1 + M2 Protection (Both Line Differential with inbuilt Distance) as per MSETCL specification.	Set	21,16,580.00	25,72,990.84
f	500029781	**100-132KV LINE 2B(M1 DIS+M2 DIF) B** BCU Based Bay Control & Protection Panels for 132kV or 110kV or 100kV Line 2 Bus (1 Main +1 Transfer) - M1 + M2 Protection (M1- Line Distance, M2- Line Differential with inbuilt Distance) as per MSETCL specification.	Set	19,67,075.25	23,91,247.49
g	500029779	**100-132KV LINE 2B(M1 DIF+B/U) BCU CRP** BCU Based Bay Control & Protection Panels for 132kV or 110kV or 100kV Line 2 Bus (1 Main +1 Transfer) - M1 + Backup Protection (M1- Line Differential with inbuilt Distance) as per MSETCL specification.	Set	14,71,442.00	17,88,737.87
h	500029780	**100-132KV LINE 2B(M1 DIS+B/U) BCU CRP** BCU Based Bay Control & Protection Panels for 132kV or 110kV or 100kV Line 2 Bus (1 Main +1 Transfer) - M1 + Backup Protection (M1- Line Distance) as per MSETCL specification.	Set	14,01,399.00	17,03,591.07
i	500029790	**100-132KV LINE 3B(M1+M2 DIF) BCU C** BCU Based Bay Control & Protection Panels for 132kV or 110kV or 100kV Line 3 Bus (2 Main +1 Transfer) - M1 + M2 Protection (Both Line Differential with inbuilt Distance) as per MSETCL specification.	Set	21,16,580.00	25,72,990.84
j	500029789	**100-132KV LINE 3B(M1 DIS+M2 DIF) B** BCU Based Bay Control & Protection Panels for 132kV or 110kV or 100kV Line 3 Bus (2 Main +1 Transfer) - M1 + M2 Protection (M1- Line Distance, M2- Line Differential with inbuilt Distance) as per MSETCL specification.	Set	19,86,716.80	24,15,124.47

SCHEDULE OF RATES (SoR) for Upto 220KV Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
k	500029787	**100-132KV LINE 3B(M1 DIF+B/U) BCU CRP** BCU Based Bay Control & Protection Panels for 132kV or 110kV or 100kV Line 3 Bus (2 Main +1 Transfer) - M1 + Backup Protection (M1- Line Differential with inbuilt Distance) as per MSETCL specification.	Set	14,71,442.00	17,88,737.87
l	500029788	**100-132KV LINE 3B(M1 DIS+B/U) BCU CRP** BCU Based Bay Control & Protection Panels for 132kV or 110kV or 100kV Line 3 Bus (2 Main +1 Transfer) - M1 + Backup Protection (M1- Line Distance) as per MSETCL specification.	Set	14,01,399.00	17,03,591.07
m	500029783	**100-132KV LINE 2M(M1+M2 DIF) GIS B** BCU Based Bay Control & Protection Panels for 132kV or 110kV or 100kV Line 2 Main Bus (GIS) - M1 + M2 Protection (Both Line Differential with inbuilt Distance) as per MSETCL specification.	Set	21,16,580.00	25,72,990.84
n	500029786	**100-132KV LINE 2M(M1DS+M2DF) GIS B** BCU Based Bay Control & Protection Panels for 132kV or 110kV or 100kV Line 2 Main Bus (GIS) - M1 + M2 Protection (M1- Line Distance, M2- Line Differential with inbuilt Distance) as per MSETCL specification.	Set	19,67,075.25	23,91,247.49
o	500029784	**100-132KV LINE 2M(M1DIF+B/U) GIS BCU CRP** BCU Based Bay Control & Protection Panels for 132kV or 110kV or 100kV Line 2 Main Bus (GIS) - M1 + Backup Protection (M1- Line Differential with inbuilt Distance) as per MSETCL specification.	Set	16,15,937.65	19,64,391.98
p	500029785	**100-132KV LINE 2M(M1DIS+B/U) GIS BCU CRP** BCU Based Bay Control & Protection Panels for 132kV or 110kV or 100kV Line 2 Main Bus (GIS) - M1 + Backup Protection (M1- Line Distance) as per MSETCL specification.	Set	14,01,399.00	17,03,591.07
q	500029775	**100-132KV LINE 1M(M1+M2 DIF) GIS B** BCU Based Bay Control & Protection Panels for 132kV or 110kV or 100kV Line 1 Main Bus (GIS) - M1 + M2 Protection (Both Line Differential with inbuilt Distance) as per MSETCL specification.	Set	21,16,580.00	25,72,990.84
r	500029778	**100-132KV LINE 1M(M1DS+M2DF) GIS B** BCU Based Bay Control & Protection Panels for 132kV or 110kV or 100kV Line 1 Main Bus (GIS) - M1 + M2 Protection (M1- Line Distance, M2- Line Differential with inbuilt Distance) as per MSETCL specification.	Set	19,46,118.83	23,65,772.11
s	500029776	**100-132KV LINE 1M(M1DIF+B/U) GIS BCU CRP** BCU Based Bay Control & Protection Panels for 132kV or 110kV or 100kV Line 1 Main Bus (GIS) - M1 + Backup Protection (M1- Line Differential with inbuilt Distance) as per MSETCL specification.	Set	15,94,981.23	19,38,916.60
t	500029777	**100-132KV LINE 1M(M1DIS+B/U) GIS BCU CRP** BCU Based Bay Control & Protection Panels for 132kV or 110kV or 100kV Line 1 Main Bus (GIS) - M1 + Backup Protection (M1- Line Distance) as per MSETCL specification.	Set	14,01,399.00	17,03,591.07
80B		**BCPPs for 132(or 110 or 100)/33(or 22 or 11)kV 2-Winding Transformer (T/F)**			
a	500029821	**132/33KV T/F HV-3B LV-1B BCU CRP** BCU Based Bay Control & Protection Panels for 132(or 110 or 100)/33(or 22 or 11)kV Transformer (HV+LV), HV- 3 Bus (2 Main +1 Transfer) LV- 1 Main Bus as per MSETCL specification	Set	16,80,858.71	20,43,312.36
b	500029819	**132/33KV T/F HV-2B LV-1B BCU CRP** BCU Based Bay Control & Protection Panels for 132(or 110 or 100)/33(or 22 or 11)kV Transformer (HV+LV), HV- 2 Bus (1 Main +1 Transfer) LV- 1 Main Bus as per MSETCL specification	Set	16,59,675.58	20,17,561.38
c	500029818	**132/33KV T/F HV-1B LV-1B BCU CRP** BCU Based Bay Control & Protection Panels for 132(or 110 or 100)/33(or 22 or 11)kV Transformer (HV+LV), Both HV & LV- 1 Main Bus as per MSETCL specification	Set	14,33,008.85	17,42,017.15
d	500029820	**132/33KV T/F HV-2M GIS BCU CRP** BCU Based Bay Control & Protection Panels for 132(or 110 or 100)/33(or 22 or 11)kV Transformer (HV), HV- 2 Main Bus (GIS) as per MSETCL specification	Set	16,59,675.58	20,17,561.38
80C		**BCPPs for 132(or 110 or 100)kV/33-33(or 22 or 11)kV 3-Winding Transformer (T/F)**			
a	500029817	**132/33-33KV T/F HV-3B LV-1B BCU CRP** BCU Based Bay Control & Protection Panels for 132(or 110 or 100)/33-33(or 22 or 11)kV Transformer (HV+LV), HV- 3 Bus (2 Main +1 Transfer) LV- 1 Main Bus as per MSETCL specification	Set	19,68,454.13	23,92,923.71

SCHEDULE OF RATES (SoR) for Upto 220KV Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
b	500029815	**132/33-33KV T/F HV-2B LV-1B BCU CRP** BCU Based Bay Control & Protection Panels for 132(or 110 or 100)/33-33(or 22 or 11)kV Transformer (HV+LV), HV- 2 Bus (1 Main +1 Transfer) LV- 1 Main Bus as per MSETCL specification	Set	19,47,271.01	23,67,172.74
c	500029814	**132/33-33KV T/F HV-1B LV-1B BCU CRP** BCU Based Bay Control & Protection Panels for 132(or 110 or 100)/33-33(or 22 or 11)kV Transformer (HV+LV), Both HV & LV- 1 Main Bus as per MSETCL specification	Set	19,26,087.88	23,41,421.76
d	500029816	**132/33-33KV T/F HV-2M GIS BCU CRP** BCU Based Bay Control & Protection Panels for 132(or 110 or 100)/33-33(or 22 or 11)kV Transformer (HV), HV- 2 Main Bus (GIS) as per MSETCL specification	Set	19,47,271.01	23,67,172.74
80D		**BCPPs for 132 kV, 110kV and 100kV BUS COUPLER**			
a	500029823	**132KV BC 3B(2M+1T) BCU CRP** BCU Based Bay Control & Protection Panels for 132kV Bus Coupler 3 Bus (2 Main +1 Transfer) as per MSETCL specification	Set	7,96,416.56	9,68,152.64
b	500029822	**132KV BC 2M BUS GIS BCU CRP** BCU Based Bay Control & Protection Panels for 132kV Bus Coupler 2 Main Bus (GIS) as per MSETCL specification	Set	7,82,216.56	9,50,890.61
c	500029802	**110KV BC 3B(2M+1T) BCU CRP** BCU Based Bay Control & Protection Panels for 110kV Bus Coupler 3 Bus (2 Main +1 Transfer) as per MSETCL specification	Set	7,96,416.56	9,68,152.64
d	500029801	**110KV BC 2M BUS, GIS BCU CRP** BCU Based Bay Control & Protection Panels for 110kV Bus Coupler 2 Main Bus (GIS) as per MSETCL specification	Set	7,82,216.56	9,50,890.61
e	500029792	**100KV BC 3B(2M+1T) BCU CRP** BCU Based Bay Control & Protection Panels for 100kV Bus Coupler 3 Bus (2 Main +1 Transfer) as per MSETCL specification	Set	7,96,416.56	9,68,152.64
f	500029791	**100KV BC 2M BUS GIS BCU CRP** BCU Based Bay Control & Protection Panels for 100kV Bus Coupler 2 Main Bus (GIS) as per MSETCL specification	Set	7,82,216.56	9,50,890.61
80E		**BCPPs for 132 kV, 110kV and 100kV BUS SECTIONALISER**			
a	500029824	**132KV BS 1M BUS BCU CRP** BCU Based Bay Control & Protection Panels for 132kV Bus Sectionaliser 1 Main Bus as per MSETCL specification	Set	7,82,216.56	9,50,890.61
b	500029825	**132KV BS 2B(1M+1T) BCU CRP** BCU Based Bay Control & Protection Panels for 132kV Bus Sectionaliser 2 Bus (1 Main +1 Transfer) as per MSETCL specification	Set	7,82,216.56	9,50,890.61
c	500029803	**110KV BS 1M BUS BCU CRP** BCU Based Bay Control & Protection Panels for 110kV Bus Sectionaliser 1 Main Bus as per MSETCL specification	Set	7,82,216.56	9,50,890.61
d	500029804	**110KV BS 2B(1M+1T) BCU CRP** BCU Based Bay Control & Protection Panels for 110kV Bus Sectionaliser 2 Bus (1 Main +1 Transfer) as per MSETCL specification	Set	7,82,216.56	9,50,890.61
e	500029793	**100KV BS 1M BUS BCU CRP** BCU Based Bay Control & Protection Panels for 100kV Bus Sectionaliser 1 Main Bus as per MSETCL specification	Set	7,82,216.56	9,50,890.61
f	500029794	**100KV BS 2B(1M+1T) BCU CRP** BCU Based Bay Control & Protection Panels for 100kV Bus Sectionaliser 2 Bus (1 Main +1 Transfer) as per MSETCL specification	Set	7,82,216.56	9,50,890.61
80F		**BCPPs for 132 kV, 110kV and 100kV TBC**			
a	500029862	**132KV TBC 2B(1M+1T) BCU CRP** BCU Based Bay Control & Protection Panels for 132kV TBC 2 Bus (1 Main +1 Transfer) as per MSETCL specification	Set	7,26,338.80	8,82,963.60
b	500029863	**132KV TBC 3B(2M+1T) BCU CRP** BCU Based Bay Control & Protection Panels for 132kV TBC 3 Bus (2 Main +1 Transfer) as per MSETCL specification	Set	7,10,061.53	8,63,176.35
c	500029810	**110KV TBC 3B(2M+1T) BCU CRP** BCU Based Bay Control & Protection Panels for 110kV TBC 3 Bus (2 Main +1 Transfer) as per MSETCL specification	Set	7,26,338.80	8,82,963.60
d	500029809	**110KV TBC 2B(1M+1T) BCU CRP** BCU Based Bay Control & Protection Panels for 110kV TBC 2 Bus (1 Main +1 Transfer) as per MSETCL specification	Set	7,10,061.53	8,63,176.35

SCHEDULE OF RATES (SoR) for Upto 220KV Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
e	500029800	**100KV TBC 3B(2M+1T) BCU CRP** BCU Based Bay Control & Protection Panels for 100kV TBC 3 Bus (2 Main +1 Transfer) as per MSETCL specification	Set	7,26,338.80	8,82,963.60
f	500029799	**100KV TBC 2B(1M+1T) BCU CRP** BCU Based Bay Control & Protection Panels for 100kV TBC 2 Bus (1 Main +1 Transfer) as per MSETCL specification	Set	7,10,061.53	8,63,176.35
80G		**BCPPs for 132 kV, 110kV and 100kV Capacitor Bank**			
a	500029826	**132KV CAP. BANK 1M BUS BCU CRP** BCU Based Bay Control & Protection Panels for 132kV Capacitor Bank 1 Main Bus as per MSETCL specification	Set	7,66,350.00	9,31,602.65
b	500029827	**132KV CAP. BANK 2B(1M+1T) BCU CRP** BCU Based Bay Control & Protection Panels for 132kV Capacitor Bank 2 Bus (1 Main +1 Transfer) as per MSETCL specification	Set	7,66,350.00	9,31,602.65
c	500029829	**132KV CAP. BANK 3B(2M+1T) BCU CRP** BCU Based Bay Control & Protection Panels for 132kV Capacitor Bank 3 Bus (2 Main +1 Transfer) as per MSETCL specification	Set	7,66,350.00	9,31,602.65
d	500029828	**132KV CAP. BANK 2M BUS GIS BCU CRP** BCU Based Bay Control & Protection Panels for 132kV Capacitor Bank 2 Main Bus (GIS) as per MSETCL specification	Set	7,66,350.00	9,31,602.65
e	500029805	**110KV CAP. BANK 1M BUS BCU CRP** BCU Based Bay Control & Protection Panels for 110kV Capacitor Bank 1 Main Bus as per MSETCL specification	Set	7,66,350.00	9,31,602.65
f	500029806	**110KV CAP. BANK 2B(1M+1T) BCU CRP** BCU Based Bay Control & Protection Panels for 110kV Capacitor Bank 2 Bus (1 Main +1 Transfer) as per MSETCL specification	Set	7,66,350.00	9,31,602.65
g	500029808	**110KV CAP. BANK 3B(2M+1T) BCU CRP** BCU Based Bay Control & Protection Panels for 110kV Capacitor Bank 3 Bus (2 Main +1 Transfer) as per MSETCL specification	Set	7,66,350.00	9,31,602.65
h	500029807	**110KV CAP. BANK 2M BUS(GIS) BCU CRP** BCU Based Bay Control & Protection Panels for 110kV Capacitor Bank 2 Main Bus (GIS) as per MSETCL specification	Set	7,66,350.00	9,31,602.65
i	500029795	**100KV CAP. BANK 1M BUS BCU CRP** BCU Based Bay Control & Protection Panels for 100kV Capacitor Bank 1 Main Bus as per MSETCL specification	Set	7,66,350.00	9,31,602.65
j	500029796	**100KV CAP. BANK 2B(1M+1T) BCU CRP** BCU Based Bay Control & Protection Panels for 100kV Capacitor Bank 2 Bus (1 Main +1 Transfer) as per MSETCL specification	Set	7,66,350.00	9,31,602.65
k	500029798	**100KV CAP. BANK 3B(2M+1T) BCU CRP** BCU Based Bay Control & Protection Panels for 100kV Capacitor Bank 3 Bus (2 Main +1 Transfer) as per MSETCL specification	Set	7,66,350.00	9,31,602.65
l	500029797	**100KV CAP. BANK 2M BUS GIS BCU CRP** BCU Based Bay Control & Protection Panels for 100kV Capacitor Bank 2 Main Bus (GIS) as per MSETCL specification	Set	7,66,350.00	9,31,602.65
80H		**132 kV, 110kV and 100kV Busbar Protection Panel**			
a	500029830	**132KV CENT. BBR 1M BUS RP (10 BAYS)** 132kV or 110kV or 100kV Centralised Busbar Protection Panel 1 Main Bus (10 Bays)as per MSETCL specification	Set	26,50,000.00	32,21,435.40
b	500029831	**132KV CENT. BBR 1M BUS RP (15 BAYS)** 132kV or 110kV or 100kV Centralised Busbar Protection Panel 1 Main Bus (15 Bays)as per MSETCL specification	Set	30,75,000.00	37,38,080.70
c	500029832	**132KV CENT. BBR 1M BUS RP (20 BAYS)** 132kV or 110kV or 100kV Centralised Busbar Protection Panel 1 Main Bus (20 Bays)as per MSETCL specification	Set	34,80,800.00	42,31,385.79
d	500029833	**132KV CENT. BBR 1M BUS RP (30 BAYS)** 132kV or 110kV or 100kV Centralised Busbar Protection Panel 1 Main Bus (30 Bays)as per MSETCL specification	Set	43,17,150.00	52,48,082.96
e	500029834	**132KV CENT. BBR 2B(1M+1T) RP (10 BAYS)** 132kV or 110kV or 100kV Centralised Busbar Protection Panel 2 Bus (1 Main +1 Transfer) (10 Bays)as per MSETCL specification	Set	32,21,300.00	39,15,928.25
f	500029835	**132KV CENT. BBR 2B(1M+1T) RP (15 BAYS)** 132kV or 110kV or 100kV Centralised Busbar Protection Panel 2 Bus (1 Main +1 Transfer) (15 Bays)as per MSETCL specification	Set	32,97,000.00	40,07,951.89

SCHEDULE OF RATES (SoR) for Upto 220KV Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
g	500029836	**132KV CENT. BBR 2B(1M+1T) RP (20 BAYS)** 132kV or 110kV or 100kV Centralised Busbar Protection Panel 2 Bus (1 Main +1 Transfer) (20 Bays)as per MSETCL specification	Set	34,80,800.00	42,31,385.79
h	500029837	**132KV CENT. BBR 2B(1M+1T) RP (30 BAYS)** 132kV or 110kV or 100kV Centralised Busbar Protection Panel 2 Bus (1 Main +1 Transfer) (30 Bays)as per MSETCL specification	Set	43,17,150.00	52,48,082.96
i	500029842	**132KV CENT. BBR 3B(2M+1T) RP (10 BAYS)** 132kV or 110kV or 100kV Centralised Busbar Protection Panel 3 Bus (2 Main +1 Transfer) (10 Bays)as per MSETCL specification	Set	32,21,300.00	39,15,928.25
j	500029843	**132KV CENT. BBR 3B(2M+1T) RP (15 BAYS)** 132kV or 110kV or 100kV Centralised Busbar Protection Panel 3 Bus (2 Main +1 Transfer) (15 Bays)as per MSETCL specification	Set	32,97,000.00	40,07,951.89
k	500029844	**132KV CENT. BBR 3B(2M+1T) RP (20 BAYS)** 132kV or 110kV or 100kV Centralised Busbar Protection Panel 3 Bus (2 Main +1 Transfer) (20 Bays)as per MSETCL specification	Set	34,80,800.00	42,31,385.79
l	500029845	**132KV CENT. BBR 3B(2M+1T) RP (30 BAYS)** 132kV or 110kV or 100kV Centralised Busbar Protection Panel 3 Bus (2 Main +1 Transfer) (30 Bays)as per MSETCL specification	Set	43,17,150.00	52,48,082.96
m	500029838	**132KV CENT. BBR 2M BUS(GIS) RP (10 BAYS)** 132kV or 110kV or 100kV Centralised Busbar Protection Panel 2 Main Bus (GIS) (10 Bays)as per MSETCL specification	Set	32,21,276.00	39,15,899.07
n	500029839	**132KV CENT. BBR 2M BUS(GIS) RP (15 BAYS)** 132kV or 110kV or 100kV Centralised Busbar Protection Panel 2 Main Bus (GIS) (15 Bays)as per MSETCL specification	Set	9,10,000.00	11,06,228.76
o	500029840	**132KV CENT. BBR 2M BUS(GIS) RP (20 BAYS)** 132kV or 110kV or 100kV Centralised Busbar Protection Panel 2 Main Bus (GIS) (20 Bays)as per MSETCL specification	Set	9,85,700.00	11,98,252.41
p	500029841	**132KV CENT. BBR 2M BUS(GIS) RP (30 BAYS)** 132kV or 110kV or 100kV Centralised Busbar Protection Panel 2 Main Bus (GIS) (30 Bays)as per MSETCL specification	Set	11,37,100.00	13,82,299.70
q	500029846	**132KV DIS. BBR 1M BUS RP (10 BAYS)** 132kV or 110kV or 100kV Distributed Busbar Protection Panel 1 Main Bus (10 Bays)as per MSETCL specification	Set	7,50,750.00	9,12,638.73
r	500029847	**132KV DIS. BBR 1M BUS RP (15 BAYS)** 132kV or 110kV or 100kV Distributed Busbar Protection Panel 1 Main Bus (15 Bays)as per MSETCL specification	Set	8,92,950.00	10,85,502.17
s	500029848	**132KV DIS. BBR 1M BUS RP (20 BAYS)** 132kV or 110kV or 100kV Distributed Busbar Protection Panel 1 Main Bus (20 Bays)as per MSETCL specification	Set	10,35,150.00	12,58,365.61
t	500029849	**132KV DIS. BBR 1M BUS RP (30 BAYS)** 132kV or 110kV or 100kV Distributed Busbar Protection Panel 1 Main Bus (30 Bays)as per MSETCL specification	Set	13,19,550.00	16,04,092.48
u	500029850	**132KV DIS. BBR 2B(1M+1T) RP (10 BAYS)** 132kV or 110kV or 100kV Distributed Busbar Protection Panel 2 Bus (1 Main +1 Transfer) (10 Bays)as per MSETCL specification	Set	7,50,750.00	9,12,638.73
v	500029851	**132KV DIS. BBR 2B(1M+1T) RP (15 BAYS)** 132kV or 110kV or 100kV Distributed Busbar Protection Panel 2 Bus (1 Main +1 Transfer) (15 Bays)as per MSETCL specification	Set	8,92,950.00	10,85,502.17
w	500029852	**132KV DIS. BBR 2B(1M+1T) RP (20 BAYS)** 132kV or 110kV or 100kV Distributed Busbar Protection Panel 2 Bus (1 Main +1 Transfer) (20 Bays)as per MSETCL specification	Set	10,35,150.00	12,58,365.61
x	500029853	**132KV DIS. BBR 2B(1M+1T) RP (30 BAYS)** 132kV or 110kV or 100kV Distributed Busbar Protection Panel 2 Bus (1 Main +1 Transfer) (30 Bays)as per MSETCL specification	Set	13,19,550.00	16,04,092.48
y	500029858	**132KV DIS. BBR 3B(2M+1T) RP (10 BAYS)** 132kV or 110kV or 100kV Distributed Busbar Protection Panel 3 Bus (2 Main +1 Transfer) (10 Bays)as per MSETCL specification	Set	7,50,750.00	9,12,638.73
z	500029859	**132KV DIS. BBR 3B(2M+1T) RP (15 BAYS)** 132kV or 110kV or 100kV Distributed Busbar Protection Panel 3 Bus (2 Main +1 Transfer) (15 Bays)as per MSETCL specification	Set	8,92,950.00	10,85,502.17
aa	500029860	**132KV DIS. BBR 3B(2M+1T) RP (20 BAYS)** 132kV or 110kV or 100kV Distributed Busbar Protection Panel 3 Bus (2 Main +1 Transfer) (20 Bays)as per MSETCL specification	Set	10,35,150.00	12,58,365.61

SCHEDULE OF RATES (SoR) for Upto 220KV Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
ab	500029861	**132KV DIS. BBR 3B(2M+1T) RP (30 BAYS)** 132kV or 110kV or 100kV Distributed Busbar Protection Panel 3 Bus (2 Main +1 Transfer) (30 Bays)as per MSETCL specification	Set	13,19,550.00	16,04,092.48
ac	500029854	**132KV DIS. BBR 2M BUS(GIS) RP (10 BAYS)** 132kV or 110kV or 100kV Distributed Busbar Protection Panel 2 Main Bus (GIS) (10 Bays)as per MSETCL specification	Set	7,50,750.00	9,12,638.73
ad	500029855	**132KV DIS. BBR 2M BUS(GIS) RP (15 BAYS)** 132kV or 110kV or 100kV Distributed Busbar Protection Panel 2 Main Bus (GIS) (15 Bays)as per MSETCL specification	Set	8,92,950.00	10,85,502.17
ae	500029856	**132KV DIS. BBR 2M BUS(GIS) RP (20 BAYS)** 132kV or 110kV or 100kV Distributed Busbar Protection Panel 2 Main Bus (GIS) (20 Bays)as per MSETCL specification	Set	10,35,150.00	12,58,365.61
af	500029857	**132KV DIS. BBR 2M BUS(GIS) RP (30 BAYS)** 132kV or 110kV or 100kV Distributed Busbar Protection Panel 2 Main Bus (GIS) (30 Bays)as per MSETCL specification	Set	13,19,550.00	16,04,092.48
80I		**33kV, 22kV and 11kV BCU based Bay Control & Protection Panels (BCPPs) - 220kV & Below S/s**	Set		
a	500029971	**33KV DOUBLE FEEDER 1M BUS BCU CRP** BCU Based Bay Control & Protection Panels for 33kV Double(Twin) Feeder 1 Main Bus as per MSETCL specification	Set	5,41,450.00	6,58,206.11
b	500029899	**22KV DOUBLE FEEDER 1M BUS BCU CRP** BCU Based Bay Control & Protection Panels for 22kV Double(Twin) Feeder 1 Main Bus as per MSETCL specification	Set	5,41,450.00	6,58,206.11
c	500029813	**11KV DOUBLE FEEDER 1M BUS BCU CRP** BCU Based Bay Control & Protection Panels for 11kV Double(Twin) Feeder 1 Main Bus as per MSETCL specification	Set	5,41,450.00	6,58,206.11
d	500029949	**33KV BS 1M BUS BCU CRP** BCU Based Bay Control & Protection Panels for 33kV Bus Sectionaliser 1 Main Bus as per MSETCL specification	Set	4,38,800.00	5,33,421.08
e	500029897	**22KV BS 1M BUS BCU CRP** BCU Based Bay Control & Protection Panels for 22kV Bus Sectionaliser 1 Main Bus as per MSETCL specification	Set	4,38,800.00	5,33,421.08
f	500029811	**11KV BS 1M BUS BCU CRP** BCU Based Bay Control & Protection Panels for 11kV Bus Sectionaliser 1 Main Bus as per MSETCL specification	Set	4,38,800.00	5,33,421.08
g	500029970	**33KV CAP. BANK 1M BUS BCU CRP** BCU Based Bay Control & Protection Panels for 33kV Capacitor Bank 1 Main Bus as per MSETCL specification	Set	4,38,800.00	5,33,421.08
h	500029898	**22KV CAP. BANK 1M BUS BCU CRP** BCU Based Bay Control & Protection Panels for 22kV Capacitor Bank 1 Main Bus as per MSETCL specification	Set	4,38,800.00	5,33,421.08
i	500029812	**11KV CAP. BANK 1M BUS BCU CRP** BCU Based Bay Control & Protection Panels for 11kV Capacitor Bank 1 Main Bus as per MSETCL specification	Set	4,38,800.00	5,33,421.08
81		**Capacitor Bank**			
a	500004703	05 MVAR 33 kV Capacitor Bank	EA	11,15,029.46	13,55,469.95
b	500004991	10 MVAR 33 kV Capacitor Bank	EA	19,83,638.01	24,11,381.78
c	500006241	15 MVAR 33 kV Capacitor Bank	EA	29,75,457.01	36,17,072.66
d	500028552	15 MVAR 132 kV Capacitor Bank	EA	24,79,293.87	30,13,918.88
82		**Capacitor Bank Reactor**			
a	500020694	05 MVAR 33 kV Capacitor Bank Reactor	EA	16,046.29	19,506.45
b	500028555	10 MVAR 33 kV Capacitor Bank Reactor	EA	16,046.29	19,506.45
c	500028553	15 MVAR 33 kV Capacitor Bank Reactor	EA	16,046.29	19,506.45
83		**Capacitor Bank Neutral CT**			
a	500020696	05 MVAR 33 kV Capacitor Bank Neutral CT	EA	36,845.24	44,790.40
b	500020461	7.5 MVAR 33 kV Capacitor Bank Neutral CT	EA	36,845.24	44,790.40
c	500028556	10 MVAR 33 kV Capacitor Bank Neutral CT	EA	36,845.24	44,790.40
d	500028554	15 MVAR 33 kV Capacitor Bank Neutral CT	EA	36,845.24	44,790.40
84		**Series Reactor of Capacitor Bank**			
a		Elevated Structure Suitable for Series Reactor of 33kV, 5MVAR Capacitor Bank	EA	15,304.66	18,604.90

SCHEDULE OF RATES (SoR) for Upto 220KV Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
b	500029207	Elevated Structure Suitable for Series Reactor of 33kV, 7.5MVAR Capacitor Bank	EA	25,701.48	31,243.64
		Disc Insulator			
85	500000323	120 KN Disc Insulator for Tension string for 220/132/110/100/33/22 kV (Normal)	EA	908.73	1,104.69
86	500000330	120 KN Disc Insulator for Suspension string for 220/132/110/100/33/22 kV (Antifog)	EA	1,010.30	1,228.16
87	500000324	70 KN Disc Insulator for Suspension string for 220/132/110/100/33/22 kV (Normal)	EA	766.10	931.30
88	500000322	70 KN Disc Insulator for Tension string for 220/132/110/100/33/22 kV (Antifog)	EA	848.22	1,031.13
		Hardware			
89	500002892	220 kV Single tension(STT) Hardware for twin Zebra 330 mm spacing, compresion type	EA	4,871.20	5,921.61
90	500002891	132 kV Single tension(STT) Hardware for twin Zebra 225 mm spacing, compresion type	EA	4,871.20	5,921.61
91	500002886	220 kV Single suspension (SST) Hardware for twin Zebra 330 mm spacing	EA	3,610.22	4,388.72
92	500002885	132 kV Single suspension(SST) Hardware for twin Zebra 225 mm spacing	EA	3,374.28	4,101.90
93	500002950	220/132 kV Single Tension(ST) Hardware for Zebra - Compression Type	EA	2,580.67	3,137.15
94	500000819	220/132/33 kV Single suspension Hardware (SS) for zebra	EA	3,247.30	3,947.53
95	500000792	Earth wire 7/3.15 Tension clamp Hardware - Compression type	EA	800.52	973.14
96	500003456	33/22 kV Single tension (STT) Hardware for twin Zebra 140 mm spacing - compresion type	EA	5,515.81	6,705.21
97	500012908	33/22 kV Single suspension (SST) Hardware for twin Zebra, 140 mm spacing	EA	3,933.09	4,781.20
98	500021440	33/22 kV Single tension (ST) Hardware for Zebra	EA	3,605.31	4,382.74
99	500000638	Spacers (C1a) for 220kV 330 mm spacing	EA	1,079.23	1,311.95
100	500000637	Spacers (C1b) for 132kV 225 mm spacing	EA	552.03	671.07
101	500000636	Spacer (C1c) 140 mm spacing	EA	318.35	387.00
102	500003441	Palm for CB (C18) Aluminium, 9-holes - Comp type	EA	2,133.62	2,593.71
103	500003440	Palm for CB (C18a) Aluminium, 4-holes - Comp type	EA	776.68	944.16
104	500003438	Palm for Iso (C15a) Electrolytic copper - Comp type	EA	1,845.75	2,243.76
105	500003443	Stud, single (C10b) CT/ CC/ PT Electrolytic copper - Comp type	EA	2,323.28	2,824.26
106	500003442	Stud, two way (C10) Electrolytic copper - Comp type	EA	3,269.29	3,974.27
107	500003444	T-connector (C2a) Twin to Twin 330 mm spacing	EA	2,717.26	3,303.20
108	500003445	T-connector (C2b) Twin to Twin 225 mm spacing, - Comp type	EA	2,416.97	2,938.16
109	500003447	T-connector (C3a) Twin to Single 330 Spacing - Comp type	EA	2,727.42	3,315.55
110	500003448	T-connector (C3b) Twin to Single 225mm spacing - Comp type	EA	2,262.32	2,750.15
111	500003450	T-connector (C5) Single to single - Comp type	EA	1,316.30	1,600.14
112	500003451	Support clamp (C8) Single conductor	EA	1,440.48	1,751.09
113	500003452	Support clamp (C9a) 330mm spacing	EA	1,402.09	1,704.44
114	500003453	Supoort clamp (9b) 225mm spacing	EA	1,065.68	1,295.48
115	500003439	Palm type clamp for isolator (C15) Electolitic copper Twin Zebra - Comp type	EA	2,239.74	2,722.71
116	500003446	T-connector (C2C) Twin to Twin 140mm spacing - Comp type	EA	2,182.16	2,652.72
117	500003449	T-connector (C3c) Twin to Single 140mm spacing - Comp type	EA	1,485.63	1,805.99
118		0.2x0.4 Al T-connector	EA	691.82	841.00
		Conductor & Earth wire			
119	500003736	0.4 ACSR Zebra Conductor as per MSETCL specification	KM	3,68,126.33	4,47,507.61
120	500015506	7/3.15 sq.mm GI Earthwire as per MSETCL specification	KM	58,023.04	70,534.90
121	500000795	Copper Earth bonds	EA	784.39	953.53
122	500012594	75 x 10 mm, MS Earthing strips as per MSETCL specification	RMT	341.54	415.19
123	500008038	50 x 8 mm, MS Earthing strips as per MSETCL specification	RMT	217.86	264.84
124	500003348	50 x 8 mm, GI Earthing strips as per MSETCL specification	RMT	209.92	255.19
125	500002933	50 x 6 mm, Tinned copper E.C. Grade copper Earthing strips for Transformer Neutral as per MSETCL specification	RMT	992.96	1,207.08

SCHEDULE OF RATES (SoR) for Upto 220KV Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
126	500002877	80mm x 20mm x 1.6mm Perforated G.I. Cable Trays as per MSETCL specification	RMT	242.83	295.19
127		100mm x 20 mm perforated G.I. Cable trays as per MSETCL specification	mtr	283.68	344.85
128	500002878	200mm x 20mm x 2mm perforated G.I. Cable Trays as per MSETCL specification	RMT	343.81	417.95
129	500000116	300mm x 20mm x 2mm perforated G.I. Cable Trays as per MSETCL specification	RMT	397.15	482.78
130	500002918	400mm x 40mm x 2mm Perforated G.I. Cable Trays as per MSETCL specification	RMT	512.88	623.48
131	500003418	600mm x 40mm x 2mm perforated G.I. Cable Trays as per MSETCL specification	RMT	680.08	826.73
		Marshalling Box			
132	500000864	60 terminals, outdoor type Marshalling box	EA	18,070.30	21,966.91
133	500000320	120 terminals, outdoor type Marshalling box	EA	21,049.82	25,588.92
134	500003415	120 terminals, outdoor type Marshalling box modified for PT and with 6 nos. HRC fuse base and carriers and 4 links duly wired	EA	22,227.64	27,020.72
		Control Cables			
135	500000754	1.1 kV PVC FRLS 2 Core x 2.5 mm² Copper conductor Armored Control Cable as per MSETCL specification	KM	86,824.40	1,05,546.87
136	500000721	1.1 kV PVC FRLS 4 Core x 2.5 mm² Copper conductor Armored Control Cable as per MSETCL specification	KM	1,34,158.02	1,63,087.32
137	500000720	1.1 kV PVC FRLS 5 Core x 2.5 mm² Copper conductor Armored Control Cable as per MSETCL specification	KM	1,65,287.83	2,00,929.84
138	500000719	1.1 kV PVC FRLS 7 Core x 2.5 mm² Copper conductor Armored Control Cable as per MSETCL specification	KM	2,10,546.98	2,55,948.49
139	500000757	1.1 kV PVC FRLS 12 Core x 2.5 mm² Copper conductor Armored Control Cable as per MSETCL specification	KM	3,24,906.39	3,94,967.90
140	500000723	1.1 kV PVC FRLS 14 Core x 2.5 mm² Copper conductor Armored Control Cable as per MSETCL specification	KM	3,52,806.69	4,28,884.52
141	500000759	1.1 kV PVC FRLS 19 Core x 2.5 mm² Copper conductor Armored Control Cable as per MSETCL specification	KM	4,71,919.99	5,73,682.93
		Structure & Nuts Bolts			
142	500003544	Galvanised Gantry structure, equipement support Structure, Lighting Mast(18 Meter) with foundation bolts as per MSETCL specification	MT	94,405.41	1,14,762.61
143	500003545	Galvanised Nuts & Bolts as per MSETCL specification	MT	1,57,266.73	1,91,179.10
		Power cable			
144	500005048	1.1 kV LT PVC FRLS 2 Core x 10 mm² Aluminium Conductor Armored Power Cable as per MSETCL specification.	KM	75,884.65	92,248.11
145	500000767	1.1 kV LT PVC FRLS 4 Core x 10 mm² Aluminium Conductor Armored Power Cable as per MSETCL specification	KM	1,10,624.80	1,34,479.49
146	500000765	1.1 kV LT PVC FRLS 4 Core x 16 mm² Aluminium Conductor Armored Power Cable as per MSETCL specification	KM	1,18,901.40	1,44,540.82
147	500000769	1.1 kV LT PVC FRLS 3.5 Core x 35 mm² Aluminium Conductor Armored Power Cable as per MSETCL specification	KM	1,62,257.42	1,97,245.96
148	500000778	1.1 kV LT PVC FRLS 3.5 Core x 70 mm² Aluminium Conductor Armored Power Cable as per MSETCL specification	KM	2,45,008.88	2,97,841.61
149	500000780	1.1 kV LT XLPE FRLS 3.5 Core x 120 mm² Aluminium Conductor Armored Power Cable as per MSETCL specification	KM	3,60,572.04	4,38,324.35
150	500028057	1.1 kV LT XLPE FRLS 3.5 Core x 195 mm² Aluminium Conductor Armored Power Cable as per MSETCL specification	mtr	527.98	641.83
151	500000783	1.1 kV LT XLPE FRLS 3.5 Core x 240 mm² Aluminium Conductor Armored Power Cable as per MSETCL specification	KM	8,42,888.86	10,24,646.04
152		1C x 35 sq mm, Copper Cable as per MSETCL specification	mtr	173.60	211.03
153	500000774	33kV, XLPE, FRLS, 3Cx400 sqmm. Aluminium conductor, Armoured Power Cable as per MSETCL specification	KM	20,28,000.00	24,65,309.81
154	500003470	33kV, XLPE, FRLS, 1Cx400 sqmm. Aluminium conductor, Armoured Power Cable as per MSETCL specification	KM	10,58,534.65	12,86,792.83
155	500018805	33kV, XLPE, FRLS, 1Cx630 sqmm. Aluminium conductor, Armoured Power Cable as per MSETCL specification	kM	16,26,830.40	19,77,633.60
156		33kV, XLPE, FRLS, 3Cx240 sqmm. Aluminium conductor, Armoured Power Cable as per MSETCL specification	kM	26,13,386.13	31,76,926.26
157	500025079	33kV 185-630mm² Dummy Cable Plug (1 set= 3 Nos) as per MSETCL specification	EA	24,862.00	30,223.14

SCHEDULE OF RATES (SoR) for Upto 220KV Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
158	500000312	Cable End termination Out door, heat shrinkable for 33/22kV cable as per MSETCL specification	EA	4,989.28	6,065.14
159	500005046	Station T/F 33 kV/(0.433kV) 400V, 200KVA as per MSETCL specification	EA	4,68,687.98	5,69,753.98
160	500005047	Station T/F 22 kV/(0.433kV)400V, 200KVA as per MSETCL specification	EA	4,68,687.98	5,69,753.98
161	500000049	Horn gap fuse For station Transformer as per MSETCL specification	EA	14,313.11	17,399.53
162	500000001	Cable support alongwith mounting arrangement for LA For 33 KV cable and take off arrangement with copper busbar arrangement, support insulators etc complete as per MSETCL specification	EA	56,921.93	69,196.35
		SCADA System			
163		Substation Automation System for Supervisory Control & Data Acquisition of 220KV and below switchyard. SAS shall also include accessories such as GPS clock, Inverter, remote gateways for LDC, furniture etc. as per MSETCL specification	EA	65,26,429.03	79,33,762.08
164		Upgradation of existing Substation Automation System for Supervisory Control & Data Acquisition of 220KV and below switchyard. SAS shall also include accessories such as GPS clock, Inverter, remote gateways for LDC, furniture etc. as per MSETCL specification	Set	32,63,214.51	39,66,881.04
		Bay Integration in existing SAS and BB scheme			
165		Additional bay units/input modules/trip relays etc. in order to integrate the new bay in the existing busbar protection scheme (For Distributed Busbar Scheme ONLY) as per MSETCL specification	Per Bay	6,69,172.30	8,13,469.94
166	500021629	Additional Hardware (Including BCU, Ethernet Switches, LIU, patch cord, Media converter, etc.) and necessary changes/enhancement in the existing substation automation system in order to integrate the additional (new) bay in the SAS - **(For Same Make as that of existing system)** as per MSETCL specification.	EA	8,51,674.05	10,35,325.63
167	500028546	Additional Hardware (Including BCU, Ethernet Switches, LIU, patch cord, Media converter, etc.) and necessary changes/enhancement in the existing substation automation system in order to integrate the additional (new) bay in the SAS - **(For Different Make than that of existing system)** as per MSETCL specification.	Set	12,77,511.07	15,52,988.45
168	500029164	12C 12 Port Loaded Wall Mount LIU wt Acc	EA	18,200.35	22,125.00
169	500029163	12C 24 Port Loaded Wall Mount LIU wt Acc	EA	21,840.42	26,550.00
170	500029172	12C Ar SM Optic Fiber Cable wt HDPE Pipe	mtr	436.81	531.00
171	500029173	12C Ar MM Optic Fiber Cable wt HDPE Pipe	mtr	436.81	531.00
172	500029174	6C Ar SM Optic Fiber Cable wt HDPE Pipe	mtr	378.57	460.20
173	500029175	6C Ar MM Optic Fiber Cable wt HDPE Pipe	mtr	378.57	460.20
174		7m SM Optic Fiber Patch Cord	EA	3,640.07	4,425.00
175		7m MM Optical Fiber Patch Cord	EA	3,640.07	4,425.00
176		10m SM Optical Fiber Patch Cord	EA	4,368.08	5,310.00
177		10m MM Optical Fiber Patch Cord	EA	4,368.08	5,310.00
178		15m SM Optical Fiber Patch Cord	EA	5,096.10	6,195.00
179		15m MM Optical Fiber Patch Cord	EA	5,096.10	6,195.00
180		SAS Software licence for220kV and Below substation (4000 tags)	EA	15,97,845.08	19,42,398.00
181		Operational work station & Engineering work station with all accessories e.g. Monitor, Key board, Mouse, Speakers, Cables & wires etc.	EA	5,09,609.78	5,09,609.78
182	500008104	Substation Gateway for upward multimaster connectivity on IEC104 Protocol	EA	3,15,472.72	3,15,472.72
183	500018749	GPS Device including all accessories i.e GPS device, GPS remote display clock, GPS anntena, GPS cable etc.	EA	1,16,222.09	1,16,222.09
184		Laser Jet A4 colour Printer cum Scanner	EA	53,387.69	64,900.00
185	500016202	3 kVA UPS along with Maintainance free battery of 8 hrs backup along with battery stand	EA	2,08,697.34	2,53,700.00
186		Station level Managed / Programmanble Ethernet switches	EA	1,94,137.06	2,36,000.00
187		KVM extenders with cables	EA	10,671.71	12,972.91
188		MODBUS (RS 485) to LAN / Optical fibre converters or Metering gateway** for converting MFM meter TCP IP data to IEC 61850 data.	EA	6,669.58	8,107.78

SCHEDULE OF RATES (SoR) for Upto 220KV Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
189		Networking Panel to accumulation of Work station ,GPS, Station Gateways,Station Ethernet switches , LIU , KVM extender,Conveter & power supply arrangement,All other required accessories.	EA	1,32,417.01	1,60,970.88
190		Bay level Managed / Programmanble Ethernet switches	EA	1,94,137.06	2,36,000.00
191		Telephone 04 core twisted pair screened cable / wire	EA	109.20	132.75
192	500020892	Lighting fixtures & electrification of 220KV , 132KV C.R. Building and Bay C.R. Along with required material like switches, boards, MCB, junction boxes, wires ,etc.240 Volt AC, various types.	LOT	3,22,882.29	3,92,507.33
193	500020893	Emergency Lighting Fixtures along with wiring juntion boxes wires switches in 220KV , 132KV CR Building & BCR 220V/110 DC as per DC voltage of the S/S Emergency lighting Circuit	LOT	32,383.20	39,366.19
194	500000009	Street light pole with foundtion Along with junction box	EA	11,753.22	14,287.64
195	500000010	1x150W HPSV Fixure with control gear	EA	6,447.37	7,837.65
196	500000011	2x400W HPSV Fixture with control gear	EA	7,507.65	9,126.57
197	500020862	100W LED Street Light Set wt Braket	EA	2,210.10	2,686.68
198	500020790	200W LED Bulb - Flood Lighting System	EA	8,554.32	10,398.94
199	500000849	Earthing Pit with Station type Cast Iron Pipes,including earthing materials as MSETCL Specification	EA	9,702.85	11,795.13
200	500015843	110 mm Dia, rigid PVC pipes, Conforming to IS 13952 and of pressure 4 Kg/ Sq Cm along with necessary fittings conforming to IS 14735 amended up-to-date	RMT	181.55	220.70
201		Supply of Head Lamp (1 Watt LED, 4 hr backup., Reachargable, Maintenance Free, Compact & light in weight)	EA	6,364.78	7,737.26
202		Supply of Beam Light (3 Watt LED, 3 hr backup., Reachargable, Maintenance Free, Portable, light in weight)	EA	5,977.48	7,266.44
		Fire fighting equipments as per MSETCL Fire policy Dtd. 22/03/2022			
203	500003433	9 Ltr. Water Type Fire Extinguisher	EA	3,701.77	4,500.00
204	500003427	9 Ltr. Foam Type Fire Extinguisher	EA	64,898.00	78,892.35
205	500028024	9 Kg DCP Type Fire Extinguisher	EA	57,114.96	69,431.00
206	500019966	4.5 Kg CO2 Type Fire Extinguisher	EA	4,359.86	5,300.00
207	500017370	4 Kg Clean Agent Type Fire Extinguisher	EA	2,71,519.60	3,30,069.00
208	500002639	75 Kg DCP Trolley mounted Fire Extinguisher	EA	14,807.06	18,000.00
209	500015530	25 Kg Trolley mounted DCP Gun Type Fire Extinguisher	EA	3,24,000.00	3,93,866.06
210	500012699	50 Ltr.Water mist cum CAF Gun type trolley mounted Fire Extinguisher	EA	3,33,000.00	4,04,806.79
211	500003432	6.5 Kg Trolley mounted CO2 Type Fire Extinguisher	EA	7,568.05	9,200.00
212		**Power Line carrier Communication**			
a	500006233	**PLC Terminal SC 1x4 kHz SSB 40W 220/132kV** Single Channel Analog PLCC terminal with 4 command tele-protection interface, speech interface, Field Tunable, 1x4 kHz SSB 40W/50W outpot power (PEP) having operating band of 40KHz-500kHz for 220/132kV Lines.	EA	9,90,000.00	12,03,479.64
b	500000570	**PLC Terminal TC 2x4 kHz SSB 40W 220/132kV** Twin Channel Analog PLCC terminal with 4 command tele-protection interface, speech interface, Field Tunable, 2x4 kHz SSB 40W/50W outpot power (PEP) having operating band of 40KHz-500kHz for 220/132kV Lines.	EA	10,19,560.00	12,39,413.84
c	500005198	Electronic micro Processor based private Automatic Exchange equipment(EPAX)**(12/8)** for PLCC operation as per MSETCL specification .	EA	3,75,007.00	4,55,872.01
d	500026825	220 kV Coupling Device 200 W as per MSETCL specification .	EA	71,865.61	87,362.42
e	500026825	132 kV Coupling Device 200 W as per MSETCL specification .	EA	71,865.61	87,362.42
f	500000714	Push button telephone	EA	1,281.08	1,557.32
g	500000706	75 ohm, Unbalanced H.F.cable	KM	1,43,241.12	1,74,129.06
h	500003423	Telephone cable 10 Pair - Armoured	RMT	49.93	60.69

SCHEDULE OF RATES (SoR) for Upto 220KV Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
213		**FOTE (Fiber Optic Terminal Eqpt) System**			
a	500020728	FOTE panel including 1. SDH Base Equipment & its related accessories 2. PDH equipment & its related accesssories 3. Networking eqquipment and VOIP phone 4. Amplifier/Booster if required 5. NMS with Hardware & accessories including license OS with PC 6. Inlcuding configuration, testing & commissioning as per MSETCL specification	SET	29,10,007.55	35,37,509.94
b	500018938	48 Core (DWSM) OPGW Fibre Optic Armoured Cable as per MSETCL specification	KM	73,772.08	89,680.00
214		**Interface Energy Meters (IEMs) along with Automated Meter Reading (AMR) system**			
a	500025610	AMR Panel suitable for housing 8 Nos of IEM(Interface energy Meters), 1 No DCU, 2 Nos of Network switches, 1 No LIU (if required) with provision for TTBs for CT/PT secondary wiring to IEMs, TBs for terminating cables of AC/DC supply, with seperate MCB for AC/DC supply to DCU, Network switch with necessary internal pane wiring up to TBs.	EA	1,30,000.00	1,58,032.68
b	500025636	3 Phase 4 Wire IEM, Rated Current -/1A, rated voltage - 3 x 63.5V (P-N), Frequency - 50Hz, Accuracy class-0.2 S , Standard applicable - IS 14679, IEC 62052-11, ICE 62052-22, CBIP 325, Power Consumption - As per IS 14679, Ingress protection - IP51, Energy Measurement - 4 Quadrent measurement of kWh, kVArh and kVAh, Comm interface - RS232/RS 485/ TCP/IP, Protocol Support - IEC/DLMS/MODBUS. IEM shall be DLMS complient and suitable for AMR system implemented in MSETCL	EA	55,000.00	66,859.98
c	500017565	Data Concentrator(DCU) / Communication Gateway (IG)	EA	1,20,000.00	1,45,876.32
d	500003608	Network switch (industial Grade)- 8 port unmanaged	EA	35,963.93	43,719.05
e	500005823	CMRI Hand Held unit(HHU) alongwith the software for reading data downloded through CMRI	EA	48,506.93	58,966.77
f	500023601	Cat 6 LAN cable	mtr	15.22	18.50
g	500025637	PVC Condute Pipe- 3/4"	mtr	17.10	20.79
d	500002956	Cu conductor, 3 core, 2.5 sq.mm steel Armoured, FRLS control cable	KM	55,519.05	67,490.95
h	500000721	Cu conductor, 4 core, 2.5 sq.mm steel Armoured, FRLS control cable	KM	1,34,158.02	1,63,087.32
i	500021119	Armoured FO cable-2 Pair	mtr	23.91	29.07
j	500022191	Line interface Unit(LIU) with Patch Cords - 8 Ports	EA	7,673.19	9,327.81
215		**VSAT Link**			
a	500027967	Installation of VSAT (Very Small Aperture Terminal). One time set up charges EX-C 1.2 Mtr Antena with 2W BUC, Gillat Sky edge IIC Modem, 40*2 Mtr Cable, 1 Mtr Patchcord, DC to DC converter, Transportation, Installation and Commisioning	Set	1,02,225.76	1,24,269.31
b	300001491	VSAT Bandwidth Recurring Charges, Satellite Bandwidth plan 128Kbps	Annual	57,080.14	69,388.67
c	500029209	Exhaust fans 240 V AC, 450 mm sweep.	EA	4,588.73	5,578.22
d	500021070	Split type Air conditioner without Duct -1.5 ton (Minimum 3 Star Rating)	EA	47,701.65	57,987.85
e	500002652	Ceiling fans 240 VAC, 1200 mm sweep.	EA	1,816.65	2,208.39

SCHEDULE OF RATES (SoR) for upto 220kV Sub-Station - ETC Part					
Sr. No.	**Service No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate in ₹**
A		**HYBRID SWITCHGEAR**			
a	300009636	Erection, testing & commissioning of 220 kV Hybrid Swithgear Bay	EA	6,51,556.23	7,76,524.72
b	300008488	Erection, testing & commissioning of 132 kV Hybrid Swithgear Bay	EA	6,51,556.23	7,76,524.72
B		**Erection, testing & commissioning of transformer with associated accessories including Shifting of material from site store, unpacking of material, checking of material, vacuum treatment, erection of transformer with accessories, filteration of oil, earthing, cabling of transformer accessories, allied works etc.**			
B1		220/132/110/100 kV ICT			
a	300002383	200 MVA	EA	4,27,747.88	5,09,789.93
b		150 MVA	EA	4,27,747.88	5,09,789.93
c	300002388	100 MVA	EA	3,94,844.21	4,70,575.33
B2		220/33 kV, 220/22 kV Power T/F			
a	300002394	50 MVA	EA	2,96,133.19	3,52,931.53
b	300002408	25 MVA	EA	2,63,229.51	3,13,716.93
B3		220/33-33 kV, 220/22-22 kV Power T/F (Duel Winding)			
a	300002392	100 MVA	EA	3,94,844.25	4,70,575.37
b	300002395	50 MVA	EA	2,96,133.19	3,52,931.53
B4		**132/33 kV, 132/22 kV, 132/11 kVPower T/F**			
a	300002398	50 MVA	EA	2,63,229.51	3,13,716.93
b	300002409	25 MVA	EA	2,30,325.84	2,74,502.33
C1		**Erection of Circuit breaker including shifting of material from site store, unpacking of material, assembly of supplied support structure with equipment, erection of structure,earthing CB poles, mechanism, central control cabinet, cable laying, termination, gas filling, assisting in precommissioning testing ,all allied work etc.**			
a	300002124	220 kV SF6	EA	32,903.79	39,214.73
b	300002130	132/110/100/66 kV SF6	EA	27,639.20	32,940.40
c	300002132	33/22 kV VCB/SF6	EA	9,213.14	10,980.22
C2		**Service charges for the service engineer of OEM representative to carry out the pre-commissioning testing (For estimation purpose only)**			
a	300009411	220 kV SF6	EA	39,484.52	47,057.65
b	300003998	132/110/100/66 kV SF6	EA	32,903.79	39,214.73
D		Erection of **CT/ PT** including shifting of material from site store, unpacking of material, erection of CT /PT etc.			
D1		**220 kV CURRENT TRANSFORMER**			
a	300002236	220KV		3,948.55	4,705.89
b	300002239	132/110/100 kV		2,632.41	3,137.30
c	300002247/ 300002246	22kV/33 kV		1,316.26	1,568.72
d		36kV Neutral CT	EA	704.69	839.84
D2		**220 kV POTENTIAL TRANSFORMER/CVT**			
a	300002462	220KV		3,948.55	4,705.89
b	300002463 / 300002464	132/110/100 kV	EA	2,632.41	3,137.30
c	300002467	22kV/33 kV	EA	1,316.26	1,568.72
E		Erection of **LA /CC** including shifting of material from site store, unpacking of material, erection of LA/CC etc.including fixing of LMU for CC and surge counter for LA.			
a	300002086	220 kV	EA	3,948.55	4,705.89
b	300002087	132/110/100 kV	EA	2,632.41	3,137.30
c	300002095/ 300002094	22kV/33 kV	EA	922.61	1,099.57
F		Erection of **Wave Trap (Pedestal Type**) including shifting of material from site store, unpacking of material, erection of Wave Trap along with pedestal,earthing etc.			
a	300002433	220 kV	EA	5,264.70	6,274.47
b	300002434	132/110/100 kV	EA	3,948.55	4,705.89

SCHEDULE OF RATES (SoR) for upto 220kV Sub-Station - ETC Part					
Sr. No.	**Service No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate in ₹**
G		Erection of **Wave Trap** (Hanging Type) including shifting of material from site store, unpacking of material, erection of Wave Trap along with,earthing			
a	300005754	220 kV	EA	7,897.05	9,411.70
b	300005755	132/110/100 kV	EA	5,922.83	7,058.83
H		**Bus post insulator** including shifting of material from site store, unpacking of material, erection of Bus Post insulator etc.			
a	300002424	220 kV	EA	1,579.49	1,882.43
b	300002425	132/110/100 kV	EA	1,579.49	1,882.43
c	300002426	33 kV BPI	EA	1,053.03	1,255.00
d		33 kV Horn Gap with structure erection	Set	3,948.55	4,705.89
I 1		Erection of **Isolator with EB** including shifting of material from site store, unpacking of material, assembly of supplied support structure along with equipment, erection of structure,earthing , insulator with jaws and blade, fixing of operating mechanism box, alignment of isolator, providing of interlock and trials(electrical and mechanical) for Motorized & Non-Motorized type isolator.			
a	300002260	220 kV	EA	21,058.46	25,097.48
b	300002265	132/110/100 kV	EA	15,793.88	18,823.14
c	300002270	33 kV	EA	6,580.85	7,843.05
I 2		Erection of **Isolator without EB** including shifting of material from site store, unpacking of material, assembly of supplied support structure along with equipment, erection of structure,earthing , insulator with jaws and blade, fixing of operating mechanism box, alignment of isolator, providing of interlock and trials(electrical and mechanical) for Motorized & Non-Motorized type isolator.			
a	300002254	220 kV	EA	19,742.32	23,528.89
b	300002266	132/110/100 kV	EA	14,477.73	17,254.56
c	300002272	33 kV	EA	5,264.70	6,274.47
J		Erection of **Gantry/ Equipment structure** , shifting of material from site store, assembling, erection of Gantry structure/ equipment support structure including foundation bolts, nut bolts, washers etc.			
a	300002940	220 kV Gantry structure	MT	4,343.40	5,176.46
b	300002941	132/110/100/33/22 kV Gantry structure	MT	4,343.40	5,176.46
c	300001868	All Equipment support structure (excluding Breaker, Isolator, Wavetrap.)	MT	4,343.40	5,176.46
K	300009081	Grouting with M25 concrete	CuM	6,580.85	7,843.05
L	300002856	Earthwire stringing including paving out of earthwire, fixing of hardware at both ends and stringing of earth wire.	kM	12,471.50	14,863.53
M		**Bus bar stringing including hoisting of insulator hardware, paving out of conductor and stringing of conductor.**			
a	300008380/ 300008381	220/132/110/100/33/22 KV Twin Conductor	Per MTR/ Phase	394.96	470.71
b	300008383/ 300008384	220/132/110/100/33/22 KV Single Conductor	Per MTR/ Phase	263.34	313.85
N		**Earthing (including cost of Salt/ Coal/ Black soil) Excavation of earth pit, fixing of C.I. and G. I. pipe, backfilling with coal, salt and black soil in layer etc. as per standard procedure that to the extent to get satisfactory results.**			
a	300009100	Normal	EA	5,922.77	7,058.76
b	300009101	Rocky	EA	10,529.29	12,548.80
c	300009090	Excavation of trench up to 600 mm depth, laying of earthmat, welding, and backfilling complete job.	RMT	62.66	74.68
d	300009091	220KV / 132 -110-100KV/ 33-22 KV Equipment/ Gantry/ Support Structure earthing including excavation and backfilling, cutting, bending & drilling of M.S/ GI flat & welding one end to earth mat and other end to equipment etc.	EA	204.70	243.96
O 1		**Laying of Power cable, control cable, & racking work.**			
a	300002215	Excavation of trench, laying of power cable 33-22KV/11KV including laying of bricks, filling with sand as per requirement, backfilling etc. (include cost of sand, brick etc.)	kM	3,29,799.98	3,93,055.62

SCHEDULE OF RATES (SoR) for upto 220kV Sub-Station - ETC Part					
Sr. No.	**Service No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate in ₹**
O 2		**Control cable racking**			
a	300009092	Supply, Fabrication , Erection and Grouting of GI angle.	MT	78,968.93	94,115.17
O 3		**Fixing of G.I. trays (inclusive of fixing material bugdi bolt, washers. Nut etc)**			
a	300002110	600mm x 40mm x 2mm perforated G.I.	RMT	71.67	85.41
b	300002108	400mm x 40mm x 2mm Perforated G.I.	RMT	45.61	54.35
c	300002106	300x20 mm	RMT	28.78	34.30
d	300002105	200x20 mm	RMT	28.78	34.30
e	300003997	100x20 mm	RMT	23.57	28.09
f	300002104	80x20 mm	RMT	23.57	28.09
O 4		**Laying , dressing and clamping of control cable (inclusive of clamping material, cable tie, aluminium sheet clamp etc.)**			
a	300002135	2 C x 2.5 sqmm	kM	13,142.83	15,663.63
b	300002136	4 C x 2.5 sqmm	kM	19,658.41	23,428.89
c	300002137	5 C x 2.5 sqmm	kM	19,658.41	23,428.89
d	300002138	7 C x 2.5 sqmm	kM	19,658.41	23,428.89
e	300002140	12 C x 2.5 sqmm	kM	26,173.99	31,194.16
f	300002141	14 C x 2.5 sqmm	kM	26,173.99	31,194.16
g	300002142	19 C x 2.5 sqmm	kM	26,173.99	31,194.16
h	300002168	2 C x 10 sqmm	kM	13,142.83	15,663.63
i	300002172	4 C x 10 sqmm	kM	19,658.41	23,428.89
j	300002178	4 C x 16 sqmm	kM	19,658.41	23,428.89
k	300002870	H F Cable	kM	13,142.83	15,663.63
O 5		**Termination of control cable at both ends (inclusive of glands, lugs, ferruls etc.)**			
a	300009060	2 C x 2.5 sqmm	Per Cable	230.76	275.02
b	300006797	3 C x 2.5 sqmm	Per Cable	230.76	275.02
c	300009061	4 C x 2.5 sqmm	Per Cable	295.92	352.68
d	300009062	5 C x 2.5 sqmm	Per Cable	329.80	393.06
e	300009063	7 C x 2.5 sqmm	Per Cable	329.80	393.06
f	300009064	12 C x 2.5 sqmm	Per Cable	427.53	509.53
g	300000802	14 C x 2.5 sqmm	Per Cable	427.53	509.53
h	300009070	19 C x 2.5 sqmm	Per Cable	427.53	509.53
i	300000801	2 C x 10 sqmm	Per Cable	230.76	275.02
j	300001481	4 C x 10 sqmm	Per Cable	295.92	352.68
k	300006796	4 C x 16 sqmm	Per Cable	295.92	352.68
O 6		**1100 V LT Power cable laying**			
a	300002205	3.5C x 240 sq.mm	kM	76,300.00	90,934.34
b	300008450	3.5C x 195 sq.mm	kM	66,570.58	79,338.82
c	300002197	3.5C x 120 sq.mm	kM	66,570.58	79,338.82
d	300002192	3.5C x 70 sq.mm	kM	26,630.60	31,738.35
e	300002180	3.5C x 35 sq.mm	kM	26,630.60	31,738.35
O 7		**Termination of 1100 V LT Power cable at both ends (inclusive of glands, lugs, ferruls etc.)**			
a	300009166	3.5C x 240 sq.mm	Per Cable	2,180.00	2,598.12
b		3.5C x 195 sq.mm	Per Cable	2,040.79	2,432.21

SCHEDULE OF RATES (SoR) for upto 220kV Sub-Station - ETC Part					
Sr. No.	**Service No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate in ₹**
c	300006798	3.5C x 120 sq.mm	Per Cable	1,711.10	2,039.29
d	300001621	3.5C x 70 sq.mm	Per Cable	1,316.26	1,568.72
e	300009165	3.5C x 35 sq.mm	Per Cable	1,316.26	1,568.72
P		**Auxilliary Equipments**			
P1	300002523	**Control and Relay panels: Shifting, Grouting of bolts, erection, Leveling, Interconnection with adjacent panel etc. for (400/ 220/132/ 33 KV), RTCC / PLCC panels also.**	EA		
a	300002523	ETC-220kV Feeder Relay Panel wt BCU	EA	4,606.63	5,490.18
b	300002524	ETC-220kV T/f Relay Panel wt BCU	EA	4,606.63	5,490.18
c	300002525	ETC-220kV TBC Relay Panel wt BCU	EA	4,606.63	5,490.18
d	300002526	ETC-220kV Bus Coupler Relay Panel wt BCU	EA	4,606.63	5,490.18
e	300002527	ETC-220kV Busbar Prot Relay Panel wt BCU	EA	4,606.63	5,490.18
f	300002528	ETC-220kV BS Relay Panel wt BCU	EA	4,606.63	5,490.18
g	300002529	ETC-220kV Relay Panel wt BCU	EA	4,606.63	5,490.18
h		ETC-220kV Capacitor Bank BCU based C&R panel	EA	4,606.63	5,490.18
i	300002530	ETC-132kV Feeder Relay Panel wt BCU	EA	4,606.63	5,490.18
j	300002531	ETC-132kV T/f Relay Panel wt BCU	EA	4,606.63	5,490.18
k	300002532	ETC-132kV TBC Relay Panel wt BCU	EA	4,606.63	5,490.18
l	300002533	ETC-132kV Bus Coupler Relay Panel wt BCU	EA	4,606.63	5,490.18
m	300002534	ETC-132kV Busbar Prot Relay Panel wt BCU	EA	4,606.63	5,490.18
n	300002535	ETC-132kV BS Relay Panel wt BCU	EA	4,606.63	5,490.18
o		ETC-132kV Capacitor Bank BCU based C&R panel	EA	4,606.63	5,490.18
p	300002544	ETC-33kV Feeder Relay Panel wt BCU	EA	4,606.63	5,490.18
q	300002545	ETC-33kV T/f Relay Panel wt BCU	EA	4,606.63	5,490.18
r	300002546	ETC-33kV TBC Relay Panel wt BCU	EA	4,606.63	5,490.18
s	300002547	ETC-33kV Bus Coupler Relay Panel wt BCU	EA	4,606.63	5,490.18
t	300002548	ETC-33kV Busbar Prot Relay Panel wt BCU	EA	4,606.63	5,490.18
u	300002549	ETC-33kV Double Feeder Relay Panel(BCU)	EA	4,606.63	5,490.18
v	300002550	ETC-33kV BS Relay Panel wt BCU	EA	4,606.63	5,490.18
w		ETC-33kV Capacitor Bank BCU based C&R panel	EA	4,606.63	5,490.18
x	300002579	Erection RTCC/PLCC Panel	EA	4,606.63	5,490.18
P2		**AC Distribution Board**			
a	300002113	"A " Type	Per Panel	4,606.63	5,490.18
b	300002114	"B " Type	Per Panel	3,948.55	4,705.89
c	300002491	220V DCDB	Per Panel	3,948.55	4,705.89
d	300002494	110 V DCDB	Per Panel	3,948.55	4,705.89
e	300002495	48 V DCDB	Per Panel	1,316.26	1,568.72
P3		Erection and Grouting of **Battery Charger** and Load testing of charger.			
a	300008527	220 V DC / 110 V DC	Per Charger	4,606.63	5,490.18
b	300008529	48 V DC	Per Charger	2,369.18	2,823.58
P4		Erection / Assembly of **battery set** (Assembly of stand, painting with Bituminous/ acid proof plant, erection of cells, interconnecting the cells with interconnecting links etc.			
a	300002471	220 V DC,300Ah/200Ah	Set	7,896.99	9,411.64
b	300002474	110 V DC,	Set	5,264.70	6,274.47
c	300002478	48 V DC, 500Ah/200Ah	Set	3,948.55	4,705.89
P5		**Battery Charging (** including connections of AC/DC cabling works etc.)			

SCHEDULE OF RATES (SoR) for upto 220kV Sub-Station - ETC Part					
Sr. No.	**Service No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate in ₹**
a	300001698	220 V DC	Set	23,690.76	28,234.64
b	300001208	110 V DC	Set	18,426.17	21,960.31
c	300001695	48 V DC	Set	13,161.58	15,685.97
Q 1		**Outdoor Equipments (including Earthing and all allied activities)**			
a	300002442	33/0.4 KV Station Transformer 200/100kVA	EA	19,742.32	23,528.89
b	**300002440**	22/0.4 KV Station Transformer 200/100kVA	EA	19,742.32	23,528.89
c	300009232	Distribution Boxes for station T/F	EA	2,632.41	3,137.30
Q 2		**Erection of Marshaling Boxes / Lighting Boxes with Grouting of H.G. assembly along with structures etc.**			
a	300002103	Erection	EA	2,105.95	2,509.87
b	300009080	Grouting	CuM	6,580.85	7,843.05
Q 3		**Erection of lighting mast structure.**			
a	300002935	Erection	MT	4,343.40	5,176.46
b	300009081	Grouting	CuM	6,580.85	7,843.05
Q 4	300002611	Erection of lighting fixtures on existing tower with minor works such as drilling,welding etc. including electrical connections as per requirement.	EA	658.19	784.43
R		**Providing and laying of PVC pipe for control cable including excavation, backfilling, along with bends, tees as required.**			
a	300002869	6" (15 cm)	RMT	198.19	236.20
b	300003995	4" (10 cm) 100 mm	RMT	157.79	188.05
S		**Jumpering : Cutting of conductor to required length, fixing of clamps/ connector at both end and jumpering to the equipment.**			
a	300008399	33/22 kV Jumps	EA	198.19	236.20
b	300008400	132/110/100 kV Jumps	EA	295.92	352.68
c	300008401	220 kV Jumps	EA	394.96	470.71
T 1		**Capacitor Bank - 33 kV**			
a	300003993	Erection, testing & commissioning of 05 MVAR, 33 kV Capacitor Bank along with support structure, Neutral CT & Series Reactors with elevated structures complete	Set	6,056.13	7,217.69
b	300005764	Erection, testing & commissioning of 7.5 MVAR, 33 kV Capacitor Bank along with support structure, Neutral CT & Series Reactors with elevated structures complete	Set	6,056.13	7,217.69
c	300006863	Erection, testing & commissioning of 10 MVAR, 33 kV Capacitor Bank along with support structure, Neutral CT & Series Reactors with elevated structures complete	Set	8,912.93	10,622.43
d	300006867	Erection, testing & commissioning of 15 MVAR, 33 kV Capacitor Bank along with support structure, Neutral CT & Series Reactors with elevated structures complete	Set	8,912.93	10,622.43
T 2		**Capacitor Bank - 132 kV**			
a	300004000	Erection, testing & commissioning of 15 MVAR, 132 kV Capacitor Bank along with Series Reactors for current limiting purpose conneted on Neutral side, Unbalanced Current Transformer with support structures complete	Set	9,776.06	11,651.11
U		**SCADA & Additional Bay Integration (Installation, Testing & Commissioning)**			
a		Installation, testing & commissioning of **substation automation system** for supervisory control and data acquisition of 220/132/110/100/33 kV switchyard including accessories such as GPS clock, inverter, remote gateways, furniture, etc.	Set	2,94,215.40	3,50,645.91
b	300009398	Installation, testing & commissioning of additional bay units/input modules/trip relays etc. in order to integrate the new bay **in the existing busbar protection scheme**	Per bay	1,30,311.70	1,55,305.48
c	300009398	Installation, testing & commissioning of additional Hardware and necessary changes/enhancement in the existing substation automation system in order to integrate **the additional (new) bay in the SAS**	Per bay	1,30,311.70	1,55,305.48
d	300004532	Bay integration charges for 220 kV & below **New Sub-stn For less than 6 Bays**	EA	1,51,089.11	1,80,068.00
e	300004533	Bay integration charges for 220 kV & below **New Sub-stn For more than 6 bays**	EA	3,02,178.21	3,60,136.00

SCHEDULE OF RATES (SoR) for upto 220kV Sub-Station - ETC Part					
Sr. No.	**Service No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate in ₹**
f	300004844	**For Remote Substation** 220/132/110 KV voltage level SAS system installation, configuration, integration , testing & commissioning of all hardware & software as per MSETCL SAS Specifications & as per detail scopeofwork.Comformation of IEC104 gateway configuration data on IEC brower. Integration of all IEDs of auxillary systems. Providing of connectors,wires,lugs,glands, trys etc.	EA	3,02,178.21	3,60,136.00
g	300004646	For 220 /132/110 kV voltage level Integration of **NewBay into exiting SAS system**. as per MSETCL specification for any make.	EA	64,752.47	77,172.00
h	300004841	For 220 /132/110 kV voltage level Integration of **exiting Bays into new SAS System** as per MSETCL specification for any make.	EA	48,564.36	57,879.01
i	300004838	For 33 /22 kV voltage level Integration of **New Bays into exiting SAS system**. as per MSETCL specification for any make.	EA	64,752.47	77,172.00
j	300004842	For 33/22 kV voltage level Integration of **exiting Bays into New SAS System** as per MSETCL specification for any make.	EA	37,772.28	45,017.01
k	300004846	Laying of Copper Communication cable / Fiber Optic Communication cables for redundant network (CAT5 & FO Patch Cords)	Mtr	43.16	51.44
l	300004845	Testing & Commissioning of SLDC gateway	EA	2,42,821.79	2,89,395.00
V	300002582	Exhaust fans 240 V AC, 450 mm sweep.	EA	107.36	127.95
Wa	300002586	Split type Air conditioner without Duct-1.5 ton (Minimum 3 Star Rating)	Set	2,455.21	2,926.12
Wb	300010111	CR: Air Conditioning Unit (2 Ton Split)	EA	2,455.21	2,926.12
X	300002594	Ceiling fans 240 VAC, 1200 mm sweep.	EA	72.00	85.82
Y	300002875	Telephone cable 10 Pair - Armoured	RMT	9.83	11.72
Z		**FOTE panel, FOC laying & Termination**			
a	300009075	FOTE panel (Erection & grouting)	Set	3,853.15	4,592.18
b	300003450	Fibre optics cable (laying &termination)	kM	7,134.39	8,502.76
AA		**AMR panel Installation**			
a	300001761	Installation and commissioning of Meter housing panel (AMR Panel) along with all cabling, glanding, ferruling and terminating.	Set	2,727.32	3,250.42
b	300001961	Installation of IEM on existing Metering Panel within the control rooma long with all cabling, glanding, ferruling and terminating.	EA	5,454.64	6,500.84
c	300001962	Installation of DCU/Gateway, LAN switches ets. (alongwith all control and and communication cable)	EA	18,218.50	21,712.81
d	300009385	ETC- Providing Summation metering system for (Line bay and ICT Bay) consisting of Summation Current transformer (1+1/1,.02s class, 20VA) along with necessary accessories in the existing Line/ICT bay C&R panel in order to make fully functional complete diameter of 1 and a half bus configuration. (If there is no space available in the existing C&R panel, Bidder shall provide seperate panel for above detailed)	EA	19,620.00	23,383.12
e	300007190	Erection 25x3mm Copper Flat (ETC	RMT	52.32	62.35

SCHEDULE OF RATES (SoR) for upto 220kV Line - Suuply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
1	500000038	Fabrication, Galvanising, Supply at site store of towers (Viz, 2°, 15°, 30°, 60°) normal, its extensions with set of stubs, Superstructure, templates, step bolts, U-bolts, D'Shackles, Chain links etc,complete as per approved design & drawings.	MT	95,099.62	1,15,606.52
2	500000039	Supply at site store of Galvanised Bolts & Nuts with Spring Washers.	MT	1,57,266.73	1,91,179.10
		Insulator			
3	500000322	Disc Insulator 70KN (Antifog)	EA	848.22	1,031.13
4	500000330	Disc Insulator 120KN (Antifog)	EA	1,010.30	1,228.16
5	500000324	Disc Insulator 70KN (Normal)	EA	766.10	931.30
6	500000323	Disc Insulator 120KN (Normal)	EA	908.73	1,104.68
		Long Rod Porcelain Insulator			
7	500022955	400 kV 120KN (AF) Porcelain insulator String	EA	23,770.66	28,896.47
8	500022957	400 kV 160KN (AF) Porcelain insulator String	EA	31,365.44	38,128.95
9	500022958	220 kV 70KN (N) Porcelain insulator String	EA	10,641.69	12,936.42
10	500022960	220 kV 120KN (N) Porcelain insulator String	EA	13,524.57	16,440.96
11	500022959	220 kV 70KN (AF) Porcelain insulator String	EA	11,782.41	14,323.12
12	500022961	220 kV 120KN (AF) Porcelain insulator String	EA	15,036.24	18,278.59
13	500022962	132 kV 70KN (N) Porcelain insulator String	EA	6,841.09	8,316.27
14	500022964	132 kV 120KN (N) Porcelain insulator String.	EA	9,016.38	10,960.64
15	500022963	132 kV 70KN (AF) Porcelain insulator String	EA	7,574.41	9,207.72
16	500022965	132 kV 120KN (AF) Porcelain insulator String	EA	10,024.16	12,185.73
		Hardware			
17	500000805	0.2 ACSR Panther conductor a) SSN/SSA	EA	3,149.65	3,828.82
18	500000807	0.2 ACSR Panther conductor b) DSN/DSA	EA	6,190.50	7,525.39
19	500000809	0.2 ACSR Panther conductor c) STN/STA	EA	3,669.54	4,460.82
20	500000811	0.2 ACSR Panther conductor d) DTN/DTA	EA	8,188.20	9,953.86
21	500000819	0.4 ACSR Zebra conductor a) SSN/SSA	EA	3,247.30	3,947.53
22	500000820	0.4 ACSR Zebra conductor b) DSN/DSA	EA	6,975.30	8,479.42
23	500021440	0.4 ACSR Zebra conductor c) STN/STA	EA	3,605.31	4,382.75
24	500021439	0.4 ACSR Zebra conductor d) DTN/DTA	EA	9,057.94	11,011.16
		Coondcutor accessories			
25	500000813	0.2 ACSR Panther a) Mid Span Joints	EA	905.86	1,101.19
26	500000814	0.2 ACSR Panther b) Repair Sleeves	EA	307.72	374.08
27	500002879	0.2 ACSR Panther c) P.A. rods	EA	1,327.11	1,613.28
28	500002903	0.2 ACSR Panther d) Vibration dampers	EA	750.36	912.17
29	500000821	0.4 ACSR Zebra a) Mid Span Joints	EA	1,031.57	1,254.02
30	500000822	0.4 ACSR Zebra b) Repair Sleeves	EA	329.98	401.14
31	500002880	0.4 ACSR Zebra c) P.A. rods	EA	1,878.07	2,283.05
32	500002904	0.4 ACSR Zebra d) Vibration dampers	EA	822.01	999.26
		Earthwire and accessories			
33	500015506	7/3.15 sq.mm GI Earthwire	KM	58,023.04	70,534.90
34	500000791	Suspension Clamp for 7/3.15 mm G.I. Earthwire.	EA	773.85	940.72
35	500000792	Tension Clamp for 7/3.15 mm G.I. Earthwire.	EA	800.52	973.14
36	500000793	Mid Span Joint for 7/3.15 mm G.I. Earthwire.	EA	204.72	248.87
		OPGW & Hardware			
37	500000296	Fiber Optic Cable 48 Fibre	KM	1,74,395.05	2,12,000.90
38	500021527	OPGW Tension Assy Set with JB TENSION ASSEMBLY SET OF OPGW	SET	8,206.93	9,976.64
39	500021528	OPGW Tension Assy Set without JB TENSION ASSEMBLY SET OF OPGW	SET	8,206.93	9,976.64
40	500009174	OPGW Suspension Assy Set SUSPENSION ASSEMBLY SET OF OPGW	EA	3,014.85	3,664.96
41	500023425	48C (DWSM) OPGW 48 Core (DWSM) Optical Ground Wire	KM	1,94,963.37	2,37,004.49
42	500018950	48C OPGW Joint Box 48 Core OPGW 2 way Joint Box	EA	10,786.14	13,112.02

SCHEDULE OF RATES (SoR) for upto 220kV Line - Suuply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
43	500009175	OPGW Vibration Damper Vibration Damper for OPGW Wire HVDC	EA	727.73	884.65
44	500021511	OPGW Down lead Clamps	EA	378.22	459.78
45	500020728	FOTE panel including 1. SDH Base Equipment & its related accessories 2. PDH equipment & its related accesssories 3. Networking eqquipment and VOIP phone 4. Amplifier/Booster if required 5. NMS with Hardware & accessories including license OS with PC 6. Inlcuding configuration, testing & commissioning as per specification	SET	29,10,007.55	35,37,509.94
		Supply of Tower accessories.			
46	500004550	Danger Board	EA	285.78	347.40
47	500003465	Number Plate	EA	237.85	289.14
48	500000712	Phase plates (set of RYB)	EA	381.02	463.18
49	500003466	Circuit Plate (set of C1 &C2)	EA	394.89	480.04
50	500003467	Anticlimbing devices with Barbed wire.	EA	4,673.83	5,681.68
51	500000713	Bird guard	EA	644.19	783.11
52	500000795	Earth Bonds	EA	784.39	953.53
53	500026931	Bird flight diverter	EA	3,500.00	4,254.73
		Conductor			
54	500003736	0.4 ACSR Zebra Conductor	KM	3,68,126.33	4,47,507.61
55	500000790	0.2 ACSR Panther Conductor	KM	1,96,295.12	2,38,623.41
		HIGH PERFORMANE CONDUCTOR			
56		520 mm² CCC HPC Conductor	KM	13,62,386.11	16,56,165.60
57		316.5 mm² CCC HPC Conductor	KM	10,12,659.84	12,31,025.75
		Hardware suitable for HPC			
58	500020592	SSN/SSA for 520 mm²CCC High Performance Conductor	EA	18,218.70	22,147.31
59	500020583	DSN/DSA for 520 mm²CCC High Performance Conductor	EA	24,575.96	29,875.43
60	500020595	STN/STA for 520 mm²CCC High Performance Conductor	EA	88,871.46	1,08,035.35
61	500020586	DTN/DTA for 520 mm²CCC High Performance Conductor	EA	99,539.68	1,21,004.02
62	500014280	SSN H/W for 316.5 mm² CCC High Performance Conductor	EA	15,302.90	18,602.75
63	500014281	STN H/W for 316.5 mm² CCC High Performance Conductor	EA	75,068.45	91,255.91
64	500018998	DSN H/Wfor 316.5 mm² CCC High Performance Conductor	EA	15,302.90	18,602.75
65	500014292	DTN H/W for 316.5 mm² CCC High Performance Conductor	EA	83,608.67	1,01,637.71
66		SSN H/W for 316.5 mm² CCC High Performance Conductor for Pilot	EA	15,302.90	18,602.75
		Accessories Suitable for HPC			
67	500020589	Mid Span Joints for 520mm² CCC High Performance Conductor	EA	1,04,798.28	1,27,396.56
68	500020619	Repair Sleeves for 520mm² CCC High Performance Conductor	EA	5,649.74	6,868.03
69	500020604	P. A. rods for 520mm² CCC High Performance Conductor	Set	2,256.12	2,742.62
70	500020598	Vibration damper for 520mm² CCC High Performance Conductor	EA	2,080.48	2,529.10
71		Terminal Pad assy for 520mm² CCC High Performance Conductor	EA	15,580.80	18,940.58
72		Single T-clamp with palm for 520mm² CCC High Performance Conductor	EA	12,734.56	15,480.59
73	500014279	Vibration Damper for 316.5mm² CCC High Performance Conductor	EA	2,056.62	2,500.10
74		P.A Rod for V.D of 316.5mm² CCC High Performance Conductor	Set	2,593.02	3,152.17
75	500019010	P.A Rod for 316.5mm² CCC High Performance Conductor	Set	2,593.02	3,152.17
76	500024180	Mid Span Joint for 316.5mm² CCC High Performance Conductor	EA	88,942.32	1,08,121.49
77	500018995	Repair Sleeve for 316.5mm² CCC High Performance Conductor	EA	5,605.92	6,814.76

SCHEDULE OF RATES (SoR) for upto 220kV Line - ETC Part					
Sr. No.	**Service No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
1		Preliminary survey with GPS, theodilite/Total station, Marking route on topo sheets and village map representing actual field conditions etc., complete in all respect.	kM	7,881.99	9,393.76
2		Detailed survey including tower spotting and tower profiles, Detailed survey with GPS, Total station, Digital theodilite etc. along the approved alignment, preparation of profiles, tower spotting, tower schedules and soil resistivity,marking of route on topo sheet and village map, collection of 7/12 of corridor, identification of forest/hatching to mimimize the forest etc., and submission of .KML files.	kM	18,067.95	21,533.38
3		Check survey to carry out the checks as per approved profiles with Digital Theodalite/total station/GPS etc. and location marking by fixing three pegs in alignment for suspension tower and by fixing five pegs in bisection for angle tower including bush cutting along the centre line of alignment and repeg marking if necessary etc. complete in all respect. Check survey including revision of profiles if required.	kM	7,639.47	9,104.72
4	300008621	Excavation of trial pits of standard dimension of 1mtrx1mtr width upto 3mtrs depth at 1KM interval or where ever there is abnormal change in topography and taking observation of soil strata for classification of foundation and backfilling the trial pits after vetting by Departmental officials.	per pit	5,000.00	5,959.00
5A		**Excavation of pits for tower footings in earth soil of all types, sand gravel and normal soil including removing of excavated material beyond tower locations upto 50 M lead and all lifts, shoring, shuttering, preparing the bed for foundation and necessary back filling after stub setting, compacting, finishing and curing complete in all respect as per drawing & direction of Engr. In-charge.**			
a	300002037	Normal Soil/Sand/Gravel/Soft Murum	CuM	218.87	260.85
b	300002039	Black cotton soil/Submerged soil	CuM	368.72	439.44
c	300002038	Soft rock/Hard Murum	CuM	453.11	540.02
d	300002040	Dry Fissured Rock	CuM	1,106.16	1,318.32
e	300002041	Hard rock by Chiseling	CuM	1,428.52	1,702.50
5B		**For wet foundation:** Excavation of pits for tower footings in earth for soils ofall types including removing of excavated material beyond tower limits upto 50 mtrs at all lead and all lifts, shoring, shuttering, dewatering, prepa ration of bed for foundation and back filling after casting and curing of foundations with ramming etc complete as per drawing & direction of Engineer-in charge.			
a	300004526	Normal Soil/Sand/Gravel/Soft Murum	CuM	240.74	286.92
b	300004525	Black cotton soil/Submerged soil	CuM	405.59	483.38
c	300004528	Soft rock/Hard Murum	CuM	498.42	594.02
d	300004527	Dry Fissured Rock	CuM	1,216.78	1,450.15
e	300004529	Hard rock by Chiseling	CuM	1,571.37	1,872.75
6		Concreting of foundation: Providing and casting in situ cement concrete of trap metal of size 20 to 40 mm as applicable including cost of cement, sand, metal and water, form boxes, finishing, compacting , coping and curing for 21 days complete as per drawing and direction of Engr.In-charge in the following grades-			
a	300006066	Casting in-situ CC M30	CuM	8,555.34	10,196.26
b	300000636	M 20 (1:1.5:3) with metal size 20mm graded (7.10 bag of cement per CuM)	CuM	8,396.66	10,007.14
c	300006571	M 15 (1:2:4)with graded metal for foundation / coping(6.27 bag of cement per CuM)	CuM	7,789.90	9,284.01
d	300002042	M 10 (1:3:6) with graded metal for foundation / bedding (4.40 bag of cement per CuM)	CuM	6,960.72	8,295.78
e	300006592	M 7.5 (1:4:8)with graded metal for foundation / bedding (3.42 bag of cement per CuM)	CuM	6,510.71	7,759.47
f	300002044	Providing and fixing in position Steel Reinforcement in concrete foundation including supply of TMT bars of various diameters for R.C.C. work like raft, footing of column etc. as per drawing and direction which will be furnished by the owner including cutting, bending , hooking the bars, binding with binding wire or tackwelding etc. complete as directed.(Steel to be provided by contractor)	MT	95,687.31	1,14,040.14
7	300005981	Dewatering of excavated pits and preparation of pit for concreting.	per HP/8 Hrs.	248.99	296.74

SCHEDULE OF RATES (SoR) for upto 220kV Line - ETC Part					
Sr. No.	**Service No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
8		**Protection of Tower footing by uncoursed rubble stone .** Excavation for foundation of revetment wall/protection wall in all type of soil, sand, gravels, soft murum. Soft murum with boulders, normal soil including shoring, shuttering wherever necessary & disposing of the excavated stuff as directed upto 50mtrs.			
a	300008641	Normal Soil/Sand/Gravel/Soft Murum	CuM	218.87	260.85
b	300008642	Black cotton soil/Submerged soil	CuM	368.72	439.44
c	300008643	Soft rock/Hard Murum	CuM	453.11	540.02
d	300008644	Dry Fissured Rock	CuM	1,106.16	1,318.32
e	300008645	Hard rock by Chiseling	CuM	1,428.52	1,702.50
9	300008646	Providing & casting in situ cement concrete of 1:2:4 of trap metal for copping of retaining wall including cost of the cement, sand, metal, water, dewatering, form work, compaction & curing etc. complete in all respect.	CuM	7,667.96	9,138.68
10	300008647	Providing & casting in situ cement concrete of 1:3:6 of trap metal for copping of retaining wall including cost of the cement, sand, metal, water and form work, compaction & curing etc. complete in all respect.	CuM	6,838.78	8,150.46
11a	300008648	Providing & constructing of UCR masonry of trap stone in cement mortar 1:6 in super structure including racking out joints on the inside as no plastering to be done from inside, scaffolding, dewatering, compacting, curing etc. complete in all respects as per the drawings to be furnished by the MSETCL. All the material such as trap stones, cement, sand, metal, water etc. to be provided by the contractor as his own cost including following activities.	CuM	3,008.80	3,585.89
11b		Providing & fixing A.C. Pipes of 75mm diameter for weep holes & headers of average 0.9 mtr in 3 rows at a distance of 1mtr from centre to centre in alternate row as directed. (including cost of all the material)		Rate Included in Sr. No. 11a	
11c		Tuck pointing of exposed face with 1:3 cement motar(including cost of all the material).		Rate Included in Sr. No. 11a	
11d		Providing and filling in plinth for retaining wall with approved soil or murum in 15 cm to 20 cm layers including watering, compacting, complete as directed by the Engineer-in-charge(including cost of all the material).		Rate Included in Sr. No. 11a	
11e	300009307	Rubble soling / Dry rubble pitching with 230 mm thick stone and filling of gap with broken metals etc. complete as per drawing and direction of Engr.In-charge.	CuM	2,204.56	2,627.39
12		**Benching**: Earth cutting/benching for the purpose of preparing a minimum square platform for the tower footing on the top of a hillock including removal of the excavated material beyond tower location upto 50 M lead or filling it in the adjacent portion of the tower footing area in normal soil,soft murum,soft murum with boulders.			
a	300009199	Normal Soil/Sand/Gravel/Soft Murum	CuM	218.87	260.85
b	300009200	Black cotton soil/Submerged soil	CuM	368.72	439.44
c	300009201	Soft rock/Hard Murum	CuM	453.11	540.02
d	300009202	Dry Fissured Rock	CuM	1,106.16	1,318.32
e	300009203	Hard rock by Chiseling	CuM	1,428.52	1,702.50
13		132 kV DC Tower: Stub setting in all type of soils with the help of templete/ PROP including transportation if required to the desired location, fixing the stubs in position as per the alignment, fixing and leveling the templete and the stub as directed.			
a	300008960	2 Degree	Per Loc.	4,547.30	5,419.48
b	300008961	15 Degree	Per Loc.	5,092.98	6,069.81
c	300008962	30 Degree	Per Loc.	5,638.66	6,720.15
d	300008963	60 Degree	Per Loc.	6,730.01	8,020.82
e	300009660	Special Towers	Per Loc.	9,185.55	10,947.34
f	300008980	Horizontal Tower	Per Loc.	5,092.98	6,069.81
g	300004108	2 degree +3 mtr.	Per Loc.	5,092.31	6,069.01

SCHEDULE OF RATES (SoR) for upto 220kV Line - ETC Part					
Sr. No.	**Service No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
h	300004109	2 degree +6 mtr.	Per Loc.	5,637.31	6,718.54
i	300004188	2 degree +9 mtr.	Per Loc.	6,182.31	7,368.07
j	300004191	15 degree +3 mtr.	Per Loc.	5,637.98	6,719.35
k	300004192	15 degree +6 mtr.	Per Loc.	6,182.98	7,368.88
l	300004193	15 degree +9 mtr.	Per Loc.	6,727.98	8,018.41
m	300004112	30 degree +3 mtr.	Per Loc.	6,183.66	7,369.68
n	300004114	30 degree +6 mtr.	Per Loc.	6,728.66	8,019.21
o	300004116	30 degree +9 mtr.	Per Loc.	7,273.66	8,668.74
p	300004118	60 degree +3 mtr.	Per Loc.	7,275.01	8,670.36
q	300004120	60 degree +6 mtr.	Per Loc.	7,820.01	9,319.89
r	300004190	60 degree +9 mtr.	Per Loc.	8,365.01	9,969.42
		Note:Add Rs 500/-extra for each +03 meter extension in case not covered above			
14		220 kV DC Tower: Stub setting in all type of soils with the help of templete/ PROP including transportation if required to the desired location, fixing the stubs in position as per the alignment, fixing and leveling the templete and the stub as directed.			
a	300008649	2 Degree	Per Loc.	6,305.59	7,515.01
b	300008650	15 Degree	Per Loc.	6,851.27	8,165.34
c	300008651	30 Degree	Per Loc.	7,942.62	9,466.02
d	300008652	60 Degree	Per Loc.	8,488.30	10,116.35
e	300009183	Special Towers	Per Loc.	11,216.68	13,368.04
f	300009184	Horizontal Tower	Per Loc.	6,305.59	7,515.01
g	300004126	2 degree +3 mtr.	Per Loc.	6,850.60	8,164.54
h	300004127	2 degree +6 mtr.	Per Loc.	7,395.60	8,814.07
i	300004128	2 degree +9 mtr.	Per Loc.	7,940.60	9,463.60
j	300004124	15 degree +3 mtr.	Per Loc.	7,396.27	8,814.88
k	300004125	15 degree +6 mtr.	Per Loc.	7,941.27	9,464.41
l	300004203	15 degree +9 mtr.	Per Loc.	8,486.27	10,113.94
m	300004129	30 degree +3 mtr.	Per Loc.	8,487.62	10,115.55
n	300004130	30 degree +6 mtr.	Per Loc.	9,032.62	10,765.08
o	300004131	30 degree +9 mtr.	Per Loc.	9,577.62	11,414.61
p	300004132	60 degree +3 mtr.	Per Loc.	9,033.30	10,765.89
q	300004134	60 degree +6 mtr.	Per Loc.	9,578.30	11,415.42
r	300004136	60 degree +9 mtr.	Per Loc.	10,123.30	12,064.95

SCHEDULE OF RATES (SoR) for upto 220kV Line - ETC Part					
Sr. No.	**Service No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
		Note:Add Rs 500/-extra for each +03 meter extension in case not covered above			
15		132 kV Multi Circuit Towers: Stub setting in all type of soils with the help of templete/ PROP including transportation if required to the desired location, fixing the stubs in position as per the alignment, fixing and leveling the templete and the stub as directed.			
a	300008964	2 Degree	Per Loc.	6,730.01	8,020.82
b	300008965	15 Degree	Per Loc.	7,275.68	8,671.16
c	300008966	30 Degree	Per Loc.	10,004.07	11,922.85
d	300008967	60 Degree	Per Loc.	10,004.07	11,922.85
e		Special Tower	Per Loc.	10,004.07	11,922.85
f		Horizontal Tower	Per Loc.	6,730.01	8,020.82
g	300004189	2 degree +3 mtr.	Per Loc.	7,275.01	8,670.36
h	300004110	2 degree +6 mtr.	Per Loc.	7,820.01	9,319.89
i	300004111	2 degree +9 mtr.	Per Loc.	8,365.01	9,969.42
j	300004194	15 degree +3 mtr.	Per Loc.	7,820.68	9,320.69
k	300004195	15 degree +6 mtr.	Per Loc.	8,365.68	9,970.22
l	300004196	15 degree +9 mtr.	Per Loc.	8,910.68	10,619.75
m	300004113	30 degree +3 mtr.	Per Loc.	10,549.06	12,572.37
n	300004115	30 degree +6 mtr.	Per Loc.	11,094.06	13,221.90
o	300004117	30 degree +9 mtr.	Per Loc.	11,639.06	13,871.44
p	300004119	60 degree +3 mtr.	Per Loc.	10,549.06	12,572.37
q	300004121	60 degree +6 mtr.	Per Loc.	11,094.06	13,221.90
r	300004122	60 degree +9 mtr.	Per Loc.	11,639.06	13,871.44
		Note:Add Rs 500/-extra for each +03 meter extension in case not covered above			
16		220KV Multi Circuit Towers: Stub setting in all type of soils with the help of templete/ PROP including transportation if required to the desired location, fixing the stubs in position as per the alignment, fixing and leveling the templete and the stub as directed.			
a	300008660	2 Degree	Per Loc.	6,730.01	8,020.82
b	300008661	15 Degree	Per Loc.	7,275.68	8,671.16
c	300008662	30 Degree	Per Loc.	10,004.07	11,922.85
d	300008653	60 Degree	Per Loc.	10,004.07	11,922.85
e		Special Tower	Per Loc.	10,004.07	11,922.85
f		Horizontal Tower	Per Loc.	5,638.66	6,720.15
g	300004185	2 degree +3 mtr.	Per Loc.	7,275.01	8,670.36
h	300004166	2 degree +6 mtr.	Per Loc.	7,820.01	9,319.89

SCHEDULE OF RATES (SoR) for upto 220kV Line - ETC Part					
Sr. No.	**Service No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
i	300004172	2 degree +9 mtr.	Per Loc.	8,365.01	9,969.42
j	300004204	15 degree +3 mtr.	Per Loc.	7,820.68	9,320.69
k	300004205	15 degree +6 mtr.	Per Loc.	8,365.68	9,970.22
l	300004206	15 degree +9 mtr.	Per Loc.	8,910.68	10,619.75
m	300004167	30 degree +3 mtr.	Per Loc.	10,549.06	12,572.37
n	300004168	30 degree +6 mtr.	Per Loc.	11,094.06	13,221.90
o	300004169	30 degree +9 mtr.	Per Loc.	11,639.06	13,871.44
p	300004186	60 degree +3 mtr.	Per Loc.	10,549.06	12,572.37
q	300004187	60 degree +6 mtr.	Per Loc.	11,094.06	13,221.90
r	300004207	60 degree +9 mtr.	Per Loc.	11,639.06	13,871.44
		Note:Add Rs 500/-extra for each +03 meter extension in case not covered above			
17	300004002	Stub cutting and fabrication in Hard rock location	Per stub	244.95	291.93
18		**Tower earthing**			
18A		**Pipe type earthing:** **Normal earthing including excavation of pits/ trenches, laying of earthing pipe, strips, flats, etc supplying and laying salt and soft coke as directed and as per the drawing to be furnished by the owner and back filling, complete in all respects.**			
a	300002866	Inclusive of G.I. pipe and G.I. strip / Flat & Nuts and bolts	EA	6,029.70	7,186.20
b	300005746	Exclusive of G.I. pipe and G.I. strip / Flat & Nuts and bolts	EA	3,384.99	4,034.23
18B		**Counter Poise type Earthing:** **Including excavation of pits/ trenches, laying of earth wire and fitting plates/ lugs to tower legs including supply of all materials (Viz. GI wire, lugs, nuts and bolts etc) and back filling, complete in all respect as per drawing to be furnished by the owner.**			
a		Inclusive of G.I. Wire,lugs,nuts & bolts etc.	EA	13,472.14	16,056.10
b	300005747	Exclusive of G.I. Wire,lugs,nuts & bolts etc.	EA	4,365.41	5,202.70
19	300002050	Complete erection of DC/MC/Horizontal tower (Including special towers) with its extensions for EHV Lines (as per requirment) with fixing of bolts and nuts, tightening , punching and fitting including attachments (like step bolts, ladders, platforms, "U" bolts, shackles, hangers, strain plates etc) and including transportation of materials from site stores to work sites, tightening and punching of Bolts and Nuts complete in all respect, punching of bolts, fixing of danger plates, fixing od number plates, fixing of phase plates, fixing of anticlimbing device, fixing of circuit plate etc.	MT	7,912.31	9,429.89
20	300007350	Electric tack welding(half round welding) to GI Nuts & Bolts of tower from thread ends (Two spots to be welded to each Nut & Bolts near thread end) and painting the welded portion with two coats of Zinc rich paint upto 220 KV DC. Two sections of each tower.	Per Tower	5,335.50	6,358.85
21	300007351	Electric tack welding(half round welding) to GI Nuts & Bolts of tower from thread ends (Two spots to be welded to each Nut & Bolts near thread end) and painting the welded portion with two coats of Zinc rich paint upto 220 KV MC.Two sections of each tower.	Per Tower	6,426.85	7,659.53
22A		**Stringing of conductors on S/C, D/C, M/C,H/Z towers** including transportation of conductor and required material from site store to site locations, laying, paving, jointing, rough sagging, final sagging, clipping, fixing of accessories, hoisting of insulators, jumpering etc. on tower complete in all respect including tree cutting if required as per the direction of Engineer incharge.(which includes the works involved in the crossing of LT,HT,.viz dismantiling and restringing of conductors)			
a	300009656	132 kV S/C (with 0.2 ACSR) on D/C	kM	54,901.34	65,431.42
b	300008690	132 kV D/C (with 0.2 ACSR) on D/C	kM	85,106.30	1,01,429.69

SCHEDULE OF RATES (SoR) for upto 220kV Line - ETC Part					
Sr. No.	**Service No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
c	300009657	132 kV S/C (with 0.2 ACSR) on M/C	kM	74,545.69	88,843.55
d	300009658	132 kV D/C (with 0.2 ACSR) on M/C	kM	1,14,572.82	1,36,547.89
e	300008968	132 kV M/C (with 0.2 ACSR) on M/C	kM	1,94,828.66	2,32,196.80
f	300001349	220 kV S/C (with 0.4 ACSR/AAAC) on D/C	kM	63,032.65	75,122.31
g	300008969	220 kV D/C (with 0.4 ACSR/AAAC) on D/C	kM	99,374.50	1,18,434.53
h	300001259	220 kV S/C (with 0.4 ACSR/AAAC) on M/C	kM	84,859.70	1,01,135.79
i	300009315	220 kV D/C (with 0.4 ACSR/AAAC) on M/C	kM	1,32,115.08	1,57,454.75
j	300008664	220 kV M/C (with 0.4 ACSR/AAAC) on M/C	kM	2,26,639.12	2,70,108.50
22B		**Stringing of conductors** for **crossing of EHV Power Lines, Railway, National Highway and River/Creek on S/C, D/C, M/C,H/Z towers** including transportation of conductor and required material from site store to site locations, laying, paving, jointing, rough sagging, final sagging, clipping, fixing of accessories, hoisting of insulators, jumpering etc. on tower complete in all respect including tree cutting,works involved in the crossing of LT,HT,.viz dismantiling and restringing of conductors if required as per the direction of Engineer incharge.			
a	300004213	132 kV S/C (with 0.2 ACSR) on D/C on Crossing	kM	1,09,802.69	1,30,862.84
b	300004208	132 kV D/C (with 0.2 ACSR) on D/C on Crossing	kM	1,70,212.60	2,02,859.37
c	300004216	132 kV S/C (with 0.2 ACSR) on M/C on Crossing	kM	1,49,091.38	1,77,687.11
d	300004209	132 kV D/C (with 0.2 ACSR) on M/C on Crossing	kM	2,29,145.64	2,73,095.77
e	300004210	132 kV M/C (with 0.2 ACSR) on M/C on Crossing	kM	3,89,657.32	4,64,393.60
f	300001349	220 kV S/C (with 0.4 ACSR/AAAC) on D/C on Crossing	kM	1,26,065.30	1,50,244.62
g	300004217	220 kV D/C (with 0.4 ACSR/AAAC) on D/C on Crossing	kM	1,98,748.99	2,36,869.05
h	300001249	220 kV S/C (with 0.4 ACSR/AAAC) on M/C on Crossing	kM	1,69,719.40	2,02,271.58
i	300004164	220 kV D/C (with 0.4 ACSR/AAAC) on M/C on Crossing	kM	2,64,230.15	3,14,909.49
j	300004165	220 kV M/C (with 0.4 ACSR/AAAC) on M/C on Crossing	kM	4,53,278.23	5,40,217.00
		Note: in case of crossing of EHV Power Lines, Railway, National Highway and River/Creek , other than above, use Two Times Rate mentioned in Sr No 22A(Normal rates)as above.			
22C		**132 kV Second ckt stringing with other ckt live (with 0.2 ACSR)**			
a	300009655	132kV S/C (with 0.2 ACSR) on D/C or M/C	kM	94,190.04	1,12,255.69
b	300005748	132kV Two ckt (with 0.2 ACSR) on M/C	kM	1,44,039.34	1,71,666.09
c	300005750	132kV Three ckts (with 0.2 ACSR) on M/C	kM	1,60,043.71	1,90,740.10
22D		**220 kV Second ckt stringing with other ckt live (with 0.4 ACSR/AAAC)**			
a	300001474	220 kV S/C (with 0.4 ACSR/AAAC) on D/C or M/C	kM	1,06,686.75	1,27,149.27
b	300005749	220 kV Two ckts (with 0.4 ACSR/AAAC) on M/C	kM	1,64,855.66	1,96,474.97
c	300005751	220 kV Three ckts (with 0.4 ACSR/AAAC) on M/C	kM	2,23,031.20	2,65,808.59
22E		**Stringing of HPC Conductor**			
a		Stringing of 316.5 mm² CCC HPC Cond. equivilant to 0.2 ACSR Panther along with hardware & accessories with one circuit in live condition .Strining of three phases i.e. R,Y,B of line per circuit i.e three conductors with HPC conductor at a time on S/C,D/C towers on dead lines having other circuit of D/C line is live	kM	6,91,089.10	8,23,640.00
b		Stringing of 520 mm² CCC HPC Cond. equivilant to 0.4 ACSR Zebra along with hardware & accessories with one circuit in live condition .Strining of three phases i.e. R,Y,B of line per circuit i.e three conductors with HPC conductor at a time on S/C,D/C towers on dead lines having other circuit of D/C line is live.	kM	8,31,177.37	9,90,597.19
22F		**De-stringing of conductors** on S/C, D/C, M/C,H/Z towers including transportation of conductor and required material from site to store complete in all respect including works involved in the crossing of LT,HT,.viz dismantiling and restringing of conductors as per direction.			
a	300004230	Destringing of 0.2 ACSR Panther Conductor on 132 kV **S/C on D/C** line for **crossing** of EHV Power Lines, Railway, National Highway and River/Creek Crossing.	kM	87,842.14	1,04,690.26
b	300004220	Destringing of 0.2 ACSR Panther Conductor on 132 kV **D/C on D/C** line for **crossing** of EHV Power Lines, Railway, National Highway and River/Creek Crossing	kM	1,36,170.07	1,62,287.49

SCHEDULE OF RATES (SoR) for upto 220kV Line - ETC Part					
Sr. No.	**Service No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
c	300004233	Destringing of 0.2 ACSR Panther Conductor on 132 kV **S/C on M/C** line for **crossing** of EHV Power Lines, Railway, National Highway and River/Creek Crossing	kM	1,19,273.10	1,42,149.68
d	300004223	Destringing of 0.2 ACSR Panther Conductor on 132 kV **D/C on M/C** line for **crossing** of EHV Power Lines, Railway, National Highway and River/Creek Crossing	kM	1,83,316.51	2,18,476.62
e	300004225	Destringing of 0.2 ACSR Panther Conductor on 132 kV **M/C on M/C** line for **crossing** of EHV Power Lines, Railway, National Highway and River/Creek Crossing	kM	3,11,725.86	3,71,514.88
f	300004517	Destringing of 0.4 ACSR/AAC Zebra Conductor on 220 kV **S/C on D/C** line **for crossing** of EHV Power Lines, Railway, National Highway and River/Creek Crossing	kM	1,00,852.24	1,20,195.70
g	300004235	Destringing of 0.4 ACSR/AAC Zebra Conductor on 220 kV **D/C on D/C** line **for crossing** of EHV Power Lines, Railway, National Highway and River/Creek Crossing	kM	1,58,995.70	1,89,491.08
h	300004520	Destringing of 0.4 ACSR/AAC Zebra Conductor on 220 kV **S/C on M/C** line for **crossing** of EHV Power Lines, Railway, National Highway and River/Creek Crossing	kM	1,35,775.53	1,61,817.27
i	300004513	Destringing of 0.4 ACSR/AAC Zebra Conductor on 220 kV D/C on M/C line for **crossing** of EHV Power Lines, Railway, National Highway and River/Creek Crossing	kM	2,11,384.12	2,51,927.59
j	300004516	Destringing of 0.4 ACSR/AAC Zebra Conductor on 220 kV **M/C on M/C** line for **crossing** of EHV Power Lines, Railway, National Highway and River/Creek Crossing	kM	3,62,622.60	4,32,173.61
k	300004229	Destringing of 0.2 ACSR Panther Conductor on 132 kV **S/C on D/C** line including transportation of conductor & required material from site to store as per direction	kM	43,921.07	52,345.13
l	300004218	Destringing of 0.2 ACSR Panther Conductor on 132 kV **D/C on D/C** line including transportation of conductor & required material from site to store as per direction	kM	68,085.04	81,143.75
m	300004232	Destringing of 0.2 ACSR Panther Conductor on 132 kV **S/C on M/C** line including transportation of conductor & required material from site to store as per direction	kM	59,636.55	71,074.84
n	300004221	Destringing of 0.2 ACSR Panther Conductor on 132 kV **D/C on M/C** line including transportation of conductor & required material from site to store as per direction	kM	91,658.26	1,09,238.31
o	300004224	Destringing of 0.2 ACSR Panther Conductor on 132 kV **M/C on M/C** line including transportation of conductor & required material from site to store as per direction	kM	1,55,862.93	1,85,757.44
p	300004518	Destringing of 0.4 ACSR/AAC Zebra Conductor on 220 kV **S/C on D/C** line including transportation of conductor & required material from site to store as per direction	kM	50,426.12	60,097.85
q	300004234	Destringing of 0.4 ACSR/AAC Zebra Conductor on 220 kV **D/C on D/C** line including transportation of conductor & required material from site to store as per direction	kM	79,497.85	94,745.54
r	300004519	Destringing of 0.4 ACSR/AAC Zebra Conductor on 220 kV **S/C on M/C** line including transportation of conductor & required material from site to store as per direction	kM	67,887.76	80,908.64
s	300004236	Destringing of 0.4 ACSR/AAC Zebra Conductor on 220 kV **D/C on M/C** line including transportation of conductor & required material from site to store as per direction	kM	1,05,692.06	1,25,963.80
t	300004515	Destringing of 0.4 ACSR/AAC Zebra Conductor on 220 kV **M/C on M/C** line including transportation of conductor & required material from site to store as per direction	kM	1,81,311.30	2,16,086.80
u		Destrining of conductor		80% of Rate of stringing of respective conductor and respective circuit	
v	300001705	Destringing of old earth wire & Stringing of 48 Core optical Fiber ground Wire (OPGW) along with all hardware &Acessories etc. in Live Line.(Destringing E/w &Stringing 48C OPGW Live condition)	kM	1,01,050.00	1,20,431.39

SCHEDULE OF RATES (SoR) for upto 220kV Line - ETC Part					
Sr. No.	**Service No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
23	300002856	Stringing of 7/3.15 mm G.I. Earthwire including transportation of earthwire and required material from site store to site locations,laying, fixing hardware,fixing accessories, paving out earth wire, jointing, tensioning, stringing and clamping etc.	kM	12,471.49	14,863.53
24	300009285	Stringing of 48 Core optical Fiber ground Wire (OPGW) along with all hardware & Acessories etc.	kM	22,665.85	27,013.17
25	300001865	Erection/Installation of Bird flight diverter	EA	1,090.00	1,299.06
26		**Misc. Works**			
a	300004530	Dismantling of 132KV/220KV/400KV/horizontal tower including transportation to store as per direction	MT	6,329.85	7,543.91
b	300009250	Dismantling charges for Sub-station equipments	Per Equipment	80% of Rate of Erection of that equipment	
c	300009040	Removal of stubs upto 1.5 mtr.	Per Tower	8,573.18	10,217.52
27	300008494	ETC - 3" OD-88.90mm ID-73.66mm Al IPS HD Tube	Mtr	224.14	267.13
28		**Providing and fixing of Backstay at the locations during stringing whenever neccessary and removal of the same after stringing.**			
a	300005752	132 kV Tower	Per Stay	3,270.00	3,897.19
b	300005753	220 kV Tower	Per Stay	4,360.00	5,196.25
29	300001833	Providing services for preparation and processing of forest clearance proposal of EHV Transmission line and obtaining final NOC approval from forest department as per forest conservation Act, 1980 and amendments there under and guidelines issued by GOI and GOM with regards to forest.	Per Ha	1,79,369.59	2,13,772.68
30	300005789	Re-submission (online) due to modification of forest area, route and others as per requirement of site/ forest authorities	EA	54,500.00	64,953.10
31		**Identification of CA land and make it available for the project as per the forest proposal requirement. (It is applicable only if the required CA land is not available in the jurisdiction of concern CCF)**			
a	300005714	Up to 10 Ha	Lumpsum	1,63,500.00	1,94,859.30
b	300005742	Above 10 Ha	Per Ha	7,630.00	9,093.43

SCHEDULE OF RATES (SoR) for upto 220 & 132 kV Under Ground Cable - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
		132 kV Line through Under Ground Cable (Supply)			
1	500028515	132 kV Single core 500 sqmm copper conductor. XLPE insulated Lead sheathed power cable.	KM	1,16,55,000.00	1,41,68,237.58
2	500021543	132 kV Single core 630 sqmm copper conductor. XLPE insulated Lead sheathed power cable.	KM	1,81,44,000.00	2,20,56,499.58
3	500028557	132 kV Single core 800 sqmm copper conductor. XLPE insulated Lead sheathed power cable.	mtr	20,412.00	24,813.56
4	500008424	132 kV Single core 1000 sqmm copper conductor. XLPE insulated Lead sheathed power cable.	KM	2,33,10,000.00	2,83,36,475.16
5	500028558	132 kV Single core 1200 sqmm copper conductor. XLPE insulated Lead sheathed power cable.	mtr	25,704.00	31,246.71
6	500028559	132 kV Single core 1600 sqmm copper conductor. XLPE insulated Lead sheathed power cable.	mtr	31,878.00	38,752.04
7	500028570	132 kV Single core 2000 sqmm copper conductor. XLPE insulated Lead sheathed power cable.	mtr	40,446.00	49,167.61
8	500028571	132 kV Single core 2500 sqmm copper conductor. XLPE insulated Lead sheathed power cable.	mtr	47,250.00	57,438.80
9		132 kV Single core 500 sqmm copper conductor. XLPE insulated corrugated aluminium sheathed power cable.	mtr	9,576.00	11,640.93
10	500028572	132 kV Single core 630 sqmm copper conductor. XLPE insulated corrugated aluminium sheathed power cable.	mtr	11,088.00	13,478.97
11	500028573	132 kV Single core 800 sqmm copper conductor. XLPE insulated corrugated aluminium sheathed power cable.	mtr	13,797.00	16,772.13
12	500008423	132 kV Single core 1000 sqmm copper conductor. XLPE insulated corrugated aluminium sheathed power cable.	KM	1,65,06,000.00	2,00,65,287.82
13	500025120	132 kV Single core 1200 sqmm copper conductor. XLPE insulated corrugated aluminium sheathed power cable.	KM	1,89,63,000.00	2,30,52,105.47
14	500028574	132 kV Single core 1600 sqmm copper conductor. XLPE insulated corrugated aluminium sheathed power cable.	mtr	24,948.00	30,327.69
15	500028575	132 kV Single core 2000 sqmm copper conductor. XLPE insulated corrugated aluminium sheathed power cable.	mtr	30,870.00	37,526.68
16	500028576	132 kV Single core 2500 sqmm copper conductor. XLPE insulated corrugated aluminium sheathed power cable.	mtr	38,808.00	47,176.40
17	500000311	Outdoor type oil filled end termination kit suitable for above cable sizes with all accessories. (Suitable for 500sqmm to 1200sqmm)	EA	3,40,000.00	4,13,316.24
18	500028577	Outdoor type oil filled end termination kit suitable for above cable sizes with all accessories. (Suitable for 1600sqmm to 2500sqmm)	EA	3,40,000.00	4,13,316.24
19		Indoor GIS Dry-type plug-in end termination kit suitable for above cable sizes with all accessories. (Suitable for 500sqmm to 1200sqmm)	EA	3,25,000.00	3,95,081.70
20	500028578	Indoor GIS Dry-type plug-in end termination kit suitable for above cable sizes with all accessories. (Suitable for 1600sqmm to 2500sqmm)	EA	3,25,000.00	3,95,081.70
21		Normal straight through joint suitable for above cable sizes with all accessories(Suitable for 500sqmm to 1200sqmm)	EA	2,85,000.00	3,46,456.26
22	500028579	Normal straight through joint suitable for above cable sizes with all accessories. (Suitable for 1600sqmm to 2500sqmm)	EA	2,85,000.00	3,46,456.26
23		Insulated joint suitable for above cable with all accessories. (Suitable for 500sqmm to 1200sqmm)	EA	2,95,000.00	3,58,612.62
24	500028580	Insulated joint suitable for above cable with all accessories. (Suitable for 1600sqmm to 2500sqmm)	EA	2,95,000.00	3,58,612.62
		220 kV Line through Under Ground Cable (Supply)			
1	500028581	220 kV Single core 500 sqmm copper conductor. XLPE insulated Lead sheathed power cable.	mtr	14,872.00	18,078.94
2	500028582	220 kV Single core 630 sqmm copper conductor. XLPE insulated Lead sheathed power cable.	mtr	16,692.00	20,291.40
3	500028583	220 kV Single core 800 sqmm copper conductor. XLPE insulated Lead sheathed power cable.	mtr	18,512.00	22,503.85
4	500028584	220 kV Single core 1000 sqmm copper conductor. XLPE insulated Lead sheathed power cable.	mtr	20,176.00	24,526.67
5	500027553	220 kV Single core 1200 sqmm copper conductor. XLPE insulated Lead sheathed power cable.	KM	2,26,72,000.00	2,75,60,899.39
6	500028585	220 kV Single core 1600 sqmm copper conductor. XLPE insulated Lead sheathed power cable.	mtr	27,144.00	32,997.22

SCHEDULE OF RATES (SoR) for upto 220 & 132 kV Under Ground Cable - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
7	500028586	220 kV Single core 2000 sqmm copper conductor. XLPE insulated Lead sheathed power cable.	mtr	35,880.00	43,617.02
8	500028587	220 kV Single core 2500 sqmm copper conductor. XLPE insulated Lead sheathed power cable.	mtr	41,392.00	50,317.61
9	500028588	220 kV Single core 500 sqmm copper conductor. XLPE insulated corrugated aluminium sheathed power cable.	mtr	10,036.00	12,200.12
10	500028589	220 kV Single core 630 sqmm copper conductor. XLPE insulated corrugated aluminium sheathed power cable.	mtr	11,440.00	13,906.88
11	500028590	220 kV Single core 800 sqmm copper conductor. XLPE insulated corrugated aluminium sheathed power cable.	mtr	13,416.00	16,308.97
12	500014370	220 kV Single core 1000 sqmm copper conductor. XLPE insulated corrugated aluminium sheathed power cable.	mtr	15,808.00	19,216.77
13		220 kV Single core 1200 sqmm copper conductor. XLPE insulated corrugated aluminium sheathed power cable.	mtr	17,784.00	21,618.87
14	500028591	220 kV Single core 1600 sqmm copper conductor. XLPE insulated corrugated aluminium sheathed power cable.	mtr	22,672.00	27,560.90
15	500028592	220 kV Single core 2000 sqmm copper conductor. XLPE insulated corrugated aluminium sheathed power cable.	mtr	28,288.00	34,387.91
16	500028445	220 kV Single core 2500 sqmm copper conductor. XLPE insulated corrugated aluminium sheathed power cable.	KM	3,35,92,000.00	4,08,35,644.51
17		Outdoor type oil filled end termination kit suitable for above cable sizes with all accessories. (Suitable for 500sqmm to 1200sqmm)	EA	7,75,000.00	9,42,117.90
18		Outdoor type oil filled end termination kit suitable for above cable sizes with all accessories. (Suitable for 1600sqmm to 2500sqmm)	EA	7,75,000.00	9,42,117.90
19	500028593	Indoor GIS Dry-type plug-in end termination kit suitable for above cable sizes with all accessories. (Suitable for 500sqmm to 1200sqmm)	EA	8,00,000.00	9,72,508.80
20	500028594	Indoor GIS Dry-type plug-in end termination kit suitable for above cable sizes with all accessories. (Suitable for 1600sqmm to 2500sqmm)	EA	8,00,000.00	9,72,508.80
21		Normal straight through joint suitable for above cable sizes with all accessories. (Suitable for 500sqmm to 1200sqmm)	EA	5,92,800.00	7,20,629.02
22	500028595	Normal straight through joint suitable for above cable sizes with all accessories. (Suitable for 1600sqmm to 2500sqmm)	EA	6,50,000.00	7,90,163.40
23		Insulated joint suitable for above cable with all accessories. (Suitable for 500sqmm to 1200sqmm)	EA	5,92,800.00	7,20,629.02
24	500029246	Insulated joint suitable for above cable with all accessories. (Suitable for 1600sqmm to 2500sqmm)	EA	6,50,000.00	7,90,163.40
		Miscelleneous Hardware			
1	500007824	Single phase link box with SVL as required	EA	38,500.00	46,801.99
2	500000269	Single phase link box without SVL as required	EA	23,432.00	28,484.78
3	500018705	Three phase link box with SVL as required	EA	1,00,000.00	1,21,563.60
4	500000270	Three phase link box without SVL as required	EA	59,000.00	71,722.52
5	500023931	Single core 500 sqmm copper conductor PVC insulated 6.6 kV grade sheath boding cable	KM	65,00,000.00	79,01,634.00
6	500028596	Single core 500 sqmm copper conductor PVC insulated 6.6 kV grade co-axial cable	mtr	6,500.00	7,901.63
7		Single core 500 sqmm copper conductor PVC insulated 1.1 kV grade earth continuity cable	mtr	5,320.00	6,467.18
8	500025630	Non-metallic trefoil clamps	EA	2,400.00	2,917.53
9	500028597	Non-metallic Single clamps	EA	2,500.00	3,039.09
10		**HDPE Pipe suitable for XLPE Cable**			
a	500019466	250 mm	mtr	2,310.00	2,808.12
b	500022989	200 mm	mtr	1,485.00	1,805.22
c	500023897	180 mm	mtr	1,210.00	1,470.92
11	500028987	Warning tape - "Caution Electric Cable Below" roll of 300 m (1000ft) as per MSETCL's Approved drawing	EA	17,400.00	21,152.07
12	500028598	Route Marker as per MSETCL's Approved drawing	EA	1,850.00	2,248.93
13	500028599	Joint Marker as per MSETCL's Approved drawing	EA	1,850.00	2,248.93
14	500028600	RCC Cable Protection Cover As per MSETCL's Approved drawing	EA	1,850.00	2,248.93
15	500028601	G. I. Earth Spike Rod at Each Joint Bay As per MSETCL's Approved drawing	EA	15,000.00	18,234.54
16		Non-conductive Silicone Based potting Gel for Link Boxes	Kg	475.00	577.43

SCHEDULE OF RATES (SoR) for upto 220 & 132 kV Under Ground Cable - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
17		**Distributed Temperature Sensor (DTS) system** with RTTR for Cable Temperature Monitoring of UGC 220 kV XLPE EHV Cable (complete System in all respect Except Fiber Cable (MM12F))	Set	1,11,21,900.00	1,35,20,182.03
18		**Components of DTS System**			
i)		DTS Controller with RTTR IPC server & Software	EA	1,05,60,000.00	1,28,37,116.16
ii)		Cabinet for DTS Controller	EA	1,30,000.00	1,58,032.68
iii)		Key Board & Mouse	EA	1,450.00	1,762.67
iv)		Display	EA	10,150.00	12,338.71
v)		Ethernet Switch	EA	1,74,000.00	2,11,520.66
vi)		LIU Patch panel	EA	7,250.00	8,813.36
vii)		PDU	EA	7,250.00	8,813.36
viii)		Fiber Optic Patch Card	Lot	5,800.00	7,050.69
ix)		UPS	EA	52,000.00	63,213.07
x)		Protocol Converter	EA	1,01,500.00	1,23,387.05
xi)		Relay Unit	EA	72,500.00	88,133.61
xii)		Fiber Cable -(MM 12F)	mtr	73.00	88.74
19		**Distributed Acoustic Sensor (DAS) system** with Server for Cable Intrusion Detection of UGC 220 kV XLPE EHV Cable (complete System in all respect Except Fiber Cable (SM12F))	Set	1,07,27,900.00	1,30,41,221.44
20		**Components of DAS System**			
i)		DAS Controller with IPC server & Software	EA	1,03,40,000.00	1,25,69,676.24
ii)		Cabinet for DTS Controller	EA	1,30,000.00	1,58,032.68
iii)		Key Board & Mouse	EA	1,450.00	1,762.67
iv)		Display	EA	10,150.00	12,338.71
v)		Ethernet Switch	EA	1,74,000.00	2,11,520.66
vi)		LIU Patch panel	EA	7,250.00	8,813.36
vii)		PDU	EA	7,250.00	8,813.36
viii)		Fiber Optic Patch Card	Lot	5,800.00	7,050.69
ix)		UPS	EA	52,000.00	63,213.07
x)		Fiber Cable -(SM 12F)	mtr	73.00	88.74

SCHEDULE OF RATES (SoR) for upto 220kV & 132 kV Under Ground Cable - ETC Part					
Sr. No.	**Service No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
A		**132 kV Line through Under Ground Cable (ETC)**			
1		Sand bedding in excavated trench laying of all sizes of single core 132kV XLPE cable along with approach cable (FOC) in excavated trench (including jointing and installation of Approach cable with suitable termination arrangement).	RMT	570.07	679.41
2		Sand bedding in excavated trench laying of all sizes of single core 132kV XLPE cable in trefoil/Flat along with approach cable(FOC) in excavated trench (including jointing and installation of Approach cable) with suitable termination arrangement.	Ckt. mtr	1,710.21	2,038.23
3	300010122	Laying of single core all sizes of 132kV XLPE cable through HDPE pipes in road crossing along with installation of approach cable (FOC).	RMT	463.25	552.10
4	300002232	132kV Cable Cable outdoor end termination suitable for 132kV single core, for all sizes of XLPE Copper cable including installation of Single phase link boxes with safety locks/arrangements.	EA	1,84,340.80	2,19,697.37
5	300002228	132kV Cable Cable indoor end termination suitable for 132kV single core, for all sizes of XLPE Copper cable including installation of Single phase link boxes with safety locks/arrangements in GIS bay.	EA	1,91,316.80	2,28,011.36
6		132kV Cable Straight Through Joint for 132kV single core, for all sizes of XLPE Copper cable with all consumables at site complete.	EA	74,065.50	88,271.26
7		132kV Cable Insulated Through Joint for 132kV for all sizes of XLPE Copper cable with all consumables at site complete including installation of three phase link boxes with safety locks/arrangement.	EA	74,065.50	88,271.26
8	300010123	CBL: Precommissioning test on cable Charges for conducting precommissioning tests & successful commissioning of circuits	EA	2,46,885.00	2,94,237.54
B		**220 kV Line through Under Ground Cable (ETC)**			
1		Sand bedding in excavated trench laying of all sizes of single core 220 kV XLPE cable along with approach cable (FOC) in excavated trench (including jointing and installation of Approach cable with suitable termination arrangement).	RMT	607.13	723.58
2		Sand bedding in excavated trench laying of all sizes of single core 220 kV XLPE cable in trefoil/Flat along with approach cable(FOC) in excavated trench (including jointing and installation of Approach cable) with suitable termination arrangement.	ckt.mtr	1,821.39	2,170.73
3	300007592	Laying of single core all sizes of 220 kV XLPE cable through HDPE pipes in road crossing along with installation of approach cable (FOC).	RMT	643.10	766.45
4	300002231	220 kV Cable **outdoor** end termination suitable for 220 kV single core, for all sizes of XLPE Copper cable including installation of Single phase link boxes with safety locks/arrangements.	EA	2,05,737.50	2,45,197.95
5	300002227	220 kV Cable **indoor** end termination suitable for 220 kV single core, for all sizes of XLPE Copper cable including installation of Single phase link boxes with safety locks/arrangements in GIS bay.	EA	2,24,049.50	2,67,022.19
6	300000984	220 kV Cable Straight Through Joint for 220 kV single core, for all sizes of XLPE Copper cable with all consumables at site complete.	EA	1,56,360.50	1,86,350.44
7	300000985	220 kV Cable Insulated Through Joint for 220 kV for all sizes of XLPE Copper cable with all consumables at site complete including installation of three phase link boxes with safety locks/arrangement.	EA	1,56,360.50	1,86,350.44
8	300010127	Precommissioning test on cable Charges for conducting precommissioning tests & successful commissioning of circuits	EA	2,46,885.00	2,94,237.54
9		**DTS Services & commisioning** comprising 1) Project Management & ITP, 2) Calibaration of Foc, 3) commissioning & training and 4) Moblization & Demoblization	No.	3,50,000.00	4,17,130.00
10		**DAS Services & commisioning** comprising 1) Project Management & ITP, 2) Calibaration of Foc, 3) commissioning & training and 4) Moblization & Demoblization	No.	5,00,000.00	5,95,900.00
11		Testing of 220kV EHV Cable			
i)		High Voltage AC Test System	per Ckt/kM	3,37,500.00	4,02,232.50
ii)		Partial Discharge Test	Ckt	3,00,000.00	3,57,540.00
iii)		Tan Delta & Capacitance Test	Ckt	3,00,000.00	3,57,540.00
iv)		Mobilization Charges (To & Fro)	LS	5,50,000.00	6,55,490.00
12		**Design of CP (Cathodic Protection)** for underground pipeline (below Railway line) & Supply of Cathodic Protection Titanium MMO Anode with canister, Transformer Rectifier, Anode Junction Box, cables, permanent reference electrode, coke breeze, etc.	Lot	8,34,000.00	9,93,961.20

SCHEDULE OF RATES (SoR) for upto 220kV & 132 kV Under Ground Cable - ETC Part					
Sr. No.	**Service No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
13		Providing & filling Bentonite slury around the Power cable rows in any Dia HDPE Pipe etc. complete.	RMT	80.00	94.40
14		Providing & filling Bentonite slury around the Power cable rows in joint bay etc. complete.	Kg	55.00	64.90

SCHEDULE OF RATES (SoR) for 400kV GIS Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
A		**400kV GIS Equipment**			
		Metal encapsulated SF6 gas insulated Switchgear 63 kA/3 Sec rating suitable for indoor installation of modular design			
1	500000172	3- Ø 400 kV, 3150 A, 63 kA-3 sec, metal enclosed SF6 Gas Insulated Switchgear - **Transformer bay Module** with CSD comprising (1) Circuit breaker (2) Current transformer 3000-1500-750/1A (1Set-3 Nos) (PS,PS,0.2S,PS,PS) (3) Line side Disconnector with one maintenance earthing switch (4) Maintenance earthing switch for Line Earthing switch (5) Bus Disconnector with Earthing switch (Bus side common earthing switch for two bus) (6) Bus Disconnector without Earthing switch (7) LCC Panel (CSD mounted) & cables between GIS and LCC (8) Required intermediate compartments for service continuity 9) All other items required which may not be mentioned in specification for successful commissioning of GIS.	EA	3,96,33,683.00	4,81,80,131.87
2	500028528	SF6 Gas Insulated **Bus Duct (GIB) 3150A single phase** from respective GIS bay module up to SF6 to Air insulated polymer housed bushings including required support structures and other accessories for Transformer bays. The same shall be in line with layout attached with the tender.	mtr	85,000.00	1,03,329.06
3	500027223	400kV SF6 to **Air insulated polymer housed bushing 1- Phase** Transformer bays	Set	6,50,000.00	7,90,163.40
4		3- Ø 400 kV, 3150 A, 63 kA-3 sec, metal enclosed SF6 Gas Insulated Switchgear - **Line bay Module without PIR** comprising (1) Circuit breaker (2) Current transformer 3000-1500-750/1A - (1 Set - 3 Nos.) (PS,PS,0.2S,PS,PS) (3) Line side Disconnector with one maintenance earthing switch (4) High speed/Fast Acting Line Earthing switch (5) Bus Disconnector with Earthing switch (Bus side common earthing switch for two bus) (6) Bus Disconnector without Earthing switch (7) Required intermediate compartments for service continuity 8) All other items required which may not be mentioned in specification for successful commissioning of GIS.	EA	3,82,45,183.00	4,64,92,221.28
5	500000173	3- Ø 400 kV, 3150A, 63 kA-3 sec, metal enclosed SF6 Gas Insulated Switchgear - **Line bay Module with PIR comprising** (1) Circuit breaker (2) Current transformer 3000-1500-750/1A - (1 Set - 3 Nos.) (PS,PS,0.2S,PS,PS) (3) Line side Disconnector with one maintenance earthing switch (4) High speed/Fast Acting Line Earthing switch (5) Bus Disconnector with Earthing switch (Bus side common earthing switch for two bus) (6) Bus Disconnector without Earthing switch (7) Required intermediate compartments for service continuity 8) All other items required which may not be mentioned in specification for successful commissioning of GIS.	EA	3,98,26,184.00	4,84,14,143.01
6	500028565	3- Ø 400 kV, 3150 A, 63 kA-3 sec, metal enclosed SF6 Gas Insulated Switchgear - **Reactor bay Module** with CSD comprising (1) Circuit breaker (2) Current transformer 3000-1500-750/1A - (1Set-3 Nos) (PS,PS,0.2S,PS,PS) (3) Line side Disconnector with one maintenance earthing switch (4) Maintenance earthing switch for Line Earthing switch (5) Bus Disconnector with Earthing switch (Bus side common earthing switch for two bus) (6) Bus Disconnector without Earthing switch (7) LCC Panel (CSD mounted) & cables between GIS and LCC (8) Required intermediate compartments for service continuity 9) All other items required which may not be mentioned in specification for successful commissioning of GIS.	EA	3,96,33,683.00	4,81,80,131.87
7	500000174	3- Ø 400 kV, 3150 A, 63 kA-3 sec, metal enclosed SF6 Gas Insulated Switchgear - **Bus Coupler bay Module** comprising (1) Circuit breaker (2) Current transformer 3000-1500-750/1A - (1Set -3 Nos) (PS,PS,0.2S,PS,PS) (3) Bus Disconnectors with one Earthing switch -2 nos. (4) LCC Panel & cables between GIS and LCC (9) Required intermediate compartments for service continuity 5) All other items required which may not be mentioned in specification for successful commissioning of GIS.	EA	3,50,00,000.00	4,25,47,260.00

SCHEDULE OF RATES (SoR) for 400kV GIS Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
8	500027943	3- Ø 400 kV, 4000 A, 63 kA-3 sec, metal enclosed SF6 Gas Insulated Switchgear - **Bus bar Module c**omprising (1) 3 X Single phase Voltage transformer 400kV/v3//110V/v3 - (no. of cores as per TS) segregated from bus bar unit (2) Maintenance earthing switch (3) Bus Disconnector with Earthing switch (4) All other items as per technical specification	Set	1,95,00,000.00	2,37,04,902.00
9	500028563	1- Ø 400 kV, 3150 A, 63 kA-3 sec, metal enclosed SF6 Gas Insulated Switchgear - **SPARE ICT Transformer bay Module** with CSD comprising (1) Circuit breaker (2) Current transformer 3000-1500-750/1A (1Set-1 Nos) (PS,PS,0.2S,PS,PS) (3) Line side Disconnector with one maintenance earthing switch (4) Maintenance earthing switch for Line Earthing switch (5) Bus Disconnector with Earthing switch (Bus side common earthing switch for two bus) (6) Bus Disconnector without Earthing switch (7) LCC Panel (CSD mounted) & cables between GIS and LCC (8) Required intermediate compartments for service continuity 9) All other items required which may not be mentioned in specification for successful commissioning of GIS.	EA	4,81,75,000.00	5,85,63,264.30
10		3- Ø 400kV, 3150 A, 63 kA-3 sec, metal enclosed SF6 Gas Insulated Switchgear **with One & Half Breaker** Scheme alongwith Aux. Bus.Each diameter comprising of - (1) Circuit breaker - 3 Nos. [Transformer bay module with CSD & Line bay module with / without PIR] (2) Current transformer 3000-1500-750/1A (3 Sets - 9 Nos.) (PS,PS,0.2S,PS,PS) (3) Line side Disconnector with one maintenance earthing switch - 6 Nos. (4) Maintenance earthing switch for Line Earthing switch - 2 Nos. (5) Bus Disconnector with Earthing switch - 2 Nos. (6) LCC Panel (CSD mounted, in case of trafo. bay) & cables between GIS and LCC. (7) SF6 Gas Insulated Bus Duct (GIB) 3150A single phase from respective GIS bay module up to SF6 to Air insulated polymer housed bushings including required support structures and other accessories for Transformer / Line bays. (8) Required intermediate compartments for service continuity as per latest IEC 62271-203 (9) All other items required which may not be mentioned in specification for successful commissioning of GIS.	EA	6,35,50,000.00	7,72,53,667.80
B		**Mandatory GIS Spares for 400kV GIS**			
1	500008168	SF6 density monitors of each type	EA	15,000.00	18,234.54
2	500027995	Rupture diaphragram of each type	Set	40,000.00	48,625.44
3	500027991	Filter bag required for one complete bay without busduct.	Set	36,750.00	44,674.62
4	500027980	All type of O-rings 5 no each required in complete substation	Set	45,000.00	54,703.62
5	500027999	10% of Sf6 gas required for the entire substation including busduct	EA	1,62,500.00	1,97,540.85
6	500027987	Drive mechanism for DS and ES typical to be considered	EA	3,81,000.00	4,63,157.32
7	500027989	Drive mechanism for HSES	EA	3,46,920.00	4,21,728.44
8	500027985	Drive mechansm for Circuit breaker Three phase for both PIR and Normal breaker	EA	9,69,788.00	11,78,909.21
9	500027982	Auxillary changeover contacts in drive mechanism of DS,ES,HSES and CB one number each type	Set	1,20,000.00	1,45,876.32
10	500027984	Bus supporting insulators each type i.e. Gas tight, gas permeable, busbar conductor support, busduct conductor support etc insulator.	Set	2,10,000.00	2,55,283.56
11	500027997	Trip coil and closing coils each type	EA	36,750.00	44,674.62
12	500027978	All secondary items required in LCC for line bay. If any other items are required in the Transfomers and buscoupler bay which are not part of Line bay's LCC same is to be considered	Set	1,35,000.00	1,64,110.86
13	500027974	Single phase Interruptor both PIR and normal circuit breaker each typical excluding drive mechanism and enclosure	EA	14,87,046.00	18,07,706.65
14	500027972	Current transformer single phase assembly with enclosure and secondary box for each typical used for the entire substation.One to one replacement shall be possible.	Set	9,75,000.00	11,85,245.10
15	500027976	Voltage transformer single phase assembly with enclosure and secondary box for each typical used for the entire substation. One to one replacement shall be possible.	Set	9,75,000.00	11,85,245.10

SCHEDULE OF RATES (SoR) for 400kV GIS Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
16	500027993	Female, male termination kits and accessories of each typical (This line item is only applicable if spare cable are not considered in the substation)	Set	14,70,000.00	17,86,984.92
17	500028000	CSD alongwith control cables and accessories	EA	10,00,000.00	12,15,636.00
C		**Mandatory GIS Tools for 400 kV GIS**			
1		Partial Discharge Measurement Kit (UHF Type, Min. 3 Channel) Offline	EA	45,00,000.00	54,70,362.00
2		Partial Discharge Measurement Kit (UHF Type, Min. 3 Channel) Online (Price of this item varies depending on bus duct length and bay qty)	EA	1,50,00,000.00	1,82,34,540.00
3	500003584	SF6 Has Handling Plant	EA	85,00,000.00	1,03,32,906.00
4	500000250	SF6 Dew Point Meter	EA	8,00,000.00	9,72,508.80
5	500000249	SF6 Leakage Detector	EA	60,000.00	72,938.16
		Note: Any other items required, OEM can add and submit the offer prices.			

SCHEDULE OF RATES (SoR) for 400kV GIS Sub-Station - ETC Part					
Sr. No.	**Service No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
400 GIS ETC					
1	300001970	Supervision of GIS & GIB installation testing and commissioning	Set	27,25,000.00	32,47,655.00
2		Complete installation tools and tackles, testing equipments and HV testing kits on returnable basis	Set	36,46,179.71	36,46,179.71
3	300001966	Local manpower required for installation to Handover of GIS.	Set	49,88,037.29	49,88,037.29

SCHEDULE OF RATES (SoR) for 220kV GIS Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (₹)**
A		**220kV GIS Equipment**			
		Metal encapsulated SF6 gas insulated Switchgear 50 KA/3 Sec rating suitable for indoor installation of modular design			
1	500000179	3- Ø 220 kV, 2000 A, 50 kA-3 sec, metal enclosed SF6 Gas Insulated Switchgear - **Transformer bay Module c**omprising (1) Circuit breaker (2) Current transformer 800-400/1A-(1Set-3 Nos) (PS,PS,0.2S,PS,PS) (3) Line side Disconnector with one maintenance earthing switch (4) Maintenance earthing switch for Line Earthing switch (5) Bus Disconnector with Earthing switch (Bus side common earthing switch for two bus) (6) Bus Disconnector without Earthing switch (7) LCC Panel & cables between GIS and LCC (8) Required intermediate compartments for service continuity 9) All other items required which may not be mentioned in specification for successful commissioning of GIS.	EA	1,62,30,000.00	1,97,29,772.28
2	500016410	SF6 Gas Insulated **Bus Duct (GIB)** 2000A single phase from respective GIS bay module up to SF6 to Air insulated polymer housed bushings including required support structures and other accessories for Transformer bays. The same shall be in line with layout attached with the tender.	EA	80,000.00	97,250.88
3	500027224	220kV SF6 to Air insulated **polymer housed** bushing 1- Phase Transformer bays	Set	3,50,000.00	4,25,472.60
4	500000180	3- Ø 220 kV, 2000 A, 50 kA-3 sec, metal enclosed SF6 Gas Insulated Switchgear - **Line bay Module** comprising (1) Circuit breaker (2) Current transformer 800-400/1 A - (1 Set - 3 Nos.) (PS,PS,0.2S,PS,PS) (3) Line side Disconnector with one maintenance earthing switch (4) High speed/Fast Acting Line Earthing switch (5) Bus Disconnector with Earthing switch (Bus side common earthing switch for two bus) (6) Bus Disconnector without Earthing switch (7) 3 Phase, Single pole, Plug in type cable termination or each phase - 1 (Set) including male and female termination kits (8) LCC Panel & cables between GIS and LCC (9) 3 X Single phase line side surge arrestor (10) Required intermediate compartments for service continuity 11) All other items required which may not be mentioned in specification for successful commissioning of GIS. Please note if in case spare cable requirement is envisaged then male and female termination kit required for the same shall be included in the scope. Spare cable shall be installed with male termination kit and female will remain as a spare.	EA	1,74,00,000.00	2,11,52,066.40
5	500000181	3- Ø 220 kV, 2000 A, 50 kA-3 sec, metal enclosed SF6 Gas Insulated Switchgear - **Bus Coupler bay Module** comprising (1) Circuit breaker(2) Current transformer 1600-800/1A - (1Set -3 Nos) (PS,PS,0.2S,PS,PS) (3) Bus Disconnectors with one Earthing switch -2 nos.(4) LCC Panel & cables between GIS and LCC (9) Required intermediate compartments for service continuity 5) All other items required which may not be mentioned in specification for successful commissioning of GIS.	EA	1,37,00,000.00	1,66,54,213.20
6	500027942	3- Ø 220 kV, 3150 A, 50 kA-3 sec, metal enclosed SF6 Gas Insulated Switchgear - **Bus bar Module comprising** (1) 3 X Single phase Voltage transformer 220KV/v3//110V/v3 - (no. of cores as per TS) segregated from bus bar unit (2) Maintenance earthing switch (3) Bus Disconnector with Earthing switch (4) All other items as per technical specification	Set	1,00,00,000.00	1,21,56,360.00
B		**Mandatory GIS Spares for 220kV GIS**			
1	500008168	SF6 density monitors of each type	EA	15,000.00	18,234.54
2	500027994	Rupture diaphragm of each type	Set	18,103.00	22,006.66
3	500027990	Filter bag required for one complete bay without busduct.	Set	5,172.00	6,287.27
4	500027979	All type of O-rings 5 no each required in complete substation	Set	50,000.00	60,781.80
5	500027998	10% of Sf6 gas required for the entire substation including busduct	EA	1,62,500.00	1,97,540.85
6	500027986	Drive mechanism for DS and ES typical to be considered	EA	79,932.00	97,168.22
7	500027988	Drive mechanism for HSES	EA	1,56,819.00	1,90,634.82
8	500028564	Drive mechansm for Circuit breaker Three phase.	EA	3,17,759.00	3,86,279.28
9	500027981	Auxillary changeover contacts in drive mechanism of DS,ES,HSES and CB one number each type	Set	31,500.00	38,292.53
10	500027983	Bus supporting insulators each type i.e. Gas tight, gas permeable, busbar conductor support, busduct conductor support etc insulator.	Set	37,931.00	46,110.29
11	500027996	Trip coil and closing coils each type	EA	20,690.00	25,151.51

SCHEDULE OF RATES (SoR) for 220kV GIS Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (₹)**
12	500027977	All secondary items rquired in LCC for line bay. If any other items are required in the Transfomers and buscoupler bay which are not part of Line bay's LCC same is to be considered	Set	1,03,448.00	1,25,755.11
13	500027973	Single phase Interruptor each typical excluding drive mechanism and enclosure	EA	4,11,877.00	5,00,692.51
14	500027971	Current transformer single phase assembly with enclosure and secondary box for each typical used for the entire substation.One to one replacement shall be possible.	Set	3,04,598.00	3,70,280.29
15	500027975	Voltage transformer single phase assembly with enclosure and secondary box for each typical used for the entire substation. One to one replacement shall be possible.	Set	9,34,483.00	11,35,991.18
16	500027992	Female, male termination kits and accessories for each typical cable (This line item is only applicable if spare cable are not considered in the substation)	Set	8,30,000.00	10,08,977.88
C		**Mandatory GIS Tools for 220kV GIS**			
1		Partial Discharge Measurement Kit (UHF Type, Min. 3 Channel) Offline	EA	39,00,000.00	47,40,980.40
2		Partial Discharge Measurement Kit (UHF Type, Min. 3 Channel) Online (Price of this item varies depending on bus duct length and bay qty)	EA	58,00,000.00	70,50,688.80
3	500003584	SF6 Has Handling Plant	EA	85,00,000.00	1,03,32,906.00
4	500000250	SF6 Dew Point Meter	EA	8,00,000.00	9,72,508.80
5	500000249	SF6 Leakage Detector	EA	60,000.00	72,938.16

SCHEDULE OF RATES (SoR) for 220kV GIS Sub-Station - ETC Part					
Sr. No.	**Service No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
GIS Service 220kV (i.e. 2 TF, 2 Line 1 Bus coupler & 1 PT Bays)					
1	300001969	Supervision of GIS & GIB installation testing and commissioning	Set	10,90,000.00	12,99,062.00
2	300003417	Jointing works of cable termination kit supervised and installed by termination kit vendor	Set	76,300.00	90,934.34
3	300001967	Complete installation tools and tackles, testing equipments and HV testing kits on returnable basis	Set	16,35,000.00	19,48,593.00
4	300001965	Local manpower required for installation to Handover of GIS.	Set	46,62,228.39	55,56,443.79
5		Additional to above GIS bays erection charges per bay	EA	5,45,000.00	6,49,531.00

SCHEDULE OF RATES (SoR) for Upto 132kV GIS Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
A		**132kV GIS Equipment**			
		Metal encapsulated SF6 gas insulated Switchgear 40 kA/3 Sec rating suitable for indoor installation of modular design			
1	500000186	3- Ø 132 kV, 2000 A, 40 kA-3 sec, metal enclosed SF6 Gas Insulated Switchgear - **Transformer bay** Module comprising (1) Circuit breaker (2) Current transformer 800-400/1A-(1Set-3 Nos) (PS,PS,0.2S,PS,PS) (3) Line side three postion Disconnector with maintenance earthing switch (4) Maintenance earthing switch for Line Earthing switch (5) Three position Bus Disconnector with Earthing switch (Bus side common earthing switch for two bus) (6) Two postion Bus Disconnector without Earthing switch (7) LCC Panel & cables between GIS and LCC 9) All other items required which may not be mentioned in specification for successful commissioning of GIS.	EA	94,73,991.61	1,15,16,925.26
2	500028529	SF6 Gas Insulated **Bus Duct (GIB)** 2000A three phase encapsulated from respective GIS bay module up to SF6 to Air insulated polymer housed bushings including required support structures and other accessories for Transformer bays. The same shall be in line with layout attached with the tender.	mtr	1,37,000.00	1,66,542.13
3	500028561	132kV SF6 to Air insulated polymer housed bushing 1- Phase Transformer bays	EA	3,00,000.00	3,64,690.80
4	500000187	3- Ø 132 kV, 2000 A, 40 kA-3 sec, metal enclosed SF6 Gas Insulated Switchgear - **Line bay Module** comprising (1) Circuit breaker (2) Current transformer 800-400/1 A - (1 Set - 3 Nos.) (PS,PS,0.2S,PS,PS) (3) Three postion Line side Disconnector with one maintenance earthing switch (4) High speed/Fast Acting Line Earthing switch (5) Three position Bus Disconnector with Earthing switch (Bus side common earthing switch for two bus) (6) Two position Bus Disconnector without Earthing switch (7) 3 Phase, Single pole, Plug in type cable termination for each phase - 1 (Set) including male and female termination kits (8) LCC Panel & cables between GIS and LCC 09) Three phase GIS type surge arrestor 10) All other items required which may not be mentioned in specification for successful commissioning of GIS. Please note if in case spare cable requirement is envisaged then male and female termination kit required for the same shall be included in the scope. Spare cable shall be installed with male termination kit and female will remain as a spare.	EA	97,04,760.84	1,17,97,456.65
5	500000188	3- Ø 132 kV, 2000 A, 40 kA-3 sec, metal enclosed SF6 Gas Insulated Switchgear - **Bus Coupler bay Module** comprising (1) Circuit breaker(2) Current transformer 1600-800/1A - (1Set -3 Nos) (PS,PS,0.2S,PS,PS) (3) Three position Bus Disconnectors with one Earthing switch -2 nos.(4) LCC Panel & cables between GIS and LCC 5) All other items required which may not be mentioned in specification for successful commissioning of GIS.	EA	75,12,453.15	91,32,408.50
6		3- Ø 132 kV, 2000 A 2500 A, 40 kA-3 sec, metal enclosed SF6 Gas Insulated Switchgear - **Bus bar Module** comprising (1) 1 X Three phase Voltage transformer 132KV/v3//110V/v3 - (no. of cores as per TS) segregated from bus bar unit (2) Maintenance earthing switch (3) Bus Disconnector with Earthing switch (4) All other items as per technical specification	EA	77,39,107.00	94,07,937.08
B		**Mandatory GIS Spares for 132kV GIS**			
1	500008168	SF6 density monitors of each type	EA	15,000.00	18,234.54
2	500028501	Rupture diaphagram of each type	Set	16,363.64	19,892.23
3	500028503	Filter bag required for one complete bay without busduct.	Set	8,436.26	10,255.42
4	500028504	All type of O-rings 5 no each required in complete substation	Set	50,000.00	60,781.80
5	500028505	10% of Sf6 gas required for the entire substation including busduct	EA	1,13,750.00	1,38,278.60
6	500028488	Drive mechanism for DS and ES typical to be considered	EA	3,50,000.00	4,25,472.60
7	500028489	Drive mechanism for HSES	EA	2,47,800.00	3,01,234.60
8	500028487	Drive mechansm for Circuit breaker Three phase.	EA	3,12,727.27	3,80,162.53
9	500028500	Auxillary changeover contacts in drive mechanism of DS,ES,HSES and CB one number each type	Set	32,727.27	39,784.45
10	500028506	Bus supporting insulators each type i.e. Gas tight, gas permeable, busbar conductor support, busduct conductor support etc insulator.	Set	97,300.00	1,18,281.38
11	500028502	Trip coil and closing coils each type	Set	17,500.00	21,273.63
12	500028507	All secondary items rquired in LCC for line bay. If any other items are required in the Transfomers and buscoupler bay which are not part of Line bay's LCC same is to be considered	Set	90,909.09	1,10,512.36
13	500028508	Three phase Interruptor each typical excluding drive mechanism and enclosure	EA	3,63,636.36	4,42,049.45

SCHEDULE OF RATES (SoR) for Upto 132kV GIS Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
14	500028566	Current transformer Three phase assembly with enclosure and secondary box for each typical used for the entire substation.One to one replacement shall be possible.	Set	8,85,454.55	10,76,390.43
15	500028567	Voltage transformer three phase assembly with enclosure and secondary box for each typical used for the entire substation. One to one replacement shall be possible.	Set	9,62,500.00	11,70,049.65
16	500028511	Female, male termination kits and accessories for each typical cable (This line item is only applicable if spare cable are not considered in the substation)	Set	8,30,000.00	10,08,977.88
C		**Mandatory GIS Tools for 132kV GIS**			
1		Partial Discharge Measurement Kit (UHF Type, Min. 3 Channel) Offline.	EA	39,00,000.00	47,40,980.40
2		Partial Discharge Measurement Kit (UHF Type, Min. 3 Channel) Online.	EA	58,00,000.00	70,50,688.80
3	500003584	SF6 Has Handling Plant	EA	85,00,000.00	1,03,32,906.00
4	500000250	SF6 Dew Point Meter	EA	8,00,000.00	9,72,508.80
5	500000249	SF6 Leakage Detector	EA	60,000.00	72,938.16
D		**33-22kV GIS**			
1	500000193 /500023874	**Transformer LV Bay Module :** Each module comprising of the following : a) 3 phase Circuit Breaker with vaccum interrupters in gas filled switchgear housing complete with operating mechanism, 2500A -1 No. b) Disconnector : 3 Phase,Single Pole, three position disconnector to work as disconnector&earthing switch complete with manual & motor driven operating mechanism 2500A-1 Set. c) Current Transformer: 4 Core, Multi ratio, single phase current transformer with suitable CT Ratio (1 Set - 3 Nos.) [PS, PS, 0.2S, PS] d) Bus Bar- Single bus arrangement: Main Bus - with suitable ratings e)Cable end unit (Plug in type) with capacitive voltage indicator system: 3 Phase, Single pole, Plug in type cable termination - 4 Runs of 630 sq.mm or 5 Runs of 400 sq.mm. for each phase - 1 (Set) f) Local Control Cubicle for GIS module, gas monitoring device, barriers pressure switches etc as required. Can be part of GIS.	EA	35,19,000.00	42,77,823.08
2	500000194 /500023873	**33/22 KV Line Bay Module (With 18kV-10kA GIS Surge Arrestor)** Each module comprising of the following : a) 3 phase Circuit Breaker with Vaccum interrupters in gas filled switchgear housing complete with operating mechanism, with suitable ratings. b) Disconnector :3Phase,Single Pole,three position disconnector to work as disconnector & earthing switch complete with manual & motor driven operating mechanism with suitable ratings. c) Current Transformer: 3 Core, Multi ratio, single phase current transformer with suitable CT Ratio - 1 set (3 Nos.) [PS, PS, 0.2S] d) Bus Bar- Single bus arrangement: Main Bus - with suitable ratings. e) Cable end unit (Plug in type) with capacitive voltage indicator system: 3 Phase, Single pole,Plug in type cable termination - 2 Runs of 400 sq.mm for each phase - 1 (Set) f) Local Control Cubicle for GIS module, gas monitoring device, barriers pressure switches etc as required. Can be part of GIS. **NOTE:** The bus and the equipments may be with single phase or 3 phase enclosure.	EA	32,41,000.00	39,39,876.28
3	500025078 /500028190	**33/22 KV Bus Sectionalizer Bay module** Each module comprising of the following : a) 3 phase Circuit Breaker with Vaccum interrupters in gas filled switchgear housing complete with operating mechanism, 2500A -1 No. b) Disconnector:3 Phase, Single Pole, three position disconnector to work as disconnector & earthing switch complete with manual & motor driven operating mechanism 2500A - 1 Set. c) Current Transformer: 4 Core, Multi ratio, single phase current transformer with suitable CT Ratio - 1 Set (3 Nos.) [PS, PS, 0.2S, PS] d) Bus Bar- Single bus arrangement: Main Bus - with suitable ratings. e)Local Control Cubicle for GIS module, gas monitoring device, barriers pressure switches etc as required. Can be part of GIS. **NOTE**: The bus and the equipmnets may be with single phase or 3 phase enclosure.	EA	37,50,000.00	45,58,635.00

SCHEDULE OF RATES (SoR) for Upto 132kV GIS Sub-Station - Supply Part					
Sr. No.	**Material No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
4	500024073 /500028208	33/22 KV **PT Bay Module** (1 for each section) Each module comprising of the following: a) Disconnector:3 Phase, Single Pole, three position disconnector to work as disconnector & earthing switch complete with manual & motor driven operating mechanism 1600A - 1 Set. b) Potential Transformer: 3 Core, Multi ratio, single phase potential transformer 33KV/√3/110V/√3-110V/√3-110V/√3 - 1 Set (3 Nos.) [3P, 3P, 0.2] c) Bus Bar- Single bus arrangement: Main Bus - 2500A, 50kA/3sec d) Local Control Cubicle for GIS module, gas monitoring device, barriers pressure switches etc as required.	EA	28,75,000.00	34,94,953.50

SCHEDULE OF RATES (SoR) for upto 132KV GIS Sub-Station - ETC Part					
Sr. No.	**Service No**	**Item/Description with rating**	**UOM**	**Ex-works (in ₹)**	**Unit Rate (in ₹)**
GIS Service 132kV (i.e. 2 TF, 2 Line 1 Bus coupler & 1 PT Bays)					
1	300002031	Supervision of GIS & GIB installation testing and commissioning	Set	8,72,000.00	10,39,249.60
2		Jointing works of cable termination kit supervised and installed by termination kit vendor.	Set	65,400.00	77,943.72
3		Complete installation tools and tackles, testing equipments and HV testing kits on returnable basis	Set	9,24,035.24	11,01,265.20
4	300002034	Local manpower required for installation to Handover of GIS.	Set	35,69,008.32	42,53,544.12
5		Additional to above GIS bays erection charges per bay	EA	3,27,000.00	3,89,718.60
22-33kv GIS ETC					
6		22/33 kV GIS bays erection charges per bay	EA	1,90,750.00	2,27,335.85

SCHEDULE OF RATES (SoR) for scope of O&M Works Where in 2 (two) or Less end Bays or EHV Line Below 2 kMs involved

In order to have operational ease, two riders are already given i.e. 25% on planned activities & 50% on Emergency/Breakdown work which is calculated and circulated for O&M activities. However, for the scope of O&M work wherein 2 (two) or Less End bays work or EHV line work below 2 km is involved, following Guidelines are to be followed.

"FOR THE SCOPE OF WORKS WHEREIN 2 (TWO) or LESS END BAYS WORK or EHV LINE WORK OF BELOW 2 KM IS INVOLVED , 25% ADDITIONAL COST OVER & ABOVE THE PROJECT SoR RATES FOR BOTH MATERIALS AND SERVICES SHALL BE CONSIDERED WHILE PREPARING THE ESTIMATE".

Note:- Only 25% shall be consider over & above Project SoR rates. No other rider should be used for the scope of work where two (2) or Less end bays or EHV line work of less than two Kilometer is involved.

ANNEXURE - A I
SCHEDULE OF RATES FOR O&M SUBSTATION ACTIVITIES
(PLANNED OUTAGES, BREAKDOWN MAINTENANCE)

SR. NO.	DESCRIPTION OF ACTIVITY	UNIT	Ex-Works IN PLANNED OUTAGE (in ₹)	Ex-Works IN EMERGENCY/ BREAKDOWN (in ₹)
	A) TRANSFORMER			
1	**Dismantling,** draining of oil with filter m/c, shifting of oil storage tanks or barrels, Dismantling of Power Transformer with all accessories ,jumps, bushings, pipings, radiators, headers assembly, valves, pumps, conservators, buchholz, breather, Common Kiosk, pumps, control / power cables etc. , stacking of dismantled material as directed. Fire Fighting Dismantling			
(i)	Upto 50 MVA, 132 kV Level	No.	**2,63,230**	**3,15,875**
(ii)	Upto 50 MVA, 220 kV Level	No.	**2,96,133**	**3,55,360**
(iii)	Upto 100 MVA, 220/132-110-100 kV	No.	**3,94,844**	**4,73,813**
(iv)	Upto 200MVA, 220/132-110-100 kV	No.	**4,27,748**	**5,13,297**
(v)	315 MVA, 3 phase, 400/220/33kV ICT	No.	**6,23,328**	**7,47,993**
(vi)	1 X 105/100 MVA, 400/220/33-20kV ICT Unit	No.	**4,21,407**	**5,05,689**
(vii)	1 X 167MVA, 400/220/33kV ICT Unit	No.	**6,47,000**	**7,76,400**
(viii)	3 X 105 MVA, 400/220/33 KV ICT	No.	**12,64,222**	**15,17,067**
(ix)	3 X 167 MVA, 400/220/33 KV ICT	No.	**19,63,449**	**23,56,139**
2	**Erection** of power transformer/ICT with all accessories with all bushings, pipings, radiators, headers assembly, valves, pumps, conservators, buccholz, breather Common Kiosk etc. as per Mfg. drawings , with complete drying out procedure as per Mfg. Manual and oil preparation, oil filling, Hot Oil circulation, with erection of Fire Fighting system, complete mixing of oil, earthing of transformer tank and accessories as per drawings, neutral CT erection and neutral formation, neutral earthing, jumper connection for all bushings, OLTC filtration, and OLTC trials, with aux trials of protection, with oil test results while filtration and PPM/ BDV/ DGA of oil before final commissioning, with complete transportation of all required accessories, oil barrels & storage tank etc. from site stores to work spot, complete as directed with complete cabling & termination works. Assisting during testing.			
(i)	Upto 50 MVA, 132 kV Level	No.	**3,29,037**	**3,94,844**
(ii)	Upto 50 MVA, 220 kV Level	No.	**3,70,166**	**4,44,200**
(iii)	Upto 100 MVA, 220/132-110-100 kV	No.	**4,93,555**	**5,92,266**
(iv)	Upto 200MVA, 220/132-110-100 kV	No.	**5,34,685**	**6,41,622**
(v)	1 X 315MVA, 400/220/33kV ICT	No.	**7,79,159**	**9,34,991**
(vi)	1 X 105MVA, 400/220/33kV ICT Unit	No.	**5,26,759**	**6,32,111**
(vii)	1 X 167MVA, 400/220/33kV ICT Unit	No.	**8,08,750**	**9,70,500**
(viii)	3 X 105 MVA, 400/220/33 KV ICT	No.	**15,80,278**	**18,96,334**
(ix)	3 X 167 MVA, 400/220/33 KV ICT	No.	**24,54,311**	**29,45,174**
3	**OIL FILTRATION / DRYING OUT**			
i)	Off line filtration of T/F of various capacities to achieve the desired results as per IS 1866-2000 including testing of oil, topping up complete with DGA, BDV, Tan δ & PPM results and all allied works	Ltr.	**3**	**5**
ii)	Draining of oil from main tank & radiator bank, preparation of oil with filtration, drying out of main tank with applying vacuum and refilling of oil with desired results under vacuum to main tank of T/F of various capacities to achieve desired result as per IS 1866-2000 (Only oil in drum will be supplied by MSETCL at site.) with topping up of filtered oil.	Ltr.	**3**	**5**
iii)	Replacement & Filtration of oil in OLTC only. (Only oil in drum will be supplied by MSETCL at site.)	Ltr.	**3**	**4**
iv)	Vaccuming and filling of high purity nitrogen (in case of transportation of ICT/TF)	Ltr.	**2**	**3**
4	**Replacement of existing HV / IV Bushing** including removal of jumpers, draining of oil upto required level, refitting of bushing, refilling of oil with filter machine and connecting jumpers.			
(i)	10MVA, 132/11kV	No.	**32,578**	**40,722**
(ii)	12.5MVA, 132/11kV	No.	**32,578**	**40,722**
(iii)	25MVA, 132/11kV	No.	**45,609**	**57,011**
(iv)	25MVA, 132/33kV	No.	**45,609**	**57,011**
(v)	50MVA, 132/33kV	No.	**58,640**	**73,300**
(vi)	25MVA, 220/33kV	No.	**58,640**	**73,300**
(vii)	50MVA, 220/33kV	No.	**65,156**	**81,445**

ANNEXURE - A I
SCHEDULE OF RATES FOR O&M SUBSTATION ACTIVITIES
(PLANNED OUTAGES, BREAKDOWN MAINTENANCE)

SR. NO.	DESCRIPTION OF ACTIVITY	UNIT	Ex-Works IN PLANNED OUTAGE (in ₹)	Ex-Works IN EMERGENCY/ BREAKDOWN (in ₹)
(viii)	100MVA, 220/110-132kV	No.	**78,187**	**97,734**
(ix)	200MVA, 220/110-132kV	No.	**78,187**	**97,734**
(x)	315MVA, 3 PH. 400/220/33kV ICT	No.	**1,30,312**	**1,62,890**
(xi)	105MVA, 400/220/33kV Single Phase ICT Unit	No.	**97,734**	**1,22,167**
(xii)	167MVA, 400/220/33kV Single Phase ICT Unit	No.	**97,734**	**1,22,167**
5	Replacement of faulty LV and neutral bushing including removal of jumpers, draining of oil upto required level, refitting of bushing, refilling of oil with filter machine and connecting jumpers, shifting of storage tank in s/s including providing suitable Capacity T/F Oil filtration machine etc complete & all allied works for			
(i)	Upto 50 MVA, 132 kV Level	No.	**45,609**	**57,011**
(ii)	Upto 50 MVA, 220 kV Level	No.	**52,125**	**65,156**
(iii)	Upto 100 MVA, 220/132-110-100 kV	No.	**65,156**	**81,445**
(iv)	Upto 200MVA, 220/132-110-100 kV	No.	**65,156**	**81,445**
(v)	315MVA, 3 PH. 400/220/33kV ICT	No.	**1,17,281**	**1,46,601**
(vi)	105MVA, 400/220/33kV Single Phase ICT Unit	No.	**78,187**	**97,734**
(vii)	167MVA, 400/220/33kV Single Phase ICT Unit	No.	**78,187**	**97,734**
6	Painting of Complete Power Transformer along with accessories WITH REQUIRED MATERIAL as per MSETCL specifications including cleaning of T/F, ICT, removing all accumulated dust, rust, dirt, oil contaminated on outer body, single coat of Asian make red oxide paint, two coats of Asian make synthetic enamel paint of light grey paint of grade 631 or as directed by site incharge including supply of all labour T&P etc complete.			
(i)	Upto 25MVA	Job	**58,783**	**58,783**
(ii)	Above 25 MVA to 50MVA	Job	**1,17,565**	**1,17,565**
(iii)	Above 50 MVA to 100MVA	Job	**1,76,348**	**1,76,348**
(iv)	Above 100 MVA to 200MVA	Job	**2,35,131**	**2,35,131**
(v)	315MVA	Job	**3,82,087**	**3,82,087**
(vi)	167MVA/105MVA	Job	**1,76,348**	**1,76,348**
7	**RADIATORS**			
(i)	Replacement Radiators Limbs with draining of oil, refilteration, refilling for 50MVA and above T/F & ICT with gasket	No.	**65,156**	**65,156**
(ii)	Attending of oil leakage by cold welding, gasket replacement	Per Inch	**391**	**391**
(iii)	Replacement of gasket of Radiator limb to header connection with draining of oil, refilteration, refilling for 50MVA and above T/F & ICT with gasket	No.	**65,156**	**65,156**
	B) BREAKER			
8	**Erection of Circuit breaker on casted foundation with erection of support structure** its leveling, mechanism, pole, required piping cabling and termination up to MB, earthing of CB poles and structures , MB etc. with filling of SF6 if required to specified pressure, fixing of related accessories etc. complete as directed by the Mfg. manual and assisting testing and attending the problems if any up to commissioning for (SF6 shall be supplied by MSETCL.)			
(i)	33kV Circuit Breaker	Set	**11,516**	**13,820**
(ii)	145kV Circuit Breaker	Set	**34,549**	**41,459**
(iii)	245kV Circuit Breaker	Set	**41,130**	**49,356**
(iv)	420kV Circuit Breaker	Set	**58,281**	**69,937**
9	**Erection of Circuit breaker with required modification of existing foundation** as per drawings with erection of support structure its leveling, mechanism, pole, required piping cabling and termination up to MB, earthing of CB poles and structures , MB etc. with filling of SF6 if required to specified pressure, fixing of related accessories etc. complete as directed by the Mfg. manual and assisting testing and attending the problems if any up to commissioning for (SF6 shall be supplied by MSETCL.)			
(i)	33kV Circuit Breaker	No.	**14,396**	**17,275**
(ii)	145kV Circuit Breaker	No.	**43,186**	**51,823**
(iii)	245kV Circuit Breaker	No.	**51,412**	**61,695**
(iv)	420kV Circuit Breaker	No.	**72,851**	**87,421**
10	**Dismantling of Circuit Breaker** with removal of SF6 / Oil and removal of pole, mechanism, wiring and cabling and piping, removal of support structure etc. complete for			

ANNEXURE - A I
SCHEDULE OF RATES FOR O&M SUBSTATION ACTIVITIES
(PLANNED OUTAGES, BREAKDOWN MAINTENANCE)

SR. NO.	DESCRIPTION OF ACTIVITY	UNIT	Ex-Works IN PLANNED OUTAGE (in ₹)	Ex-Works IN EMERGENCY/ BREAKDOWN (in ₹)
(i)	33kV Circuit Breaker	Set	**9,213**	**11,056**
(ii)	145kV Circuit Breaker	Set	**27,639**	**33,167**
(iii)	245kV Circuit Breaker	Set	**32,904**	**39,485**
(iv)	420kV Circuit Breaker	Set	**46,624**	**55,949**
11	**Overhauling of SF6/Vacuum Circuit Breaker** with complete dismantling, re-erection of breaker pole, mechanism, male female contacts , compressor with required wiring / cabling and termination required with replacement of all O-Rings, Gaskets, Contactors and replacement of male female contacts if required with required materials such as lugs, glands, TBs etc. complete. (Required spares will be supplied by MSETCL)			
(i)	33kV/22kV/11kV Circuit Breaker Without Pole	No.	**13,031**	**13,031**
(ii)	33kV/22kV/11kV Circuit Breaker (With Pole)	No	**19,547**	**19,547**
	C) CURRENT T/F / POTENTIAL T/F			
12	**Erection of Current Transformer/ Potential Transformer on provided support structure WITH NECESSARY MODIFICATION** with connecting the terminal connectors and jumpers on both sides with required connection with available cables to the terminal box for			
(i)	33kV CT/PT	No.	**1,645**	**1,974**
(ii)	145kV CT/PT	No.	**3,291**	**3,949**
(iii)	245kV CT/PT	No.	**4,936**	**5,923**
(iv)	420kV CT/PT	No.	**11,269**	**13,522**
13	**Dismantling of Current transformer from support structure** with removal of terminal connectors and jumpers and cabling connection from the terminal box for			
(i)	33kV CT/PT	No.	**1,316**	**1,580**
(ii)	145kV CT/PT	No.	**2,632**	**3,159**
(iii)	245kVCT/PT	No.	**3,948**	**4,738**
(iv)	420kV CT/PT	No.	**9,015**	**10,818**
	D) LIGHTENING ARRESTER			
14	Dismantling of LA from the support structure with removal of jumper from terminal connector, and stacks with stacking with removal of earthing connection and LA counter etc. complete for			
(i)	11/22/33kV	No.	**923**	**1,107**
(ii)	132kV	No.	**2,632**	**3,159**
(iii)	198kV	No.	**3,948**	**4,738**
(iv)	398kV	No.	**5,288**	**6,346**
15	Erection of LA on provided support structure with minor modification with stacks, insulator base, with leveling, connecting terminal connector and jumper connection with connecting the counter, with earthing connection etc. complete for			
(i)	33kV	No.	**1,153**	**1,384**
(ii)	132kV	No.	**3,291**	**3,949**
(iii)	198kV	No.	**4,935**	**5,922**
(iv)	398kV	No.	**6,610**	**7,932**
16	Stacking of 220 /132/33 KV Tower, Gantries, Support Structures, M.S. Material, Hardware, Insulators tower material, other assorted material as per Bill of Material, directed by the site engineer/ representative, including material tagging, marking, painting etc. as per site engineer.	MT	**235**	NA
17	Antacid & shockproof painting in Battery room i) Cleaning of all surfaces from dust, oil, rusting etc. with chemicals & other means ii) Applying antacid & shock proof grey paint two coats. iii) Cleaning of all the surfaces of extra paint	per sq.mtr	**1,176**	NA
	E) ISOLATOR			
18	Erection of Isolator **with support structure** tightening, leveling, support insulator erection , erection of male female contacts, piping, MOM box fixing, cable laying and termination with alignment of Isolator mechanically and electrically as per Mfg manual with minor alteration at base complete for			
(i)	33 kV	Set	**8,226**	**9,871**
(ii)	145 kV	Set	**19,742**	**23,691**
(iii)	245 kV	Set	**26,323**	**31,588**

ANNEXURE - A I
SCHEDULE OF RATES FOR O&M SUBSTATION ACTIVITIES
(PLANNED OUTAGES, BREAKDOWN MAINTENANCE)

SR. NO.	DESCRIPTION OF ACTIVITY	UNIT	Ex-Works IN PLANNED OUTAGE (in ₹)	Ex-Works IN EMERGENCY/ BREAKDOWN (in ₹)
(iv)	420 kV CBI	Set	**32,199**	**38,638**
(v)	420 KV PGI	Set	**50,511**	**60,613**
19	Erection of Isolator **without support structure** tightening, leveling, support insulator erection , erection of male female contacts, piping, MOM box fixing, cable laying and termination with alignment of Isolator mechanically and electrically as per Mfg manual complete for			
(i)	33kV	Set	**7,403**	**8,884**
(ii)	145kV	Set	**17,768**	**21,322**
(iii)	245kV	Set	**23,691**	**28,429**
(iv)	420KV CBI	Set	**28,979**	**34,774**
(v)	420KV PGI	Set	**45,460**	**54,551**
20	Dismantling of Isolator **with support structure**, insulators, male female contacts, piping MOM box cabling etc. Complete and stacking the same at required place as directed for			
(i)	33kV	Set	**6,581**	**7,897**
(ii)	145kV	Set	**15,794**	**18,953**
(iii)	245kV	Set	**21,058**	**25,270**
(iv)	420kV CBI	Set	**25,759**	**30,911**
(v)	420kV PGI	Set	**40,409**	**48,490**
21	Replacement of Jaws / Blades / Scissor etc. for various isolators for (Without material) including alignment.			
(i)	11kV / 22kV / 33kV	No.	**912**	**1,140**
(ii)	145kV / 245kV	No.	**1,303**	**1,629**
(iii)	400KV CBI	No.	**6,516**	**8,144**
(iv)	400KV PGI CESSIOR	No.	**10,425**	**13,031**
22	Replacement of Hanger Assembly of 400kV PGI from Main Bus with alignment and adjustment complete	No.	**13,031**	**16,289**
23	Replacement of Rotary Insulators of 400kV PGI with adjustment etc. Complete	No.	**13,031**	**16,289**
	F) WAVE TRAP (WT)			
24	**Dismantling of WT (SUSPENSION TYPE)** with removal of jumper from both side, suspension hardware **along with insulator string,** removal of plate of connection if reqd to BEAM etc. for			
(i)	132kV	No.	**5,923**	**7,107**
(ii)	220kV	No.	**7,897**	**9,476**
(iii)	400kV	No.	**11,144**	**13,373**
25	**Dismantling of WT only SUSPENSION TYPE** with removal of jumper from both side, suspension hardware **without insulator string**, for			
(i)	132kV	No.	**4,442**	**5,331**
(ii)	220kV	No.	**5,923**	**7,107**
(iii)	400kV	No.	**8,358**	**10,030**
26	Erection of WT SUSPENSION TYPE with hoisting the plate required to be fixed to BEAM, hardware & **insulator string** with jumper connection at both the ends for			
(i)	132kV	No.	**7,404**	**8,884**
(ii)	220kV	No.	**9,871**	**11,846**
(iii)	400kV	No.	**13,930**	**16,716**
27	Erection of WT only SUSPENSION TYPE **without insulator string** with jumper connection at both the ends for			
(i)	132kV	No.	**5,553**	**6,663**
(ii)	220kV	No.	**7,403**	**8,884**
(iii)	400kV	No.	**10,448**	**12,537**
28	Dismantling of WT (PEDSTAL TYPE) with support structure removal of jumpers at both the ends, removal of support insulators etc. For			
(i)	132kV	No.	**4,442**	**5,331**
(ii)	220kV	No.	**5,923**	**7,107**
(iii)	400kV	No.	**12,537**	**15,045**
29	Dismantling of WT only PEDSTAL TYPE without support structure with removal of jumpers at both the ends etc. For			

ANNEXURE - A I
SCHEDULE OF RATES FOR O&M SUBSTATION ACTIVITIES
(PLANNED OUTAGES, BREAKDOWN MAINTENANCE)

SR. NO.	DESCRIPTION OF ACTIVITY	UNIT	Ex-Works IN PLANNED OUTAGE (in ₹)	Ex-Works IN EMERGENCY/ BREAKDOWN (in ₹)
(i)	132kV	No.	**2,665**	**3,198**
(ii)	220kV	No.	**3,554**	**4,264**
(iii)	400kV	No.	**7,522**	**9,027**
30	Erection of WT PEDSTAL TYPE **with support insulators**, leveling, erection of WT and connecting the Jumpers at both the ends with terminal clamps provided for			
(i)	132kV	No.	**4,936**	**5,923**
(ii)	220kV	No.	**6,581**	**7,897**
(iii)	400kV	No.	**13,930**	**16,716**
31	Erection of WT only PEDSTAL TYPE **without support insulators**, connecting the Jumpers at both the ends with terminal clamps			
(i)	132kV	No.	**2,961**	**3,554**
(ii)	220kV	No.	**3,949**	**4,738**
(iii)	400kV	No.	**8,358**	**10,030**
	G) 400 KV CVT			
32	Dismantling of 420kV CVT from support structure with removal of cabling / termination from MB and stacking the same at required place as directed	No.	**11,540**	**13,849**
33	Erection of 420kV CVT on provided support structure with jumper connection with suitable terminal clamp provided with connecting the required cables from MB and termination complete	No.	**14,426**	**17,311**
	H) REPLACEMENT OF INSULATOR STRINGS			
34	Replacement of **TENSION disc insulator string** with removal of hardware connected, jumpers connected and its re-erection with new insulators and making the connection of all earlier jumpers etc.			
(i)	for SINGLE	No.		
(ii)	220KV	No.	**21,501**	**26,877**
(iii)	132/110KV	No.	**21,501**	**26,877**
(iv)	for TWIN	No.	**28,669**	**35,836**
(v)	for QUAD	No.	**50,170**	**62,713**
35	Replacement of **SUSPENSION disc insulator string** with removal of hardware connected, jumpers connected and its re-erection with new insulators and making the connection of all earlier jumpers etc.			
(i)	for SINGLE	No.	**4,561**	**5,701**
(ii)	for TWIN	No.	**5,864**	**7,330**
(iii)	for QUAD	No.	**8,796**	**10,995**
	I) Cabling			
36	Making heat shrinkable **Indoor** / **Outdoor** cable joint of 11kV XLPE cable by **providing straight terminal joint kit as per standard method (Supply +Labour)**			
(i)	Size range 3 X 25 - 50 sqmm	Per Joint	**16,284**	**20,355**
(ii)	Size range 3 X 70 - 95 sqmm	Per Joint	**17,535**	**21,919**
(iii)	Size range 3 X 120 - 185 sqmm	Per Joint	**18,893**	**23,616**
(iv)	Size range 3 X 240 - 300 sqmm	Per Joint	**21,536**	**26,920**
(v)	Size range 3 X 400 - 500 sqmm	Per Joint	**26,275**	**32,843**
37	Making heat shrinkable **Indoor / Outdoor** cable joint of 22 kV XLPE cable by **providing straight terminal joint kit as per standard method (Supply + Labour)**			
(i)	Size range 3 X 25 - 50 sqmm	Per Joint	**23,377**	**29,221**
(ii)	Size range 3 X 70 - 95 sqmm	Per Joint	**24,652**	**30,815**
(iii)	Size range 3 X 120 - 185 sqmm	Per Joint	**28,257**	**35,321**
(iv)	Size range 3 X 185 - 240 sqmm	Per Joint	**33,572**	**41,965**
(v)	Size range 3 X 300 - 400 sqmm	Per Joint	**38,076**	**47,595**
38	Making heat shrinkable **Indoor / Outdoor** cable joint of 33 kV XLPE cable by **providing straight terminal joint kit as per standard method (Supply + Labour)**			
(i)	Size range 3 X 35 - 70 sqmm	Per Joint	**34,771**	**43,464**
(ii)	Size range 3 X 95 - 150 sqmm	Per Joint	**37,931**	**47,414**
(iii)	Size range 3 X 185 sqmm	Per Joint	**41,836**	**52,295**
(iv)	Size range 3 X 240 sqmm	Per Joint	**43,866**	**54,832**

ANNEXURE - A I
SCHEDULE OF RATES FOR O&M SUBSTATION ACTIVITIES
(PLANNED OUTAGES, BREAKDOWN MAINTENANCE)

SR. NO.	DESCRIPTION OF ACTIVITY	UNIT	Ex-Works IN PLANNED OUTAGE (in ₹)	Ex-Works IN EMERGENCY/ BREAKDOWN (in ₹)
(v)	Size range 3 X 300 sqmm	Per Joint	**44,734**	**55,917**
(vii)	Size range 3 X 400 sqmm	Per Joint	**50,289**	**62,861**
39	Making heat shrinkable **Indoor** cable joint of 11kV XLPE cable by **providing End Terminal Kit as per standard method (Supply + Labour)**			
(i)	Size range 3 X 16 - 50 sqmm	Per Joint	**5,631**	**7,039**
(ii)	Size range 3 X 70 - 120 sqmm	Per Joint	**5,837**	**7,296**
(iii)	Size range 3 X 150 - 225 sqmm	Per Joint	**6,809**	**8,512**
(iv)	Size range 3 X 240 - 400 sqmm	Per Joint	**7,914**	**9,893**
40	Making heat shrinkable **Outdoor** cable joint of 11kV XLPE cable by **providing End Terminal Kit as per standard method (Supply + Labour)**			
(i)	Size range 3 X 16 - 50 sqmm	Per Joint	**6,622**	**8,278**
(ii)	Size range 3 X 70 - 120 sqmm	Per Joint	**6,828**	**8,535**
(iii)	Size range 3 X 150 - 225 sqmm	Per Joint	**8,292**	**10,365**
(iv)	Size range 3 X 240 - 400 sqmm	Per Joint	**9,515**	**11,893**
41	Making heat shrinkable **Indoor** cable joint of 22 kV XLPE cable by **providing End Terminal Kit as per standard method (Supply + Labour)**			
(i)	Size range 3 X 16 - 50 sqmm	Per Joint	**7,181**	**8,976**
(ii)	Size range 3 X 70 - 120 sqmm	Per Joint	**7,421**	**9,276**
(iii)	Size range 3 X 150 - 185 sqmm	Per Joint	**8,492**	**10,615**
(iv)	Size range 3 X 240 - 400 sqmm	Per Joint	**11,686**	**14,607**
42	Making heat shrinkable **Outdoor** cable joint of 22 kV XLPE cable by **providing End Terminal Kit as per standard method (Supply + Labour)**			
(i)	Size range 3 X 16 - 50 sqmm	Per Joint	**8,719**	**10,898**
(ii)	Size range 3 X 70 - 120 sqmm	Per Joint	**8,956**	**11,195**
(iii)	Size range 3 X 150 - 185 sqmm	Per Joint	**10,763**	**13,454**
(iv)	Size range 3 X 240 - 400 sqmm	Per Joint	**14,051**	**17,564**
43	Making heat shrinkable **Indoor** cable joint of 33 kV XLPE cable by **providing End Terminal Kit as per standard method (Supply + Labour)**			
(i)	Size range 3 X 25 - 50 sqmm	Per Joint	**11,639**	**14,549**
(ii)	Size range 3 X 70 - 95 sqmm	Per Joint	**12,154**	**15,192**
(iii)	Size range 3 X 120 - 185 sqmm	Per Joint	**12,873**	**16,092**
(iv)	Size range 3 X 240 - 400 sqmm	Per Joint	**16,621**	**20,777**
44	Making heat shrinkable **Outdoor** cable joint of 33 kV XLPE cable by **providing End Terminal Kit as per standard method (Supply + Labour)**			
(i)	Size range 3 X 25 - 50 sqmm	Per Joint	**13,432**	**16,790**
(ii)	Size range 3 X 70 - 95 sqmm	Per Joint	**14,358**	**17,948**
(iii)	Size range 3 X 120 - 185 sqmm	Per Joint	**14,564**	**18,205**
(iv)	Size range 3 X 240 - 400 sqmm	Per Joint	**18,708**	**23,385**
	J) BATTERY WORKS			
45	Capacity test of battery sets as per standard method of Mfg. with required charging and discharging cycle complete as directed			
(i)	220 V DC 500AH	Set	**13,683**	
(ii)	220 V DC 300/200AH	Set	**13,031**	
(iii)	110 V DC 200/300AH	Set	**12,380**	
(iv)	48 V DC 1000AH	Set	**11,728**	
(v)	48 V DC 200/300AH	Set	**11,728**	
46	Dismantling of battery set with removal of battery terminal connection , cables, battery cells, stands etc. complete with stacking at suitable place as directed			
i)	220 V DC	Set	**31,588**	**37,905**
ii)	110 V DC	Set	**23,691**	**28,429**
iii)	48 V DC	Set	**17,110**	**20,532**
47	Erecting & commissioning of the battery set with stands arrangement in battery room as per drawings and as directed with erecting the battery cells with connecting the same with copper terminals provided with filling of acid, laying and terminating the cables from chargers and applying the charging and discharging cycle as specified in Mfg manual to get the desired result of gravity and voltage			
(i)	220 V DC 500AH BATTERY SET	Set	**39,485**	**47,382**
(ii)	220 V DC 300/200AH	Set	**39,485**	**47,382**

ANNEXURE - A I
SCHEDULE OF RATES FOR O&M SUBSTATION ACTIVITIES
(PLANNED OUTAGES, BREAKDOWN MAINTENANCE)

SR. NO.	DESCRIPTION OF ACTIVITY	UNIT	Ex-Works IN PLANNED OUTAGE (in ₹)	Ex-Works IN EMERGENCY/ BREAKDOWN (in ₹)
(iii)	110 V DC 200/300AH	Set	**29,614**	**35,536**
(iv)	48 V DC 1000AH BATTERY SET	Set	**31,954**	**38,345**
(v)	48 V DC 200/300AH	Set	**21,388**	**25,665**
48	Reconditioning of battery cell removed from battery set as per standard procedure			
(i)	1000AH	No.	**19,547**	**24,433**
(ii)	500AH	No.	**9,773**	**12,217**
(iii)	200/300AH	No.	**6,516**	**8,144**

Note

1) **The rates are Ex Works Rates (Suitable loading may be done at the time of estimation).**

2) T&P, Labour required for the maintenance activities shall be arranged by the agency at their own cost. The Electricity, Water will be arranged by MSETCL free of cost all over Maharashtra.

3) As far as possible, activities mentioned, are specifically covered in detail scope of work, however any allied works which are not mentioned but are essential for completion of this activity shall be considered in the scope at no extra cost.

4) Activity to be covered in PLANNED OUTAGE - Any activity which is identified in advance and to be carried out in outage solely proposed for that particular work. For example-Replacement of CTs with high Tan Delta values.

5) Activity to be covered in EMERGENCY- Any activity which is not identified in advance and it is to be carried out in breakdown of equipments only For example- Failure of ICT/TR., Bursting of CT, Bursting of CB etc.

6) For transportation activities, separate Annexure is attached.

ANNEXURE - A II

SCHEDULE OF RATES FOR EHV LINE MAINTAINANCE ACTIVITIES UPTO 220 KV

For Labour Portion (Emergency, Brakedown and In Outage Period)

SR. NO.	DESCRIPTION OF ACTIVITY	UNIT	Ex-works Rate (in Rs.)
1	Mobilization & Demobilization of T & P, labours to the site location to attend planned work in "Outage" from respective division. (Applicable for min. 15 labours)	Per Occasion	23,456.15
2	Mobilization & Demobilization of T & P, labours to the site location to attend "Breakdown" from respective division. (Applicable for min. 15 labours)	Per Occasion	45,609.18
3	**Replacement of Suspension/Pilot string** **Work involved** -Hook out suspension clamp from disc insulator string, Hook out suspension string from the hanger, take it out on ground, erect new suspension string by hooking it in hanger, refix suspension clamp.		
A	**I) SUSPENSION STRING**		
	a) Replacement of Single Suspension string **SSN** insulators in Plain, Hilly / Creak Area of **Single Circuit , Double Circuit**, dead line or having one circuit live or other circuit dead.	Per String	11,728.07
	b) Replacement of Suspension string **SSN** insulators in Plain, Hilly / Creak Area of **Multicircuit** Line.	Per String	13,031.19
	c) Replacement of Double Suspension string **DSN** insulators in Plain, Hilly/ Creak Area of **Single Circuit line dead line, Double Circuit,** dead line or having one circuit live or other circuit dead.	Per Twin String	11,728.07
	d) Replacement of Suspension string **DSN** insulators in Plain , Hilly/ Creak Area of **Multicircuit** Line.	Per Twin String	15,637.43
B	**II) PILOT STRING**		
	a) Replacement of Pilot string insulators in Plain, Hilly/ Creak Area of Single Circuit , Double Circuit, dead line or having one circuit live or other circuit dead.	Per String	7,818.72
	b) Replacement of Pilot string insulators in Plain, Hilly/ Creak area of Multicircuit Line.	Per String	9,121.84
4	**Replacement of tension string insulators DTN/STN** Work involved - Taking tension on the conductor on which Tension string is to be replaced, Hooking out tension hardware from tension plate, take down the string on the ground , replace it with new tension string and re-fix the same at tension plate by using come-along clamps and other tensioning equipments with adequate manpower.		
	TENSION STRING		
	a) Replacement of tension string insulators **STN** in Plain , Hilly/Creak area of **Single Circuit** dead line.	Per String	15,637.43
	b) Replacement of tension string insulators **STN** in Plain, Hilly/ Creak area of **Double Circuit** line having one circuit live & one circuit dead.	Per String	16,940.55
	c) Replacement of tension string insulators **STN** in Plain, Hilly/Creak area of **Multicircuit** Line.	Per String	16,940.55
	d) Replacement of tension string insulators **DTN** in Plain, Hilly/Creak area of **Single Circuit** dead.	Per Twin String	23,456.15
	e) Replacement of tension string insulators **DTN** in Plain, Hilly/ Creak area of **Double Circuit** line having one circuit live & one circuit dead.	Per Twin String	24,759.27
	f) Replacement of tension string insulators **DTN** in Plain, Hilly/ Creak area of **Multicircuit** Line.	Per Twin String	26,062.39
5	**Tower earthing** as per MSETCL specification		
	a) **Counter poise type earthing** Including excavation of pits/trenches, laying of earth wire and fitting plates/ lugs to tower legs including supply of all materials (Viz. GI wire, lugs, nuts / bolts etc) and back filling, complete in all respect as per drawing to be furnished by the owner	No.	13,472.14
	b) **Pipe type earthing** including excavation of pits/ trenches, laying of pipe & G. I. strip, filling chemical / Bentonite, salt, charcoal surrounding G I Pipe, connecting G I strip to tower, back filling, Ramming, compacting etc. complete including supply of complete set of pipe earthing including G.I. strip 50mm X 6mm X 3.50 Mtrs. length and 25 mm dia. & 4mm thickness for hot dip galvanized pipe 3 mtr. Length & required G. I. nut bolts as per drawing and Coal: 150 Kg & Salt: 15 Kg OR Bentonite Powder	No.	6,029.71
	c) Fixing of copper spike rod earthing at tower peak with separate earth pit and material.	Per Tower	16,940.55
6	**Stub Strengthening Work involved** :- **(i)** Excavation / breaking of existing foundation around the tower leg. Breaking the cement concrete of chimney upto the affected, corroded portion of stub. Cleaning and surface preparation of tower stubs.		
	(ii) Drilling of suitable size G I angles for inner side & outer side sections.		
	(iii) Painting the pieces / tower members upto 3 mtrs. section and stub on either side with epoxy polyamino amide base resin.		
	(iv) Drilling the angle pieces to the stub. The drill should be pierced & lengthwise at a distance of suitable gap of the stub and the angle piece should be filled with high & low viscous epoxy grout to avoid voids in gaps. On filling the gap the top & bottom sides should be sealed by cold welding.		
	(v) Application of one coat of epoxy resin as a primer. Application of EPI resin base coat on the whole surface (around the stub) upto length of 1.5mtr. Wrapping EPI plast strengthening material round the joint. Impregnating EPI wetting resin in joint if any filling by epoxy adhesive.		
	(vi) Concreting of in the situ 1:2:4 concrete of existing size including raising of chimney height of the stub including muffing etc. in all respect . Application of curing agent after four to five days or sufficient curing period on the concrete surface. Back filling, removal of debris, cleaning the site etc as per directives of work in-charge. All T & P, manpower, material etc. shall be arranged by the contractor. Work is to be guaranteed for the period of 2 years.		
	a) Suspension tower		
	- Upto 110 KV Tower/132 KV Tower	Per Leg	15,637.43
	- Upto 220 KV Tower	Per Leg	18,243.67
	b) Tension tower		
	- Upto 110 KV Tower/132 KV Tower	Per Leg	18,243.67

ANNEXURE - A II

SCHEDULE OF RATES FOR EHV LINE MAINTAINANCE ACTIVITIES UPTO 220 KV

For Labour Portion (Emergency, Brakedown and In Outage Period)

SR. NO.	DESCRIPTION OF ACTIVITY	UNIT	Ex-works Rate (in Rs.)
	- Upto 220 KV Tower	Per Leg	20,849.91
7	**Chimney height raising** Work involved :- Excavation of footing of 1Mtr. X 1Mtr.X 0.3Mtr. around chimney, breaking of existing concrete chimney 0.3 Mtrs from ground with the help of Chisel & hammer, cleaning of leg, painting with epoxy paint upto 2 Mtrs. Providing & Casting of 1:2:4 grade CC mix of trap metal upto 0.2 Mtr. above ground level for chimney by using steel / plywood form box, concreting, curing etc. complete in all respects.	Per Leg	9,121.84
8	**Replacements of tower cross arms**		
	i) For single circuit dead line tower.		
	Suspension / Cut Point Tower	Cross Arm	26,062.39
	ii) For D/C tower one circuit dead & one circuit live		
	Suspension / Cut Point Tower	Cross Arm	32,577.99
	iii) For M/C tower all circuits of one side dead & all circuits of other side live		
	Suspension / Cut Point Tower	Cross Arm	39,093.58
9	**Painting** of Tower / Stubs by applying one coat of Red Oxide and two coats of Aluminum paint including cleaning of rusted portion as per the enclosed specification.(Total RMT of tower/stub/extensions to be calculated from Tower BOM.)	RMT	41.91
10	**Anticorrosive painting** of Tower as per the enclosed specification.(Total RMT of tower/stub/extensions to be calculated from Tower BOM.)	RMT	13.10
11	**Supply of clamps, connectors, Hardwares, Tower Accessories** etc. as per MSETCL approved drawings.		
	a) Double Tension hardware suitable for		
	i) 0.1 ACSR Dog Conductor.	No.	7,063.00
	ii) 0.2 ACSR Panther Conductor.	No.	8,188.20
	iii) 0.3 ASCR Goat Conductor.	No.	8,188.20
	iv) 0.35 ASCR Sheep Conductor.	No.	8,188.20
	v) 0.4 ASCR Deer Conductor.	No.	9,057.94
	vi) 0.4 ASCR Zebra Conductor.	No.	9,057.94
	vii) AAAC 525 SqMM Conductor.	No.	8,998.00
	b) Double Suspension Hardware Suitable for		
	i) 0.1 ACSR Dog Conductor.	No.	6,043.00
	ii) 0.2 ACSR Panther Conductor.	No.	6,190.50
	iii) 0.3 ASCR Goat Conductor.	No.	6,190.50
	iv) 0.35 ASCR Sheep Conductor.	No.	6,190.50
	v) 0.4 ASCR Deer Conductor.	No.	6,975.30
	vi) 0.4 ASCR Zebra Conductor.	No.	6,975.30
	vii) AAAC 525 SqMM Conductor.	No.	7,049.00

Note :-

1) **The rates are Ex Works Rates (Suitable loading may be done at the time of estimation).**
2) Mobilization/De-mobilization charges are applicable on occasion basis, irrespective of days. These charges are applicable only for the deployed gang comprising minimum 15 Labours.
3) The Mobilization charges shall not be applicable for Non-Outage/Non-Breakdown activities.
4) Number of gangs to be deployed for a particular work will be at the discretion of engineer in charge, though the work involved seems to be small or less in quantity. It will be decided considering the quantum of work, geographical, weather and other R.O.W. conditions at that time.
5) Mobilization charges will be payable even if actual work is not carried out due to non approval of outage in real time with condition that gang/gangs should be physically moved to the site and available at tower location and not ready for movement at contractors' location.
6) Head loading charges will be applicable only for the locations in hilly area which are not approachable by any vehicle. It will be applicable in plain area for tower location beyond 200 meters from the nearest spot approachable. It will be applicable for unapproachable tower locations due to rains. This will be in addition to mobilization charges as a special condition.
7) **Activity to be covered in PLANNED OUTAGE -** Any activity which is identified in advance and to be carried out in outage solely proposed for that particular work. For example-Replacement of STN with DTN, Replacement of faulty disc insulators.
8) **Activity to be covered in EMERGENCY -** Any activity which is not identified in advance and it is to be carried out in breakdown of equipments only For example- Failure of disc insulators, snapping of conductor, earthwire, bending of cross arm etc.
9) For the work of "Providing & Fixing of Clamps Connectors & Hardwares " the supply rates of this schedule may be considered for estimation purpose.
10) The rate for the work of stringing at crossing sections of EHV Line / River/ Creek / Highway / Railway is a special type and time-bound work. Special rates for the same may be considered as double of the SoR rate. These charges will be admissible for specific spans only
11) Tower material handling charges for construction of EHV lines in Hilly or critical terrain shall be separately given at the rate of 25% of the erection cost of the tower after due recommendation of the Zonal Chief Engineer and approval from Competent Authority at Corporate Office. These charges will be admissible for specific spans only.

ANNEXURE A III

SCHEDULE OF RATES FOR EHV LINE MAINTAINANCE ACTIVITIES FOR 400 KV

For Labour Portion (Emergency, Breakdown and In Outage Period)

SR. NO.	DESCRIPTION OF ACTIVITY	UNIT	Ex-Works Rate (in ₹)
1	Mobilization & demobilization of T & P, labours to the site location to attend "**Breakdown**". (applicable for minimum 20 labours)	Per Occasion	97,733.96
2	Mobilization & demobilization of T & P, labours to the site location to attend planned work in "**Outage**". (applicable for minimum 20 labours)	Per Occasion	45,609.18
3	a) Replacement of Suspension/Pilot string insulators (SSN/DSN) for S/C lines	String	19,546.79
	b) Replacement of Suspension/Pilot string insulators (SSN/DSN) for D/C lines	String	26,062.39
	c) Replacement of tension string insulators.(DTN) for S/C lines	Twin String	45,609.18
	d) Replacement of tension string insulators.(DTN) for D/C lines	Twin String	52,124.78
4	Patrolling of the 400 KV Lines as Per directives of the site incharge.		
	a) Ground Patrolling	km	3,518.42
	b) Monkey Patrolling for S/C line(**Strictly by AUTHORIZED PERSONS ONLY as the work is required to be carried out while circuit is LIVE)**	Tower	1,954.68
	c) Monkey Patrolling for D/C line (**Strictly by AUTHORIZED PERSONS ONLY as the work is required to be carried out while circuit is LIVE**)	Tower	2,345.61
5	**Fixing / crimping of compression type clamps & connectors**		
	a) Fixing Palm to suit 0.5 ACSR of size 100 X 100 mm	No.	1,563.74
	b) Fixing Single T connectors suitable for 0.5 ACSR. (with nut bolts)	No.	1,563.74
	c) Fixing Repair sleeves for 0.5 ACSR.	No.	1,563.74
	d) Fixing Twin 'T' connector suitable for 0.5 ACSR	No.	2,997.17
	e) Fixing of Mid span joint suitable for 0.5 ACSR	No.	2,345.61
	f) Fixing / Tightening S. S. Nut bolts	No.	97.73
	g) Fixing of Jumper Cone suitable for 0.5 ACSR.	No.	2,345.61
	h) Fixing Double Tension hardware suitable for 0.5 ACSR	No.	3,909.36
	i) Fixing Single Suspension Hardware Suitable for 0.5 ACSR Cond.	No.	2,866.86
	j) Fixing Double Suspension Hardware Suitable for 0.5 ACSR Cond.	No.	3,909.36
	k) Fixing of Twin cushion spacer suitable for 0.5 ACSR of 450mm spacing distance	No.	3,909.36
6	**Cold line washing (manually) of disc insulators of various 400KV lines.**		
	a) Suspension string	String	1,954.68
	b) Cut point string	String	3,257.80
	c) Chemical washing of insulators	String	5,864.04
7	Head loading charges for unapproachable tower locations excluding complete tower material	Per MT	15,824.62
8	**Fixing of Tower accessories.**		
	a) Fixing of Number Plate	No.	260.62
	b) Fixing of Danger Board	No.	260.62
	c) Fixing Vibration Damper suitable for 0.5 conductor	No.	1,563.74
	d) Fixing Vibration Damper suitable for 7/3.15 SWG Earth wire	No.	521.25
	e) Fixing of anti theft type step bolt	No.	97.73
	f) Fixing conical type bird guard	No.	1,172.81
	g) Fixing of anti climbing device i.e. barbed wire. (along with angles where-ever necessary)	No.	3,257.80
	h) Fixing of anti theft type step bolt	No.	97.73
	i) Fixing of PA rods suitable for 0.5 ACSR conductor	No.	1,563.74
	j) Fixing of Corona ring SSN/Pilot, DSN & DTN	No.	2,345.61
9	**Stub Strengthening as per MSETCL specifications**		
	a) Suspension tower	Leg	32,577.99
	b) Tension tower	Leg	39,093.58
	c) Chimney rising as per MSETCL specification	Leg	13,031.19
10	Replacement of rusted/ damaged/missing members & Fabrication(wherever required)	No.	977.34
11	Providing tack welding to the Nut Bolts of transmission Lines including T & P, labour, transportation etc. up to first section of tower.	Nut bolt	39.09
12	**Dismantling and destringing of the conductor.**		
	a) For S/C dead line (All three phases)	rmt	65.16
	b) For S/C on D/C other ckt live (All three phases)	rmt	91.22
13	**Restringing of the conductor.**		
	a) For S/C dead line (All three phases)	rmt	78.19
	b) For S/C on D/C other ckt live (All three phases)	rmt	104.25

ANNEXURE A III

SCHEDULE OF RATES FOR EHV LINE MAINTAINANCE ACTIVITIES FOR 400 KV

For Labour Portion (Emergency, Breakdown and In Outage Period)

SR. NO.	DESCRIPTION OF ACTIVITY	UNIT	Ex-Works Rate (in ₹)
14	**Replacement of Tower cross arm**		
	A1) for S/C dead line for Suspension	No.	26,062.39
	A2) for S/C dead line for Cut point	No.	45,609.18
	B1) for S/C on D/C other ckt live Suspension	No.	32,577.99
	B2) for S/C on D/C other ckt live Cut point	No.	52,124.78
15	Replacement of rusted / damaged 'D' shackle / ball socked / hooks. (Cost of replacement of insulator is assumed to be covered)		
	a) Suspension / Pilot	No.	1,563.74
	b) Tension	No.	1,954.68
16	Tightening of Jumper/clamps Nut Bolt	Ckt/ tower	2,866.86
17	Dismantling/ Destringing of overhead earth wire for S/C & D/C dead line	rmt	26.06
18	Restringing of overhead earth wire for S/C & D/C dead line	rmt	32.58
19	Tower earthing as per MSETCL specification		
	a) **Counter poise type earthing** Including excavation of pits/trenches, laying of earth wire and fitting plates/ lugs to tower legs including supply of all materials (Viz. GI wire, lugs, nuts / bolts etc) and back filling, complete in all respect as per drawing to be furnished by the owner	No.	13,472.40
	b) **Pipe type earthing** including excavation of pits/ trenches, laying of pipe & G. I. strip, filling chemical / Bentonite, salt, charcoal surrounding G I Pipe, connecting G I strip to tower, back filling, Ramming, compacting etc. complete including supply of complete set of pipe earthing including G.I. strip 50mm X 6mm X 3.50 Mtrs. length and 25 mm dia. & 4mm thickness for hot dip galvanized pipe 3 mtr. Length & required G. I. nut bolts as per drawing and Coal: 150 Kg & Salt: 15 Kg OR Bentonite Powder	No.	6,029.88
	c) Fixing of Cu spike rod earthing at tower peak with separate earth pit and material	Tower	19,546.79
20	Measurement of tower footing resistance.	Tower	651.56
21	Measurement of Sag between phase to phase, & phase to ground, phase to HT/LT Crossing with measurement kit	Span	651.56
22	**Tree cutting / trimming.**		
	a) Normal area	Span	3,257.80
	b) Hilly area	Span	4,560.92
23	**Providing Line accessories/Clamps, connectors**		
	a) Providing Palm to suit 0.5 ACSR of size 100 X 100 mm	No.	1,971.88
	b) Providing Single 'T' connectors suitable for 0.5 ACSR.	No.	2,169.07
	c) Providing Repair sleeves for 0.5 ACSR	No.	985.94
	d) Providing Twin 'T' connector suitable for 0.5 ACSR. (with nut bolts)	No.	2,464.85
	e) Providing of Mid span joint suitable for 0.5 ACSR.	No.	1,577.50
	f) Providing of Jumper Cone suitable for 0.5 ACSR.	No.	1,183.13
	g) Providing S. S. Nut bolts.	No.	98.59
	h) Providing Double Tension hardware suitable for 0.5 ACSR.	No.	12,118.00
	i) Providing Single Suspension Hardware Suitable for 0.5 ACSR Cond.	No.	2,673.12
	j) Providing Double Suspension Hardware Suitable for 0.5 ACSR Cond.	No.	4,950.22
	k) Providing of Twin cushion spacer suitable for 0.5 ACSR of 450mm spacing distance along with clipping rod set.	No.	594.00
	l) Providing of Number Plate	No.	346.52
	m) Providing Danger Board	No.	412.85
	n) Providing Vibration Damper suitable for 0.5 conductor	No.	2,475.11
	o) Providing Vibration Damper suitable for 7/3.66 mm Earth wire	No.	495.02
	p) Providing anti theft type step bolt	No.	99.00
	q) Providing conical type bird guard	No.	971.23
	r) Providing of anti climbing device i.e. barbed wire. (along with angles where-ever necessary)	No.	6,682.79
	s) Providing anti theft type step bolt	No.	99.00
	t) Providing of PA rods suitable for 0.5 ACSR conductor	Set	2,283.00
24	**Benching due to low clearance during sag measurement**		
	a) Normal soil	Cum	218.87
	b) BC soil	Cum	368.72
	c) soft rock / hard Murom	Cum	453.11
	d) DFR	Cum	1,106.16

ANNEXURE A III

SCHEDULE OF RATES FOR EHV LINE MAINTAINANCE ACTIVITIES FOR 400 KV

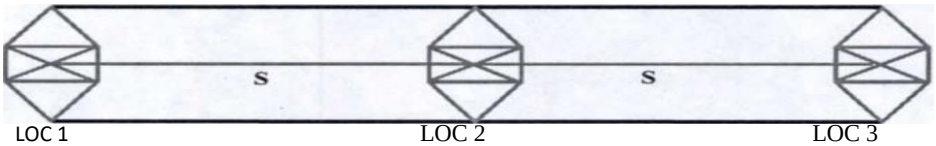
For Labour Portion (Emergency, Breakdown and In Outage Period)

SR. NO.	DESCRIPTION OF ACTIVITY	UNIT	Ex-Works Rate (in ₹)
	e) Hard rock	Cum	1,428.52
25	**Revetment with RCC & not in UCR masonry (Labour)**	Cum	1,689.23

Note :-

1) The rates are Ex Works Rates (Suitable loading may be done at the time of estimation).
2) Mobilization/De-mobilization charges are applicable on occasion basis, irrespective of days. These charges are applicable only for the deployed gang comprising minimum 20 Labours.
3) The Mobilization charges shall not be applicable for Non-Outage/Non-Breakdown activities.
4) Number of gangs to be deployed for a particular work will be at the discretion of engineer in charge, though the work involved seems to be small or less in quantity. It will be decided considering the quantum of work, geographical, weather and other R.O.W. conditions at that time.
5) Mobilization charges will be payable even if actual work is not carried out due to non approval of outage in real time with condition that gang/gangs should be physically moved to the site and available at tower location and not ready for movement at contractor's location.
6) Head loading charges will be applicable only for the locations in hilly area which are not approachable by any vehicle. It will be applicable in plain area for tower location beyond 200 meters from the nearest spot approachable. It will be applicable for unapproachable tower locations due to rains. This will be in addition to mobilization charges as a special condition.
7) **Activity to be covered in PLANNED OUTAGE -** Any activity which is identified in advance and to be carried out in outage solely proposed for that particular work. For example-Replacement of STN with DTN, Replacement of faulty disc insulators.
8) **Activity to be covered in EMERGENCY -** Any activity which is not identified in advance and it is to be carried out in breakdown of equipments only For example- Failure of disc insulators, snapping of conductor, earth wire, bending of cross arm etc.
9) The rate for the work of stringing at crossing sections of EHV Line / River/ Creek / Highway / Railway is a special type and time-bound work. Special rates for the same may be considered as double of the SoR rate. These charges will be admissible for specific spans only
10) Tower material handling charges for construction of EHV lines in Hilly or critical terrain shall be separately given at the rate of 25% of the erection cost of the tower after due recommendation of the Zonal Chief Engineer and approval from Competent Authority at Corporate Office. These charges will be admissible for specific spans only.

ANNEXURE - A IV (I)
SLD FOR RESTORATION OF COLLAPSED TOWER
SLD For Restoration of Collapsed Tower



S = 315Mtr. For 132 KV
S = 325Mtr. For 220 KV
S = 400Mtr. For 400 KV

	WORK TO BE CARRY OUT
1	Providing Temp.stays at location I & 3 if necessary
2	De-stringing of conductor & earth wire.
3	Dismantling of collapsed tower (Loc. No.2)with the help of gas cutting or any other means
4	Dismantling of collapsed tower foundation in case of location space constraint
5	Excavation for foundation (Loc. No.2)
6	Stub setting
7	Providing and fixing of steel reinforcement
8	Providing and casting in situ cement concrete
9	Erection of Loc No. 2 with extension with all accessories, tightening, punching, tagging etc.
10	Earthing of Loc. No. 2
11	Restringing of conductor & earth wire between span 1 to 3
12	Removal of Temp.stays at location 1 & 3
13	Transportation of damaged tower/conductor, earthwire and other material to stores

ANNEXURE - A IV (II) SCHEDULE OF RATES FOR RESTORATION OF COLLAPSE TOWER					
SR. NO.	TYPE OF TOWER		DFR FOUNDATION	BC FOUNDATION	REMARKS
			Ex-Works in Rs	Ex-Works in Rs	
1	**132 KV Single Circuit OR Double**	**P**	12,02,364.16	13,61,675.08	
		Q	13,65,704.43	15,25,970.12	
		R	12,89,239.35	16,65,369.46	
		S	14,25,302.65	17,78,934.25	
2	**132 KV Multi Circuit**	**P**	22,54,819.84	25,85,078.40	
		Q	25,21,696.72	32,40,855.34	
		R	27,48,131.08	34,44,646.25	
		S	32,61,823.14	42,00,891.08	
3	**220 KV Single Circuit OR Double**	**P**	12,73,314.77	14,82,719.35	
		Q	14,24,304.22	18,00,865.45	
		R	15,48,995.09	17,81,692.62	
		S	17,89,068.78	21,53,827.64	
4	**220 KV Multi Circuit**	**P**	23,76,761.84	28,96,585.44	
		Q	26,75,455.02	37,51,836.66	
		R	29,11,282.10	42,76,965.71	
		S	32,89,782.69	49,42,349.18	
5	**400 KV Double Circuit**	**P**	20,15,438.26	26,02,332.59	
		Q	23,13,670.21	30,98,222.40	
		R	25,30,021.96	35,22,034.36	
		S	32,37,348.73	47,47,515.44	

NOTE :

1) In the above cost estimates, conductor, earth wire insulators tower material hardwares etc. shall be supplied MSETCL, however expenses towards labour T&P , transportation, local obstructions (Crop Compensation) etc. are included in the cost estimate.

2)The activities involved and unit rates thereof in the above cost estimates are considered as detailed under,

3)Considering the revenue loss, immediate restoration of supply is very much necessary. Therefore due weightage in unit rates is considered as breakdown activity.

ANNEXURE - A IV (II)				
SCHEDULE OF RATES FOR RESTORATION OF COLLAPSE TOWER				
SR. NO.	**PARTICULARS OF ACTIVITY**	**UNIT**	**Ex-work Rate in ₹. For 132 & 220 KV**	**Ex-work Rates in ₹. For 400 KV**
1	Providing Temp.stays at location of tower collapse/Removal of stays after completion of work wherever necessary	per stay	4,979.72	7,113.89
2	Destringing of conductor of any size	Per RMT	85.37	90.47
3	Destringing of earth wire of any size	Per RMT	28.46	35.57
4	Dismantling of collapsed tower with the help of gas cutting or any other means	MT	7,113.89	8,536.66
5	Dismantling of collapsed tower foundation in case of location space constraint			
a)	Plain area	per leg	4,979.72	7,113.89
b)	Hilly area	per leg	9,959.44	14,227.77
6	Excavation for foundation in all types of soil strata as per drawing			
a)	Normal Soil/Sand/Gravel/Soft Murom	Cum	328.31	328.31
b)	Black cotton soil/Submerged soil	Cum	553.08	553.08
c)	Soft rock/Hard Murum	Cum	679.67	679.67
d)	Dry Fissured Rock	Cum	1,659.24	1,659.24
e)	Hard rock by Chiseling	Cum	2,142.77	2,142.77
7	Stub setting in all types of soil strata with the help of templates / PROB including transportation of template, stub, fixing in position of stub, leveling, alignment as per drawing and as directed by authorities in charge	Per location	12,520.44	21,341.66
8	Providing and fixing of steel reinforcement of various sizes bar including supply of TMT bars with epoxy coating/ Metacam, cutting to sizes, bending, hooking, binding with steel wires as per drawing	MT	1,43,528.99	1,43,528.99
9	Providing and casting in situ cement concrete of trap metal of size 20 to 40 mm as applicable including cost of cement, sand, metal and water, frame work, finishing, compacting, coping and curing for 21 days complete as per drawing and direction of Engr.ln-charge.			
a)	M-30 with graded metal for foundation	Cum	12,833.02	12,833.02
b)	M-20 (1:1.5:3)with graded metal for foundation	Cum	12,594.99	12,594.99
c)	M-15 (1:2:4)with graded metal for foundation / coping	Cum	11,684.85	11,684.85
d)	M-10 (1:3:6)with graded metal for foundation / Bedding	Cum	10,441.08	10,441.08
10	Erection of new Tower with extension with all accessories, tightening, punching, tagging etc.	MT	11,868.46	11,868.46
11	Restringing of conductor of any size.	Per RMT	106.71	113.82
12	Restringing of the earth wire of any size.	Per RMT	35.57	42.68
13	Transportation of damaged tower/conductor, earthwire and other material to stores identified as per directives of Authorities in charge	LS	As per transportation schedule.Annexure A4 (III) (XI)	As per transportation schedule.Annexure A4 (III) (XI)
14	Benching	Cu.Mtr	1,067.08	1,067.08
15	Revetment with RCC not in UCR Masonry as per drawing provided by MSETCL.	Cu.Mtr.	2,276.44	2,276.44
16	Supply of Fabricated, Galvanizing, tower for all type of crossing, with set of stubs, Superstructure, templates, step bolts, U bolts, D'shackles, Chain links etc, with all other tower accessories, G I Nut bolts with Plain & spring washers complete in all respect as per MSETCL approved design & drawings	MT	1,42,649.43	1,42,649.43
17	Compensation towards crop trees/ fruit bearing trees etc.	LS	26,106.00	39,159.00
18	Earthing work :-Counter poise type	Nos.	20,208.21	20,208.21
19	Earthing work:-Pipe Type	Nos.	9,044.56	9,044.56

ANNEXURE - A IV (III)
SCHEDULE RATES FOR RESTORATION OF COLLAPSED TOWER

SR NO	VOLTAGE LEVEL	TOWER TYPE	FDN TYPE	EXCAVATION VOL.	RATE PER CUM in ₹	TOTAL in ₹	STUB SETTING in ₹	STEEL REINFORCENIENT IN MT	RATE PER MT in ₹	TOTAL in ₹	CONCRETE M10	RATE PER CUM in ₹	CONCRETE M20	RATE PER CUM in ₹	SAND + LIME PADDING	RATE PER CUM in ₹	TOTAL in ₹
	TOWER TYPE		**TOTAL FOUNDATION COST INCLUDING EXCAVATION, STUB SETTING AND CONCREATING**														
1	**132 KV D/C TOWER**	P	DFR	15.87	1659	**26,328.82**	12520	0.108	143529	**15,501.13**	0.000	10441	4.90	12595	0.00	0.00	**61,765.83**
		P	BC	123.11	553	**68,089.68**	12520	0.378	143529	**54,253.96**	1.716	10441	10.62	12595	0.00	0.00	**1,51,726.07**
		Q	DFR	34.58	1659	**57,369.88**	12520	0.160	143529	**22,964.64**	0.000	10441	13.64	12595	0.00	0.00	**1,71,795.66**
		Q	BC	159.87	553	**88,420.90**	12520	0.752	143529	**1,07,933.80**	2.665	10441	15.83	12595	0.00	0.00	**2,27,204.17**
		R	DER	30.51	1659	**50,623.41**	12520	0.148	143529	**21,242.29**	0.000	10441	7.85	12595	0.00	0.00	**98,921.05**
		R	BC	204.70	553	**1,13,215.48**	12520	1.099	143529	**1,57,738.35**	3.410	10441	19.97	12595	0.00	0.00	**2,87,126.03**
		S	DFR	43.68	1659	**72,478.92**	12520	0.170	143529	**24,399.93**	0.000	10441	14.86	12595	0.00	0.00	**1,87,211.93**
		S	BC	227.15	553	**1,25,634.33**	12520	1.414	143529	**2,02,949.98**	3.720	10441	22.35	12595	0.00	0.00	**3,20,301.06**
2	**132 KV M/C TOWER**	P	DER	48.35	1659	**80,224.25**	12520	0.600	143529	**86,117.39**	1.058	10441	7.90	12595	0.00	0.00	**1,10,547.08**
		P	BC	253.92	553	**1,40,438.07**	12520	1.168	143529	**1,67,641.85**	3.700	10441	21.56	12595	0.00	0.00	**3,10,230.36**
		Q	DFR	87.55	1659	**1,45,269.78**	12520	1.229	143529	**1,76,397.12**	1.800	10441	12.38	12595	0.00	0.00	**1,74,719.92**
		Q	BC	396.75	553	**2,19,434.49**	12520	2.952	143529	**4,23,697.56**	5.941	10441	41.41	12595	0.00	0.00	**5,83,576.40**
		R	DFR	118.88	1659	**1,97,250.45**	12520	1.826	143529	**2,62,083.93**	2.380	10441	15.66	12595	0.00	0.00	**2,22,087.31**
		R	BC	476.20	553	**2,63,376.70**	12520	2.350	143529	**3,37,293.11**	7.200	10441	56.63	12595	0.00	0.00	**7,88,430.06**
		S	DFR	186.32	1659	**3,09,149.60**	12520	3.353	143529	**4,81,252.69**	3.610	10441	23.60	12595	0.00	0.00	**3,34,934.06**
		S	BC	657.12	553	**3,63,439.93**	12520	4.536	143529	**6,51,047.48**	10.080	10441	75.89	12595	0.00	0.00	**10,61,079.88**
3	**220 KV D/C TOWER**	A	DFR	18.00	1659	**29,866.32**	12520	0.289	143529	**41,479.88**	0.450	10441	3.61	12595	0.00	0.00	**50,178.99**
		A	BC	146.19	553	**80,854.21**	12520	0.550	143529	**78,940.94**	2.112	10441	12.72	12595	0.00	0.00	**1,82,297.62**
		B	DER	35.57	1659	**59,019.17**	12520	0.188	143529	**26,983.45**	0.000	10441	12.70	12595	0.00	0.00	**1,59,956.37**
		B	BC	221.88	553	**1,22,717.39**	12520	0.876	143529	**1,25,731.39**	3.530	10441	27.66	12595	0.00	0.00	**3,85,234.44**
		C	DER	46.63	1659	**77,370.36**	12520	0.169	143529	**24,256.40**	0.000	10441	20.29	12595	0.00	0.00	**2,55,564.94**
		C	BC	237.63	553	**1,31,428.40**	12520	1.152	143529	**1,65,345.39**	3.446	10441	21.30	12595	0.00	0.00	**3,04,278.44**
		D	DFR	92.97	1659	**1,54,264.52**	12520	0.346	143529	**49,661.03**	0.000	10441	28.39	12595	0.00	0.00	**3,57,596.96**
		D	BC	369.05	553	**2,04,114.17**	12520	2.070	143529	**2,97,105.00**	5.410	10441	30.15	12595	0.00	0.00	**4,36,225.19**
4	**220 KV M/C TOWER**	A	DFR	37.44	1659	**62,116.97**	12520	0.586	143529	**84,107.99**	0.907	10441	8.11	12595	0.00	0.00	**1,11,565.05**
		A	BC	306.03	553	**1,69,259.07**	12520	1.449	143529	**2,07,973.50**	4.513	10441	28.93	12595	0.00	0.00	**4,11,544.03**
		B	DFR	80.00	1659	**1,32,739.20**	12520	1.092	143529	**1,56,733.65**	1.524	10441	12.01	12595	0.00	0.00	**1,67,127.66**
		B	BC	537.88	553	**2,97,488.46**	12520	3.346	143529	**4,80,247.98**	8.179	10441	54.07	12595	0.00	0.00	**7,66,408.70**
		C	DFR	112.14	1659	**1,86,067.17**	12520	1.596	143529	**2,29,072.26**	2.048	10441	15.01	12595	0.00	0.00	**2,10,471.92**
		C	BC	635.98	553	**3,51,747.82**	12520	4.999	143529	**7,17,501.40**	9.744	10441	66.02	12595	0.00	0.00	**9,33,208.74**
		D	DFR	169.53	1659	**2,81,290.96**	12520	1.938	143529	**2,78,159.17**	2.965	10441	23.88	12595	0.00	0.00	**3,31,776.54**
		D	BC	774.96	553	**4,28,614.88**	12520	6.743	143529	**9,67,815.95**	11.765	10441	82.23	12595	0.00	0.00	**11,58,525.33**
5	**400 KV D/C TOWER**	A	DFR	55.82	1659	**92,618.78**	21342	0.576	143529	**82,672.70**	1.740	10441	9.01	12595	0.00	0.00	**1,31,648.34**
		A	BC	338.63	553	**1,87,289.48**	21342	1.471	143529	**2,11,131.14**	5.860	10441	26.36	12595	26.73	4242	**5,06,576.52**
		B	DER	89.33	1659	**1,48,219.91**	21342	0.902	143529	**1,29,463.14**	2.592	10441	14.10	12595	0.00	0.00	**2,04,652.64**
		B	BC	444.05	553	**2,45,595.17**	21342	2.346	143529	**3,36,719.00**	7.818	10441	36.95	12595	35.06	4242	**6,95,736.71**
		C	DFR	118.21	1659	**1,96,138.76**	21342	1.070	143529	**1,53,576.01**	3.306	10441	18.41	12595	0.00	0.00	**2,66,354.19**
		C	BC	529.11	553	**2,92,640.16**	21342	3.047	143529	**4,37,332.82**	9.408	10441	48.74	12595	41.77	4242	**8,89,271.39**
		D	DER	233.64	1659	**3,87,664.83**	21342	2.526	143529	**3,62,554.22**	6.075	10441	34.35	12595	0.00	0.00	**4,96,067.47**
		D	BC	816.68	553	**4,51,689.37**	21342	6.233	143529	**8,94,616.16**	14.826	10441	78.84	12595	64.48	4242	**14,21,310.69**

ANNEXURE - A IV (III)

SCHEDULE RATES FOR RESTORATION OF COLLAPSED TOWER

SR NO	VOLTAGE LEVEL	(I) COST OF FDN in ₹	(II) EARTHING in ₹	ERECTION OF TOWER	RATE PER MT in ₹	(III) TOTAL in ₹	RESTRINGING OF COND. RATE PER RMT in ₹	CONDUCTOR SPAN	NO OF PHASES	(IV) TOTAL in ₹	RESTRINGING OF E/W. RATE PER RMT in ₹	E/W SPAN	NO OF SPAN	(V) TOTAL in ₹
	TOWER TYPE		*EARTHING	ERECTION PART			RESTRINGING OF CONDUCTOR & EARTH WIRE							
1	132 KV	103595.78	20208	2.82	11868	**53,663.89**	107	315	12	**4,03,357.28**	36	315	2	**22,408.74**
	D/C TOWER	274069.70	9045	2.82	11868	**42,500.89**	107	315	12	**4,03,357.28**	36	315	2	**22,408.74**
		252130.18	20208	3.60	11868	**62,920.93**	107	315	12	**4,03,357.28**	36	315	2	**22,408.74**
		423558.87	9045	3.60	11868	**51,757.93**	107	315	12	**4,03,357.28**	36	315	2	**22,408.74**
		170786.75	20208	3.86	11868	**65,971.01**	107	315	12	**4,03,357.28**	36	315	2	**22,408.74**
		558079.86	9045	3.86	11868	**54,808.01**	107	315	12	**4,03,357.28**	36	315	2	**22,408.74**
		284090.78	20208	5.06	11868	**80,200.74**	107	315	12	**4,03,357.28**	36	315	2	**22,408.74**
		648885.38	9045	5.06	11868	**69,037.74**	107	315	12	**4,03,357.28**	36	315	2	**22,408.74**
2	132 KV	276888.73	20208	7.60	11868	**1,10,404.80**	107	315	24	**8,06,714.56**	36	315	2	**22,408.74**
	M/C TOWER	618310.29	9045	7.60	11868	**99,241.80**	107	315	24	**8,06,714.56**	36	315	2	**22,408.74**
		496386.82	20208	10.10	11868	**1,40,027.33**	107	315	24	**8,06,714.56**	36	315	2	**22,408.74**
		1226708.45	9045	10.10	11868	**1,28,864.33**	107	315	24	**8,06,714.56**	36	315	2	**22,408.74**
		681421.69	20208	12.28	11868	**1,65,911.44**	107	315	24	**8,06,714.56**	36	315	2	**22,408.74**
		1389099.87	9045	12.28	11868	**1,54,748.44**	107	315	24	**8,06,714.56**	36	315	2	**22,408.74**
		1125336.35	20208	15.95	11868	**2,09,538.20**	107	315	24	**8,06,714.56**	36	315	2	**22,408.74**
		2075567.28	9045	15.95	11868	**1,98,375.20**	107	315	24	**8,06,714.56**	36	315	2	**22,408.74**
3	220 KV	121525.19	20208	4.19	11868	**69,970.52**	107	325	12	**4,16,162.27**	36	325	2	**23,120.13**
	D/C TOWER	342092.77	9045	4.19	11868	**58,807.52**	107	325	12	**4,16,162.27**	36	325	2	**23,120.13**
		245958.99	20208	5.59	11868	**86,573.86**	107	325	12	**4,16,162.27**	36	325	2	**23,120.13**
		633683.22	9045	5.59	11868	**75,410.86**	107	325	12	**4,16,162.27**	36	325	2	**23,120.13**
		357191.70	20208	6.30	11868	**94,988.27**	107	325	12	**4,16,162.27**	36	325	2	**23,120.13**
		601052.23	9045	6.30	11868	**83,825.27**	107	325	12	**4,16,162.27**	36	325	2	**23,120.13**
		561522.51	20208	8.18	11868	**1,17,335.71**	107	325	12	**4,16,162.27**	36	325	2	**23,120.13**
		937444.36	9045	8.18	11868	**1,06,172.71**	107	325	12	**4,16,162.27**	36	325	2	**23,120.13**
4	220 KV	257790.00	20208	12.33	11868	**1,66,516.70**	107	325	24	**8,32,324.55**	36	325	2	**23,120.13**
	M/C TOWER	788776.61	9045	12.33	11868	**1,55,353.70**	107	325	24	**8,32,324.55**	36	325	2	**23,120.13**
		456600.51	20208	17.59	11868	**2,28,966.12**	107	325	24	**8,32,324.55**	36	325	2	**23,120.13**
		1544145.14	9045	17.59	11868	**2,17,803.12**	107	325	24	**8,32,324.55**	36	325	2	**23,120.13**
		625611.35	20208	21.11	11868	**2,70,741.48**	107	325	24	**8,32,324.55**	36	325	2	**23,120.13**
		2002457.96	9045	21.11	11868	**2,59,578.48**	107	325	24	**8,32,324.55**	36	325	2	**23,120.13**
		891226.67	20208	27.06	11868	**3,41,320.48**	107	325	24	**8,32,324.55**	36	325	2	**23,120.13**
		2554956.16	9045	27.06	11868	**3,30,157.48**	107	325	24	**8,32,324.55**	36	325	2	**23,120.13**
5	400 KV	306939.81	20208	10.59	11868	**1,45,878.25**	114	400	12	**5,46,346.37**	43	400	4	**68,293.30**
	D/C TOWER	904997.14	9045	10.59	11868	**1,34,715.25**	114	400	12	**5,46,346.37**	43	400	4	**68,293.30**
		482335.69	20208	16.61	11868	**2,17,323.61**	114	400	12	**5,46,346.37**	43	400	4	**68,293.30**
		1278050.88	9045	16.61	11868	**2,06,160.61**	114	400	12	**5,46,346.37**	43	400	4	**68,293.30**
		616068.97	20208	20.66	11868	**2,65,377.14**	114	400	12	**5,46,346.37**	43	400	4	**68,293.30**
		1619244.37	9045	20.66	11868	**2,54,214.14**	114	400	12	**5,46,346.37**	43	400	4	**68,293.30**
		1246286.52	20208	24.44	11868	**3,10,226.32**	114	400	12	**5,46,346.37**	43	400	4	**68,293.30**
		2767616.23	9045	24.44	11868	**2,99,063.32**	114	400	12	**5,46,346.37**	43	400	4	**68,293.30**

ANNEXURE - A IV (III)
SCHEDULE RATES FOR RESTORATION OF COLLAPSED TOWER

SR NO	VOLTAGE LEVEL	*DESTRINGING OF COND. RATE PER RMT	CONDUCTOR SPAN	NO OF PHASES	(VI) TOTAL in ₹	*DESTRINGING OF E/W.RATE PER RMT	E/W SPAN	E/W SPAN	(VII) TOTAL in ₹	*PROVIDING TEMP STAYS	NO OF STAYS	(VIII) TOTAL in ₹	*DISMANTLING OF COLLPSED TOWER PER MT	WT OF TOWER	(IX) TOTAL in ₹
	TOWER TYPE	DESTRINGING OF CONDUCTOR & EARTH WIRE								PROVIDING TEMP.STAYS			DISMENTLING OF COLLAPSED		
1	132 KV D/C TOWER	85	315	12	**322686**	28	2	315	**17927**	4980	12	**59757**	7114	2.82	**20054**
		85	315	12	**322686**	28	2	315	**17927**	4980	12	**59757**	7114	2.82	**20054**
		85	315	12	**322686**	28	2	315	**17927**	4980	12	**59757**	7114	3.60	**25603**
		85	315	12	**322686**	28	2	315	**17927**	4980	12	**59757**	7114	3.60	**25603**
		85	315	12	**322686**	28	2	315	**17927**	4980	12	**59757**	7114	3.86	**27431**
		85	315	12	**322686**	28	2	315	**17927**	4980	12	**59757**	7114	3.86	**27431**
		85	315	12	**322686**	28	2	315	**17927**	4980	12	**59757**	7114	5.06	**35961**
		85	315	12	**322686**	28	2	315	**17927**	4980	12	**59757**	7114	5.06	**35961**
2	132 KV M/C TOWER	85	315	24	**645372**	28	2	315	**17927**	4980	24	**119513**	7114	7.60	**54066**
		85	315	24	**645372**	28	2	315	**17927**	4980	24	**119513**	7114	7.60	**54066**
		85	315	24	**645372**	28	2	315	**17927**	4980	24	**119513**	7114	10.10	**71822**
		85	315	24	**645372**	28	2	315	**17927**	4980	24	**119513**	7114	10.10	**71822**
		85	315	24	**645372**	28	2	315	**17927**	4980	24	**119513**	7114	12.28	**87337**
		85	315	24	**645372**	28	2	315	**17927**	4980	24	**119513**	7114	12.28	**87337**
		85	315	24	**645372**	28	2	315	**17927**	4980	24	**119513**	7114	15.95	**113488**
		85	315	24	**645372**	28	2	315	**17927**	4980	24	**119513**	7114	15.95	**113488**
3	220 KV D/C TOWER	85	325	12	**332930**	28	2	325	**18496**	4980	12	**59757**	7114	4.19	**29829**
		85	325	12	**332930**	28	2	325	**18496**	4980	12	**59757**	7114	4.19	**29829**
		85	325	12	**332930**	28	2	325	**18496**	4980	12	**59757**	7114	5.59	**39781**
		85	325	12	**332930**	28	2	325	**18496**	4980	12	**59757**	7114	5.59	**39781**
		85	325	12	**332930**	28	2	325	**18496**	4980	12	**59757**	7114	6.30	**44825**
		85	325	12	**332930**	28	2	325	**18496**	4980	12	**59757**	7114	6.30	**44825**
		85	325	12	**332930**	28	2	325	**18496**	4980	12	**59757**	7114	8.18	**58220**
		85	325	12	**332930**	28	2	325	**18496**	4980	12	**59757**	7114	8.18	**58220**
4	220 KV M/C TOWER	85	325	24	**665860**	28	2	325	**18496**	4980	24	**119513**	7114	12.33	**87700**
		85	325	24	**665860**	28	2	325	**18496**	4980	24	**119513**	7114	12.33	**87700**
		85	325	24	**665860**	28	2	325	**18496**	4980	24	**119513**	7114	17.59	**125133**
		85	325	24	**665860**	28	2	325	**18496**	4980	24	**119513**	7114	17.59	**125133**
		85	325	24	**665860**	28	2	325	**18496**	4980	24	**119513**	7114	21.11	**150174**
		85	325	24	**665860**	28	2	325	**18496**	4980	24	**119513**	7114	21.11	**150174**
		85	325	24	**665860**	28	2	325	**18496**	4980	24	**119513**	7114	27.06	**192480**
		85	325	24	**665860**	28	2	325	**18496**	4980	24	**119513**	7114	27.06	**192480**
5	400 KV D/C TOWER	90	400	12	**434256**	36	4	400	**56911**	7114	12	**85367**	8537	10.59	**90395**
		90	400	12	**434256**	36	4	400	**56911**	7114	12	**85367**	8537	10.59	**90395**
		90	400	12	**434256**	36	4	400	**56911**	7114	12	**85367**	8537	16.61	**141785**
		90	400	12	**434256**	36	4	400	**56911**	7114	12	**85367**	8537	16.61	**141785**
		90	400	12	**434256**	36	4	400	**56911**	7114	12	**85367**	8537	20.66	**176350**
		90	400	12	**434256**	36	4	400	**56911**	7114	12	**85367**	8537	20.66	**176350**
		90	400	12	**434256**	36	4	400	**56911**	7114	12	**85367**	8537	24.44	**208610**
		90	400	12	**434256**	36	4	400	**56911**	7114	12	**85367**	8537	24.44	**208610**

ANNEXURE - A IV (III)						
SCHEDULE RATES FOR RESTORATION OF COLLAPSED TOWER						
SR NO	VOLTAGE LEVEL	(X) DISMANTLING OF FDN IN PLAIN AREA	DISMANTLING OF FDN IN HILLY AREA	(XI) TRANSPORTATION OF DAMAGED TOWER & COND	(XII) COMPENSATION	TOTAL
	TOWER TYPE	*TOWER & FOUNDATION		TRANSPORATATION & COMPENSATION		
1	132 KV D/C TOWER	19919	39837	39159	100000	12,02,364
		19919	39837	39159	100000	13,61,675
		19919	39837	39159	100000	13,65,704
		19919	39837	39159	100000	15,25,970
		19919	39837	39159	100000	12,89,239
		19919	39837	39159	100000	16,65,369
		19919	39837	39159	100000	14,25,303
		19919	39837	39159	100000	17,78,934
2	132 KV M/C TOWER	19919	39837	41770	100000	22,54,820
		19919	39837	41770	100000	25,85,078
		19919	39837	41770	100000	25,21,697
		19919	39837	41770	100000	32,40,855
		19919	39837	41770	100000	27,48,131
		19919	39837	41770	100000	34,44,646
		19919	39837	41770	100000	32,61,823
		19919	39837	41770	100000	42,00,891
3	220 KV D/C TOWER	19919	39837	41770	100000	12,73,315
		19919	39837	41770	100000	14,82,719
		19919	39837	41770	100000	14,24,304
		19919	39837	41770	100000	18,00,865
		19919	39837	41770	100000	15,48,995
		19919	39837	41770	100000	17,81,693
		19919	39837	41770	100000	17,89,069
		19919	39837	41770	100000	21,53,828
4	220 KV M/C TOWER	19919	39837	45686	100000	23,76,762
		19919	39837	45686	100000	28,96,585
		19919	39837	45686	100000	26,75,455
		19919	39837	45686	100000	37,51,837
		19919	39837	45686	100000	29,11,282
		19919	39837	45686	100000	42,76,966
		19919	39837	45686	100000	32,89,783
		19919	39837	45686	100000	49,42,349
5	400 KV D/C TOWER	28456	56911	45686	150000	20,15,438
		28456	56911	45686	150000	26,02,333
		28456	56911	45686	150000	23,13,670
		28456	56911	45686	150000	30,98,222
		28456	56911	45686	150000	25,30,022
		28456	56911	45686	150000	35,22,034
		28456	56911	45686	150000	32,37,349
		28456	56911	45686	150000	47,47,515

ANNEXURE - B I
SCHEDULE OF RATES FOR O&M SUBSTATION ACTIVITIES
(PLANNED OUTAGES, BREAKDOWN MAINTAINANCE)
All the activities are important and are prioritized

Sr. No.	Description of Activity	Unit	Ex-works IN PLANNED OUTAGE (in ₹)	Ex-works IN EMERGENCY/BREAK-DOWN (in ₹)
	A) TRANSFORMER ALLIED WORKS			
1	**ATTENDING OIL LEAKAGE & COLD WELDING**			
i)	Attending leakage of inspection Windows of Transformer, CTs, PT, Bushings etc. by cold welding	Per Inch	**391**	**489**
ii)	Application of cold welding for arresting the oil leakages			
(a)	Size 12mm	Per Bolt	**339**	**424**
(b)	Size 14mm	Per Bolt	**704**	**880**
(c)	Size 16mm	Per Bolt	**1355**	**1694**
(d)	Size 20 mm	Per Bolt	**2059**	**2574**
(e)	Size 32mm	Per Bolt	**2215**	**2769**
	B) CURRENT T/F/POTENTIAL T/F			
2	Removal of gaskets, bushing of CT/PTs , oil and Terminal Rods with fixing of new gaskets, bushing, oil and terminal rods at site without dismantling.			
(i)	for 11 kV CT/PT	No.	**5212**	**6516**
(ii)	for 22 kV CT/PT	No.	**5212**	**6516**
(iii)	for 33 kV CT/PT	No.	**5212**	**6516**
3	**Dismantling of support structure old concrete type**			
(i)	33 kV	Cu. Mtr.	**841**	**1051**
(ii)	132 kV	Cu. Mtr.	**841**	**1051**
(iii)	220 kV	Cu. Mtr.	**841**	**1051**
4	**Dismantling of support structure lattice type for CT / CC / LA / PT / BPI**			
(i)	33/22 KV	No.	**1042**	**1303**
(ii)	132KV	No.	**1303**	**1629**
(iii)	220KV	No.	**1564**	**1955**
(iv)	400KV	No.	**2346**	**2932**
	C) ISOLATOR			
5	**Dismantling of support structure lattice type for ISOLATOR**			
(i)	22 KV	No.	**1564**	**1955**
(ii)	33KV	No.	**1648**	**2061**
(iii)	132 KV	No.	**2215**	**2769**
(iv)	220 KV	No.	**3608**	**4510**
(v)	400 KV	No.	**4561**	**5701**
6	**Replacement of MOM box with new cabling for**			
(i)	11kV / 22kV / 33kV	No.	**1303**	**1629**
(ii)	145kV / 245kV	No.	**3258**	**4072**
(iii)	400kV	No.	**6516**	**8144**
7	**Replacement of AUX contact of MOM box with removal of cabling and reconnection of the same for**			
(i)	11kV / 22kV / 33kV	No.	**326**	**407**
(ii)	145kV / 245kV	No.	**652**	**814**
(iii)	400kV	No.	**1303**	**1629**
8	**Alignment of Isolator with mechanical trial and electrical trials with adjustment of LIMIT SWITCHES, MOM alignment , pipes alignments complete for**			
(i)	11kV / 22kV / 33kV	Set	**1303**	**1629**
(ii)	145kV / 245kV	Set	**2606**	**3258**
(iii)	400kV	Set	**5212**	**6516**
9	**Replacement of Limit switches**			
	220kV / 400kV	No.	**5864**	**7330**
	D) BUS POST INSULATOR			
10	**Dismantling of BPI from the support structure with removal of jumper and terminal clamp complete for**			
(i)	33kV	No.	**1053**	**1264**

ANNEXURE - B I
SCHEDULE OF RATES FOR O&M SUBSTATION ACTIVITIES
(PLANNED OUTAGES, BREAKDOWN MAINTAINANCE)
All the activities are important and are prioritized

Sr. No.	Description of Activity	Unit	Ex-works IN PLANNED OUTAGE (in ₹)	Ex-works IN EMERGENCY/BREAK-DOWN (in ₹)
(ii)	145kV	No.	**1579**	**1895**
(iii)	245kV	No.	**1579**	**1895**
(iv)	420kV	No.	**2025**	**2430**
11	**Erection of BPI in stacks on provided support structure with leveling with fixing of terminal clamp with connecting the jumper for**			
(i)	33kV	No.	**1316**	**1580**
(ii)	145kV	No.	**1974**	**2369**
(iii)	245kV	No.	**1974**	**2369**
(iv)	420kV	No.	**2531**	**3038**
	E) COUPLING CAPACITOR			
12	**Dismantling of CC from the support structure with removal of jumper and terminal clamps, removal of earthing complete for**			
(i)	145kV	No.	**2632**	**3159**
(ii)	245kV	No.	**3949**	**4738**
13	**Erection of CC on provided support structure with connecting the terminal clamp and jumper connection with fixing of LMU unit with connection of HF cable, with connection of earthing complete for**			
(i)	145kV	No.	**3291**	**3949**
(ii)	245kV	No.	**4936**	**5923**
14	**Only LMU REPLACEMENT**	No.	**1303**	**NA**
	F) JUMPERS			
15	**Replacement of jumper connection with its removal with spacers from the equipment terminals with removal of connector and its re-erection with provided terminal clamps at both ends**			
(i)	for single	No.	**666**	**799**
(ii)	for TWIN	No.	**1331**	**1597**
(iii)	for Quad	No.	**2662**	**3195**
16	**Replacement of jumper connection with spacers from the MAIN BUS from Isolators and its re-erection with given terminal clamps at both ends**			
(i)	for single	No.	**814**	**977**
(ii)	for TWIN	No.	**1466**	**1759**
(iii)	for Quad	No.	**2932**	**3518**
17	**Replacement of jumper connection (REMOVAL & REFITTING) with spacers from STUB BUS with its removal from Suspension insulator string hardware etc. from both ends and re-erection with provided terminal clamps at both ends**			
(i)	for single	No.	**977**	**1173**
(ii)	for TWIN	No.	**1629**	**1955**
(iii)	for Quad	No.	**3258**	**3909**
18	**Replacement of Terminal clamp with new one at equipment terminal with removal of jumper from both ends with crimping and refitting**			
(i)	for single	No.	**666**	**799**
(ii)	for TWIN	No.	**1331**	**1597**
(iii)	for Quad	No.	**2662**	**3195**
	G) IPS TUBE WORKS			
19	Replacement of IPS tube from the equipment terminals in 400kV switchyard with removal of terminal connectors at both ends and its re-erection with provided terminal connectors	Rmt	**504**	**605**

ANNEXURE - B I
SCHEDULE OF RATES FOR O&M SUBSTATION ACTIVITIES
(PLANNED OUTAGES, BREAKDOWN MAINTAINANCE)
All the activities are important and are prioritized

Sr. No.	Description of Activity	Unit	Ex-works IN PLANNED OUTAGE (in ₹)	Ex-works IN EMERGENCY/BREAK-DOWN (in ₹)
20	Fixing of IPS tube on Post Insulators (400kV or 33kV - tertiary) with provided clamp as directed	Rmt	**280**	**336**
21	Fabrication of IPS Jointing Sleeves as per drawings	No	**1955**	**2443**
22	Welding of IPS tubes joints as per site requirement with argon welding as directed to make the joint smooth	No	**6516**	**8144**
23	Dismantling of 4" IPS tube including supply of all labour T&P etc. complete.	Per Rmt	**224**	**280**
	H) CRIMPING WORKS			
24	Crimping works ON CONDUCTOR with suitable size capacity crimping machine (overhead) with suitable size DIES **for MAIN BUS jumpers T-clamps**			
(i)	for SINGLE	No.	**652**	**814**
(ii)	FOR TWIN	No.	**1303**	**1629**
(iii)	FOR QUAD	No.	**1955**	**2443**
25	Crimping works FOR CONDUCTOR with suitable size capacity crimping machine with suitable size DIES **for JUMPER CONE at ground**			
(i)	11kV/22kV/33kV	No.	**261**	**326**
(ii)	145kV/245kV	No.	**521**	**652**
(iii)	400kV	No.	**1042**	**1303**
26	Crimping works **ON CONDUCTOR FOR REPAIR SLEEVES (Overhead)** with suitable size capacity crimping machine with suitable size DIES			
(i)	11kV/22kV/33kV	No.	**1303**	**1629**
(ii)	145kV/245kV	No.	**2606**	**3258**
(iii)	400kV	No.	**5212**	**6516**
	REPLACEMENT OF INSULATOR STRINGS			
	I) CONDUCTOR SPANS			
27	**Dismantling of Conductor SPANS at STUB BUS/MAIN BUS LEVEL with removal of hardware & disc insulators from both ends with removal of jumpers, spacers etc. complete**			
	SINGLE CONDUCTOR			
(i)	33 KV	RMT/PH	**79**	**99**
(ii)	132 KV	RMT/PH	**99**	**123**
(iii)	220 KV	RMT/PH	**118**	**148**
28	**Dismantling of Conductor SPANS at STUB BUS LEVEL / MAIN BUS LEVEL with removal of hardware & disc insulators from both ends with removal of jumpers, spacers etc. complete**			
	TWIN			
(i)	33 KV	RMT/PH	**118**	**148**
(ii)	132 KV	RMT/PH	**148**	**185**
(iii)	220 KV	RMT/PH	**178**	**222**
29	**Dismantling of Conductor SPANS at STUB BUS LEVEL/MAIN BUS LEVEL with removal of hardware & disc insulators from both ends with removal of jumpers, spacers etc. complete**			
(i)	400kv/220kvTwin	RMT/PH	**195**	**244**
(ii)	400KV (QUAD)	RMT/PH	**208**	**261**
	J) STRINGING OF SPANS			
30	Stringing of conductor span with hoisting of Disc Insulator along with hardware , crimping of conductor in dead end cone with suitable size crimping machine and dies with required hardware and fixing of spacers			
(i)	SINGLE	RMT/PH	**110**	**132**

ANNEXURE - B I
SCHEDULE OF RATES FOR O&M SUBSTATION ACTIVITIES
(PLANNED OUTAGES, BREAKDOWN MAINTAINANCE)
All the activities are important and are prioritized

Sr. No.	Description of Activity	Unit	Ex-works IN PLANNED OUTAGE (in ₹)	Ex-works IN EMERGENCY/BREAK-DOWN (in ₹)
(ii)	TWIN	RMT/PH	**165**	**197**
(iii)	QUAD	RMT/PH	**231**	**277**
	K) CONDUCTOR JUMPERS			
31	**Dismantling of Conductor JUMPERS at STUB BUS /MAIN BUS LEVEL/EQUIPMENT with removal of hardware & disc insulators from both ends with removal of jumpers, spacers etc. complete**			
	SINGLE			
(i)	33kV	No.	**248**	**297**
(ii)	132kV	No.	**370**	**444**
(iii)	220kV	No.	**494**	**592**
32	**Dismantling of Conductor JUMPERS at STUB BUS /MAIN BUS LEVEL/EQUIPMENT with removal of hardware & disc insulators from both ends with removal of jumpers, spacers etc. complete**			
	TWIN			
(i)	33kV	No.	**495**	**594**
(ii)	132kV	No.	**740**	**887**
(iii)	220kV	No.	**987**	**1185**
(iv)	400kV	No.	**1140**	**1368**
33	Dismantling of Conductor JUMPERS at STUB BUS /MAIN BUS LEVEL/EQUIPMENT with removal of hardware & disc insulators from both ends with removal of jumpers, spacers etc. complete			
	QUAD			
(i)	220kV	No.	**1974**	**2369**
(ii)	400kV	No.	**2443**	**2932**
	L) SPACERS WORKS			
34	Replacement of old spacer and fixing of new provided spacers on STUB BUS - TWIN as directed	No	**1042**	**1303**
35	Replacement of old spacer and fixing of new provided spacers on STUB BUS - QUAD as directed	No.	**2085**	**2606**
36	Replacement of old spacer and fixing of new provided spacers on MAIN BUS - TWIN as directed	No.	**782**	**977**
37	Replacement of old spacer and fixing of new provided spacers on MAIN BUS - QUAD as directed	No.	**1564**	**1955**
	M) EARTHING WORKS			
38	Renovation of existing earth pits in Substation switchyard area with required materials ____ charcoal, salt, black cotton, bentonite with removal of connection on both side to earth main mat, removal of clamps, removal of C.I. Pipe & G.I. perforated pipe if available with excavation of earlier material, and its reerection to the C.I. Pipe with G.I. pipe with prescribed method of earth pit filling . WITH NEW EARTHING SET PROVIDED BY MSETCL	Per Pit	**10425**	**NA**
39	Renovation of existing earth pits in Substation switchyard area with required materials ____ charcoal, salt, black cotton, bentonite with removal of connection on both side to earth main mat, removal of clamps, removal of C.I. Pipe & G.I. perforated pipe if available with excavation of earlier material, and its reerection to the C.I. Pipe with G.I. pipe with prescribed method of earth pit filling . WITH OLD EARTHING PIPE	Per Pit	**10425**	**NA**

ANNEXURE - B I
SCHEDULE OF RATES FOR O&M SUBSTATION ACTIVITIES
(PLANNED OUTAGES, BREAKDOWN MAINTAINANCE)
All the activities are important and are prioritized

Sr. No.	Description of Activity	Unit	Ex-works IN PLANNED OUTAGE (in ₹)	Ex-works IN EMERGENCY/BREAK-DOWN (in ₹)
40	Creating new earth pit with prescribed method in switchyard area with provided C.I. Pipe / perforated G.I. pipe. by salt /charcoal / BC soil excavation of soil in 1 x 1 x 3 meter with its refilling , if required use of bentonite instead of above mentioned material and measurement of earth resistance before connecting the pit to the grid . Connecting the earth pit the with clamp and to connect the same to main earth mat ... WITH EARTH RESISTANCE MEASUREMENT BEFORE CONNECTING THE SAME TO EARTH MAT			
i)	Normal Soil	No.	**7403**	**NA**
ii)	Rocky Soil	No.	**13162**	**NA**
41	Laying the provided M.S. Flat in ground at @ 0.6 meter below ground with welding as per prescribed method at required place, bends and with required fabrication and connecting the same to the earth pit / or at any other place as directed	Rmt	**78**	**NA**
42	Taking out the riser connection with provided M.S. Flat with excavation at required place up to main mat and welding the riser to main mat with required bending/ fabrication etc. and taking this riser to the required place of support structure foundation with making it flush with the foundation surface	Per Riser	**256**	**NA**
43	Earthing of equipment / support structure with provided M.S. Flat with bending / fabrication welding etc. making it flush with support str. / equipment as directed with connecting the same with required size nut bolts (to be provided by the agency)	Per connection	**256**	**NA**
	N) CABLING			
44	Fixing of provided cable trays on the M.S. Angles with suitable size nut bolts with necessary cutting/ fabrication / bending etc. complete as directed with flushing with earlier trays 90 deg turn wherever required ... BY PROVIDING NUT BOLTS AS REQD	Rmt		
(i)	Size 600 X 40 mm	Rmt	**90**	**108**
(ii)	Size 400 X 40 mm	Rmt	**57**	**68**
(iii)	Size 300 X 40 mm	Rmt	**49**	**59**
(iv)	Size 250 X 20 mm	Rmt	**36**	**43**
(v)	Size 200 X 20 mm	Rmt	**36**	**43**
(vii)	Size 100 X 20 mm	Rmt	**29**	**35**
(viii)	Size 80 X 20 mm	Rmt	**29**	**35**
45	Fixing of cable trays on equipment support structure for taking out the cables from the terminal box of equipment with flushing the equipment support structure as directed	Rmt	**29**	**33**
46	Laying of Control / Power cables on existing cable trays in cable trenches with aluminum tags at both ends with binding the same on cable trays at suitable intervals with dressing, with segregation of Control & Power Cables separate on cable trays rows as directed, the cables will be provided by MSETCL in drums , the same are required to be transported to required place and unwounded with turntable smoothly avoiding the damages to the cables			
(i)	2C X 2.5	Rmt	**16**	**20**
(ii)	4C X 2.5	Rmt	**25**	**29**

ANNEXURE - B I
SCHEDULE OF RATES FOR O&M SUBSTATION ACTIVITIES
(PLANNED OUTAGES, BREAKDOWN MAINTAINANCE)
All the activities are important and are prioritized

Sr. No.	Description of Activity	Unit	Ex-works IN PLANNED OUTAGE (in ₹)	Ex-works IN EMERGENCY/BREAK-DOWN (in ₹)
(iii)	5C X 2.5	Rmt	**25**	**29**
(iv)	7C X 2.5	Rmt	**25**	**29**
(v)	10C X 2.5	Rmt	**33**	**39**
(vii)	12C X 2.5	Rmt	**33**	**39**
(viii)	14C X 2.5	Rmt	**33**	**39**
(ix)	19C X 2.5	Rmt	**33**	**39**
(x)	2C X 10	Rmt	**16**	**20**
(xi)	2C X 16	Rmt	**16**	**20**
(xii)	4C X 6	Rmt	**25**	**29**
(xiii)	4C X 10	Rmt	**25**	**29**
(xiv)	4C X 16	Rmt	**25**	**29**
(xv)	3.5 X 35	Rmt	**33**	**40**
(xvi)	3.5 X 70	Rmt	**33**	**40**
(xvii)	3.5 X 120	Rmt	**83**	**100**
(xviii)	3.5 X 240	Rmt	**95**	**114**
(xix)	1C X 185	Rmt	**46**	**56**
(xx)	1C X 630	Rmt	**116**	**139**
(xxi)	2C X 50	Rmt	**25**	**29**
47	Dismantling of Control / Power cables on existing cable trays in cable trenches. Coiling and stacking of dismantled cable at site store as directed with removal of terminations at both ends with removal of glands etc.			
(i)	2C X 2.5	Rmt	**13**	**16**
(ii)	4C X 2.5	Rmt	**20**	**24**
(iii)	5C X 2.5	Rmt	**20**	**24**
(iv)	7C X 2.5	Rmt	**20**	**24**
(v)	10C X 2.5	Rmt	**26**	**31**
(vii)	12C X 2.5	Rmt	**26**	**31**
(viii)	14C X 2.5	Rmt	**26**	**31**
(ix)	19C X 2.5	Rmt	**26**	**31**
(x)	2C X 10	Rmt	**13**	**16**
(xi)	2C X 16	Rmt	**13**	**16**
(xii)	4C X 6	Rmt	**20**	**24**
(xiii)	4C X 10	Rmt	**20**	**24**
(xiv)	4C X 16	Rmt	**20**	**24**
(xv)	3.5 X 35	Rmt	**27**	**32**
(xvi)	3.5 X 70	Rmt	**27**	**32**

ANNEXURE - B I
SCHEDULE OF RATES FOR O&M SUBSTATION ACTIVITIES
(PLANNED OUTAGES, BREAKDOWN MAINTAINANCE)
All the activities are important and are prioritized

Sr. No.	Description of Activity	Unit	Ex-works IN PLANNED OUTAGE (in ₹)	Ex-works IN EMERGENCY/BREAK-DOWN (in ₹)
(xvii)	3.5 X 120	Rmt	**67**	**80**
(xviii)	3.5 X 240	Rmt	**76**	**92**
(xix)	1C X 185	Rmt	**37**	**45**
(xx)	1C X 630	Rmt	**93**	**111**
(xxi)	2C X 50	Rmt	**20**	**24**
48	Cable termination at both ends as per termination schedule provided with cable glanding at both ends panels/ MB etc. with drilling of suitable size holes for cable glands as per cable sizes with spare holes as directed, glanding the cable with proper size glands to make it tight and firm, checking the cables cores from both side for continuity with suitable arrangement and providing the cross feruling as per cable schedule to both ends of cable and crimping of suitable size required lugs as per cable core size with suitable crimping tool making it tight connection and then dressing up the same in TB's provided in Panels / MB etc. as directed for the following cables with sealing of spare holes ... BY PROVIDING REQD SIZE LUGS , GLANDS AND FERULES			
(i)	2C X 2.5	per cable section	**288**	**346**
(ii)	4C X 2.5	per cable section	**370**	**444**
(iii)	5C X 2.5	per cable section	**412**	**495**
(iv)	7C X 2.5	per cable section	**412**	**495**
(v)	10C X 2.5	per cable section	**534**	**641**
(vii)	12C X 2.5	per cable section	**534**	**641**
(viii)	14C X 2.5	per cable section	**534**	**641**
(ix)	19C X 2.5	per cable section	**534**	**641**
(x)	2C X 10	per cable section	**288**	**346**
(xi)	2C X 16	per cable section	**288**	**346**
(xii)	4C X 6	per cable section	**370**	**444**
(xiii)	4C X 10	per cable section	**370**	**444**
(xiv)	4C X 16	per cable section	**370**	**444**
(xv)	3.5 X 35	per cable section	**1645**	**1974**
(xvi)	3.5 X 70	per cable section	**1645**	**1974**
(xvii)	3.5 X 120	per cable section	**2139**	**2567**
(xviii)	3.5 X 240	per cable section	**2725**	**3270**
(xix)	1C X 185	per cable section	**2139**	**2567**
(xx)	1C X 630	per cable section	**2725**	**3270**
(xxi)	2C X 50	per cable section	**1961**	**2353**
49	**Laying of 11kV XLPE cable in trench / space provided with standard method**			
(i)	Size range 3 X 25 - 50- 70- 95 sqmm	RMT	**130**	**163**

ANNEXURE - B I
SCHEDULE OF RATES FOR O&M SUBSTATION ACTIVITIES
(PLANNED OUTAGES, BREAKDOWN MAINTAINANCE)
All the activities are important and are prioritized

Sr. No.	Description of Activity	Unit	Ex-works IN PLANNED OUTAGE (in ₹)	Ex-works IN EMERGENCY/BREAK-DOWN (in ₹)
(ii)	Size range 3 X 120 - 185- 240 - 400 sqmm	RMT	**195**	**244**
50	**Laying of 22kV XLPE cable in trench / space provided with standard method**			
(i)	Size range 3 X 25 - 50- 70- 95 sqmm	RMT	**163**	**204**
(ii)	Size range 3 X 120 - 185- 240 - 400 sqmm	RMT	**228**	**285**
51	**Laying of 33kV XLPE cable in trench / space provided with standard method**			
(i)	Size range 3 X 25 - 50- 70- 95 sqmm	RMT	**195**	**244**
(ii)	Size range 3 X 120 - 185- 240 - 400 sqmm	RMT	**261**	**326**
52	Making heat shrinkable **Indoor** /**Outdoor** cable joint of 11kV XLPE cable with **provided straight terminal joint kit as per standard method (Labour work)**			
(i)	Size range 3 X 25 - 50 sqmm	Per Joint	**3258**	**4072**
(ii)	Size range 3 X 70 - 95 sqmm	Per Joint	**3258**	**4072**
(iii)	Size range 3 X 120 - 185 sqmm	Per Joint	**3258**	**4072**
(iv)	Size range 3 X 240 - 400 sqmm	Per Joint	**3649**	**4561**
53	Making heat shrinkable **Indoor/Outdoor** cable joint of 22 kV XLPE cable with **provided straight terminal joint kit as per standard method (Labour work)**			
(i)	Size range 3 X 25 - 50 sqmm	Per Joint	**3518**	**4398**
(ii)	Size range 3 X 70 - 95 sqmm	Per Joint	**3518**	**4398**
(iii)	Size range 3 X 120 - 185 sqmm	Per Joint	**3518**	**4398**
(iv)	Size range 3 X 240 - 400 sqmm	Per Joint	**3909**	**4887**
54	Making heat shrinkable **Indoor/Outdoor** cable joint of 33 kV XLPE cable with **provided straight terminal joint kit as per standard method (Labour work)**			
(i)	Size range 3 X 25 - 50 sqmm	Per Joint	**3909**	**4887**
(ii)	Size range 3 X 70 - 95 sqmm	Per Joint	**3909**	**4887**
(iii)	Size range 3 X 120 - 185 sqmm	Per Joint	**3909**	**4887**
(iv)	Size range 3 X 240 - 400 sqmm	Per Joint	**4431**	**5538**
55	Making heat shrinkable **Indoor** cable joint of 11kV XLPE cable with **provided End Terminal Kit as per standard method (Labour work)**			
(i)	Size range 3 X 25 - 50 sqmm	Per Joint	**1955**	**2443**
(ii)	Size range 3 X 70 - 95 sqmm	Per Joint	**1955**	**2443**
(iii)	Size range 3 X 120 - 185 sqmm	Per Joint	**1955**	**2443**
(iv)	Size range 3 X 240 - 400 sqmm	Per Joint	**2215**	**2769**
56	Making heat shrinkable **Outdoor** cable joint of 11kV XLPE cable with **provided End Terminal Kit as per standard method (Labour work)**			
(i)	Size range 3 X 25 - 50 sqmm	Per Joint	**2215**	**2769**
(ii)	Size range 3 X 70 - 95 sqmm	Per Joint	**2215**	**2769**
(iii)	Size range 3 X 120 - 185 sqmm	Per Joint	**2215**	**2769**
(iv)	Size range 3 X 240 - 400 sqmm	Per Joint	**2606**	**3258**
57	Making heat shrinkable **Indoor** cable joint of 22 kV XLPE cable with **provided End Terminal Kit as per standard method (Labour work)**			
(i)	Size range 3 X 25 - 50 sqmm	Per Joint	**2215**	**2769**
(ii)	Size range 3 X 70 - 95 sqmm	Per Joint	**2215**	**2769**
(iii)	Size range 3 X 120 - 185 sqmm	Per Joint	**2215**	**2769**
(iv)	Size range 3 X 240 - 400 sqmm	Per Joint	**2606**	**3258**
58	Making heat shrinkable **Outdoor** cable joint of 22 kV XLPE cable with **provided End Terminal Kit as per standard method (Labour work)**			
(i)	Size range 3 X 16 - 50 sqmm	Per Joint	**2606**	**3258**
(ii)	Size range 3 X 70 - 95 sqmm	Per Joint	**2606**	**3258**

ANNEXURE - B I
SCHEDULE OF RATES FOR O&M SUBSTATION ACTIVITIES
(PLANNED OUTAGES, BREAKDOWN MAINTAINANCE)
All the activities are important and are prioritized

Sr. No.	Description of Activity	Unit	Ex-works IN PLANNED OUTAGE (in ₹)	Ex-works IN EMERGENCY/BREAK-DOWN (in ₹)
(iii)	Size range 3 X 120 - 185 sqmm	Per Joint	**2606**	**3258**
(iv)	Size range 3 X 240 - 400 sqmm	Per Joint	**2867**	**3584**
59	Making heat shrinkable **Indoor** cable joint of 33 kV XLPE cable with **provided End Terminal Kit as per standard method (Labour work)**			
(i)	Size range 3 X 16 - 50 sqmm	Per Joint	**2867**	**3584**
(ii)	Size range 3 X 70 - 95 sqmm	Per Joint	**2867**	**3584**
(iii)	Size range 3 X 120 - 185 sqmm	Per Joint	**2867**	**3584**
(iv)	Size range 3 X 240 - 400 sqmm	Per Joint	**3258**	**4072**
60	Making heat shrinkable **Outdoor** cable joint of 33 kV XLPE cable with **provided End Terminal Kit as per standard method (Labour work)**			
(i)	Size range 3 X 16 - 50 sqmm	Per Joint	**3258**	**4072**
(ii)	Size range 3 X 70 - 95 sqmm	Per Joint	**3258**	**4072**
(iii)	Size range 3 X 120 - 185 sqmm	Per Joint	**3258**	**4072**
(iv)	Size range 3 X 240 - 400 sqmm	Per Joint	**3518**	**4398**
	O) ERECTION OF GANTRY			
61	Erection of Columns and Beams with provided structure materials and nut bolts as per the drawings issued with tightening / tack welding / fixing of accessories etc. complete with transportation of structure materials / nut bolts etc. at suitable size from site stores with stacking at site as per BOM	per MT	**5429**	**6515**
62	Dismantling of Columns and Beams complete with transportation of structure materials / nut bolts etc. to site stores with stacking at site as per BOM	per MT	**4343**	**5212**
	P) ERECTION OF SUPPORT STRUCTURES			
63	Erection of EQUIPMENT SUPPORT STRS with provided structure materials and nut bolts as per the drawings issued with tightening / tack welding / fixing of accessories etc. complete with transportation of structure materials / nut bolts etc. at suitable size from site stores with stacking at site as per BOM	per MT	**5429**	**6515**
64	Dismantling of EQUIPMENT SUPPORT STRS complete with transportation of structure materials / nut bolts etc. to site stores with stacking at site as per BOM	per MT	**4343**	**5212**
	Q) EARTHWIRE			
65	Removal of earth wire from the Gantry Peaks with removal of earth tension / suspension hardwares etc.	Rmt	**12**	**15**
66	Stringing of earth wire on gantry peaks as per drawing with required tension hardwrae and crimping etc. complete with suitable sag tension as directed	Rmt	**16**	**19**
67	Connecting the earth wire from gantry peak to the ground with suitable lugs and flushing the earth wire with gantry structure and making connection at both ends with suitable size nut bolts			
(i)	for 33kV	No.	**378**	**378**
(ii)	for 132kV	No.	**586**	**586**
(iii)	for 220kV	No.	**834**	**834**
(iv)	for 400kV	No.	**945**	**945**
	R) MB WORKS			
68	Fixing of MB on provided frame / cable trench with suitable anchoring with earthing connection complete	No.	**2632**	**3159**
69	Fixing of MB by providing the required MS Frame on cable trench or at other suitable place as directed with grouting of anchor bolts etc. complete with earthing connection complete	No.	**4561**	**4561**

ANNEXURE - B I
SCHEDULE OF RATES FOR O&M SUBSTATION ACTIVITIES
(PLANNED OUTAGES, BREAKDOWN MAINTAINANCE)
All the activities are important and are prioritized

Sr. No.	Description of Activity	Unit	Ex-works IN PLANNED OUTAGE (in ₹)	Ex-works IN EMERGENCY/BREAK-DOWN (in ₹)
	S) BATTERY WORKS			
70	Replacement of battery cell with removal of terminals and re-connecting the same with replaced new Cell which is charged / tested separately	Each	**1075**	**1344**
71	Replacement of intercell connector/ inter ROW connector with Nut bolts & fasteners - with material			
(i)	Inter cell Connector	No.	**326**	**407**
(ii)	Inter Row Connector	No.	**782**	**977**
(iii)	Inter Tier Connector	No.	**1303**	**1629**
(iv)	Nut-Bolt	No.	**59**	**73**
72	Replacement of vent plugs and caps for battery cells with material	No.	**52**	**65**
73	Replacement of battery float level indicator	No.	**130**	**163**
74	Dismantling of battery charger from its place with removal of cables, earthing anchor bolts etc. with shifting the same to the required place as directed			
(i)	220V	No.	**4607**	**5528**
(ii)	110V	No.	**4607**	**5528**
(iii)	48V	No.	**2369**	**2843**
75	Erection and Grouting of battery charger with anchoring at its place.			
(i)	220V	No.	**5758**	**6910**
(ii)	110V	No.	**5758**	**6910**
(iii)	48V	No.	**2961**	**3554**
76	Commissioning of battery charger with earthing, cabling , termination / testing etc. complete			
(i)	220V	No.	**15352**	**18423**
(ii)	110V	No.	**15352**	**18423**
(iii)	48V	No.	**13328**	**15993**
	T) C&R PANELS , PLCC PANELS			
77	Dismantling of Control & Relay Panels with removal of anchoring, cables , termination etc. and shifting the same to the suitable location as directed	No.	**4607**	**5036**
78	Erection of Control & Relay panels / BCU's in Main Control Room or in BCR with suitable anchoring as directed with cables glanding and termination etc. with earthing connection as directed	No.	**5758**	**6295**
79	Erection of PLCC panels in PLCC Room of Main Control Room with suitable anchoring as directed with cables glanding and termination etc. with earthing connection as directed	No.	**5758**	**6295**
80	Dismantling of various DB's in ACDC Room of Main Control Room with cable connections, glanding, earthing etc. complete and shifting the same to the desired location in the premises as directed			
	U) ACDC BOARDS			
(i)	MAIN ACDB	No.	**14268**	**15600**
(ii)	MAIN DCDB	No.	**8328**	**9106**
(iii)	MAIN AC LTG	No.	**3064**	**3349**
(iv)	DC Lighting DB	No.	**2211**	**2417**
81	Erection of various DB's in ACDC Room of Main Control Room with cable connections, glanding, earthing etc. complete / testing and commissioning thereof as directed			
(i)	MAIN ACDB	No.	**17835**	**19500**
(ii)	MAIN DCDB	No.	**10410**	**11383**
(iii)	MAIN AC LTG	No.	**3830**	**4186**

ANNEXURE - B I
SCHEDULE OF RATES FOR O&M SUBSTATION ACTIVITIES
(PLANNED OUTAGES, BREAKDOWN MAINTAINANCE)
All the activities are important and are prioritized

Sr. No.	Description of Activity	Unit	Ex-works IN PLANNED OUTAGE (in ₹)	Ex-works IN EMERGENCY/BREAK-DOWN (in ₹)
(iv)	DC Lighting DB	No.	**2764**	**3021**
	V) PAINTING			
82	Painting of MB/DB's, C&R panels. CB, Isolator MOM boxes, Earth Switch MOM box etc. with one coat of red oxide and two coats of color paint of approved make and color to make it finish as directed	sq. meter	**741**	**NA**
83	Painting of Gantry and Equipment support structure by applying one coat red oxide and two coats of Epoxy paint as directed	sq. meter	**764**	**NA**
	W) LIGHTING MAST			
84	Erection of LM structure as per drawings on existing foundation with transport of materials required from site stores complete	per MT	**5429**	**NA**
85	Fixing of HPSV / HPMV Lighting fixtures on LM top as directed with suitable fixing arrangement	No.	**823**	**NA**
86	Replacement of HPSV / HPMV Lighting fixtures on LM top as directed with suitable fixing arrangement	No.	**391**	**NA**
87	Cabling and termination from LM fixture at Top of LM to the bottom ACDB on both end as directed with provided cables by providing the required lugs & glands	Per Cable	**502**	**NA**
88	Fixing of ACDB at the bottom of LM and making connections of cables complete.	No.	**326**	**NA**

Note :-

1) The rates are Ex Works Rates (Suitable loading may be done at the time of estimation).

2) Testing work shall be carried out departmentally.

3) T&P, Labour required for the maintenance activities shall be arranged by the agency at their own cost. The Electricity, Water will be arranged by MSETCL at free of cost all over Maharashtra.

4) Activities mentioned are specifically covered in detail scope of work, however any allied works which are not mentioned but are essential for completion of this activity shall be considered in the scope at no extra cost.

5) **Activity to be covered in PLANNED OUTAGE -** Any activity which is identified in advance and to be carried out in outage solely proposed for that particular work. For example-Replacement of CTs with high Tan Delta values.

6) **Activity to be covered in EMERGENCY-** Any activity which is not identified in advance and it is to be carried out in breakdown of equipments only For example- Failure of ICT/TR., Bursting of CT, Bursting of CB etc.

7) For transportation activities, separate Annexure is attached.

ANNEXURE - B II

SCHEDULE OF RATES FOR EHV LINE MAINTAINANCE ACTIVITIES UPTO 220 KV

For Labour Portion (Emergency, Breakdown and In Outage Period)

SR. NO.	PARTICULARS OF ACTIVITY	UNIT	Ex-Works SOR rates in ₹
1	**Patrolling**		
a)	**Ground Patrolling** Work involved - Checking of Trees, Bushes, foundation, Earthing, Missing member, HT/LT/EHV Line crossing, River crossing, Road crossing, chimney, number plate, danger board etc. with plain eyes & insulator flashover, jumpers and its nut bolts, conductor, earthwire, vibration dampers, Spacers, M.S.Joint, Repair Sleeves, Corona Rings etc.with binoculars Checking clearances for Ground, Road, Building. Submission of report.		
	i)For distance starting from source s/s **upto 30 km**	KM	**1955**
	ii)For distance starting from source s/s **above 30 km**	KM	**2606**
2	**Fixing / crimping of compression type clamps, connectors, Hardwares** (Material supplied by MSETCL) Work involved - Taking the compression type clamp/connector on the conductor , fixing it properly at desired place, crimping it with remote operated hydraulic crimping machine of adequate capacity ,on the conductor,		
a)	Replacement Single T connectors suitable for 0.1 to 0.5 ACSR Conductor & 525 Sqmm. Cond.	No.	**1042**
b)	Fixing Repair sleeves for 0.1 to 0.5 ACSR Conductor & 525 Sqmm. Cond.	No.	**6516**
c)	Fixing Twin 'T' connector suitable for 0.1 to 0.5 ACSR & 525 Sqmm. Cond.	No.	**1955**
d)	Fixing of Mid span joint suitable for 0.1 to 0.5 ACSR & 525 Sqmm. Cond.	No.	**1564**
e)	Replacement/tightening of Jumper Nut bolts	No.	**65**
f)	Fixing of Corona Ring (Suspension/Tension)	No.	**912**
g)	Replacement of Jumper Cone/Jumper suitable for 0.1 to 0.5 ACSR Conductor & 525 Sqmm. Cond. Work involved - Removing the jump cone from hardware, replace it with new one if the conductor jumper length is sufficient, Else crimping of new jump cones at both ends	No.	**1564**
h)	Replacement Single / Double **Tension** hardware suitable for 0.1 to 0.5 ACSR Conductor & 525 Sqmm. Cond. Work involved- Taking tension on the conductor on which Tension hardware is to be replaced, Hooking out tension hardware from tension plate, take down the string on the ground , replace it with new tension hardware and re-fix the same at tension plate by using come-along clamps and other tensioning equipments and adequate manpower.	No.	**2606**
i)	Replacement Single / Double **Suspension** Hardware Suitable for 0.1 to 0.5 ACSR Cond & 525 Sqmm. Cond. Work involved -Hook out suspension clamp from disc insulator string, Hook out suspension string from the hanger, Fix new suspension hardware and hook it in hanger	No.	**1955**
j)	Replacement of Twin cushion spacer cum damper suitable for 525 SqMM conductor	No.	**2606**
k)	Replacement of Twin Rigid spacer for jumper suitable for 525 SqMM conductor	No.	**2606**
l)	Replacement of Twin bushing type spacer suitable for 525 SqMM conductor	No.	**2606**
3	**Cold line cleaning (Manually) of disc insulators**		
a)	Suspension string	Per String	**652**
b)	Cut point string	Per String	**782**
c)	Chemical washing of insulator	Per String	**3909**
4	Head loading charges for unapproachable tower locations excluding complete tower material.	Per Tower	**6516**
5	**Fixing of Tower accessories.**		
a)	Fixing of Number Plate	No.	**261**
b)	Fixing of Danger Board	No.	**261**
c)	Fixing of Vibration Damper suitable for 0.1 to 0.5 ACSR conductor & 525 Sqmm. Cond.	No.	**1042**
d)	Fixing of Vibration Damper suitable for 7/3.15 mm Earth wire	No.	**521**
e)	Fixing of step bolt	No.	**65**
f)	Fixing of conical type bird guard	No.	**652**
g)	Fixing of anti climbing device i.e. barbed wire. (along with angles, nut bots, drilling of holes if necessary etc.)	No.	**1564**
h)	Fixing of anti theft nut bolt		
	i) 16 mm Dia x 40 mm length	No.	**65**
	ii) 16 mm Dia x 50 mm length	No.	**65**
	iii) 16 mm Dia x 60 mm length	No.	**65**
	iv) 16 mm Dia x 70 mm length	No.	**65**
i)	Fixing of phase plate	No.	**261**
j)	Fixing of PA rods suitable for 0.1 to 0.5 ACSR conductor & 525 Sqmm. Conductor.	No.	**1042**
6	**Replacement of rusted/ damaged/missing members** including drilling , cutting, Fabrication, transportation etc.	Per No.	**652**
7	**Electric tack welding** (half round welding) to G.I. nut bolts of Tower from thread ends (Two spots to be welded to each nut bolt near thread end) and Painting the welded portion with two coats of Zink rich paint.	Per bolt	**26**
8	**Dismantling /Destringing of the conductor** complete, with dismantled material transported to site store as directed.		
a)	Single Circuit Dead Line OR having other circuit live.	RMT/ Phase	**39**
b)	Single Circuit of M/C Tower ,having other Circuit Live	RMT/ Phase	**52**
9	**Restringing of the conductor com**plete, with material transported to site as directed.		
a)	Single Circuit Dead Line OR having other circuit live.	RMT/ Phase	**52**
b)	Single Circuit of M/C Tower ,having other Circuit Live	RMT/ Phase	**65**

ANNEXURE - B II

SCHEDULE OF RATES FOR EHV LINE MAINTAINANCE ACTIVITIES UPTO 220 KV

For Labour Portion (Emergency, Breakdown and In Outage Period)

SR. NO.	PARTICULARS OF ACTIVITY	UNIT	Ex-Works SOR rates in ₹
10	**Replacement of rusted / damaged 'D' shackle / ball socket / hooks etc.** (Cost of replacement of insulator is assumed to be covered)		
a)	Suspension string, Pilot String for Jumper, Tension String .	No.	**1173**
11	**Tightening of Jumper Nut Bolts** at angle tower at both side jump i. e. 6 Nos. for one circuit of D/C or M/C Tower including replacement wherever necessary.	Per Circuit per Tower	**912**
12	**Dismantling /Destringing of the Earth wire** with complete, dismantled material transported to site store as directed		
a)	single circuit & double circuit dead line.	RMT/ Phase	**21**
b)	Double Circuit line & Multi Circuit line.	RMT/ Phase	**26**
13	**Restringing of the Earth wire** with complete, dismantled material transported to site store as directed		
a)	single circuit, Double Circuit dead line.	RMT/ Phase	**26**
b)	Double Circuit line & Multi Circuit line.	RMT/ Phase	**33**
14	**Measurement of tower footing resistance.**	Per Tower	**391**
15	**Tree cutting / trimming.** Cutting of all trees, bushes, shrubs etc. within the corridor 35 mtr. of 220KV & 25 mtr of 110KV. Removed trees, branches, bushes should be removed and dumped away as directed.		
a)	Normal area	Per Span	**2606**
b)	Hilly area/ Dense Forest/ Creek	Per Span	**3909**
16	**Supply of clamps, connectors, Hardwares, Tower Accessories** etc. as per MSETCL approved drawings.		
a)	**Single T connectors** suitable for		
	i) 0.1 ACSR Dog Conductor.	No.	**1399**
	ii) 0.2 ACSR Panther Conductor.	No.	**1399**
	iii) 0.3 ASCR Goat Conductor.	No.	**1399**
	iv) 0.35 ASCR Sheep Conductor.	No.	**1399**
	v) 0.4 ASCR Deer Conductor.	No.	**1645**
	vi) 0.4 ASCR Zebra Conductor.	No.	**1645**
	vii) AAAC 525 SqMM Conductor.	No.	**1645**
b)	**Repair sleeves** suitable for		
	i) 0.1 ACSR Dog Conductor.	No.	**365**
	ii) 0.2 ACSR Panther Conductor.	No.	**365**
	iii) 0.3 ASCR Goat Conductor.	No.	**365**
	iv) 0.35 ASCR Sheep Conductor.	No.	**412**
	v) 0.4 ASCR Deer Conductor.	No.	**412**
	vi) 0.4 ASCR Zebra Conductor.	No.	**412**
	vii) AAAC 525 SqMM Conductor.	No.	**707**
c)	**Twin 'T' connector (with nut bolts)** suitable for		
	i) 0.1 ACSR Dog Conductor.	No.	**2887**
	ii) 0.2 ACSR Panther Conductor.	No.	**2887**
	iii) 0.3 ASCR Goat Conductor.	No.	**2887**
	iv) 0.35 ASCR Sheep Conductor.	No.	**2887**
	v) 0.4 ASCR Deer Conductor.	No.	**3397**
	vi) 0.4 ASCR Zebra Conductor.	No.	**3397**
	vii) AAAC 525 SqMM Conductor.	No.	**3397**
d)	**Mid span joint** suitable for		
	i) 0.1 ACSR Dog Conductor.	No.	**938**
	ii) 0.2 ACSR Panther Conductor.	No.	**938**
	iii) 0.3 ASCR Goat Conductor.	No.	**938**
	iv) 0.35 ASCR Sheep Conductor.	No.	**938**
	v) 0.4 ASCR Deer Conductor.	No.	**1132**
	vi) 0.4 ASCR Zebra Conductor.	No.	**1132**
	vii) AAAC 525 SqMM Conductor.	No.	**1132**
e)	**Jumper Cone** suitable for		
	i) 0.1 ACSR Dog Conductor.	No.	**493**
	ii) 0.2 ACSR Panther Conductor.	No.	**641**
	iii) 0.3 ASCR Goat Conductor.	No.	**641**
	iv) 0.35 ASCR Sheep Conductor.	No.	**641**
	v) 0.4 ASCR Deer Conductor.	No.	**987**
	vi) 0.4 ASCR Zebra Conductor.	No.	**987**
	vii) AAAC 525 SqMM Conductor.	No.	**987**
f)	**S. S. Nut bolts.**	No.	**89**
g)	**G.I. Nut bolts.**	No.	**44**
h)	**Single Tension hardware** suitable for		
	i) 0.1 ACSR Dog Conductor.	No.	**4042**

ANNEXURE - B II

SCHEDULE OF RATES FOR EHV LINE MAINTAINANCE ACTIVITIES UPTO 220 KV

For Labour Portion (Emergency, Breakdown and In Outage Period)

SR. NO.	PARTICULARS OF ACTIVITY	UNIT	Ex-Works SOR rates in ₹
	ii) 0.2 ACSR Panther Conductor.	No.	**4042**
	iii) 0.3 ASCR Goat Conductor.	No.	**4042**
	iv) 0.35 ASCR Sheep Conductor.	No.	**4488**
	v) 0.4 ASCR Deer Conductor.	No.	**4507**
	vi) 0.4 ASCR Zebra Conductor.	No.	**4507**
	vii) AAAC 525 SqMM Conductor.	No.	**4631**
i)	**Single Suspension Hardware** Suitable for		
	i) 0.1 ACSR Dog Conductor.	No.	**3872**
	ii) 0.2 ACSR Panther Conductor.	No.	**3872**
	iii) 0.3 ASCR Goat Conductor.	No.	**3872**
	iv) 0.35 ASCR Sheep Conductor.	No.	**3872**
	v) 0.4 ASCR Deer Conductor.	No.	**4059**
	vi) 0.4 ASCR Zebra Conductor.	No.	**4059**
	vii) AAAC 525 SqMM Conductor.	No.	**4246**
j)	Twin cushion spacer cum damper suitable for 525 SqMM Conductor	No.	**1312**
k)	Providing of Twin Rigid spacer for jumper suitable for 525 SqMM Conductor	No.	**1312**
l)	Twin bushing type spacer suitable for 525 SqMM Conductor	No.	**1312**
m)	**Anti climbing device** i.e. barbed wire. (Including angles, nut bolts etc.)	Set	**5682**
n)	**PA rods** suitable for		
	i) 0.1 ACSR Dog Conductor.	No.	**1545**
	ii) 0.2 ACSR Panther Conductor.	No.	**1545**
	iii) 0.3 ASCR Goat Conductor.	No.	**1545**
	iv) 0.35 ASCR Sheep Conductor.	No.	**1545**
	v) 0.4 ASCR Deer Conductor.	No.	**2348**
	vi) 0.4 ASCR Zebra Conductor.	No.	**2348**
	vii) AAAC 525 SqMM Conductor.	No.	**2348**
o)	**Tension hardware suitable for suitable earth wire**	No.	**768**
p)	**Suspension hardware suitable for suitable earth wire**	No.	**768**
q)	**Mid span joints suitable for suitable earth wire**	No.	**256**
r)	**Number Plate**	No.	**297**
s)	**Danger Board**	No.	**357**
t)	**Vibration Damper** suitable for		
	i) 0.1 ACSR Dog Conductor.	No.	**881**
	ii) 0.2 ACSR Panther Conductor.	No.	**881**
	iii) 0.3 ASCR Goat Conductor.	No.	**881**
	iv) 0.35 ASCR Sheep Conductor.	No.	**881**
	v) 0.4 ASCR Deer Conductor.	No.	**1028**
	vi) 0.4 ASCR Zebra Conductor.	No.	**1028**
	vii) AAAC 525 SqMM Conductor.	No.	**1174**
u)	**Vibration Damper for suitable Earth wire**	No.	**420**
v)	**Anti theft nut bolts**	No.	**105**
w)	**Conical type bird guard**	No.	**1049**
17	**Revetment** with RCC and not in UCR Masonry, required at the location identified in ground patrolling as per drawing provided by MSETCL & **as per the specifications of project schedule rates.**	Cu.Mtr	**1689**

Note :-

1) **The rates are Ex Works Rates (Suitable loading may be done at the time of estimation).**

2) Mobilization/De-mobilization charges are applicable on occasion basis, irrespective of days. These charges are applicable only for the deployed gang comprising minimum 15 Labours.

3) The Mobilization charges shall not be applicable for Non-Outage/Non-Breakdown activities.

4) Number of gangs to be deployed for a particular work will be at the discretion of engineer in charge, though the work involved seems to be small or less in quantity. It will be decided considering the quantum of work, geographical, weather and other R.O.W. conditions at that time.

5) Mobilization charges will be payable even if actual work is not carried out due to non approval of outage in real time with condition that gang/gangs should be physically moved to the site and available at tower location and not ready for movement at contractors' location.

6) Head loading charges will be applicable only for the locations in hilly area which are not approachable by any vehicle. It will be applicable in plain area for tower location beyond 200 meters from the nearest spot approachable. It will be applicable for unapproachable tower locations due to rains. This will be in addition to mobilization charges as a special condition.

7) **Activity to be covered in PLANNED OUTAGE -** Any activity which is identified in advance and to be carried out in outage solely proposed for that particular work. For example-Replacement of STN with DTN, Replacement of faulty disc insulators.

8) **Activity to be covered in EMERGENCY -** Any activity which is not identified in advance and it is to be carried out in breakdown of equipments only For example- Failure of disc insulators, snapping of conductor, earthwire, bending of cross arm etc.

9) For the work of "Providing & Fixing of Clamps Connectors & Hardwares " the supply rates of this schedule may be considered for estimation purpose.

10) The rate for the work of stringing at crossing sections of EHV Line / River/ Creek / Highway / Railway is a special type and time-bound work. Special rates for the same may be considered as double of the SoR rate. These charges will be admissible for specific spans only

11) Tower material handling charges for construction of EHV lines in Hilly or critical terrain shall be separately given at the rate of 25% of the erection cost of the tower after due recommendation of the Zonal Chief Engineer and approval from Competent Authority at Corporate Office. These charges will be admissible for specific spans only.

ANNEXURE - C

SCHEDULE OF RATES FOR TRANSPORTATION RELATED ACTIVITIES

Sr No	Particulars	Unit	Ex Works Rate in ₹
1	**Transportation/winching, loading/unloading of Power Transformers weight ranging from 20 MT to 50 MT**		
i)	Loading or unloading of power transformers either from or trailor.	MT	1840.99
ii)	Winching on Rail Track (Only for winching work activity,charges for min 50Mtr.are to be paid,however in Loading/Unloading activity/job charges at actual are to be paid.)	MT/Mtr.	27.92
iii)	Winching on Ground (Only for winching work activity,charges for min 50Mtr.are to be paid,however in Loading/Unloading activity/job charges at actual are to be paid)	MT/Mtr.	37.22
iv)	Transportation by Road for Distance upto 50 Kms.(Min. 50KM)	MT/kM.	66.76
v)	Transportation by Road but for Distance above 50Kms. upto 100Kms.(Min. 75KM)	MT/kM.	61.62
vi)	Transportation by Road but for Distance above 100Kms.	MT/kM.	51.35
2	**Transportation/winching, loading/unloading of Power Transformers weight ranging from 50 MT to 100 MT**		
i)	Loading or unloading of power transformers either from or trailor.	MT	1840.99
ii)	Winching on Rail Track (Only for winching work activity,charges for min 50Mtr.are to be paid,however in Loading/Unloading activity/job charges at actual are to be paid.)	MT/Mtr.	27.92
iii)	Winching on Ground (Only for winching work activity,charges for min 50Mtr.are to be paid,however s in Loading/Unloading activity/job charges at actual are to be paid)	MT/Mtr.	38.77
iv)	Transportation by Road for Distance upto 50 Kms. (Min. 50 KM)	MT/kM.	77.03
v)	Transportation by Road but for Distance above 50 Kms.upto100 Kms.(Min.75KM)	MT/kM.	71.89
vi)	Transportation by Road but for Distance above 100 Kms.	MT/kM.	61.62
3	**Transportation/winching, loading/unloading of Power Transformers weight ranging above 100 MT**		
i)	Loading or unloading of power transformers either from or trailor.	MT	1566.47
ii)	Winching on Rail Track (Only for winching work activity,charges for min 50Mtr.are to be paid, however in Loading/Unloading activity /jobcharges at actual are to be paid.)	MT/Mtr.	26.37
iii)	Winching on Ground (Only for winching work activity,charges for min 50Mtr.are to be paid,however in Loading/Unloading activity/job charges at actual are to be paid)	MT/Mtr.	34.12
iv)	Transportation by Road for Distance upto 50 Kms. (Min. 50 KM)	MT/kM.	75.31
v)	Transportation by Road but for Distance above 50 Kms.upto100 Kms.(Min.75KM)	MT/kM.	71.89
vi)	Transportation by Road but for Distance above 100 Kms.	MT/kM.	61.62
4	**Transportation of other accessories & material**		
i)	Transportation of T/F accessories, S/s. equipments,		
a)	0 to 50 Km. **(Minimum charges for 50 Km to be paid) - minium weight of 9 MT per truck and 20 MT for trailor to be paid**	MT/kM.	29.10
b)	50 to 100 Km. **(Minimum charges for 90 Km to be paid) - minium weight of 9 MT per truck and 20 MT for trailor to be paid**	MT/kM.	25.68
c)	above 100 Km. - **(minium weight of 9 MT per truck and 20 MT for trailor to be paid)**	MT/kM.	20.54
ii)	Loading or unloading charges for the material which can be manully done. **(minimum weight of 50% of total loading capacity of Truck/Trailor to be paid)**	MT	1342.58
iii)	Loading or unloading charges for which suitable capacity crane is required. **(minimum weight of 50% of total loading capacity of Truck/Trailor to be paid)**	MT	1670.11
5	Turning the ICT/TFR by angle up to 180 degrees ON RAIL	MT	815.32
6	Turning the ICT/TFR by angle up to 180 degrees ON GROUND	MT	1141.23
7	Minimum Rate for Truck per day	Job	8536.88
8	**Rates for loading, unloading, transportation of Over Dimensional / Size Object (regardless of weight) not trasportable by Truck such as empty Oil Tanks etc.**		
i)	Loading or unloading of Over Dimensional / Size Object (Regardless of weight)	Job	15980.49
ii)	Transportation by road upto 50 Km (minimum charges for 50 Kms.) - Transport of O/S Equipment	kM	747.00
iii)	Transportation by road upto 100 Km (minimum charges for 90 Kms.) - Transport of O/S Equipment	kM	517.00
iv)	Transportation by road above 100 Km - Transport of O/S Equipment	kM	535.00
9	**Transportation by Hydraulic Trailor**		

ANNEXURE - C

SCHEDULE OF RATES FOR TRANSPORTATION RELATED ACTIVITIES

Sr No	Particulars	Unit	Ex Works Rate in ₹
i)	Transportation of Power Transformer / ICT by road for distance upto 100 Km. (Minimum charges for 90 Km to be paid)	MT/kM	86.00
ii)	Transportation of Power Transformer / ICT by road above 100 KM (Upto 250 KM)	MT/kM	69.00
iii)	Transportation of Power Transformer / ICT by road above 250 KM	MT/kM	55.00
10	**Packing of Bushings with metal/wooden case**		
i)	400 kV	EA	64773.25
ii)	Upto 220 kV	EA	49018.39

NOTE : (1) Permission for Over Dimensional Consignment (ODC) on multi axel trailers through Railway Level Crossing - the payment done to Railways in case of such crossing to be reimbursed by MSETCL as per actual with prodcution of receipt of payment
(2) Halting / Detention will be extra @ Rs. 5000/- per day if the delay is not on part of the agency
(3) Transit Insurance of the goods will be on MSETCL part
(4) Packing expenses (except bushings) will be on MSETCL part