

Section 6: Employer’s Requirements

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1. Scope of Supply of Plant and Services

1. General Scope of Works

- 1.1. The Uttar Pradesh Power Distribution Rehabilitation Project is co-financed by ADB and the Government of Uttar Pradesh. Primary scope of the Project is to rehabilitate and reconfigure the existing distribution networks in rural areas to minimize losses and to improve continuity, reliability and quality of supply provided to rural areas.
- 1.2. The proposed key outputs of the project include separation of agricultural consumers from mixed 11 kV feeders by providing dedicated 11 kV feeders for agricultural consumers. (Feeder Separation). Segregating domestic and agricultural consumers will facilitate providing uninterrupted 24x7 supply to domestic consumers while scheduling power supply to agricultural consumers separately. This will result in optimal use of electricity by agricultural consumers by minimizing wastage and commercial losses. The scheme will be implemented by constructing new 11 kV feeders to transfer agricultural consumers from existing mixed feeders. Alternatively transferring domestic / commercial consumers to new 11 kV feeders leaving agricultural consumers in existing feeders will also be carried out. This will be decided depending on whether a given feeder serves preponderantly agricultural or domestic consumers
- 1.3. The scope of work includes execution on turnkey basis all works required for 'Feeder Separation' in compliance with the technical specifications and drawings which include survey, planning, design, engineering, assembly, manufacturing, testing, supply, loading, transportation, unloading, insurance, delivery at site, handling, storage, installation, testing, commissioning, handing over and documentation.
- 1.4. The list of proposed feeders for Feeder Separation work to be carried out under this package is given in **Subsequent clauses**. This list is provided only as a reference for bidder to understand locations where works shall be carried out. The list is subject to change, additions and deletions during execution of work as instructed by the Project Manager.
- 1.5. The broad scope of works to be implemented in this respect include the following;
 - i. Construction of new 11 kV lines and feeders.
 - ii. Construction of new LT distribution lines.
 - iii. Construction of 11 /0.44 KV Distribution Substations

The specific items relating to scope of works including the follows; Construction of new 11 kV lines;

- 11 KV Line on 8.5 m PCC pole with ACSR Rabbit conductor

- 11 KV New Line on 8.5 m PCC pole with AB Cable (3*120 sq mm)
- 11 KV New UG Line /road crossings
- 11 KV Line at Railway Crossing
- New 11 KV Feeder (at substation) Construction of new LT distribution lines ;
- 3 phase 4 wire LT Line ACSR Rabbit conductor on 8.5 mtr PCC Pole
- LT Line ABC Cable (3*95+1*70+1*16 sq mm) on 8.5 mtr PCC Pole
- LT Line ABC Cable (3*50+1*35+1*16 sq mm) on 8.5 mtr PCC Pole Construction of 11 /0.44 KV Distribution Substations;
- 100 / 63/ 25 KVA 11/0.433 KV Distribution Transformer S/SS

2. Detailed scope of works with respect to above items are provided in Volume II.

The detailed scope has been listed in following sections / clauses.

- 2.1 List of Feeders
- 2.2 Summary Bill of Quantity
- 2.3 Price Schedules
- 2.4 Equipment, material and work schedules

- 2.1. **List of Feeders** : The list of feeders indicates locations of substations and feeders related to the implementation works. This list is provided for guidance only for bidder to understand locations where works shall be carried out. The list is subject to change, additions and deletions during execution of work as instructed by the Project Manager

S.No .	District	Circle	Division	33/11 KV Substation Name	Name of Existing 11 KV Mixed Feeder	Name of Proposed Feeder
1	Meerut	EDC-I	EDD-1	Lohiya nagar	Alipur	Alipur
2	Meerut	EDC-I	EDD-1	Lohiya nagar	Fhafhuda	Fhafhuda
3	Meerut	EDC-I	EDD-1	Kajipur	Hapur Road	Hapur Road
4	Meerut	EDC-I	EDD-1	Mohdinpur	Bhoodrabal 1	Bhoodrabal 1
5	Meerut	EDC-I	EDD-1	Mohdinpur	Bhoodrabal 2	Bhoodrabal 2
6	Meerut	EDC-I	EDD-1	Mohdinpur	Goon	Goon
7	Meerut	EDC-I	EDD-1	Mohdinpur	Saidpur	Saidpur
8	Meerut	EDC-I	EDD-3	Vedvyaspuri	Partapur	Partapur
9	Meerut	EDC-II	EDD-1-MAWANA	Dhikauli Road Mawana	Garhi	Garhi
10	Meerut	EDC-II	EDD-1-MAWANA	Dhikauli Road Mawana	Janderi	Janderi-Manssoori
11	Meerut	EDC-II	EDD-1-MAWANA	Dhikauli Road Mawana	Manssoori	
12	Meerut	EDC-II	EDD-1-MAWANA	Dhikauli Road Mawana	Tigri	Tigri

13	Meerut	EDC-II	EDD-1-MAWANA	Bana	Incholi	Incholi
14	Meerut	EDC-II	EDD-1-MAWANA	Bana	Kunkura	Kunkura
15	Meerut	EDC-II	EDD-1-MAWANA	Inchauli	Inchauli	Inchauli-Kunkura
16	Meerut	EDC-II	EDD-1-MAWANA	Inchauli	Kunkura	
17	Meerut	EDC-II	EDD-1-MAWANA	Nilauha	Bhaisa	Bhaisa
18	Meerut	EDC-II	EDD-1-MAWANA	Nilauha	Nilauha	Nilauha
19	Meerut	EDC-II	EDD-2-Meerut	Daurala	Matour Town	Matour Town
20	Meerut	EDC-II	EDD-2-Meerut	Nangli Azar	Nangi Azar	Nangi Azar-Tandi Bhoor
21	Meerut	EDC-II	EDD-2-Meerut	Nangli Azar	Tandi Bhoor	
22	Meerut	EDC-II	EDD-2-Meerut	Sakoti	Sakoti 1	Sakoti 1
23	Meerut	EDC-II	EDD-2-Meerut	Sardhana Town	Bhola	Bhola, Datal & Madhiya
24	Meerut	EDC-II	EDD-2-Meerut	Sardhana Town	Datal	
25	Meerut	EDC-II	EDD-2-Meerut	Sardhana Town	Madhiya	
26	Meerut	EDC-II	EDD-2-Meerut	Kapsad	Jhitkari	Jhitkari
27	Meerut	EDC-II	EDD-2-Meerut	Salawa	Jwala Garh	Salawa-Jwala Garh
28	Meerut	EDC-II	EDD-2-Meerut	Salawa	Salawa	
29	Meerut	EDC-II	EDD-2-MAWANA	Hastinapur	Makdumpur	Makdumpur
30	Meerut	EDC-II	EDD-2-MAWANA	Hastinapur	Nedawali	Nedawali
31	Meerut	EDC-II	EDD-2-MAWANA	Hastinapur	Tajpur	Tajpur
32	Meerut	EDC-II	EDD-2-MAWANA	Moud Khurd	Moud Khurd	Moud Khurd-Saidpur Firojpur
33	Meerut	EDC-II	EDD-2-MAWANA	Moud Khurd	Saidpur Firojpur	
34	Meerut	EDC-I	EDD-3	Maliyana	Lakhwaya	Lakhwaya
35	Meerut	EDC-I	EDD-3	Maliyana	Peepli	Peepli
36	Meerut	EDC-I	EDD-4	Kithore	Gyaspur	Gyaspur
37	Meerut	EDC-I	EDD-4	Kithore	Nangi	Nangi
38	Meerut	EDC-I	EDD-4	Kithore	Naval	Naval
39	Meerut	EUDC	EUDD-4	AmanVihar	Rajpura	Rajpura
40	Meerut	EUDC	EUDD-4	Kanker khera (Rural)	Pavli	Pavli
TOTAL					40	33

- 2.2. **Summary Bill of Quantity** : Summary bill of quantity indicates key items of the scope of work and quantities to be implemented under the contract for information of the bidder. Note that detailed BOQ items to be priced by the bidder are provided in the price schedules. It should be noted that the total quantities of the above items of the works covered under the

contract are provisional and may vary by (-) 30% on lower side and (+) 30% on higher side and payment will be allowed as per actual quantities supplied and as per actual work done at quoted unit rates . It may be noted that **The Contract Price shall be fixed for the duration of the contract, subject to provision mentioned in Section 8- Special Conditions of Contract Clause no 39.1.5.**

Meerut Zone- Meerut and Baghpat districts

Sr. No.	Activity	Unit	Total Quantity
1	Sch-A1 - 11 KV Line on 8.5 m PCC pole with rabbit conductor	KM	346.134
2	Sch- A2 - 11 KV New Line on 8.5 m PCC pole with AB Cable (3*120 sq mm)	KM	60.277
3	Sch-A3 - 11 KV New UG Line with 3x185 Sq. mm. XLPE cable double circuit	KM	9.016
4	Sch A4 - 11 KV line at Railway Crossing with 3x185 sq. mm. XLPE cable double circuit 150 m	Nos	8
5	Sch-A5 - New 11 KV Feeder at substation	Nos	24
6	Sch B-1 - 3 phase 4 wire LT Line ACSR Rabbit conductor on 8.5 mtr PCC Pole	KM	0
7	Sch B-2 - LT Line ABC Cable (3*95+1*70+1*16 sq mm) on 8.5 mtr PCC Pole	KM	7.155
8	Sch-B3 - LT Line ABC Cable (3*50+1*35+1*16 sq mm) on 8.5 mtr PCC Pol	KM	7.681
9	Sch - C1 - 100 KVA, 11/0.433 KV Distribution Transformer S/S	Nos	19
10	Sch - C2 - 63 KVA, 11/0.433 KV Distribution Transformer	Nos	32
11	Sch-C3 - 25KVA, 11/0.433 KV Distribution Transformer S/S	Nos	48
12	Extension of Control Room	Nos	11

- 2.3. **Price Schedules:** Price schedules containing items to be priced by the bidder are provided in the attached excel sheet. The item descriptions provided in price schedules do not fully explain complete scope of supply or works. The bidder shall understand the complete scope of supply or works for respective items with reference to the scope of work **given in this document and BOQ and**, technical specifications and drawings provided in **Appendix to**

section 6 Technical Specifications.

- 2.4. **Equipment, Material and Work Schedules** : The equipment, material and work schedules as per UPPCL RASSPO Schedules are provided in below These schedules are for guidance during execution of works. Bidder shall note that the quantities provided in EMW schedules are provisional and may vary as per site requirement.

2.4.1. Schedule : Sch-A1

1Km. 11KV New Line on 8.5 Mtr. PCC Pole with ACSR Rabbit Conductor			
#	Item s	Unit	Qty.
1	Single support on 8.5 Mtr. PCC Pole (as per Annex-02)	Nos.	17
2	Single support on 9 Mtr. PCC Pole (as per Annex-03)	Nos.	2
3	Section double pole on 8.5 Mtr. PCC (as per Annex-04)	Nos.	2
4	Section Single pole on 8.5 Mtr. PCC (as per Annex-05)	Nos.	2
5	Extra Tee-off pole (as per Annex-06)	Nos.	1
6	Extra stay at small angle locations (as per Annex-01)	Nos.	5
7	ACSR Rabbit Conductor	Km.	3.09
8	Aluminium jointing sleeves	Nos.	3
9	Extra guarding for Road crossing/ Communication Lines /11k vline crossing on 13 Mtr. STP (as per Annex-11)	Nos.	0.1
10	Guarding of 11 kV Line on STP SP- 55 (as per annex-07)	Km.	0.25
Incidental Expenses			
11	Tree cutting compensation - @ UPPCL standard rate 998.00 Rs / km(without GST)	Km.	1

2.4.2. Schedule : Sch-A2

1 Km 11kV AB Cable (3x120+1x100) on 8.5 m PCC Pole			
#	Items	Unit	Qty.
1	PCC Pole, 8.5 Mtr. Long	NO	25
2	11 KV 3x120 sq. mm AB Cable (with bare messenger wire)	KM	1.05
3	HT Suspension Clamp	NOS	25
4	Channel 125x65x6mm (500 mm long) with back clamp	NOS	25
5	Bracing angle 65x65x6,450 mm	NOS	25
6	Pole Clamps	PAIR	50
7	11 KV Polymer Disc Insulator B&S type 70 KN	Nos.	25
8	Heat Shrinkable 1 ph. termination kit outdoor for 11 kV 3x120 Sq. mm.AB cable	Nos.	12
9	Mid Span Jointing Sleeves (120 sq. mm)	NOS	4
10	Stay Complete (as per Annex-01)	NOS	5
11	Straight through jointing kit (all size)	NO	1
12	Alluminium jointing sleeves	NO	1
13	GI Nut and Bolts (all Sizes)	KGS	10
14	Stone Pad (300x300x75mm)	Nos.	25
15	Earthing of pole by MS earthing rod of 20x2500 mm. and 6 SWGearthing wire etc.	Nos.	25
17	Concreting of Pole/Support (0.268 cu.M.)	Nos.	25

2.4.3. Schedule : Sch-A3

1 km 11 kV New Underground line on 3x185 Sq. mm. XLPE Cable double ckt.			
#	Items	Unit	Qty.
1	11kV 3x185 mm ² XLPE cable	Mtrs.	220 0

1 km 11 kV New Underground line on 3x185 Sq. mm. XLPE Cable double ckt.

#	Items	Unit	Qty.
2	Heat Shrinkable jointing kit outdoor for 11 kV 3x185 Sq. mm. XLPE Cable	Nos.	20
3	End double pole structure on 11 mtr long STP (As per Annex-08)	No.	5
4	GI Pipe 6" Dia	Mtrs.	60
5	Pipe (HDPE) for Cable Laying at Road Crossing, etc (Pipe to be laid by HDD Method)	Mtrs.	200
6	Drilling & Laying of Cable using HDD method without using HDPE Pipe.	Mtrs.	800
7	Laying of 3x185 sq. mm. 11 KV XLPE Insulated Cable underground in HDPE Pipe or trenches	Mtrs.	600
8	Digging of trench by excavation of earth, laying of bricks to cover the cable and filling of sand & earth ramming and dressing properly with complete job for laying 11 KV XLPE cables of sizes 3x185 sq. mm. in double ckt including cost of bricks, sand, clamps, etc.	Mtr.	500
9	See below	-	-
10	Cable Route Marker	Nos.	10
Erection Expenses			
9	Road Restoration Charges priced at UPPCL standard rate (1123.60 Rs /m) for 500 m per 1 km. (without GST)	M	500

2.4.4. Schedule : Sch-A4

1 No. 11 kV Railway Crossing with 11kV (3x185) sq.mm XLPE Cable double circuit

#	Items	Unit	Qty.
1	11 kV XLPE Cable 3x185 Sq. mm.	Mtr.	300
2	Heat Shrinkable Jointing kit Outdoor for 11 kV 3x185 Sq. mm. XLPE Cable	Nos.	4
3	HDPE Pipe for cable laying (Pipe to be laid by HDD Method)	Mtr.	80

1 No. 11 kV Railway Crossing with 11kV (3x185) sq.mm XLPE Cable double circuit			
#	Items	Unit	Qty.
4	Digging of trench by excavation of earth, laying of bricks to cover the cable and filling of sand & earth ramming and dressing properly with complete job for laying 11 KV XLPE cables of sizes 3x185 sq. mm. in double ckt including cost of bricks,sand, clamps, etc.	Mtr.	100
5	Laying of 3x185 Sq. mm. 11 KV XLPE insulated cable underground in trenches OR HDPE Pipe	Mtr.	280
6	See below	-	-
7	Cable route marker	Nos.	2
8	G.I. Pipe 6" dia	Mtr.	12
9	End double pole structure on 11 mtr long STP (as per Annex-08)	Nos.	2
10	See below ;	-	-
Erection Expenses			
6	Road Restoration Charges priced at UPPCL standard rate (1123.60 Rs /m) for 100 m per crossing (without GST)	M	100
10	Railway crossing documentation, land charges and approval fee etc.priced at Rs 1000000 per job. (without GST)	Job	1

2.4.5. Schedule : Sch-A5

New 11 KV feeder (at the substation)			
#	Items	Unit	Qty.
1	11 KV Outgoing VCB indoor type with CTR 400/200/5A 350 MVA (Compatible with existing VCB at 33/11 KV Sub-station)	No.	1
2	Rearrangement for connecting New 11 KV Switchgear with existing 11 KV Switchgears (Adopter Panel)	No.	1
3	11 KV 3 core Al. XLPE Insulated cable, 3x185 sq. mm	Mtr.	60
4	Laying of 11 KV Cable including cost of sand & breaks	Mtr.	60

New 11 KV feeder (at the substation)

#	Items	Unit	Qty.
5	Heat Shrinkable jointing kit suitable for 11 KV XLPE 3x185sq. mm cable size		
i)	Outdoor termination Kit	Set	1
ii)	Indoor termination Kit	Set	1
6	11 KV Feeder Double Pole structure on 11 KV STP alongwithfitting (as per Annex-09)	No.	1

2.4.6. Schedule : Sch-B1

1 km of 3 Ph 4 Wire LT Line on ACSR Rabbit Conductor on 8.5 Mtr. PCC Pole

#	Items	Unit	Qty.
1	Single support on 8.5 Mtr. Long PCC Pole (as per Annex-10)	Nos.	20
2	ACSR Rabbit Conductor	km	4.12
3	Alluminium Jointing sleeves	Nos.	4
4	Aluminium binding wire	Kg.	4
5	Earth wire clamp	Nos.	6
6	Earthing of pole by MS earthing rod of 20x2500 mm. and 6 SWG earthing wire etc.	Nos.	6
7	Stay Complete (As per Annex-01)	Nos.	6

2.4.7. Schedule : Sch-B2

1Km. LT line on (3x95 + 1x70 +1x16)sq. mm LT ABC Cable

#	Items	Unit	Qty.
1	PCC Pole 8.5 Mtr. long	Nos.	30
2	Stone pad (300x300x75mm)	Nos.	30
3	Concreting of support (0.268 cum each)	Nos.	30

1Km. LT line on (3x95 + 1x70 +1x16)sq. mm LT ABC Cable			
#	Items	Unit	Qty.
4	Excavation of earth and driving of M.S. Earthing Rod 20x2500mm. (with 40 mm. taper extra) connecting it with support by means of G.I. wire No. 6 S.W.G. with bolt & Nuts etc.	Nos.	10
5	Stay Complete (with stay Rod 16x1800, stay wire 5 kg., stayclamp, bolt & nut with grouting)	Nos.	15
6	Dead End (Insulated) clamps with I-Hook	Nos.	20
7	Suspension (Insulated) clamps with I-Hook	Nos.	20
8	95/50 sq. mm - 70/35 sq. mm PG Clamp (For line to line toline jumpering & energizing DB neutral)	Nos.	30
9	Pole clamps	Nos.	40
10	LT Insulation Piercing Connectors of 120-50 sq. mm -50-35 sq. mmsize for energizing distribution kiosk/box	Nos.	90
11	LT Insulation Piercing connectors (16 sq. mm -16 sq. mm) suitable forstreet light connection	Nos.	30
12	Mid span jointing sleeves (95 sq. mm)	Nos.	4
13	Supply & Fixing of LT distribution boxes/kiosk, 3 phase on the LTPoles including all clamps & material required for mounting connections & sealing	Nos.	20
14	Insulated ABC of 3x95+1x70+1x16 sq. mm	Km.	1.05
15	Supply & fixing of On/Off swith for street light connections	Nos.	20
16	1x35 mm ² XLPE/PVC insulated AL. cable for energising the distribution boxes/kiosks.	mtr	200
17	2x6 mm ² XLPE/PVC insulated Al. cable for energising the street light	mtr	30

2.4.8. Schedule : Sch-B3

1Km. LT line on (3x50 + 1x35 +1x16)sq. mm LT ABC Cable			
#	Items	Unit	Qty.
1	PCC Pole 8.5 Mtr. long	Nos.	30
2	Stone pad (300x300x75mm)	Nos.	30

1Km. LT line on (3x50 + 1x35 +1x16)sq. mm LT ABC Cable			
#	Items	Unit	Qty.
3	Concreting of support (0.268 cum each)	Nos.	30
4	Excavation of earth and driving of M.S. Earthing Rod 20x2500mm. (with 40 mm. taper extra) connecting it with support by means of G.I. wire No. 6 S.W.G. with bolt & Nuts etc.	Nos.	10
5	Stay Complete (with stay Rod 16x1800, stay wire 5 kg., stayclamp, bolt & nut with grouting)	Nos.	15
6	Dead End (Insulated) clamp with I-Hook	Nos.	20
7	Suspension (Insulated)clamp with I-Hook	Nos.	20
8	95/50 sq. mm - 70/35 sq. mm PG Clamp (For line to line toline jumpering & energizing DB neutral)	Nos.	30
9	Pole clamps	Nos.	40
10	LT Insulation Piercing Connectors of 120-50 sq. mm -50-35 sq. mmsize for energizing distribution kiosk/box	Nos.	90
11	LT Insulation Piercing connectors (16 sq. mm -16 sq. mm) suitable forstreet light connection	Nos.	30
12	Mid span jointing sleeves (50 sq. mm)	Nos.	4
13	Supply & Fixing of LT distribution boxes/kiosk, 3 phase on the LT Poles including all clamps & material required for mounting connections & sealing	Nos.	20
14	Insulated ABC of 3x50+1x35+1x16 sq. mm	Km.	1.05
15	Supply & fixing of On/Off swith for street light connections	Nos.	20
16	1x35 mm ² XLPE/PVC insulated AL. cable for energising the distribution boxes/kiosks.	Mtr.	200
17	2x6 mm ² XLPE/PVC insulated Al. cable for energising the street light	Mtr.	30

2.4.9. Schedule : Sch-C1

100 KVA, 11/0.4 kV Distribution Sub Station			
#	Items	Unit	Qty.
1	11/0.44 kV 100 KVA Transformer (Four Star Rating, Level-II)	No.	1

100 KVA, 11/0.4 kV Distribution Sub Station			
#	Items	Unit	Qty.
2	8.5 Mtr. Long PCC Pole	Nos.	2
3	Stone Pad (300x300x75 mm)	Nos.	2
4	Concreting of pole (0.268 Cu. M.)	Nos.	2
5	GI Top channel 125x65x6 mm, 2240 mm long	No.	1
6	GI Channel 100x50x6, 2028 mm (for Dropper Fuse set)	Nos.	3
7	Holding clamps for top channel & Fuse set etc. with bolts & nuts	Nos.	10
8	GI Angle 75x75x6 mm, 2028 mm long with clamp for T/F base	Nos.	2
9	GI Channel 125x65x6, 1300 mm (Tee-off)	No.	1
10	Clamp with nuts & bolts for 1300 mm long GI Channel	No.	1
11	11KV Polymer Disc Insulator T&C type 45 KN	Nos.	3
12	Disc Fittings T&C type 45 KN	Nos.	3
13	11 KV Composite Polymer Pin Insulator with Nut and washers	Nos.	3
14	11 kV Fuse Set	No.	1
15	G.I. Barbed wire	Nos.	2
16	11 kV SMC Danger board with N&B	No.	1
17	SMC Distribution box having 200 A, 4 Pole ,MCCB for 3 ph, 100 KVATransformer	No.	1
18	Stay Complete (as per Annex-01)	Nos.	4
19	Chemical Pipe Earthing (80 mm dia, 3 m long Pipe) as per specification	Nos.	2
20	LT PVC 3.5 x150/70 sqmm Cable	Mtr.	20.0
21	ACSR Weasel conductor for jumpering	Mtr.	25.0
22	Earthing of pole by MS earthing rod of 20x2500 mm. and 6 SWG earthing wire etc.	Nos.	2.0
23	Al. crimping lugs 150 sq.mm.	No.	16.0
24	Al. crimping lugs 70 sq.mm.	No.	3.0
25	Extra for Al. tape , binding wire, jointing sleeves, PG clamps etc.	L.S.	1.0

100 KVA, 11/0.4 kV Distribution Sub Station			
#	Items	Unit	Qty.
26	11 KV TPMO	No.	1.0
27	11 KV Lightning Arrestor	No.	3.0
28	GI Strip 25x3 mm for earthing	Mtr.	20.0

2.4.10. Schedule : Sch-C2

63 KVA, 11/0.4 kV Distribution Sub Station			
#	Items	Unit	Qty.
1	11/0.44 kV 63 KVA Transformer (Four Star Rating, Level-II)	No.	1
2	8.5 Mtr. Long PCC Pole	Nos	2
3	Stone Pad (300x300x75 mm)	Nos	2
4	Concreting of pole (0.268 Cu. M.)	Nos	2
5	GI Top channel 125x65x6 mm, 2240 mm long	No	1
6	GI Channel 100x50x6, 2028 mm (for Dropper Fuse set)	Nos	3
7	Holding clamps for top channel & Fuse set etc. with bolts & nuts	Nos	10
8	GI Angle 75x75x6 mm, 2028 mm long with clamp for T/F base	Nos.	2
9	GI Channel 125x65x6, 1300 mm (Tee-off)	No	1
10	Clamp with nuts & bolts for 1300 mm long GI Channel	No	1
11	11KV Polymer Disc Insulator T&C type 45 KN	Nos.	3
12	Disc Fittings T&C type 45 KN	Nos.	3
13	11 KV Composite Polymer Pin Insulator with Nut and washers	Nos.	3
14	11 kV Fuse Set	No	1
15	G.I. Barbed wire	Kg.	2
16	11 kV SMC Danger board with N&B	Nos.	1
17	SMC Distribution box having 150 A, 4 Pole ,MCCB for 3 ph, 63KVA Transformer	No.	1
18	Stay Complete (as per Annex-01)	Nos.	4

63 KVA, 11/0.4 kV Distribution Sub Station			
#	Items	Unit	Qty.
19	Chemical Pipe Earthing (80 mm dia, 3 m long Pipe) as per specification	No.	2
20	LT PVC 3.5 x70/35 sqmm Cable	Mtr.	20.0
21	ACSR Weasel conductor for jumpering	Mtr.	25.0
22	Earthing of pole by MS earthing rod of 20x2500 mm. and 6 SWG earthing wire	Nos.	2.0
23	Al. crimping lugs 70 sq.mm.	No.	16.0
24	Al. crimping lugs 35 sq.mm.	No.	3.0
25	Extra for Al. tape , binding wire, jointing sleeves, PG clamps etc.	L.S.	1.0
26	11 KV TPMO	No.	1.0
27	11 KV Lightning Arrestor	No.	3.0
28	GI Strip 25x3 mm for earthing	Mtr.	20.0

2.4.11. Schedule : Sch-C3

25 KVA, 11/0.4 kV Distribution Sub Station			
#	Items	Unit	Qty.
1	11/0.44 kV 25 KVA Transformer (Four Star Rating, Level-II)	No.	1
2	8.5 Mtr. Long PCC Pole	No	2
3	Stone Pad (300x300x75 mm)	No	2
4	Concreting of pole (0.268 Cu. M.)	No	2
5	GI Top channel 125x65x6 mm, 2240 mm long	No	1
6	GI Channel 100x50x6, 2028 mm (for TPMO & Dropper Fuse set)	No	3
7	Holding clamps for top channel & Fuse set etc. with bolts & nuts	No	12
8	GI Angle 75x75x6 mm, 2028 mm long with clamp for T/F base	Nos.	2
9	GI Channel 125x65x6, 1300 mm (Tee-off)	No	1
10	Clamp with nuts & bolts for 1300 mm long GI Channel	No	1
11	11KV Polymer Disc Insulator T&C type 45 KN	Nos.	3

25 KVA, 11/0.4 kV Distribution Sub Station			
#	Items	Unit	Qty.
12	Disc Fittings T&C type 45 KN	Nos.	3
13	11 KV Composite Polymer Pin Insulator with Nut and washers	Nos.	3
14	11 kV Fuse Set	No	1
15	G.I. Barbed wire	Kg.	2
16	11 kV SMC Danger board with N&B	Nos.	1
17	SMC Distribution box having 70 A, 4 Pole ,MCCB for 3 ph, 25KVA Transformer	No.	1
18	Stay Complete (as per Annex-01)	Nos.	4
19	Chemical Pipe Earthing (80 mm dia, 3 m long Pipe) as per specification	No.	2
20	LT PVC 3.5 x70/35 sqmm Cable	Mtr.	20.0
21	ACSR Weasel conductor for jumpering	Mtr.	25.0
22	Earthing of pole by MS earthing rod of 20x2500 mm. and 6 SWG earthing wire etc.	Nos.	2.0
23	Al. crimping lugs 70 sq.mm.	No.	16.0
24	Al. crimping lugs 35 sq.mm.	No.	3.0
25	Extra for Al. tape , binding wire, jointing sleeves, PG clamps etc.	L.S.	1.0
26	11 KV TPMO	No.	1.0
27	11 KV Lightning Arrestor	No.	3.0
28	GI Strip 25x3 mm for earthing	Mtr.	20.0

2.4.12. Schedule : Annex-01

11KV Stay			
#	Items	Unit	Qty.
1	Stay Rod 16X1800 mm.	No.	1
2	Stay Wire 7/10 SWG	Kg.	5
3	Stay Insulator	No.	1
4	Stay Clamp	Set	1
5	Bolt, Nut and Washers	Kg.	0.5

11KV Stay			
#	Items	Unit	Qty.
6	Grouting with concrete	Job	1

2.4.13. Schedule : Annex -02

Single pole structure 11 KV main line on 8.5 Mtr. PCC pole			
#	Items	Unit	Qty.
1	PCC Pole 8.5 Mtrs. Long	No.	1
2	Stone Pad (300 x 300x75mm)	No.	1
3	11KV 'V' type Cross arm 65x65x6 mm, GI. Angle	No.	1
4	Cross arm holding Clamp with nuts & bolts	No.	1
5	11 KV Composite Polymer Pin Insulator with Nut and washers	Nos.	3
6	'F' Bracket with N&B	No.	1
7	SMC Danger Board with clamp, bolts & nuts	No.	1
8	G.I Barbed wire	Kg.	1
9	Stay Complete (as per Annex-9)	Nos.	0.3
10	Earthing of pole by MS earthing rod of 20x2500 mm. and 6SWG earthing wire etc.	No.	1
11	Concreting of supports with plinth (0.268 Cu.m. each)	No.	1

2.4.14. Schedule : Annex-03

Single pole 11 KV main line on 9 Mtr. PCC pole			
#	Items	Unit	Qty.
1	PCC Pole 9 Mtrs. Long	No.	1
2	Stone Pad (300 x 300x75mm)	No.	1
3	11KV 'V' type Cross arm 100x50x6 mm, GI Channel (7.9 Kg./M)	No.	1
4	Cross arm holding Clamp with nuts & bolts	No.	1
5	11 KV Composite Polymer Pin Insulator with Nut and washers	Nos.	3
6	'F' Bracket with N&B	No.	1

Single pole 11 KV main line on 9 Mtr. PCC pole			
#	Items	Unit	Qty.
7	SMC Danger Board with clamp, bolts & nuts	No.	1
8	G.I Barbed wire	Kg.	1
9	Stay Complete (as per Annex-9)	No.	1
10	Earthing of pole by MS earthing rod of 20x2500 mm. and 6 SWG earthing wire etc.	No.	1
11	Concreting of supports with plinth (0.268 Cu.m. each)	No.	1

2.4.15. Schedule : Annex-04

Section double pole 11KV line on 8.5 Mtr. PCC Pole			
#	Items	Unit	Qty.
1	PCC Pole 8.5 Mtrs. Long	Nos.	2
2	Stone Pad (300 x 300x75mm)	Nos.	2
3	GI Top Channel 100x50x2240 mm.	No.	1
4	Cross arm holding clamps with bolts and nuts	Nos.	2
5	GI Angle Iron 65x65x6 mm,2700 mm long bracing with 4 clamp	Set	2
6	11 kV Pin Insulator for Rabbit/Weasel	Nos.	3
7	11 kV Disc Insulator T&C type 45KN	Nos.	6
8	11 kV Disc FittingsT&C type 45 KN	Nos.	6
9	'E' Bracket with N&B	Nos.	3
10	PG Clamps for ACSR Rabbit/Weasel	Nos.	6
11	11 kV SMC Danger Board with clamp and nut bolts	No.	1
12	Barbed Wire	Kg.	2
13	Earthing of pole by MS earthing rod of 20x2500 mm. and 6SWG earthing wire etc.	Nos.	2
14	Stay Complete (as per Annex-1)	Nos.	6

Section double pole 11KV line on 8.5 Mtr. PCC Pole			
#	Item s	Unit	Qty.
15	Concreting of supports with plinth (0.268 Cu.m. each)	Nos.	2

2.4.16. Schedule : Annex-05

Section single pole 11 KV main line on 8.5 Mtr. PCC pole			
#	Items	Unit	Qty.
1	PCC Pole 8.5 Mtrs. Long	No.	1
2	GI Top Channel 100x50x2240 mm.	No.	1
3	Holding Clamp (Back Clamp) with bolts & nuts	No.	1
4	F bracket for 11kV	Nos.	3
5	11 kV Pin Insulator	Nos.	3
6	11 kV Disc Insulator T&C type 45 KN	Nos.	6
7	11 kV Disc Fittings T&C type 45 KN	Nos.	6
8	PG Clamps for ACSR Rabbit/Weasel	Nos.	6
9	Stone pad (300x300x75 mm)	No.	1
10	11 kV SMC Number Plate for clamp with N&B	No.	1
11	11 kV SMC Danger board with clamp with N&B	No.	1
12	Barbed wire	Kg.	2
13	Alluminium Binding wire-6 SWG	Kg.	1
14	Earthing of pole by MS earthing rod of 20x2500 mm. and 6 SWGearthing wire etc.	No.	1
15	Concreting of supports with plinth (0.268 Cu.m. each)	No.	1
16	Stay Complete (as per Annex-1)	No.	2

2.4.17. Schedule : Annex-06

11kV Tee-Off			
#	Item s	Unit	Qty.
1	GI Channel 100x50x6 mm. 1300 mm long	No.	1
2	GI Channel clamp with nuts & bolts	No.	1
3	11 kV Disc Insulator B&S type 70 KN	Nos.	3
4	11 kV Disc fittings B&S type 70 KN	Nos.	3
5	PG Clamp for Dog/Raccoon	Nos.	6
6	Stay Complete (as per Annex-1)	No.	2

2.4.18. Schedule : Annex-07

Guarding of 1 km 11KV Line			
#	Item s	Unit	Qty.
1	Guarding angle 75x75x6 mm, 1600 mm long with holding clamp, packing piece, nut & bolts etc.	No.	16
2	G.I. Wire No. 6 SWG along the span (For 1 Km. line)	Kg.	330
3	G.I. Wire No. 8 SWG accross the span (For 1 Km. line)	Kg.	110
4	Turn Buckle	No.	8
5	Eye Bolt	No.	24
6	G.I. Wire No. 16 SWG for binding	Kg.	1

2.4.19. Schedule : Annex-08

Sectional double pole with 11 m S.T. Pole including fitting for 11 KV Line			
#	Items	Unit	Qty.
1	ST Pole 11 Mtr. SP-55	Nos.	2
2	Stone pad (300x300x75 mm)	Nos.	2
3	GI Angle Iron 65x65x6 mm, 2700 mm long bracing complete with clamp	Nos.	2
4	Top Channel 125x65mm, 2240 mm (10.7kg/mt) with clamp, bolts, nuts and washers	No.	1
5	11 kV Disc. Insulators B&S type 70 KN	Nos.	3
6	11 kV Disc. Fittings B&S type 70 KN	Nos.	3
7	P.G. Clamp for ACSR Dog/Raccoon	Nos.	6
8	11 kV SMC Number Plate for clamp with N&B	No.	1
9	11 kV SMC Danger board with clamp with N&B	No.	1
10	Barbed wire	Kg.	4
11	Aluminium Binding wire-6 SWG	Kg.	1
12	Aluminium paint	Ltrs.	2
13	Red Oxide paints	Ltrs.	4
14	11 kV Stay Complete (as per Annex-9)	Nos.	6
15	Earthing of pole by MS earthing rod of 20x2500 mm. and 6 SWG earthing wire etc.	Nos.	3
16	Concreting of supports with plinth (0.44 Cu.m. each)	Nos.	2
17	11 kV Lightning Arrestor	Nos.	3
18	GI Channel 125x65x2028 mm long	No.	1
19	Holding clamps for channel . with N&B	Nos.	4
20	GI Strip 25x3 mm for earthing	mtr	10

2.4.20. Schedule : Annex-09

11 KV Feeder Double Pole Structure with 11 Mtrs. Long STP			
S.No	Items	Unit	Qty
1	S.T.P. IS 410 SP-55 11 Mtr. Long	Nos.	2
2	Top channel 100x50 mm 2240 mm (7.9 kg/M) with clamp,nuts & bolts.	No.	1
3	Stone Pad (300x300x75)	Nos.	2
4	11KV Disc Insulator T&C type 45 KN	Nos.	3
5	11KV Disc Fittings T&C type 45 KN	Nos.	3
6	11 KV Composite Polymer Pin Insulator with Nut and washers	Nos.	3
7	PG Clamps for ACSR Rabbit/Wesel	Nos.	3
8	E' Bracket for 11 KV	Nos.	3
9	11 kV SMC Number Plate for clamp with N&B	Nos.	2
10	11 kV SMC Danger board with clamp with N&B	Nos.	2
11	GI Channel 125x65x2028 mm long (Dropper for fuse set)	Nos.	2
12	Holding clamps for top channel TPMO & fuse set etc. with N&B	Nos.	10
13	11KV TPMO (As per Specification)	No.	1
14	11KV Fuse Set	No.	1
15	11 kV Lightning Arrestor	Nos.	3
16	G.I. Barbed wire.	Kg.	4
17	Aluminium binding wire - 6 SWG	Kg.	1
18	Aluminium Paint.	Ltr.	2
19	Red Oxide Paint.	Ltr.	4
20	Stay Complete (as per Annex- 01)	No	4
21	Concreting of STP (0.44 Cu m)	No	2
22	Earthing of pole by MS earthing rod of 20x2500 mm. and 6SWG earthing wire etc.	No	3
23	G.I. pipe 150 mm dia	mtr	3
24	GI Strip 25x3 mm for earthing (LA)	mtr	10

2.4.21. Schedule : Annex-10

Single support of 3 Ph 4 Wire LT Line on 8.5 Mtr. PCC Pole			
#	Items	Unit	Qty.
1	8.5 Mtr. Long PCC Pole	No.	1
2	Stone Pad (300x300x75 mm)	No.	1
3	LT Clamp with Nut & Bolt for PCC Pole with Neutral	Nos.	4
5	LT Shackle Insulator 100x115 mm	Nos.	4
6	Bolts and nuts for shackle insulators	Kg.	1.5
7	Loop Guard complete, 3-Phase	Nos.	2
8	Concreting of support (0.268 Cum each)	No.	1

2.4.22. Schedule : Annex-11

Road/ Communication Lines/ 33 kV Lines crossing of 11 KV Lines on STP 13 Mtr with Cradle Guarding			
#	Items	Unit	Qty.
1	Single support 13 Mtr. STP (SP-72)	Nos.	2
2	S.T.P. IS 410 SP-55 11 Mtr. long.	Nos.	2
3	X-Arm Channel 100x50 mm V-type	Nos.	4
4	X-Arm holding Clamp (Back Clamp) with bolts & nuts	Nos.	4
5	11 kV Pin Insulator	Nos.	12
6	Gl. guarding Angle Iron 75x75x6 mm 3010 mm long	Nos.	4
7	F Bracket	Nos.	4
8	Turn buckle	Nos.	20
9	G.I. Wire 6 SWG along the span (For 50 Mtr. line)	Kg.	84
10	G.I. Wire No. 8 SWG accross the span (For 50 Mtr. line)	Kg.	56
11	G.I. Wire No. 16 SWG for binding	Kg.	6
12	11 kV Stay set complete (as per Annex-1)	Nos.	8
13	Armour rod with ferrules for ACSR Dog/Raccoon Helical Performed	Set	6

Road/ Communication Lines/ 33 kV Lines crossing of 11 KV Lines on STP 13 Mtr with Cradle Guarding			
#	Items	Unit	Qty.
14	Stone pad (300x300x75 mm)	Nos.	4
15	11 kV SMC Number plate with clamp with N&B	Nos	4
16	11 kV SMC Danger board with clamp with N&B	Nos.	4
17	G.I. Barbed wire	kg	4
18	Red Oxide paint	Ltrs	8
19	Aluminium Paint	Ltrs	4
20	Aluminium binding wire-6 SWG	kg	2
21	Earthing of pole by MS earthing rod of 20x2500 mm. and 6 SWG earthing wire etc.	Nos.	4

2.4.23. Schedule Sch-CW1 Extension of Control Room and Other Civil Works for 33/11 KV Sub-Station

Sl. No.	Item Description	Quantity	Units	Estimated Rate in Rs. P	TOTAL AMOUNT in Rs. P	TOTAL AMOUNT In Words
1	2	4	5	6	7	8
1	Excavation in foundation in ordinary soil (loam, clay or sand) including lift upto 1.5 Metre and lead upto 30 metre including filling, watering, and ramming of excavated earth into the trenches or into the space between the building and the side of the foundation or in to the plinth and removal & disposal of surplus earth as directed by the E/I up to a distance of 30m from the foundation trenches.	45.00	Cum	195.00	8775.00	INR Eight Thousand Seven Hundred & Seventy Five Only
2	River Bed Fine Sand filling in plinth including supply of necessary quantity of fine sand from outside the UPPCL premises including watering, dressing etc. Rate to include cost of all materials, labour and T&P etc. required for proper completion of work.	5.00	Cum	2046.00	10230.00	INR Ten Thousand Two Hundred & Thirty Only
3	Earth filling under floors and/or corporation area including cost of earth obtained within 8 km distance outside corporation area including all taxes (if any) and its carriage including watering, ramming in 20 cm layers and dressing of earth etc. all complete.	20.00	Cum	433.00	8660.00	INR Eight Thousand Six Hundred & Sixty Only
4	Concrete with 4cm gauge I class brick ballast, coarse sand and cement in proportion of 12:6:1 in foundations and under floors including supply of all materials, labour and tools and plants etc. required for proper completion. CSI No. 5.01	0.80	Cum	4517.00	3613.60	INR Three Thousand Six Hundred & Thirteen and Paise Sixty Only
5	Concrete with 4cm gauge stone ballast, coarse sand & cement in proportion of 12:6:1 in foundations & under floors including supply of all materials, labour and tools and plants etc. required for proper completion.	2.00	Cum	5509.00	11018.00	INR Eleven Thousand & Eighteen Only
6	Cement concrete with 2cm gauge approved hard stone ballast, coarse sand and cement in proportion of 4:2:1 including supply of all materials, labour, side shuttering if required and T&P etc. required for proper completion of work.	1.50	Cum	7085.00	10627.50	INR Ten Thousand Six Hundred & Twenty Seven and Paise Fifty Only

7	Concreting of 40 mm thick RCC trench covers in mild steel frame work with RCC 1:1.5:3 in Cement, coarse sand and 2cm gauge graded hard stone ballast with 3mm thick floating coat of neat cement finish on top of cover complete with all labour, materials and placing the same in proper position at required location of cable trench within the substation area.	20.00	sqm	355.00	7100.00	INR Seven Thousand One Hundred Only
8	Precast cement concrete door sills, chaukhats boundary posts, shelves and similar small work with cement, approved coarse sand and 2 cm gauge graded approved hard stone ballast in the proportion 1:1.5:3, excluding reinforcement but including fixing the same in position including cost of all other material, labor and T&P.	0.10	Cum	9088.00	908.80	INR Nine Hundred & Eight and Paise Eighty Only
9	RCC work with cement, approved coarse sand and 2 cm gauge graded approved hard stone ballast like granite, quartzite etc from Dalla, Jhansi or other quarries in proportion 1:1.5:3 in lintels of doors and windows, excluding supply of reinforcement & its bending but including its fixing and binding the same with binding wire, including cost of all other materials labour and T&P. CSI No. 5.23	2.00	Cum	8742.00	17484.00	INR Seventeen Thousand Four Hundred & Eighty Four Only
10	RCC work with cement, approved coarse sand and 2 cm gauge graded approved hard stone ballast like granite, quartzite etc from Dalla, Jhansi or other quarries in proportion 1:1.5:3 in slab, excluding supply of reinforcement & its bending but including its fixing and binding the same with binding wire, including cost of all other materials labour and T&P.	2.00	Cum	10060.0 0	20120.00	INR Twenty Thousand One Hundred & Twenty Only
11	RCC work with cement, approved coarse sand and 2 cm gauge graded approved hard stone ballast like granite, quartzite etc from Dalla, Jhansi or other quarries in proportion 1:1.5:3 in heavier beams i.e. having span above 6m, excluding supply of reinforcement & its bending but including its fixing and binding the same with binding wire, including cost of all other materials labour and T&P. CSI	0.90	Cum	11789.0 0	10610.10	INR Ten Thousand Six Hundred & Ten and Paise Ten Only
12	RCC work with cement, approved coarse sand and 2 cm gauge graded approved hard stone ballast like granite quartzite etc from Dalla, Jhansi or other quarries in proportion 1:1.5:3 in raft foundation and footings , excluding supply of reinforcement & its bending but including its fixing and binding the same with binding wire, including cost of all other materials labour and T&P. CSI No. 5.27	5.00	Cum	8344.00	41720.00	INR Forty One Thousand Seven Hundred & Twenty Only

13	RCC work with cement, approved coarse sand and 2 cm gauge graded approved hard stone ballast like granite, quartzite etc from Dalla, Jhansi or other quarries in proportion 1:1.5:3 in RCC T beam-slab and column, excluding supply of reinforcement & its bending but including its fixing and binding the same with binding wire, including cost of all other materials labour and T&P. CSI No. 5.29	7.15	Cum	11048.00	78993.20	INR Seventy Eight Thousand Nine Hundred & Ninety Three and Paise Twenty Only
14	First class brick work in 1:6 cement and coarse sand mortar in foundation and plinth including supply of all materials, labour & T&P etc. required for proper completion of work.	3.27	Cum	4864.00	15905.28	INR Fifteen Thousand Nine Hundred & Five and Paise Twenty Eight Only
15	1st class brick work in 1:6 C.M. with cement and coarse sand of 2.25 F.M. mortar in super structure including necessary cutting and moulding of brick as required including honey comb brick work, thickness of wall one brick (230mm) thick in super structure.	8.40	Cum	5559.00	46695.60	INR Forty Six Thousand Six Hundred & Ninety Five and Paise Sixty Only
16	Same as item no. 18 above but for wall of half brick 4.5" (115 mm) thick but in 1:6 C.M. with cement and coarse sand of 2.25 F.M. mortar. CSI No. 6.01+6.07+6.09	0.80	Cum	5719.00	4575.20	INR Four Thousand Five Hundred & Seventy Five and Paise Twenty Only
17	Brick work in foundation & plinth with old dismantled bricks (supplied by department free of cost) and coarse sand mortar in 1:6 including supply of all other materials, labour, removing mortar & cleaning of old & used bricks,T&P etc complete. CSI No. 6.18	1.50	Cum	2814.00	4221.00	INR Four Thousand Two Hundred & Twenty One Only
18	Same as in item 6.18 above but in super structure for 230 mm thick wall. CSI No. 6.19	1.80	Cum	3509.00	6316.20	INR Six Thousand Three Hundred & Sixteen and Paise Twenty Only
19	Supply and filling brick bat in soak pit including all labour,material and T&P etc complete. (for 01 soak pit). CSI No. 6.23	1.30	Cum	1372.00	1783.60	INR One Thousand Seven Hundred & Eighty Three and Paise Sixty Only

20	2.5 cm. thick damp proof course of cement concrete consisting of 1 part cement 1.5 parts approved coarse sand (F.M.1.8 to 2.5), and 3 parts approved 12 mm. graded stone grit and also including liquid water proofing material as approved by the Engineer-Incharge in the proportions specified by the manufacturer. CSI No. 7.02	5.52	Sqm	339.00	1871.28	INR One Thousand Eight Hundred & Seventy One and Paise Twenty Eight Only
21	S/F Galvanized Mosquitos proof heavy quality iron wire gauge (14x24) over window frames and including supply of C.P. Teak wood battens 8cm x 1cm. and including supply and fixing of necessary screws, all materials,labour and T&P etc. required for proper complete. CSI No. 8.43	8.00	sqm	1133.00	9064.00	INR Nine Thousand & Sixty Four Only
22	Supply and fixing of 32 mm thick single leaf flush door shutter (boiled water resistance, phenol maldehyde resin bonded, hot pressed factory made) commercial quality to I.S.2202 part-1 (1983) ISI marked including fixing of wooden cleats and stoppers and including fixing and adjustment of hinges,bolts.locks,handles, springs and other fittings but excluding their supply including all materials, labour & T&P etc. required for proper completion of work. CSI No. 8.57	2.10	Sqm	1927.00	4046.70	INR Four Thousand & Forty Six and Paise Seventy Only
23	Mild Steel or Iron work in heavy sizes such as trusses built up gates, door frames, record, racks roof work gates etc. wrought to required form including holes rivetting or welding where necessary and also fixing in proper position and alignment including cost of all materials supplied by contractor. CSI No. 9.01	0.90	MT	98843.00	88958.70	INR Eighty Eight Thousand Nine Hundred & Fifty Eight and Paise Seventy Only
24	TMT/Tor steel in plain work such as reinforced concrete or reinforced brick work (when not included in an over all rates) wrought to required shape as necessary including bending for proper completion of the work and including supply of steel its wastage, bend, hooks and authorized overlapping shall be measured. (Steel shall be arranged by the contractor) . CSI No. 9.03	1.50	MT	87899.00	131848.50	INR One Lakh Thirty One Thousand Eight Hundred & Forty Eight and Paise Fifty Only
25	Supply & Fixing high tensile steel colour coated Anti rust, high temp resistant sheet with tensile strength 550 PMA hot dip metallic (Zinc Aluminium) alloy (Nn-55%) Al, (45%) coating 70 GSM with total thickness not less than 0.50 mm (TCT) durashine or equivalent make with necessary over laps incl. S/F galvanized J/V hook with bolts, nuts, washer and bitumen washers etc. including cost of material, labour T&P etc. required for proper completion of	12.00	Sqm	885.00	10620.00	INR Ten Thousand Six Hundred & Twenty Only

	work as per direction of E/I confirming I.S. 1397 : 1993 CSI No. 26.60 (As per Old Schedule)					
26	12 mm thick plaster with cement mortar consisting of one part of cement & four part of coarse sand (1:4), minimum thickness not to be less than 10 mm including supply of all material, labour and T&P etc for proper completion of work. CSI No. 11.07	88.00	Sqm	192.00	16896.00	INR Sixteen Thousand Eight Hundred & Ninety Six Only
27	12 mm thick plaster with cement mortar consisting of one part of cement & six part of coarse sand(1:6),minimum thickness not to be less than 10 mm including supply of all material, labour and T&P etc for proper completion of work. CSI No. 11.09	178.30	Sqm	182.00	32450.60	INR Thirty Two Thousand Four Hundred & Fifty and Paise Sixty Only
28	Add for extra labour to all items of plaster if done in ceiling. CSI No. 11.10	36.00	Sqm	21.40	770.40	INR Seven Hundred & Seventy and Paise Forty Only
29	Providing (12x15) mm section groove in plaster including all material, labour and T&P etc. required for proper completion of the work. CSI No. 11.16	300.00	RM	12.00	3600.00	INR Three Thousand Six Hundred Only
30	Making drip coarse (25x12) mm in 1:2 cement and coarse sand including supply of all materials, labour and T&P etc required for proper completion of work. CSI No. 11.19	60.00	RM	12.00	720.00	INR Seven Hundred & Twenty Only
31	3 mm thick floating coat of neat cement finish including supply of all materials,labour and T&P etc. required for proper completion of the work.(cement consumption 0.044 bag/Sq.m.). CSI No.	60.00	Sqm	21.00	1260.00	INR One Thousand Two Hundred & Sixty Only
32	4.0 cm thick 1:2:4 plain cement concrete floor with cement, approved coarse sand & 2cm graded approved stone ballast laid in panels finished with 3mm floating coat of neat cement or cement and marble dust in ratio of 5:1 as specified and removing any overlapping mortar at the joints of the panels if any and giving them a uniform finish including supply of all materials, labour and	13.00	Sqm	413.00	5369.00	INR Five Thousand Three Hundred & Sixty Nine Only

	T&P etc, required for proper completion of the work. without base CC. CSI No. 12.04					
33	Supply and Laying 6 mm thick glazed tiles in skirting / dado laid with 1:3 cement and approved coarse sand mortar finished with white cement slurry, jointing and polishing complete, including supply of all materials, labour and T&P etc. completion required for proper completion of the work. CSI No. 12.12	4.00	Sqm	747.00	2988.00	INR Two Thousand Nine Hundred & Eighty Eight Only
34	Providing and fixing glass strips of 3.15 mm thickness & 40mm depth in joints of floor and skirting at the time of laying floors, flush with floor level including supply of all materials, labour & T&P etc. required for proper completion of work. CSI No. 12.14	20.00	RM	33.00	660.00	INR Six Hundred & Sixty Only
35	Providing and laying 18 mm. thick Kota stone in flooring or skirting over base cement mortar 1:4 mix and jointed with grey cement slurry mixed with pigment to match the shade of slab including rubbing and polishing complete and including supply of all materials labour and T&P etc required for proper completion of the work. CSI No. 12.17	36.00	Sqm	1254.00	45144.00	INR Forty Five Thousand One Hundred & Forty Four Only
36	Providing and laying floor of 8 mm thick vitrified tiles in flooring or skirting of approved brand (Bell, Johnson or equi. make) size of 600x600 mm of approved shade, colour and pattern, laid over base cement mortar 1:4 mix including finishing the joints with white cement mixed with pigment to match the shade of tile including cost of all material, labour and T&P required for proper completion of the work. CSI No. 12.18	9.00	Sqm	1335.00	12015.00	INR Twelve Thousand & Fifteen Only
37	Supply of 80 mm thick I shaped mechanically compressed inter locking cement concrete paver block manufactured by high pressure & controlled vibration machine having plan dimension 200X(160+120 mm) with minimum 5 mm thick topping of O.P.Cement mixed with 25% marble powder. The compressive strength of concrete pavers blocks shall not be less than 30 MPa & 4.5 Kg/No. including cost of all material, labour, T&P etc. required for proper completion of work as directed by Engineer-in-charge but excluding G.S.T. which shall be paid extra as per rules. CSI No. 12.23	100.00	Sqm	1027.00	102700.00	INR One Lakh Two Thousand Seven Hundred Only

38	Painting or varnishing new iron work in small areas or new wood work with one coat of ready mixed priming paint and one coat of approved superior quality ready mix paint "Luxol" or equivalent brand or varnish including supply of all materials, labour and T&P etc. required for proper completion of the work. Paint to be used should conform to the I.S. 103-1950. CSI	38.00	Sqm	77.00	2926.00	INR Two Thousand Nine Hundred & Twenty Six Only
39	Same as in item 13.01 above but for every coat after first coat. CSI No. 13.02	38.00	Sqm	36.00	1368.00	INR One Thousand Three Hundred & Sixty Eight Only
40	Same as in item 13.01 above but for every coat on previously painted old wood or iron work including its sand papering, rubbing and cleaning as required, for proper completion of work.	55.00	Sqm	49.00	2695.00	INR Two Thousand Six Hundred & Ninety Five Only
41	One priming coat and one coat oil bound distemper on new work including supply of all materials, labour and T&P etc. required for proper completion of the work. CSI No. 13.08	187.80	Sqm	69.00	12958.20	INR Twelve Thousand Nine Hundred & Fifty Eight and Paise Twenty Only
42	Same as in item 13.08 but for every coat after the first coat. CSI No. 13.09	187.80	Sqm	28.00	5258.40	INR Five Thousand Two Hundred & Fifty Eight and Paise Forty Only
43	Same as in item 13.08 but for every coat on previously old oil bound distemper surface. CSI No. 13.10	268.00	Sqm	35.00	9380.00	INR Nine Thousand Three Hundred & Eighty Only
44	Making P.O. P. cornice 100mm×100mm size approved shape and design at junction of ceiling and wall including cost of necessary centering and shuttering P.O.P., its wastage, T&P etc. required for proper completion of work. CSI No. 13.17 (As per Old Schedule)	24.00	RM	112.00	2688.00	INR Two Thousand Six Hundred & Eighty Eight Only
45	Making P.O.P. fan ring/circle on ceiling of room of approved shape and design approved by E/I including cost of all materials, labour T&P complete.	3.00	Nos	130.00	390.00	INR Three Hundred & Ninety Only

	CSI No. 13.18 (As per Old					
46	Applying Birla or equivalent putty on new interior or exterior surface over one coat of water based cement primer of ICI or equivalent brand for smoothening and levelling of the surface as per requirement and direction of Engineer I/C including cost of all material, labour, T & P etc required for proper completion of work. CSI No. 13.20	218.30	Sqm	89.00	19428.70	INR Nineteen Thousand Four Hundred & Twenty Eight and Paise Seventy Only
47	Applying BIRLA PUTTY or equivalent putty on previously bila putty smoothen surface over one cost of water base cement primer of ICI or equivalent brand for smoothening and leveling of the surface as per requirement and direction of E/I including cost of all material , labour and T&P required for proper completion of work. CSI No. 13.21	50.00	Sqm	43.00	2150.00	INR Two Thousand One Hundred & Fifty Only
48	Painting one coat with APEX or equivalent brand weather coat paint on new wall surfaces (well prepared with Birla putty and one coat of primer ICI or equivalent which shall be paid separately) including through washing with water including cost of all materials, labour, T&P required for proper completion of work. CSI No. 13.22	178.00	Sqm	98.00	17444.00	INR Seventeen Thousand Four Hundred & Forty Four Only
49	Same as in item no 13.22 above but for every coat of additional APEX or equivalent brand weather coat paint. CSI No. 13.23	178.00	Sqm	43.00	7654.00	INR Seven Thousand Six Hundred & Fifty Four Only
50	Same as in item 13.22 but for each coat of APEX or equivalent brand weather coat paint .on previously treated surface. CSI No. 13.24	213.00	Sqm	65.00	13845.00	INR Thirteen Thousand Eight Hundred & Forty Five Only
51	Dismantling brick work or stone work in lime or cement mortar and including stacking of materials as directed by the Engineer-in-charge within a distance of 60 metres. CSI No. 15.01	7.86	Cum	575.00	4519.50	INR Four Thousand Five Hundred & Nineteen and Paise Fifty Only
52	Dismantling reinforced cement concrete or reinforced brick work, including stacking of dismantled materials as directed by the Engineer-Incharge within a distance of 60 metres.	1.30	Cum	1277.00	1660.10	INR One Thousand Six Hundred & Sixty and

	CSI No.					Paise Ten Only
53	Dismantling cement concrete or brick or granolithic floors including base concrete and including stacking of dismantled materials as directed by the Engineer In-charge within a distance of 60 metres. CSI No. 15.05	20.00	Sqm	66.00	1320.00	INR One Thousand Three Hundred & Twenty Only
54	Dismantling doors and windows chowkhats including stacking of materials as directed by Engg- in-Charge within a distance of 60 meters. CSI No. 15.10	16.80	Sqm	74.00	1243.20	INR One Thousand Two Hundred & Forty Three and Paise Twenty Only
55	Dismantling existing plaster including disposal of refuse as directed by the Engineer-I/C within a distance of 60 M. CSI No. 15.11	80.00	Sqm	47.00	3760.00	INR Three Thousand Seven Hundred & Sixty Only
56	Scrapping old white or colour wash or distemper including disposal of refuse as directed by the Engineer-I/C within a distance of 60 M. CSI No. 15.12	228.00	Sqm	14.00	3192.00	INR Three Thousand One Hundred & Ninety Two Only
57	Pre-Construction anti-termite treatment, by creating a barrier under and around the columns pits, foundation trenches, under floors, junctions of Walls & floors, around the external perimeter of building, expansion joints, surrounding of pipes and conduits etc. (Plinth area of the building at ground floor only shall be measured as per I.S. 6313 (Part II 1981))with Eldrine emulsifiable 0.2% concentration or any other approved material such as Heptachlore or chlordance will be used. The consumption of emulsion shall be (i) Foundation and masonry @ 5 Ltrs/Sqm, (ii) Back fills in immediate contact of foundation@ 7.5 Ltrs. / Sqm, (iii) Top surface of Plinth filling @ 5 Ltrs / Sqm, (iv) Junction of walls & floors @ 7.5 Ltrs / Sqm, (v) Soil along external perimeter of building @ 7.5 Ltrs / Sqm (vi) under apron of the building @ 5 Ltrs. /Sqm. The rates includes cost of all materials, labour, equipments, T&P complete. CSI No. 17.01	36.00	Sqm	86.00	3096.00	INR Three Thousand & Ninety Six Only
58	Repair to plaster or pointing in patches including removal of old plaster racking out joints to 1 cm.(3/8") depth, watering the area and then replastering or reappointing with the same mortar or proportion of mortar as the existing surface including supply of all materials, labour and T&P etc. required for	18.00	Sqm	227.50	4095.00	INR Four Thousand & Ninety Five Only

	proper completion of the work . CSI No. 20.02					
59	Repair to 2.5 cm (1") cement concrete floor in patches including up to 10 cm.(4") depth renewing 8 cm.(3") base concrete consisting of one part cement, 4 parts aproved coarse sand and 8 parts of 4 cm.(1.5") gauge brick ballast as in C.C.floor consisting of one part cement 2 parts approved coarse sand and 4 parts approved stone grit including supply of all materials.labour and T&P etc. required for proper completion of the work. CSI No. 20.03	15.00	Sqm	516.25	7743.75	INR Seven Thousand Seven Hundred & Forty Three and Paise Seventy Five Only
60	Renewing panes of 4.8 to 5.7 mm glass including supply of glass with putty and brads including supply of all materials, labour and t&P etc. required for proper completion of the work.(a) glass of 5 mm thick. CSI No. 20.04	5.00	Sqm	854.00	4270.00	INR Four Thousand Two Hundred & Seventy Only
61	Cleaning of septic tank including disposal of waste out side the UPPCL area as per direction of the Engineer-in-charge including cost of all labour,T&P etc.required for proper completion of the work. CSI No. 20.12	1.00	Nos	1848.00	1848.00	INR One Thousand Eight Hundred & Forty Eight Only
62	Wiring point for light with 1.5 sq. mm. FR PVC insulated multistrand single copper conductor cable in PVC conduit pipe concealed in the wall, 14 SWG copper PVC coated Earth continuity wire, and approved quality, piano type switch ceiling rose/angle/batten holder as per approved sample on 3mm thick phenolic laminated bakelite sheet etc. of matching shade with wall colour complete in all respect. PSI No. 121	5.00	Nos	750.00	3750.00	INR Three Thousand Seven Hundred & Fifty Only
63	Wiring point for fan/fresh air fan (light duty exhaust fan) 1.5 sq. mm FR PVC insulated multistrand single core copper conductor cable PVC conduit pipe concealed in the wall, 14 SWG copper earth continuity wire and approved quality, piano type switch & ceiling rose as per approved sample on 3mm thick phenolic laminated backelite sheet etc. of matching shade with wall colour complete in all respects as per direction of E/l. PSI No. 123 (B)	3.00	Nos	852.00	2556.00	INR Two Thousand Five Hundred & Fifty Six Only

64	Wiring point for plug with 1.5 sq. mm FR PVC insulated multistrand single core copper conductor cable in PVC conduit pipe concealed in the wall 14 SWG copper earth continuity wire and approved quality type switch and socket as per approved sample etc. of matching shade with wall colour complete in all respects as per direction of E/I PSI No. 124 (B)	4.00	Nos	392.00	1568.00	INR One Thousand Five Hundred & Sixty Eight Only
65	Supply and fixing 1200mm size sweep ceiling fan (G.E.C./ Polar/Crompton /Usha or equivalent approved make) with double ball bearing, step type electronic regulator, necessary wire and 900 mm long hanging rod with double Canopy etc. including testing and commissioning as per direction of Engineer-in-charge. NSI	3.00	Nos	1785.00	5355.00	INR Five Thousand Three Hundred & Fifty Five Only
66	Supply and laying 4.0 Sq.mm gauge copper wire of "Plaza" or equivalent make of approved quality including connecting with existing wiring in existing P.V.C.pipe. including all materials, labour and T&P complete. CSI No. 22.06 (c)	60.00	RM	123.00	7380.00	INR Seven Thousand Three Hundred & Eighty Only
67	Supply and laying 6.0 Sq.mm gauge copper wire of "Plaza" or equivalent make of approved quality including connecting with existing wiring in existing P.V.C.pipe. including all materials, labour and T&P complete. CSI No. 22.06 (d)	20.00	RM	178.00	3560.00	INR Three Thousand Five Hundred & Sixty Only
68	Supply and fixing 6A to 32A SP MCB C curve- 10 KA PSI No. 1002 (CAT-A)	6.00	Nos	260.00	1560.00	INR One Thousand Five Hundred & Sixty Only
69	d) 63 Amp. Isolator PSI No. 1005 (B) (CAT-A)	1.00	Nos	595.00	595.00	INR Five Hundred & Ninety Five Only
70	Surface flush mounted 8 ways S.P.N. distribution board. PSI No. 1024 (CAT-A)	2.00	Nos	1470.00	2940.00	INR Two Thousand Nine Hundred & Forty Only
71	Supply and fixing of power plug with 15A/240V V flush type switch and 5 pin 15A/250V flush type universal socket in suitable M.S. box of 175mmx 100mmx50mm size with phenolic laminated bakelite sheet cover 3mm thick fixed with brass machine screw and cup washer. CSI No. 21.20 (As per Old	4.00	Nos	276.00	1104.00	INR One Thousand One Hundred & Four Only

72	Providing and fixing 15 mm dia B-class Jindal,JTC, ISI marked G.I. pipes complete with special such as bend, tee, socket, cross, clamp etc earth work including filling the trenches etc required for proper completion of the work. the rate also includes concealed GI fitting where required, cutting and making good the walls etc and all materials, labour and T&P complete. CSI No. 26.01 (a)	8.00	RM	219.00	1752.00	INR One Thousand Seven Hundred & Fifty Two Only
73	Same as item No. 26.01(a) but for 20 mm dia. CSI No. 26.01 (b)	2.00	RM	268.00	536.00	INR Five Hundred & Thirty Six Only
74	Providing and fixing full way 15mm dia G.M. gate valve with wheel, ISI mark heavy quality including supply of all materials, labour and T&P required for proper completion of work.	3.00	Nos	656.00	1968.00	INR One Thousand Nine Hundred & Sixty Eight Only
75	Same as item No. 26.04(a) but for GM Full way Gate Valve 20 mm dia. CSI No. 26.04 (b)	2.00	Nos	976.00	1952.00	INR One Thousand Nine Hundred & Fifty Two Only
76	Providing and fixing PVC BALL FLOAT VALVE 15 mm dia. WITH BRASS & UNION COMPLETE, ISI mark heavy quality including supply of all materials, labour and T&P required for proper completion of work. CSI No. 26.06 (a)	2.00	Nos	242.00	484.00	INR Four Hundred & Eighty Four Only
77	Providing and fixing PVC CONNECTION PIPE, 450X15 with 2 brass units ISI mark heavy quality including supply of all materials, labour and T&P required for proper completion of work. CSI No. 26.09 (b)	3.00	Nos	131.00	393.00	INR Three Hundred & Ninety Three Only
78	P/F GI UNIONS NOMINAL BORE 15 mm, ISI mark heavy quality including supply of all materials, labour and T&P required for proper completion of work. CSI No. 26.10 (a)	2.00	Nos	102.00	204.00	INR Two Hundred & Four Only
79	P/F GI UNIONS 20 mm NOMINAL BORE, ISI mark heavy quality including supply of all materials, labour and T&P required for proper completion of work. CSI No. 26.10 (b)	5.00	Nos	132.00	660.00	INR Six Hundred & Sixty Only
80	Supply and fixing of Syntex or equivalent make water storage tank including all materials, labours, T&P etc required for proper completion of work.	500.00	Lit	11.00	5500.00	INR Five Thousand Five Hundred Only

	CSI No. 26.12					
81	Providing and fixing CP BRASS BIB COCK 15 mm dia. HEAVY QUALITY (400gm) (L & K and equi.) fittings, ISI mark heavy quality including supply of all materials, labour and T&P required for proper completion of work. CSI No. 26.16 (a)	3.00	Nos	678.00	2034.00	INR Two Thousand & Thirty Four Only
82	Providing and fixing CP BRASS Angle Valve HEAVY QUALITY (L&K or equi.) fittings, ISI mark heavy quality including supply of all materials, labour and T&P required for proper completion of work. CSI No. 26.16 (i)	2.00	Nos	571.00	1142.00	INR One Thousand One Hundred & Forty Two Only
83	Providing and fixing CP BRASS Piller cock HEAVY QUALITY (L&K or equi.) fittings, ISI mark heavy quality including supply of all materials, labour and T&P required for proper completion of work. CSI No. 26.16 (j)	2.00	Nos	685.00	1370.00	INR One Thousand Three Hundred & Seventy Only
84	Providing and fixing of 110 mm dia PVC pipe 6 Kg/ Sq.cm for with special such as Tee, bend, socket, elbow etc including supply of all labour, material, T & P etc complete required for proper completion of work. CSI No. 26.17	6.00	RM	261.00	1566.00	INR One Thousand Five Hundred & Sixty Six Only
85	Providing and fixing first quality white glazed "Orissa" pattern W.C. Pan Hindustan, Cera make. size 580 mm. (Hindustan, Cera Make) with out "P" trap including supply of all materials, labour and T&P etc. complete. CSI No. 27.01	1.00	Nos	2379.00	2379.00	INR Two Thousand Three Hundred & Seventy Nine Only
86	Same as in item no. 27.01 but of European type. CSI No. 27.02	1.00	Nos	3179.00	3179.00	INR Three Thousand One Hundred & Seventy Nine Only
87	Providing and fixing flat back 465 mm.x 355 mm x 265 mm. size lipped front urinal basin of white glazed earthen ware first quality (Hindustan, Neycer make) I.S.I. marked including supply of all materials, labour and T&P etc. required for proper completion of the work. CSI No.	1.00	Nos	2455.00	2455.00	INR Two Thousand Four Hundred & Fifty Five Only
88	Providing and fixing 550X400 mm wash hand basin of white glazed earthen ware first quality I.S.I. marked (Hindustan, Neycer / Cera make) including supply of all materials, labour and T&P etc. required for proper completion of the work. CSI No. 27.08	1.00	Nos	3266.00	3266.00	INR Three Thousand Two Hundred & Sixty Six Only

89	Providing and fixing 10 litres low level PVC flushing cistern, COMPLETE WITH ALL FITTINGS including supply of all materials, labour and T&P etc. required for proper completion of the work. CSI No. 27.12	2.00	Nos	1320.00	2640.00	INR Two Thousand Six Hundred & Forty Only
90	Supply and fixing CP Nahani Trap India make of heavy approved quality complete with CI grating, including supply of all materials,labour and T&P etc. required for proper completion of the work. CSI No. 27.21(a)	1.00	Nos	767.00	767.00	INR Seven Hundred & Sixty Seven Only
91	Providing and laying 75 mm Dia.SWR, PVC (Finolex or equivalent) pipe including cost of excavation, C.C etc including its jointing and connection, all materials, labour and T&P etc. required for proper completion of the work. CSI No. 27.29 (a)	5.00	RM	287.00	1435.00	INR One Thousand Four Hundred & Thirty Five Only
92	Same as in item 27.29 (a) above but for 110 mm Dia. CSI No. 27.29 (c)	2.80	RM	397.00	1111.60	INR One Thousand One Hundred & Eleven and Paise Sixty Only
93	Providing and laying integral cement based water proofing treatment including preparation of surface as required for treatment of roofs, balconies, terraces etc consisting of following operations: (a) Applying a slurry coat of neat cement using 2.75 kg/sqm of cement admixed with water proofing compound conforming to IS. 2645 and approved by Engineer-in-charge over the RCC slab including adjoining walls upto 300 mm height including cleaning the surface before treatment. (b) Laying brick bats with mortar using broken bricks/brick bats 25 mm to 115 mm size with 50% of cement mortar 1:5 (1 cement : 5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineerin- charge over 20 mm thick layer of cement mortar of mix 1:5 (1 cement :5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge to required slope and treating similarly the adjoining walls upto 300 mm height including rounding of junctions of walls and slabs. (c) After two days of proper curing applying a second coat of cement slurry using 2.75 kg/ sqm of cement admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge. (d) Finishing the surface with 20 mm thick jointless cement mortar of mix 1:4 (1 cement :4 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge including laying glass fibre cloth of approved quality in top layer of plaster and finally finishing the surface with trowel with neat cement slurry and making pattern of 300x300 mm square 3 mm deep. (e) The whole terrace so finished shall be flooded with	60.00	Sqm	976.00	58560.00	INR Fifty Eight Thousand Five Hundred & Sixty Only

	water for a minimum period of two weeks for curing and for final test. "All above operations to be done in order and as directed and specified by the Engineer-in-Charge : With average thickness of 120 mm and minimum thickness at khurra as 65 mm. CSI No. 28.28					
Total in Figures					1040993.71	INR Ten Lakh Forty Thousand Nine Hundred & Ninety Three and Paise Seventy One Only

Note : CSI Unit Rates and amounts for each CSI item are provided for guidance purpose only.

Bidders are advised to visit the site of work and make themselves acquainted with the site conditions. No claim what so ever shall be entertained after submission of the tender

Cement shall be arranged by the contractor at his own cost, fresh cement conforming to I.S.1489 (Part-II) with ISI mark of brandssuch as J.K., Birla Uttam, A.C.C., Ambuja or equivalent of major plants shall be used in the works, Contractor shall make proper storage arrangement of cement at site of works to the satisfaction of E/I. Cement should always be stored in such a manner to be easily accessible for proper inspection and in a suitable weather tight building or storage shed to protect the cement from

Individual quantities are approximate and may vary upto any extent on either side as per requirement of site conditions or may not be executed at all for which no extra claim shall be entertained

All above works shall be executed as per U.P.P.W.D./U.P.P.C.L. Specifications or as per direction of Engineer-in-charge

All water supply, sanitation and Electrification material/fittings/interlocking tiles and other materials of door/windows including fittingetc. shall be got approved from E/I before fixing the same at site of work

Acrylic distemper and paint etc. shall be of ASIAN/BERGER/J&N Brand of approved quality which shall be got approved before usingin the work from the E/I

Flush doors and other fitting chromium polished steel iron fitting etc. shall be got approved by E/I. Flush door shutters shall be 100%waterproof and ISI marked

If Specifications for any item of work are not covered by any of the documents mentioned in the contract the same shall be decidedand conveyed by the Engineer-in-charge to the contractor

Other terms and conditions are same as attached in enclosed tender documents.

The rate quoted in BoQ PRICE SCHEDULE (Extenstion of Control Room) of price bid will be apportioned in ratio of [quoted unit price in INR / INR 10,40,993.71] to arrive at the unit rates of item no 1-93 above for the purpose of payment against actual measurement.

2. Specifications

- 2.1 Detailed specifications provided in **Volume Appendix to Section 6 Technical Specifications (including scope of work, technical specifications and drawings)** shall be applicable for supply of plant / equipment and materials under the scope of supply.
- 2.2 The bidder shall also note that requirements with respect to experience, qualifications and certifications of the manufacturers to qualify for supply of plant, equipment and materials as indicated in the technical specifications for respective items shall be complied with.
- 2.3 The erection and installation works shall be carried out in compliance with the work specifications provided in technical specifications (**Appendix to Section 6**)

3. Environmental, Health and Safety Management Requirement

Employer's environmental, health and safety policies will apply to the project are included in IEE. Based on the required environmental assessment undertaken for the project and this specific contract, the key EHS risks and impacts and expectations on contractors to manage the risks and impacts are included in IEE which include, but are not limited to a summary of: key expectations in managing labor and working conditions, protection of the environment, health and safety and security of the site, community health and safety, management of safety of hazardous materials, resource efficiency and pollution prevention and management, biodiversity conservation and sustainable management of living natural resources etc.

Site-Specific Environmental/Health and Safety Management Plan (SSEMP / SSHSMP) has to be prepared based on the outline Environmental Health and Safety Management Plan (EHSMP) submitted as part of the Contractor's technical proposal. The SSEMP / SSHSMP shall be submitted within the contractual timeline outlined in the Contract Conditions. The Engineer/Project Manager shall endeavor to issue no-objection of the SSEMP / SSHSMP within a prescribed period upon receipt of the SSEMP / SSHSMP, if the EHS requirements for the plan is met. No physical works shall commence on site prior to the confirmation of no objection of the SSEMP / SSHSMP has been obtained from the Engineer as per Contract Conditions.

Minimum Content of Requirements

In preparing detailed specifications for requirements, the specialists should refer to and consider:

- *project reports e.g. EIA/EMP or IEE/EMP (Included as Volume III)*
- *consent/permit conditions*
- *required standards including ADB Safeguard Policy Statement and related EHS Guidelines*
- *relevant international conventions or treaties etc., national legal and/or regulatory requirements and standards (where these represent higher standards than the ADB Guidelines)*
- *relevant international standards e.g. WHO Guidelines for Safe Use of Pesticides*
- *relevant sector standards e.g. EU Council Directive 91/271/EEC Concerning Urban Waste Water Treatment*
- *grievance redress mechanism including types of grievances to be recorded and how to protect confidentiality*

The detail specification for EHS should, to the extent possible, describe the intended outcome rather than the method of working. The EHS requirements should be prepared in manner that does not conflict with the relevant General Conditions of Contract (and the corresponding Particular Conditions if any) and other parts of the specifications.

Payment for EHS Requirements

The payment for the delivery of these requirements shall be a subsidiary obligation of the Contractor covered under the prices quoted for other Bill of Quantity items. For example, normally the cost of implementing work place safe systems of work, including the measures necessary for ensuring traffic and road safety, shall be covered by the Bidder's rates for the relevant works.

ENVIRONMENTAL MANAGEMENT PLAN (Portion Reproduced for Reference)

A. Introduction

170. This section is the project-level EMP that sets out the mitigation measures to avoid, minimize, mitigate or compensate adverse environmental impacts and risks that have been identified in the previous sections. The EMP is a management tool and the issues are accordingly addressed with regard to the sequence of operations, i.e., those activities that apply to the design, pre-construction, construction, and operation and maintenance phases.
171. This project-level EMP is applicable to all subprojects under the Project including those that are ADB and counterpart funded. Once the actual subproject components and their design have been confirmed by the turnkey contractors, a site-specific EMP will also be prepared by the DISCOMs to reflect any site-specific mitigation and monitoring measures, supplementary to those set out in this project-level EMP. If no site-specific measures are required for a subproject, the project-level EMP will form the final EMP for it.
172. The project-level EMP contains several components crucial to effective environmental management within the project, these include:
 - (i) Plan for corrective action related to existing facilities (substations) to be implemented by DISCOMs pre-construction prior to the contractors being given access to the existing substations to connect in the feeder lines – Table 3, Appendix 4.
 - (ii) Plan for mitigation of impacts (during design, pre-construction, construction and operation and maintenance) including performance standards – Table 1, Appendix 4. The relevant requirements of the project-level EMP will be incorporated into the turnkey contract documents and during design, pre-construction and construction these measures will be implemented by the respective contractor under the supervision of the UPPCL Project Management Unit (PMU) and DISCOM Project Manager. During detailed design and operation and maintenance, the measures will be implemented by the relevant DISCOMs district office under the supervision of the UPPCL PMU and DISCOM HQ.
 - (iii) Monitoring plan and performance indicators – Table 2, Appendix 4; this includes the proposed quantitative monitoring requirements and performance indicators for implementation of the project. During design, pre-construction and construction, specific quantitative monitoring activities defined in the project-level EMP will be carried out by the DISCOM and the contractor, supervised by the UPPCL PMU and DISCOM Project Manager respectively. During operation and maintenance, monitoring activities will be carried out by the relevant DISCOMs district office under the supervision of the UPPCL PMU and DISCOM HQ.
 - (iv) Implementation arrangements, including organizational responsibilities, budgets, capacity development requirements (for various aspects of EMP implementation).

B. Supervision, Monitoring and Reporting

173. UPPCL and the DISCOMs will establish a system for preparing semi-annual environmental monitoring reports covering all project components up until the completion of construction, and annual reports thereafter. UPPCL's PMU will take the lead on report preparation with the DISCOMs providing them with inputs related to their project components. UPPCL will submit the report for ADB's review and disclosure on the ADB website. UPPCL and the DISCOMs will be responsible for local disclosure of the combined report.

174. Progress on EMPs implementation (environmental performance) as well as the results of quantitative monitoring (as defined in Appendix 4, Table 2) will be included in the environmental monitoring reports together with details of any grievances and their resolution and corrective action plans if needed. The format of the environmental monitoring reports is included in the SARF.

175. UPPCL and the DISCOMs will carry out the following actions in supervising and monitoring EMP implementation:

- (i) Establishing and maintaining procedures to supervise and monitor the progress of implementation.
- (ii) Undertake and document the findings of periodic "spot check" site visits to confirm compliance.
- (iii) Conduct and document the findings of monthly supervision visits involving detailed review of

safeguards compliance for each ongoing subproject/contract package.

- (iv) Confirm compliance by the DISCOMs and their contractors with environmental, health and safety measures, and progress toward the desired outcomes for ongoing measures.
- (v) Document monitoring findings in the environmental monitoring reports, identify corrective action for any non-compliance identified and set out in a corrective action plan – all four DISCOMs should consolidate their quarterly reports into a single report for submission to UPPCL for consolidation and onwards submission to ADB.
- (vi) Implement corrective action plans as needed to ensure progress toward the desired outcomes.
- (vii) UPPCL to submit semi-annual environmental monitoring reports up until the completion of construction, reverting to annual reports thereafter, (to be combined with social monitoring reports) to ADB for review and disclosure on the ADB website up until the Project Completion Report is issued, or longer if recommended on completion;
- (viii) UPPCL and DISCOMs to locally disclose the findings of the environmental monitoring reports through publication on their websites, copies of reports available at substations, and notices at construction sites informing of main findings and the availability of the reports which should be shared upon request; and
- (ix) Inform the ADB of any changes to the design or other unanticipated impacts and any changes to the IEE/EMP recommended prior to implementing the changes for ADB clearance.

176. ADB will carry out the following monitoring actions to supervise EMP implementation:

- (i) conduct periodic site visits during the project implementation to confirm compliance;
- (ii) if required, conduct supervision missions with detailed review by ADB's safeguard specialists/officers or consultants;
- (iii) review the environmental monitoring reports submitted by UPPCL to ensure that adverse impacts and risks are mitigated as was planned and agreed with ADB;
- (iv) work with UPPCL and the DISCOMs to rectify to the extent possible any failures to comply with their safeguard commitments, as covenanted in the loan agreement, and exercise remedies to re-establish compliance as appropriate; and
- (v) prepare a project completion report that assesses whether the objective and desired outcomes of the EMP has been achieved, considering the baseline conditions and monitoring results.

177. For this purpose, UPPCL and the DISCOMs will provide ADB with access to the site and all requested information on the Project.

C. Implementation Arrangements

178. The main institutions that will be involved in environmental management activities are UPPCL as the Project executing agency and the four DISCOMs as Project implementing agencies.

179. Responsibility for environmental management and compliance with ADB's Safeguard Policy Statement (2009) requirements ultimately lies with UPPCL. UPPCL has the ultimate responsibility for all aspects of the Project. A PMU will be established within UPPCL which will be responsible for the overall management of the technical, environmental, and social aspects of the Project with the support of the PMC. UPPCL will be required to nominate as part of the PMU at least one suitably qualified and experienced staff to be receiving trainings and act as their (i) environmental focal; (ii) occupational health and safety focal; and (iii) social focal (also acting as GFP for UPPCL) to liaise with the DISCOMs.

180. Each DISCOM will act as implementing agency for their respective jurisdictions and a nominated DISCOM Project Manager will be responsible for the day to day management of the technical, environmental, and social aspects of the Project. In addition, each DISCOM will be required to nominate at least one suitably qualified and experienced staff to receive trainings and act as environment focal, health and safety focal, and community liaison/GFP for the DISCOM.

181. UPPCL and the DISCOMs will ensure that the specified staff resources and adequate environmental and social management and monitoring budgets are available to the Project and utilized as necessary for timely and satisfactory environment safeguards implementation.

182. Each contractor, for each contract package if they are awarded multiple contracts, will be required to nominate the following to receive trainings prior to the commencement of works and ensure compliance with the safeguard requirements (i) one appropriately qualified and experienced, dedicated Environment Officer designated with responsibility for ensuring implementation of the project-level EMP and any site-specific EMP included in the updated IEE; (ii) one appropriately qualified and experienced, dedicated Health and Safety

Officer designated with responsibility for ensuring implementation of the health and safety requirements under the project-level EMP and any site-specific EMP included in the updated IEE; (iii) one appropriately qualified and experienced, dedicated community liaison officer who will also act as the GFP for the contractor to undertake consultations and deal with any grievances received by the subproject; and (iv) appropriately qualified and experienced environment, health and safety site supervisors (several site supervisions will be required, the actual number depending on the scheduling of works) responsible for the day to day implementation of the EMPs who will be permanently based on-site for the duration of all works being undertaken for each subproject component/activity implemented.

183. The main responsibilities of each institution are listed below (this is not an exclusive list):

a) UPPCL (PMU) Responsibilities with Support Project Management Consultant (PMC)

- (i) Ensure that all environment safeguards requirements as given in ADB's Safeguard Policy Statement (2009), the SARF, applicable laws and rules of the Government of India and Uttar Pradesh Government, and UPPCL environmental framework and safeguards (EFS) for transmission and distribution projects, the IEE, and EMPs, are being fully complied with during all tranches and stages of the subprojects supported by the Project, including counterpart funded components/activities.
- (ii) Nominate at least one suitably qualified and experienced staff to act as the PMU's (a) environmental focal, (b) occupational health and safety focal, and
- (iii) (c) social focal (also acting as GFP for UPPCL) to liaise with the DISCOMs.
- (iv) Ensure that consolidated screening forms and consultation proformas are completed and the IEE updated as required by the DISCOMs for all subprojects and components/activities in accordance with the SARF prior to the DISCOM's approval of the contractor's detailed designs and the commencement of any construction works associated with them.
- (v) Review and approve all environment safeguard related documents prepared (such as consolidated screening forms, consultation proformas, the updated IEE, environmental monitoring reports etc.) seeking recommendations and clarifications from the DISCOMs where necessary prior to endorsement and submission to ADB for clearance and disclosure on the ADB website.
- (vi) Timely endorsement and signing of key documents and forwarding to the respective agency such as documents required for the processing of tree cutting permission, etc.
- (vii) Taking proactive and timely measures to address any environment safeguards related challenges at the national or state level such as delays in processing of clearances (during pre-construction stage) or significant grievances.
- (viii) Ensure that the DISCOMs have access to the SARF, IEE and EMP and that they fully understand their responsibilities to implement the EMP and mitigate environmental impacts associated with the design, pre-construction, construction, and operational and maintenance stages of the Project and, supported by the TRTA consultants, provide necessary safeguards training to their staff and contractors.
- (ix) Ensure that the requirements of the SARF and EMPs as relevant to the contractor are incorporated by the DISCOMs in the contract documents for each subproject.
- (x) Support DISCOMs in reviewing and approving contractor sub-plans e.g. construction EMPs plus traffic management plans, construction waste management plans, and health and safety plans.
- (xi) Support the DISCOMs in undertaking ongoing consultation and establishing and implementing the GRM, ensuring effective implementation of the GRM and that all relevant concerns and complaints are being promptly and effectively addressed.
- (xii) Supervise and monitor that the SARF and EMP is being properly implemented.
- (xiii) Ensure that the DISCOMs submit their quarterly reports for consolidation into and prepare the environmental monitoring reports semi-annually up until the completion of construction and annually thereafter up until project completion.
- (xiv) Submit environmental monitoring reports to ADB.
- (xv) In case unanticipated environmental impacts occur during the Project implementation stage, including design changes, for example, due to site conditions encountered by contractors following the approval of detailed designs, inform ADB, and, as required, ensure the DISCOMs update the IEE and EMPs for clearance by ADB before any changes are implemented by the contractor.

b) DISCOM (Project Manager) Responsibilities with Support Project Management Agency (PMA)

- (i) Together with the executing agency, ensure that all environment safeguards requirements as given in ADB's Safeguard Policy Statement (2009), the SARF, applicable laws and rules of the Government of India and Uttar Pradesh Government, and UPPCL EFS for transmission and distribution projects, the IEE and EMP, are being complied with during all tranches and stages of respective subprojects supported by the Project, including counterpart funded components/activities.
- (ii) Nominate at least one suitably qualified and experienced environment focal, health and safety focal, and community liaison focal who will also act as the GFP for the DISCOM.
- (iii) Prepare consolidated screening forms, consultation proformas, and the updated IEE in accordance with the SARF for all subprojects and components/activities prior to the DISCOM's approval of the contractor's detailed designs and the commencement of any construction works associated with them.
- (iv) Undertake site visits and consultations with villagers and landowners and complete the environment screening forms and consultation proformas for all subproject components/activities in accordance with the SARF requirements.
- (v) Provide necessary support and all required documentation to the TRTA consultants to enable them, on behalf of the DISCOMs, to adequately support preparation of the updated IEE in accordance with the SARF requirements.
- (vi) Obtain necessary permits and/or clearance from relevant government agencies (except those required to be obtained by the contractor) ensuring that all necessary regulatory clearances are obtained before the contractor is given permission to commence any construction works on the relevant components.
- (vii) Timely endorsement and signing of key documents and forwarding to the respective agency such as documents required for the processing of tree cutting permission by contractor, etc.
- (viii) Implement the SARF and EMP in respect of actions which have been allocated to the DISCOMs during the design, pre-construction, construction,
- (ix) and operation and maintenance stages.
- (x) Ensure that the requirements of the SARF and EMPs and RP as relevant to the contractor are incorporated in the contract documents for each subproject.
- (xi) Ensure that the contractors have access to the SARF, IEE, and EMP for their contract packages and that they fully understand their responsibilities to implement the requirements set out therein and mitigate environmental and social impacts associated with their design, pre-construction and construction activities and with support of UPPCL/TRTA consultants provide necessary safeguards training to them.
- (xii) Review and approve contractor sub-plans e.g. construction EMPs plus traffic management plans, construction waste management plans, and health and safety plans with support of UPPCL.
- (xiii) Undertake ongoing consultation and establish and implement the GRM, ensuring effective implementation of the GRM and that all relevant concerns and complaints are being promptly and effectively addressed at DISCOM level.
- (xiv) Undertake the requisite quantitative environmental and social monitoring as set out in the EMP during design, pre-construction, construction and operation.
- (xv) Supervise and monitor that the SARF and EMP are being properly implemented on a day to day basis.
- (xvi) Ensure that the contractors submit monthly environmental management reports (to be included as part of contractors' monthly progress reports) for consolidation into and prepare quarterly reports on environmental safeguards.
- (xvii) Submit quarterly reports on environmental safeguards to UPPCL for consolidation into the environmental monitoring reports.
- (xviii) In case unanticipated environmental and social impacts occur during the Project implementation stage, including any design changes, inform UPPCL, and, as required, update the IEE and EMP in consultation with relevant government agencies for clearance by ADB before any changes are implemented.
- (xix) In case of non-compliance, inform UPPCL, and help prepare in consultation with relevant

government agencies and implement as necessary a corrective action plan for clearance by ADB.

c) Turnkey Contractors' Responsibilities

- (i) Nominate the:
 - a. appropriately qualified and experienced, dedicated Environment Officer designated with responsibility for ensuring implementation of the project-level EMP and any site-specific EMP included in the updated IEE;
 - b. appropriately qualified and experienced, dedicated Health and Safety Officer designated with responsibility for ensuring implementation of the health and safety requirements under the project-level EMP and any site-specific EMP included in the updated IEE;
 - c. appropriately qualified and experienced, dedicated community liaison officer who will also act as the GFP for the contractor to undertake consultations and deal with any grievances received by the subproject; and
 - d. appropriately qualified and experienced environment, health and safety site supervisors (several site supervisions will be required, the actual number depending on the scheduling of works) responsible for day to day implementation of the EMPs who will be permanently based on-site for the duration of all construction works being undertaken for each subproject component/activity implemented.
- (ii) Confirm line alignments for the conversion to ABC and 11 kV feeders for approval by the DISCOMs, provide the inputs required for completing the subproject screening forms for subproject components/activities to the DISCOMs.
- (iii) Assist the DISCOMs in undertaking consultation; disclose the proposed line alignment for feeder separation, prior to the consultation.
- (iv) Implement the requirements of the SARF and EMPs as relevant to the contractor as incorporated in the contract documents, and specifically the project-level EMP and any site-specific EMPs included in the updated IEE, in respect of actions allocated to the contractor during design, pre-construction and construction.
- (v) Inform the DISCOM if there is a need to review and update the EMP (and IEE if required) based on site conditions i.e. a change in subproject scope or design is required and as needed provide documentation to update the IEE and EMP.
- (vi) Prepare sub-plans including construction EMPs plus traffic management plans, construction waste management plans, and health and safety plans as specified in the EMPs for review and approval by the DISCOM.
- (vii) Ensure that construction workers including all formal and informal subcontractors understand their responsibilities to implement the EMP and mitigate environmental and social impacts associated with their design, pre- construction and construction activities and with support of UPPCL and the DISCOM provide training to construction workers as required.
- (viii) Support the DISCOM in undertaking ongoing consultation and implementing the GRM.
- (ix) Undertake the requisite quantitative environmental monitoring as set out in the EMP during design, pre-construction and construction.
- (x) Submit monthly environmental management reports to the DISCOM (as part of the contractors' monthly progress reports). These reports will identify the details of work undertaken over the reporting period and document the environmental measures including monitoring activities that have been carried out on a component basis, problems encountered, and follow-up actions that were taken (or will be taken) by the contractor to correct the problems.
- (xi) In case unanticipated environmental impacts occur during the Project implementation stage, including design changes, for example to site conditions encountered by contractors following the approval of detailed designs, inform DISCOM, and, as required, help them to update the IEE for clearance by ADB before any changes are implemented.
- (xii) In case of non-compliance, inform the DISCOM, and help prepare and implement as necessary a corrective action plan for clearance by ADB.

D. Capacity Development

184. As discussed in the SARF given UPPCL and DISCOM do not currently have adequate capacity and have not previously implemented an ADB project, three sets of consultants will provide environment safeguards support to UPPCL and the DISCOMs to help them implement the Project,

- (i) Transaction TA (TRTA) consultants will be recruited by ADB under the accompanying TRTA project to (a) support the DISCOMs with updating the IEE in accordance with the SARF for clearance by ADB prior to works; (b) provide safeguards capacity development to UPPCL, the DISCOMs, and their consultants and contractors; and (c) ensure UPPCL, the DISCOMs, and their consultants are undertaking adequate safeguards supervision and monitoring during project implementation.
- (ii) PMC at UPPCL will assist UPPCL and their PMU in overall coordination and project management. They will support the executing agency prepare environmental monitoring reports during project implementation, help establish the GRM and address grievances received, and help ensure compliance with environmental safeguard requirements including this EMP.
- (iii) Four PMA (consultant teams) to support each of the DISCOMs with day to day project implementation. They will support the implementing agencies in completing site-specific assessments, undertaking site visits and consultations, establishing the GRM and addressing grievances received, supervising and monitoring their contractors' day to day work, and ensuring compliance with the environment safeguard requirements including this EMP.

185. The PMC and PMA consultant teams can complement and backstop UPPCL and the DISCOMs in meeting their responsibilities as outlined above, including but not limited to:

- (i) undertaking site visits and consultations with villagers and landowners and completing the environment screening forms and consultation proformas for all subproject components/activities in accordance with the SARF requirements;
- (ii) providing necessary support and documentation to the TRTA consultants to enable them to provide the updated IEE for subprojects;
- (iii) reviewing contract documents to ensure SARF and EMPs requirements as relevant to the contractors have been included, or assisting with variations if required;
- (iv) reviewing contractor sub-plans e.g. construction EMPs plus traffic management plans, construction waste management plans, and health and safety plans;
- (v) establishing environmental and social monitoring and reporting procedures that are in accordance with ADB's Safeguard Policy Statement (2009), SARF and EMPs requirements;
- (vi) providing input on safeguards and GRM for regular project progress reports;
- (vii) undertaking environmental compliance supervision and monitoring; and
- (viii) preparing the environmental monitoring reports.

186. In addition, various environment safeguard training activities will be provided for UPPCL, the DISCOMs, and turnkey contractors as budgeted for in the SARF and summarised in Table 21

Table 21: Summary of Training Activities

Item	Attendees
ADB's Safeguard Policy Statement (2009), SARF, undertaking Screening and Categorization, Meaningful Consultations, and Assessment of Subprojects including Auditing of Existing Substations	UPCCL safeguard focals, DISCOM PM and safeguard focals, PMA consultants Contractors EHS staff
a. PCB awareness and national requirements, and b. Hazardous materials and waste management system/procedure (train-trainers)	UPCCL safeguard focals DISCOM PM and safeguard focals DISCOM O&M Staff PMA Consultants Contractor EHS Staff

ADB's Safeguard Policy Statement (2009), EHS Guidelines, Implementing EMP and RP and Preparing Environmental and Social Monitoring Reports	UPCCL Safeguard Focals DISCOM PM and Safeguard Focals PMC E&S Specialists PMA consultants Contractor EHS staff
GRM requirements	UPPCL GFP DISCOM GFP Contractor GFP GRC representatives
a. EMP and RP implementation for detailed design and pre-construction, b. EMP and RP implementation for construction, and c. EMP for operation and maintenance. (train-trainers)	DISCOM PM and safeguard focals DISCOM O&M staff PMA consultants Contractors design team Contractors construction team Contractors EHS staff

E. Budget for EMP Implementation

Adequate budget and resources should be allocated by the turnkey contractor to implement the EMP as summarised in Table 22.

Table 22: EMP Implementation Budget

Item	Description	Unit Cost (\$)	Total Cost (\$)	Budget Source
Training activities	Table 21 (details in SARF)	n/a	80,850	TRTA budget
Monitoring and supervision capacity development support	PMC and PMA Consultant	n/a	48,000	PMC and PMA consultants (estimate)
Corrective action for existing facilities (substations)	Table 3 of Appendix 4		2,326,000	DISCOMs SS operational budget
Design, preconstruction and construction mitigation, monitoring and supervision	Table 1 of Appendix 4	0.2% of AB Cabling project cost and 0.3% of feeder separation project cost	1,088,800	Contract Cost, DISCOMs staff cost, PMC and PMA Consultant
Operation and maintenance mitigation, monitoring and supervision	Table 1 of Appendix 4	0.05% of total project cost per year	215,500 per year	DISCOMs internal cost
Quantitative monitoring activities per Table 2 of Appendix 4	Testing of transformer oil for PCB	\$20-25 per screening test, \$200 per laboratory test. (based on age and status of transformers anticipated only a sample of those screened will)	50,000	TRTA budget for PCB, air, and noise monitoring cost, DISCOMs staff cost, PMC and PMA Consultant (estimate)
	PM10 monitoring per 24-hour period, baseline plus spot checks	\$30 per sampling activity (assume 6no. per 26 subprojects plus travel)	10,000	
	Noise monitoring over a 48-hour period, baseline plus spot checks	\$20 per sampling activity (assume 6no. per 26 subprojects plus travel)	5,000	

APPENDIX 4: PROJECT ENVIRONMENTAL MANAGEMENT PLAN (EMP)

This project EMP is applicable to all subprojects under the Project and provides the mitigation and monitoring measures to be followed by the DISCOMs and their contractors in relation to potential impacts that are common to all subprojects. Following site-specific assessment, it will be identified if any additional site-specific management measures need to be applied to each subproject, these measures will be supplementary to those set out in this project EMP.

Table 1. Project EMP Mat1

Environmental Impact	Mitigating Measures	Performance Standard	Budget Source	Responsibilities		
				DISCOM (PMA Consultant)	UPPCL PMU (PMC)	Contractor
A. DESIGN AND PRE-CONSTRUCTION PHASE						
Existing facilities (substations)	<ul style="list-style-type: none">Complete environmental audit form included in the SARF for all substations that are existing facilitiesFollowing completion of the environmental audit form identify and implement applicable short-term and long-term actions from the CAP as set out in Table 3 of this EMP for all existing substations to which an 11kV feeder will connect.Submit a report on status of short-term corrective actions to ADB for clearance prior to the contractor being given access to the substation in question in order to undertake augmentation or connect in an 11kV feeder.Submit a report on status of long-term corrective actions to ADB prior to project completion.	<p>100% of short-term corrective actions implemented in a timely manner prior to contractor being given access</p> <p>100% of long-term corrective actions implemented in a timely manner prior to project completion (2029)</p>	ADB loan funds; see Table 3 of this EMP for CAP budget	Complete environment audit checklist, comply with corrective action plan	Supervise and monitor DISCOM compliance, preconstruction and project completion audit to confirm if corrective actions complied with	NA
Final IEE and EMP in contract documents	<ul style="list-style-type: none">DISCOM (PMA Consultant) and Contractor to undertake further consultations in	100% of consolidated screening forms	ADB loan funds for the cost of PMA	Complete screening forms for all	Review and endorse consolidated	Support DISCOMS PMA

Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	Responsibilities		
				DISCOM (PMA Consultant)	UPPCL PMU (PMC)	Contractor
	<p>accordance with the SARF [at the same time ensuring national COVID-19 requirements²² and WHO meeting²³ and hand hygiene²⁴ guidelines are followed including awareness raising activities, minimizing travel requirements, undertaking screening health checks to confirm those going in the field are not symptomatic, providing them with adequate supplies of personal hand sanitizer and masks, ensuring social distancing of at least 1m, that masks are worn at all times during consultations, and that a register of all contacts is maintained] to give community members the opportunity to be actively involved in the design process for all 11 kV feeder separation components.</p> <ul style="list-style-type: none"> Complete screening forms included in the SARF for all subproject components (on a divisional basis) and consultation proformas for small sample of ABC and all feeder separation components, confirm all components meet the subproject component selection criteria in the SARF Prior to DISCOM approval of the detailed designs and commencement of Construction for each division: seek ADB clearance of the consolidated screening forms, update the IEE as required, confirm 	<p>and consultation proformas submitted to and cleared by ADB before the commencement of works</p> <p>IEE updated as required and cleared by ADB before the commencement of works</p> <p>Relevant provisions of project-level EMP and site-specific EMPs, if required for feeder separation project components, included in contract documents</p>	<p>Consultant support to DISCOM, and ADB TRTA for updating of IEE for sample subprojects</p>	<p>subproject components and consultation proformas for small sample of ABC and all feeder separation components</p> <p>Confirm the compliance with subproject selection criteria of SARF</p> <p>Update IEE with the assistance of TRTA consultants.</p> <p>Include mitigating measures for Contractor as</p>	<p>screening forms for all subprojects, and consultation proformas for small sample of ABC and all feeder separation components</p> <p>Confirm the compliance with subproject selection criteria of SARF</p> <p>Endorse the updated IEE by TRTA consultants on behalf of DISCOMs for ADB clearance.</p> <p>Check contract document to ensure compliance</p>	<p>Consultant) to undertake consultation and complete consultation proformas.</p>

²² <https://www.mygov.in/covid-19> and <https://www.mohfw.gov.in/>

²³ <https://www.who.int/docs/default-source/coronavirus/advice-for-workplace-clean-19-03-2020.pdf>

²⁴ https://www.who.int/infection-prevention/campaigns/clean-hands/MIHO_HH-Community-Campaign_finalv3.pdf?ua=1

Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	Responsibilities		
				DISCOM (PMA Consultant)	UPPCL PMU (PMC)	Contractor
	<p>no change from the impacts and risks described and assessed in the IEE, undertake site-specific assessment and develop site-specific EMP if required, and seek ADB clearance of any updated IEE.</p> <ul style="list-style-type: none"> Ensure relevant provisions of the project- level EMP are included in the contract documents and that requirement to comply with any site-specific EMP included in updated IEE will form an integral part of the contractor's agreement. Contractor to implement measures in any site-specific EMP included in updated IEE. 			part of tender specifications		
Planning for construction environmental management	<ul style="list-style-type: none"> DISCOM with assistance TRTA Consultants to conduct training on EMP implementation for those with responsibilities under it. Contractor to nominate suitably qualified and experienced Environment Officer, dedicated Health and Safety Officer, and a Community Liaison/GRM Officer. Contractor to nominate EHS Site Supervisors who will be permanently based on-site for the duration of works undertaken for each component implemented. DISCOM to ensure GRM is fully operational . Conduct training on GRM for those with responsibilities under it and distribute verbally and through leaflets, brochures, 	<p>Contractor appointed full contingency of staff prior to mobilization</p> <p>CEMP approved before commencement of works</p> <p>100% landowner consent obtained and/or compensation paid prior to commencement of works</p> <p>No unresolved</p>	Part of detailed design and pre-construction cost, to be included in turnkey contracts (TKC)	<p>Comply with mitigating measures</p> <p>Include mitigating measures for Contractor as part of tender specifications</p> <p>Review and approval of CEMP</p> <p>Supervise and monitor Contractor compliance</p>	<p>Check contract document to ensure compliance</p> <p>Assist with review and approval of CEMP</p> <p>Supervise and monitor DISCOM/Contractor compliance</p>	Comply with mitigating measures

Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	Responsibilities		
				DISCOM (PMA Consultant)	UPPCL PMU (PMC)	Contractor
	<p>notices with the GRM contacts.</p> <ul style="list-style-type: none"> Prior to mobilization the Contractor to prepare and submit a construction environmental management plan (CEMP) to DISCOM for approval, to provide details on how contractor plans to implement the construction mitigation measures specified in this EMP and relevant parts of the International Finance Corporation's (IFC) Environment Health and Safety (EHS) Guidelines on Construction and Demolition (2007).²⁵ CEMP will identify temporary construction facilities needed e.g. laydown and storage areas, temporary workers facilities etc. Temporary impacts (e.g. land rentals) that are not within the assessed corridor of impact to be compensated for at cost of 	<p>grievances from local community</p> <p>Compliance with national laws and regulations</p>				
Release of toxic pollutants, chemicals and gases to receptors (air, water, land) from transformers and other project equipment	<ul style="list-style-type: none"> DISCOM with assistance TRTA consultants to conduct training on PCB hazards related to old transformers and requirements of national laws and regulations for their phase out and environmentally sound disposal. PCBs will not be used in any transformers and any other Project facilities a 	<p>100% of new and old transformers used in the project are confirmed to be PCB free by 2025</p> <p>No H&S incidents</p>	<p>ADB TRTA for support on training and testing (\$50,000)</p> <p>Part of detailed design and pre-</p>	<p>Comply with mitigating measures</p> <p>Facilitate specialist task of testing sample</p>	<p>Check contract document to ensure compliance</p> <p>Supervise and monitor DISCOM/ Contractor compliance</p>	<p>Comply with mitigating measures</p>

Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	Resoonsibilities		
				DISCOM (PMA Consultant)	UPPCL PMU (PMC)	Contractor
	<ul style="list-style-type: none"> Equipment purchased by DISCOM or Contractor for use on the Project to be accompanied by letter from the manufacturer and materialsafety datasheet for insulating oil used confirming that it is guaranteed PCB free and labelled as PCB free. In the absence of test data all transformers must be assumed by the Contractor to contain PCBs. In confirmingif old transformers used in the project are PCB free, DISCOM, supported by TRTA, to sample and analyze conservator typetransformers at risk, as per Table 16, of containing PCBs. Sampling and analysis to follow UNEP Guidelines for the Identification of PCB and Matericis Containing PCB²⁸and a health and safety risk assessment and plan referring to the measures in UNEP (2002) PCB Transformers and Capacitors: Frcrn Management to Reclassification and Disposal. To start with a representative sample of conservator type transformers should be screened for containing PCBs and if positive should be tested for PCB ina laboratory, startingwiththose at highest risk of containing PCBs as indicated Table 16. If any of these are found to contain PCBs then, taking a precautionary approach, the remaining conservator type 	<p>100% of PCB transformers disposed of under project are transported, stored, decontaminated, and disposed of in an environmentally sound manner by 2025 (national deadline is 2028)</p> <p>Compliance with national laws and regulations</p>	<p>construction cost, to be included in turnkey contracts (TKC)</p>	<p>transformers for PCBs</p> <p>Include mitigating measures for Contractor as part of tender specificatia'ls</p> <p>Supervise and monitor Contractor compliance</p> <p>Transport, storage, decontaminat ion, and disposal of contaminated units</p>		

Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	Responsibilities		
				DISCOM (PMA Consultant)	UPPCL PMU (PMC)	Contractor
	<p>belonging to the same manufacturers batch should be labelled as positive for PCB and other conservator type transformers at risk should also be tested. It is not recommended to test hermitically sealed type transformers. If PCBs are found in existing transformers and other project equipment they should be labelled as such.</p> <ul style="list-style-type: none"> Workers must wear suitable chemical and/or oil resistant gloves, goggles, and protective clothing whilst sampling transformers. Eye wash station and water supply to shower to be provided during sampling due to risk of PCB coming into contact with skin. Transformers known to contain PCBs may not be retained in-situ by the DISCOMS given the 2025 national deadline which coincides with the date of the project completion. DISCOM to ensure appropriate transport, storage, decontamination, and disposal of contaminated units; disposal should involve facilities capable of safely transporting and disposing of hazardous waste containing PCBs. Equipment that is found to be PCB free can be labelled as being PCB free for future reference. In decommissioning and disposing of any transformers DISCOM and Contractor to follow the Hazardous and Other Wastes 					

Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	Responsibilities		
				DISCOM (PMA Consultant)	UPPCL PMU (PMC)	Contractor
	<p>(Management and Transboundary Movement) Rules, 2016 for transport, storage and disposal of potentially PCB oil containing transformers; disposal should involve facilities and vendors licensed by the UPPCB to safely transport and dispose of hazardous waste containing PCBs.</p> <ul style="list-style-type: none"> On reaching stores DISCOM must ensure that old transformers are stored on drip trays. Surrounding soil that has been exposed to oil leakage from transformer equipment should be assessed by the Contractor, and appropriate removal and / or remediation measures for any contamination identified should be implemented in accordance with the IFC's General EHS Guidelines (2007).²⁸ 					
Interference with other utilities and traffic due to design and layout of Project equipment	<ul style="list-style-type: none"> Obtain necessary clearances consistent with the requirements of Government of India and Government of Uttar Pradesh from other utilities that could be affected by the Project (electric, water, sewerage, telecommunications, road, rail etc.) Contractor to prepare for DISCOM approval traffic management plan in consultation with relevant local authorities to ensure proper execution of traffic controls including where temporary 	<p>100% of clearances obtained before commencement of works</p> <p>Traffic management plan approved before commencement of works</p> <p>No unresolved</p>	Part of pre-construction cost, to be included in turnkey contracts (TKC)	<p>Comply with mitigating measures</p> <p>Include mitigating measures for Contractor as part of tender specifications</p>	<p>Check contract document to ensure compliance</p> <p>Assist with review and approval of traffic management plan</p>	Comply with mitigating measures

²¹ <http://extwprlegsl.fao.org/docs/pdfmd/183717.pdf>

²⁸ https://www.ifc.org/wps/wan/connedl29f51_37M>el 7-4660-b lf9-02bf561935e5/Finalo/o2.B-oo/ 2.BGeneral%2BEHSo/o2.BGuidelines.pdf?MOD=AJPERES&CVID=i0Wim3p

Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	ResDOnsibilities		
				DISCOM (PMA Consultant)	UPPCL PMU (PMC)	Contractor
	installation is required for health and safety purposes that highly visible guides, advance warning signs or flag persons are in place to direct pedestrian and vehicular traffic.	grievances from local community Compliance with national laws and regulations		Review and approval of traffic management plan Supervise and monitor Contractor compliance	Supervise and monitor DISCOM/ Contractor compliance	
Land acquisition and resettlement/ temporary disruption of farming activities	<ul style="list-style-type: none"> Distribution line alignment to be designed to be within road reserves as far as is practical, having minimal impact on private land holdings. Carefully select the line route to minimize impacts on existing structures (e.g. buildings) and roads, tracks, crops, canals, or drains. Where alignment is on private land Contractor to inform DISCOM who are to initiate engagement with landowner for obtaining consent or to compensate in accordance with the RP entitlement matrix. Schedule works to avoid or minimize crop disturbance where lines cross private land, such as undertaking works in between crops. If road reserves are being informally used for agriculture, compensation shall be paid for lost productivity in accordance with the RPs. 	<p>100% of consent obtained and/or compensation paid for erecting poles in private land prior to commencement of works</p> <p>Pre-condition survey approved before commencement of works</p> <p>No unresolved grievances from local community</p> <p>Compliance with national laws and regulations</p>	<p>Part of detailed design and pre-construction cost, to be included in turnkey contracts (TKC)</p> <p>RP budget for compensation</p>	<p>Comply with mitigating measures</p> <p>Include mitigating measures for Contractor as part of tender specifications</p> <p>Review and approval of pre-condition survey</p> <p>Supervise and monitor Contractor compliance</p>	<p>Check contract document to ensure compliance</p> <p>Supervise and monitor DISCOM/ Contractor compliance</p>	Comply with mitigating measures

Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	Responsibilities		
				DISCOM (PMA Consultant)	UPPCL PMU (PMC)	Contractor
	<ul style="list-style-type: none"> Since any damages must be paid by the Contractor, photographic and structural pre-condition surveys of property including existing structures (e.g. buildings) and roads, tracks, crops, canals, or drains should be completed and agreed with the DISCOM and property owner prior to any works to provide a baseline for any claims. If existing structures (e.g. buildings) and roads, tracks, crops, or, canals, or drains are damaged by works, the Contractor will be required to rehabilitate them to at least their condition prior to construction works to the satisfaction of the property owner 					
Cutting or trimming of trees and clearing of vegetation.	<ul style="list-style-type: none"> Carefully select the line route to avoid or at least minimize the need to cut/trim trees by avoiding areas with a high concentration of trees. Cutting or trimming of trees will only be planned when required to meet safety clearance requirements. Contractor to identify and conduct an inventory of trees to be cut prior to the start of works. Where alignment results in loss of loss of fruit-bearing trees that have economic value compensate in accordance with the entitlement matrix in the Project RPs; the contractor will pay any subsequent compensation for loss or damage to private trees due to the fault of the contractor's 	<p>100% of consents obtained and/or compensation paid prior to commencement of works</p> <p>No unresolved grievances from local community</p> <p>Compliance with national laws and regulations</p>	Part of detailed design and pre-construction cost, to be included in turnkey contracts (TKC)	<p>Comply with mitigating measures</p> <p>Include mitigating measures for Contractor as part of tender specifications</p> <p>Supervise and monitor Contractor compliance</p>	<p>Check contract document to ensure compliance</p> <p>Supervise and monitor DISCOM/ Contractor compliance</p>	Comply with mitigating measures

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Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	DISCOM (PMA Consultant!	Res--nsibilities	
					UPPCL PMU (PMC)	Contractor
	<p>work.</p> <ul style="list-style-type: none"> Obtain approvals for cutting of public trees from forest or other applicable department per national regulatory framework, permission is required for tree cutting of public trees outside protected or forest areas with compensatory afforestation on at least a 10:1 basis to be funded and undertaken by the DISCOM. DISCOM will monitor the progress of any compensatory afforestation process it has funded or undertaken to ensure that land is identified, the planting takes place, and the same number of trees remains established after two years after their plantation so "no net loss of biodiversity" is achieved. Schedule tree cutting/trimming works outside the bird breeding season. 			Ensure compensatory afforestation is funded or undertaken, monitor the health and survival of planted trees		
Encroachment into ecologically sensitive areas	<ul style="list-style-type: none"> No temporary or permanent Project facilities shall be established within precious ecosystems or ecologically sensitive areas including legally protected areas such as National Parks, Wildlife Sanctuaries; natural World Heritage sites; Ramsar sites, important bird areas; key biodiversity areas; reserve/protected forest areas; biodiversity heritage sites; wetlands; etc. In conjunction with detailed route survey confirm habitats and species present, identify locally important receptors e.g. 	<p>No impact on protected area, KBA, reserved forest area, etc.</p> <p>100% of new and existing lines designed to incorporate ecologically sensitive features</p> <p>Compliance with national laws</p>	Part of detailed design and pre-construction cost, to be included in TKC contract.	<p>Comply with mitigating measures</p> <p>Include mitigating measures for Contractor as part of tender specifications</p> <p>Confirm</p>	<p>Check contract document to ensure compliance</p> <p>Confirm the compliance with subproject selection criteria of SARF</p> <p>Supervise and monitor DISCOM/</p>	Comply with mitigating measures

Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	Responsibilities		
				DISCOM (PMA Consultant)	UPPCL PMU (PMC)	Contractor
	<p>mature trees to be avoided, determine if defined elephant corridors or tiger corridors are crossed by the route alignments, as well as confining the absence of any precious ecosystems, ecologically sensitive areas, or designated buffer zones. Confirm that all components are in accordance with the subproject component selection criteria in the SARF and/or subject to site-specific assessment if environmentally sensitive areas identified by survey work.</p> <ul style="list-style-type: none"> • If ABC lines are within designated buffer zones or defined elephant or tiger corridors, then outside the built-up area of habitation it will be ensured that the clearance above ground of the conductor is at least above the maximum trunk height of an elephant. • New 11kV lines will be designed to be ecologically sensitive in accordance with international good practice for birds, elephants etc. E.g. maintaining 1.5 meter spacing between energized components and grounded hardware or, where spacing is not feasible, covering energized parts and retrofitting elevated perches, insulating jumper loops, placing obstructive perch deterrents to change the location of 	regulations		<p>with subproject selection criteria of SARF</p> <p>Supervise and monitor Contractor compliance</p>	Contractor compliance	

Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	Responsibilities		
				DISCOM (PMA Consultant)	UPPCL PMU (PMC)	Contractor
	conductors, and / or using raptor hood.					
Impact on visual aesthetics / loss of original landscape beauty	<ul style="list-style-type: none"> New lines and distribution poles to be sited to minimize visual impacts and the amount of visual clutter as far as possible given the nature of the project. Consult individual households where a new pole location is directly in front of private property prior to finalizing detailed design. 	<p>No unresolved grievances from local community</p> <p>Compliance with national laws and regulations</p>	Part of detailed design and pre-construction cost, to be included in TKC contract.	<p>Comply with mitigating measures</p> <p>Include mitigating measures for Contractor as part of tender specifications</p> <p>Supervise and monitor Contractor compliance</p>	<p>Check contract document to ensure compliance</p> <p>Supervise and monitor DISCOM/ Contractor compliance</p>	Comply with mitigating measures
Location of workers camp and materials storage areas could adversely affect residential areas and sensitive receptors (schools, hospitals/clinics)	<ul style="list-style-type: none"> If required, laydown and storage areas, temporary worker camps, etc. to be located at least 25m from waterbodies, 50m from springs and groundwater wells, and 50m from sensitive receptors (houses, schools, clinics, temples, etc.) however noisy and dusty activities such as concrete batching, hot mix, construction workers overnight accommodation etc. to be located at least 200m away from any sensitive receptors. Local communities to be consulted when selecting sites for project facilities prior to finalization. 	<p>Related facilities located sufficient distance from nearest receptors</p> <p>No unresolved grievances from local community</p> <p>Compliance with national laws and regulations</p>	Part of detailed design and pre-construction cost, to be included in TKC contracts	<p>Comply with mitigating measures</p> <p>Include mitigating measures for Contractor as part of tender specifications</p> <p>Supervise and monitor</p>	Supervise and monitor DISCOM/ Contractor compliance	Implement mitigating measures

Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	Responsibilities		
				DISCOM (PMA Consultant)	UPPCL PMU (PMC)	Contractor
				Contractor compliance		
Risks of soil erosion, damages to sub-surface utilities and chance find of physical cultural resources during construction.	<ul style="list-style-type: none"> Schedule installation of poles during the dry season to minimize exposed areas subject to erosion by surface water runoff. No lines will be routed adjacent to physical cultural resources. Chance find procedure to be developed for implementation in the even physical cultural resources are found, to include the following procedures: <ul style="list-style-type: none"> If suspected physical cultural resources are encountered, all works at the find site should be immediately halted; The find should be assessed by a competent local District Office of Culture and Fine Arts official, and procedures to avoid, minimize or mitigate impacts to such physical cultural objects should be agreed in writing with them. Work should not begin until the procedures to avoid, minimize or mitigate impacts to the physical cultural resources have been agreed and implemented in full. If avoidance is not feasible, and no alternatives to removal exist, and the Project benefits outweigh the anticipated cultural heritage loss from 	<p>Chance find procedure approved before commencement of works</p> <p>No unresolved grievances from local community</p> <p>Compliance with national laws and regulations</p>	Part of detailed design and pre-construction cost, to be included in TKC contracts	<p>Comply with mitigating measures</p> <p>Include mitigating measures for Contractor as part of tender specifications</p> <p>Review and approval of chance find procedure</p> <p>Supervise and monitor Contractor compliance</p>	<p>Supervise and monitor DISCOM/Contractor compliance</p> <p>Assist with review and approvals of change find procedure</p>	Implement mitigating measures

Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	Resnnnsibilities		
				DISCOM (PMA Consultant)	UPPCL PMU (PMC)	Contractor
	<p>removal which is unlikely unless in case of resource of local value, following clearance of ADB the physical cultural resources should be removed and preserved using the best available technique in accordance with relevant provisions of national heritage protection laYIS and decrees.</p> <ul style="list-style-type: none"> Records should be maintained of all finds, including chain of custody instructions for movable finds. All constructionworkers to be made aware of the chance-find procedure 					
Pollution risk and generation of construction wastes	<ul style="list-style-type: none"> Prepare pollution prevention plan (PPP) and constructionwaste management plan (CWMP) for solidand hazardous waste management in accordancewith national regulations and the IFC's General EHS Guidelines (2007).2e Contractor to conduct training of workers on PPP and CWMP including good housekeeping and how to clean up oil/fuel spills and dispose of contaminated sorbent material whichwould be treated as a hazardous waste. 	<p>PPP and CWMP approved by DISCOM before commencement of works</p> <p>No unresolved grievances from local community</p> <p>Compliance with national laws and regulations</p>	<p>Part of detailed design and pre-construction cost, to be included in TKC contracts</p>	<p>Include mitigating measures for Contractor as part of tender specifications</p> <p>Review and approval of PPP and CWMP</p> <p>Supervise and monitor</p>	<p>Supervise and monitor DISCOM/Contractor compliance</p> <p>Assist with review and approvals of PPP and CWMP</p>	<p>Implement mitigating measures</p>

Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	Responsibilities		
				DISCOM (PMA Consultant)	UPPCL PMU (PMC)	Contractor
				Contractor compliance		
Health and safety	<ul style="list-style-type: none"> For all pre-construction and construction works comply with Government of India rules and regulations for the protection of workers. Prior to any pre-construction fieldwork being undertaken, since surveyors are at medium risk of exposure due to potential public interaction, DISCOM and Contractor to develop procedures to ensure that national COVID-19 requirements³⁰ and WHO workplace³¹ and hand hygiene³² guidelines are followed, including providing awareness raising activities for surveyors, minimizing travel requirements, undertaking screening health checks to confirm those going in the field are not symptomatic, providing surveyors with adequate supplies of personal hand sanitizer and masks, ensuring social distancing of at least 1m, that masks are worn at all times during consultations, and that a register of all contacts is maintained etc. No asbestos containing materials of any 	<p>100% of new project facilities do not use asbestos containing materials</p> <p>H&S Plan including COVID-19 response approved and cleared by ADB before commencement of works</p> <p>No unresolved grievances from local community</p> <p>Compliance with national laws and regulations</p>	Part of detailed design and pre-construction cost, to be included in TKC contracts.	<p>Comply with mitigating measures</p> <p>Review and approval of H&S Plan,</p> <p>Supervise and monitor Contractor compliance</p>	<p>Supervise and monitor DISCOM/Contractor compliance</p> <p>Assist with review and approvals of H&S Plans</p>	Implement mitigating measures

³⁰ <https://www.mygov.in/covid-19> and <https://www.mohfw.gov.in/>

³¹ <https://www.who.int/docs/default-source/coronavirus/advice-for-workplace-clean-19-03-2020.pdf>

³² https://www.who.int/infection-prevention/campaigns/clean-hands/MIHO_HH-Community-Campaign_FinalV3.pdf?ua=1

Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	Responsibilities		
				DISCOM (PMA Consultant)	UPPCL PMU (PMC)	Contractor
	<ul style="list-style-type: none"> To inform H&S risk assessment Contractor to check/survey for the presence of asbestos prior to any work to existing control buildings or equipment following national requirements and international good practice as detailed in the IFC EHS General Guidelines on OHS³³ and document findings. If any asbestos was found to be present and it will be disturbed by construction works, it must be removed following national requirements and international good practice per the IFC EHS General Guidelines on OHS and disposed of as hazardous waste material. For all construction works undertake risk assessment and prepare H&S plan in accordance with the IFC EHS General Guidelines on OHS for approval by DISCOM, considering occupational and community H&S and including adherence to electrical safety standards and emergency preparedness and response plan with communication systems and protocols to report an emergency situation. In undertaking H&S risk assessment and planning adequate attention given to potential exposure to PCBs and asbestos. In undertaking H&S risk assessment and planning adequate attention to be given to the risks associated with COVID-19 pandemic and other communicable viral 					

33 [https://www.ifc.org/wps/wcm/connect/U1d19c1ab-3ef8-42d4-bd61xb79648af3fe/2%2BOccupational %2BHealth%2Band%2BSafety. pdf?MOD=AJPERES&CVID=Is62x81](https://www.ifc.org/wps/wcm/connect/U1d19c1ab-3ef8-42d4-bd61xb79648af3fe/2%2BOccupational%2BHealth%2Band%2BSafety.pdf?MOD=AJPERES&CVID=Is62x81)

Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	Resnonsibilities		
				DISCOM (PMA Consultant)	UPPCL PMU (PMC)	Contractor
	<p>diseases. National restrictions for containing the spread of COVID-19 must be complied with and in developing the health and safety management plan Government of India (https://www.mvaov.in/covid-19 and https://www.mohfw.gov.in/) and World Health Organization guidance (https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance) should be followed. Contractor to ensure adequate sanitation and welfare facilities including for hand washing and personal protective equipment are provided on-site and at accommodation and to consider the ability of communities to comply with protective measures such as regular handwashing and for the local health care facilities capacity to deal with any infections. Particular attention must be paid to accommodation of workforce given the transient nature of work, to avoid spreading any virus between communities. H&S plan to include emergency preparedness and response plan including flow chart and contact details to deal with situation should any construction worker or community member be diagnosed with COVID-19 during the course of the works. Medical insurance should be provided for all workers with sick leave allowance to ensure symptomatic workers do not attend site due to no work-no pay policies. Given the socialist nature of the condition to</p>					

Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	Responsibilities		
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	<p>COVID-19 public health officials/experts to be consulted in undertaking the risk assessment and management planning for COVID-19.</p> <ul style="list-style-type: none"> Contractor to conduct training on occupational health and safety for all construction workers including refreshers. To include training for PMA and all Contractor management and construction workers including subcontractors before commencement of works. Contractor to conduct training of workers on emergency preparedness and response procedures in case of an occupational or community health and safety incident during construction works. To include training for PMA and all Contractor management and construction workers including subcontractors before commencement of works. Detailed designs of any ground mounted transformers to ensure infrastructure is located above the maximum flood level allowing for climate change (e.g. platforms to be placed at least 2m above the highest flood level) Design to include adequate pole foundation in order that all poles remain vertical during operation, and that the lines are tensioned. For reconditioning old poles or poles previously incorrectly installed may need to be replaced. 					

Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	Responsibilities		
				DISCOM (PMA Consultant)	UPPCL PMU (PMC)	Contractor
	<ul style="list-style-type: none"> Given seismic risk ensure the design of all foundations are checked for seismic safety by the design team. Given storm risk ensure that the design responds to the highest recorded wind speeds taking into account climate change. Design to provide on all poles and ground mounted transformers visual and written warning signages to the public to include the ISO 7010 Hazard Type: Electrical Symbol warning of the risk of electrocution. Design to provide lighting arrestors along all lines. Design to prefer pole mounted transformers over use of ground mounted transformers to minimise community H&S risks. To prevent touching or climbing design to provide around the base of all ground mounted transformers a fence with locked gate and for pole mounted transformers a suitable anti-climbing deterrent, to be used together with suitable warning signs. Detailed design of lines to ensure EMF levels are within international good practice International Commission on Non-Ionizing Radiation Protection (ICNIRP) reference levels (average and peak exposure) and to meet national vertical and horizontal safety distances Detailed design of lines to ensure their installation above or adjacent to locations 					

Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	Responsibilities		
				DISCOM (PMA Consultant)	UPPCL PMU (PMC)	Contractor
	<p>intended for highly frequent human occupancy (e.g. schools) is avoided. For lines within 5m of such facilities the detailed arrangement plan will be provided.</p> <ul style="list-style-type: none"> If safety distances found not to be complied with during reconductoring reroute to facilitate compliance; also reroute to avoid distribution lines passing over any school compounds or similar community facilities <ul style="list-style-type: none"> for any lines within 5m of such facilities the detailed minor rearrangement plan will be provided. 					
B. CONSTRUCTION PHASE						
<p>Unanticipated impacts on property including land and structures.</p> <p>Loss of agricultural land that causes temporary disruption of farming activities, damage to crops, bunds, canals and drains.</p>	<ul style="list-style-type: none"> Follow design drawings and implement careful construction practices to avoid damage to existing structures (e.g. buildings) and roads, tracks, crops, canals and drains. Demarcation of the working area and avoid encroachment outside the agreed corridor of impact. All unanticipated damage to existing structures (e.g. buildings) and roads, tracks, crops, canals and drains outside the assessed corridor of impact shall be restored to pre-project condition and/or compensated at the cost of the Contractor in line with the entitlement matrix in the Project RPs. 	<p>100% of structures (e.g. buildings) and roads, tracks, crops, canals and drains left in same condition as prior to construction</p> <p>No unresolved grievances from local community</p>	<p>Part of construction cost, to be included in TKC contracts</p>	<p>Check with Contractor regarding need for pole replacement on private land and initiate engagement with landowner</p> <p>Supervise and monitor Contractor compliance</p> <p>Undertake site visits</p>	<p>Supervise and monitor DISCOM/Contractor compliance</p> <p>Undertake site visits and review documentation to audit implementation of measures at all construction sites</p>	<p>Implement mitigation measures</p> <p>Advise PMA of need for pole replacement on private land</p>

Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	Resnsibilities		
				DISCO M (PMA Consultant!	UPPCL PMU (PMC)	Contractor
				checklistto confirm implementation of measures by Contactor		
Cutting or trimming of trees and clearing of vegetation.	<ul style="list-style-type: none"> No temporary or permanent Project facilities shall be established within protected areas, KBA, reservedforest areas etc. Follow design drawings and implement careful construction practices to avoid damage to trees. Demarcation of mature trees to be avoided and retained. Demarcation of the working area and avoid encroachment outside the agreed corridor of impact. Cutting or trimming of trees prohibited unless in accordance with design drawings in order to meet safety clearance requirements. Cut/trimmed trees and other vegetation trimmingswill be temporarily stored at designated places outside of built up area to avoid blocking of accesses or dumping on agriculturefields. Cut/trimmed trees and other vegetation trimmingswill be removed off-site as soon as line is completed. Unless sold for 	<p>No impacts on protected area, KBA, reserved forest areas etc.</p> <p>Works in accordance with project EMP, approved CEMP and compensatory afforestation plan</p> <p>Compliance with national laws and regulations</p> <p>No unresolved grievances from local community</p>	Part of construction cost, to be included in TKC contracts	<p>Supervise and monitor Contractor compliance</p> <p>Undertake site visits using checklistto confirm implementation of measures by Contactor</p>	<p>Supervise and monitor DISCOM/Contr actor compliance</p> <p>Undertake site visits and review documentation to audit implementation of measures at all construction sites</p>	Implement mitigation measures

Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	Responsibilities		
				DISCOM (PMA Consultant)	UPPCL PMU (PMC)	Contractor
	<p>licensed waste management facility with all waste transfer records retained.</p> <ul style="list-style-type: none"> Unanticipated loss of fruit-bearing trees that have economic value shall be compensated in accordance with the RP. Before cutting/trimming trees Contractor's Environment Officer to check for presence of nesting birds or roosting bats. Undertake works requiring tree cutting/trimming outside the bird nesting/breeding season. Avoidance of construction works from one hour after dawn to one hour before dusk in areas where there is no existing human disturbance. Removal and disposal of identified invasive plant species in an ecologically sound manner. Use of herbicides or burning in order to clear vegetation is strictly prohibited. 					
Interference with traffic and accessways	<ul style="list-style-type: none"> Implement agreed traffic management plan. Safe access to property and roads should be maintained and alternative routes and access provided where there are temporary diversions or blockages Stockpiling of concrete poles, spoil and cable reels shall be away from properties and only in designated areas where no 	<p>Works in accordance with project EMP and approved CEMP</p> <p>Compliance with national laws and regulations</p> <p>No unresolved</p>	Part of construction cost, to be included in TKC contracts.	<p>Supervise and monitor Contractor compliance</p> <p>Undertake site visits using checklist to confirm</p>	<p>Supervise and monitor DISCOM/Contractor compliance</p> <p>Undertake site visits and review documentation</p>	Implement mitigation measures

Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	Responsibilities		
				DISCOM (PMA Consultant)	UPPCL PMU (PMC)	Contractor
	<p>access will be blocked.</p> <ul style="list-style-type: none"> Implement traffic management controls during construction works with advance warning signs or flag persons to ensure health and safety of construction workers and road users. Road safety and warning signs must be posted at 500m, 100m, and immediately in advance of the works at least two weeks prior to the works commencing to inform the public of the temporary blockage of one lane of the road. Scaffolds will be constructed to protect pedestrians and vehicles (and the conductor itself) from potential injury /damage during conductor stringing over roads, rivers etc. 	grievances from local community		implementation of measures by Contactor	to audit implementation of measures at all construction sites	
Soil erosion during auguring/ excavation of pole foundation.	<ul style="list-style-type: none"> Minimize removal of existing vegetation and topsoil to that which is absolutely necessary. Topsoil disturbed will be used to restore the surface of the excavated area. Infertile and rocky material will where possible be reused as fill material, if it needs to be taken off site it will be disposed by licensed waste management operator at designated disposal area suitable for accepting inert wastes. Records of excavated soil, generated waste, and transfer records will be kept by the contractor. 	<p>Works in accordance with EMP measures and approved CEMP provisions</p> <p>Compliance with national laws and regulations</p> <p>No unresolved grievances from local community</p>	Part of construction cost, to be included in TKC contracts	<p>Supervise and monitor Contractor compliance</p> <p>Undertake site visits using checklist to confirm implementation of measures by Contactor</p>	<p>Supervise and monitor DISCOM/Contractor compliance</p> <p>Undertake site visits and review documentation to audit implementation of measures at all construction sites</p>	Implement mitigation measures

Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	Responsibilities		
				DISCOM (PMA Consultant)	UPPCL PMU (PMC)	Contractor
	<ul style="list-style-type: none"> Excavation will be limited to within the agreed corridor of impact, ideally road reserve Rehabilitate any disturbed areas beyond footprint of pole foundation to at least original condition through revegetation using native species etc. Use of auguring to limit the area to be disturbed for installation pole foundation. Undertake installation of poles during the dry season to minimize exposed areas subject to erosion by surface water runoff 					
Risks of damages to sub-surface utilities and chance find of physical cultural resources during construction.	<ul style="list-style-type: none"> Check with relevant local authorities (electric, water, telecoms) whether there are known pipes, cables, or other utility lines and carry out a scan using Cable Avoidance Tool (CAT) to identify any unknown underground utilities prior to excavation Rehabilitate any damaged utilities to at least original condition in conjunction with relevant local authorities at cost to the Contractor. Follow chance find procedure if physical cultural resources are found during construction works; if physical cultural resources are encountered, all works at the find site should be immediately halted. 	<p>Works in accordance with project EMP and approved CEMP provisions</p> <p>Compliance with national laws and regulations</p> <p>No unresolved grievances from local community</p> <p>Chance find procedure provisions followed</p>	Part of construction cost, to be included in TKC contracts	<p>Supervise and monitor Contractor compliance</p> <p>Undertake site visits using checklist to confirm implementation of measures by Contractor</p>	<p>Supervise and monitor DISCOM/Contractor compliance</p> <p>Undertake site visits and review documentation to audit implementation of measures at all construction sites</p>	Implement mitigation measures
Dust, noise and	<ul style="list-style-type: none"> Provide at least one-month advance notice to local community through the village 	Comply with CBCB air and	Part of construction	Supervise and monitor	Supervise and monitor	Implement mitigation

Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	Responsibilities		
				DISCOM (PMA Consultant)	UPPCL PMU (PMC)	Contractor
general disturbance to local community	<p>heads about the schedule of, location plan, and details of planned construction works.</p> <ul style="list-style-type: none"> Carry out construction works only during daytime hours (Bam-6pm) and on weekdays unless otherwise agreed with the village heads and all adjacent residents/occupants of buildings to avoid noise nuisance. Noise generating construction-related activities will be avoided during evenings, school hours, prayer times, religious or cultural events in close proximity to the sensitive receptors Construction noise in the vicinity of houses must be limited to 55dB(A) as 1hour LAeq – if nighttime work is permitted it must be limited to 45dB(A) as 1hour LAeq If these levels are exceeded, the contractor will be required to implement additional noise mitigation measures such as adjusting his working methods or placing of temporary noise barriers to ensure the noise standard is met. Construction workers exposure to noise should not exceed the levels set out in the General EHS Guidelines on Occupational Health and Safety otherwise the hearing protection is to be provided Construction to be conducted using manual and no heavy equipment. Use low noise generating equipment e.a. 	<p>noise standards, or WHO noise guidelines where stricter than the national</p> <p>Works in accordance with EMP measures and approved CEMP</p> <p>Compliance with national laws and regulations</p> <p>No unresolved grievances from local community</p>	cost, to be included in TKC contracts	<p>Contractor compliance</p> <p>Undertake site visits using checklist to confirm implementation of measures</p> <p>If required undertake quantitative dust and noise monitoring to confirm compliance with performance standards at any given location</p>	<p>DISCOM/Contractor compliance</p> <p>Undertake site visits and review documentation to audit implementation of measures at all construction sites</p>	measures

Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	Responsibilities		
				DISCOM (PMA Consultant)	UPPCL PMU (PMC)	Contractor
	<p>less than 55dBA sound pressure level at 1m</p> <ul style="list-style-type: none"> Prohibit the use of horns in areas where sensitive receptors are located (houses, schools, clinics, temples, etc.) Limit engine idling to maximum 5 minutes Ensure all construction vehicles are maintained in a good working order and have passed applicable emissions tests Ensure all stationary emission sources are maintained in good working order in accordance with manufacturer instructions and have passed applicable emission tests Position any stationary emission sources (e.g. diesel generators, compressors, etc.) as far as practical from sensitive receptors (houses, schools, clinics, temples, etc.) Impose speed limits on construction vehicles to minimize dust emission along areas where sensitive receptors are located (houses, schools, clinics, temples, etc.) During the dry season or in windy conditions undertake water sprinkling at least twice a day on unpaved access roads to distribution lines being used by construction traffic but more often if needed during windy conditions that enable dust to be easily mobilized of where sensitive receptors are located (houses, schools, clinics, temples, etc.) 					

Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	Responsibilities		
				DISCOM (PMA Consultant)	UPPCL PMU (PMC)	Contractor
	<ul style="list-style-type: none"> Vehicles delivering construction materials shall be covered Stockpiles of soil and other dust generating materials will be covered with tarpaulin Provide workers with N95 dust masks to be worn when ambient conditions are dusty or when dust generating activities take place Open burning of wastes generated by Project-related activities to be strictly prohibited 					
Pollution risk and generation of construction wastes	<ul style="list-style-type: none"> Implement agreed PPP and follow General EHS Guidelines for the use and storage of fuel, oil, and chemical including prevention and control of hazards associated with spill prevention, emergency response, clean up and contaminated soil remediation Fuel, oil and chemicals used to be kept under lock and key and stored in labelled, sealed containers on drip trays to provide secondary containment, ideally, they will be located on an impermeable surface and be under cover Mounting of plant containing oil and diesel on drip trays to catch leaks. Refueling operations, equipment servicing and washdown to take place on an impermeable surface at least 25m from watercourses, and 50m from springs and wells, with drainage directed through oil and grease interceptors before being discharged into a settling pond prior to 	<p>Works in accordance with EMP measures and approved PPP and CWMP</p> <p>Compliance with national laws and regulations</p> <p>No unresolved grievances from local community</p>	Part of construction cost, to be included in TKC contracts	<p>Supervise and monitor Contractor compliance</p> <p>Undertake site visits using checklist to confirm implementation of measures</p>	<p>Supervise and monitor DISCOM/Contractor compliance</p> <p>Undertake site visits and review documentation to audit implementation of measures at all construction sites</p>	Implement mitigation measures

Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	Responsibilities		
				DISCOM (PMA Consultant)	UPPCL PMU (PMC)	Contractor
	<p>discharge offsite</p> <ul style="list-style-type: none"> • Provide sufficient absorbent materials (e.g. sorbents, dry sand, sandbags) on-site for soaking up fuel, oil or chemical leaks/spills. • Provide workers with access to an existing functional toilet facility (toilets and hand washing area) or provide a self-contained portable toilet with hand washing facilities (open defecation and use of pit latrines to be prohibited) -generated wastewater to be disposed of to wastewater treatment plant • Construction materials will be sourced from existing approved sources with operating licenses. • Implement agreed CWMP and avoid or minimize the generation of waste materials, as far as is practicable. • Provision of an appropriate domestic solid waste and construction waste collection and disposal system. • Collect and segregate construction wastes including scrap metal, oils, and solid waste. • Store all wastes in designated, labelled area in an environmentally sound manner e.g. oils to be stored in sealed drums on drip trays, solid wastes to be stored in an enclosed bin. • Recover recyclable wastes that could be reused or sold to recyclers. • Prohibit burning of construction wastes . 					

Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	Responsibilities		
				DISCOM (PMA Consultant)	UPPCL PMU (PMC)	Contractor
	<ul style="list-style-type: none"> Prohibit dumping of construction wastes into canals, rivers, agricultural fields etc. Scrap metal waste to be immediately removed off-site to the DISCOM stores for appropriate reuse or disposal with all waste transfer records retained. Unless reused or sold, other construction waste to be disposed of to a suitably licensed waste management facility (depending on if hazardous or non-hazardous) with all waste transfer records retained. If existing wooden poles are removed ensure disposed of at facility that can handle potential chemical leaching properties given potential use preservative chemicals. Other hazardous wastes generated by construction (oily rags etc.) to be disposed of in accordance with the General EHS Guidelines³⁴ and Government of India's Hazardous and Other Wastes 					
Occupational health and safety	<ul style="list-style-type: none"> Require workers to confirm they have seen and understood the requirements of the OHS plan before proceeding with the work. Construction workers to be given medical check-up including checks for 	<p>No fatalities or lost time incidents</p> <p>100% of H&S</p>	Part of construction cost, to be included in TKC	Supervise and monitor Contractor compliance	Supervise and monitor DISCOM/Contractor compliance	Implement mitigation measures

³⁴ https://www.ifc.org/wps/lwr:m/ccmnect/29f51_37_el7-4660-b_lf9-02bf561935e5/Final/o2B-oo/_2BGeneral%2BEHSo/o2BGuidelines.pdf?MOD=AJPERES&CVID=i0Wim3p

³ <http://extwprlegs1.fao.org/docs/pdf/Tmd183717.pdf>

Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	Res-nsibilities		
				DISCOM (PMA Consultant)	UPPCL PMU (PMC)	Contractor
	<p>symptoms before being allowed on site.</p> <ul style="list-style-type: none"> Only allow suitably trained and qualified workers to be allowed to work on electrical equipment and at height, these workers must have training record of attending suitable training course on electrical safety and working at height and have a recent medical checkup to confirm they are fit for work. Untrained workers and/or workers not passing their medical checkup will not be permitted to work with live electricity or at height. Provide PPE for workers in accordance with Table 2.7.1. Summary of Recommended Personal Protective Equipment According to Hazard in EHS Guidelines on OHS with additional PPE provided as needed for COVID-19 risks. Enforce disciplinary system (e.g. immediate removal from site) for non-compliance with PPE requirements Require workers to observe the EHS Guideline on Construction and Demolition Require workers to observe EHS Guideline on T&D requirements for working with live power lines Ensure proper grounding and deactivation of live power lines during construction work 	<p>incidents including near miss recorded, immediately investigated, and corrective action taken to prevent repeat</p> <p>Works in accordance with EMP measures and approved H&S Plans</p> <p>Compliance with national laws and regulations</p> <p>No unresolved grievances from workers or the local community</p>	contracts	Undertake site visits using checklist to confirm implementation of measures	Undertake site visits and review documentation to audit implementation of measures at all construction sites	

Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	Responsibilities		
				DISCOM (PMA Consultant)	UPPCL PMU (PMC)	Contractor
	<p>by Health and Safety Officer in advance.</p> <ul style="list-style-type: none"> Only suitably trained workers that meet the requirements set out in EHS Guidelines on Transmission and Distribution (T&D) to be allowed to work on livepower lines with strict adherence to safety and insulation standards including those listed in the EHS Guidelines Require other workers to observe the minimum approach distances for excavations, tools, vehicles, pruning, and other activities when working around power lines Require workers to observe EHS Guideline on T&D requirements for working at height Require workers to test the structural integrity of poles prior to proceeding with the work. Use fall protection measures when working on poles, i.e. mobile elevated working platform, all workers are required to wear body harness. Unless transformers have been certified PCB free workers must wear suitable chemical and/or oil resistant gloves, goggles, and protectiveclothing whilst workingwith transformers. Eyewash station and water supply to shower to be provided on-site during works due to risk of PCB coming into contact with skin. Handwashin'3 facilitieswith clean runnin'3 					

Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	Responsibilities		
				DISCOM (PMA Consultant)	UPPCL PMU (PMC)	Contractor
	<p>water supply and soap as well as hand sanitizers and closed bins for disposal of hygiene-related wastes to be provided on-site during works. Display posters to promote handwashing and respiratory hygiene etc.</p> <ul style="list-style-type: none"> • Sanitation and welfare facilities used by construction workers to be regularly cleaned and disinfected by the contractor. • Ensure employees are able to take time off sick without being penalized, including any self isolation for COVID-19 that is required. • During construction works ensure qualified first aider and trained fire marshal is always available on-site with an appropriately equipped first aid kit and appropriate fire extinguisher and other firefighting equipment immediately available for use • Arrange with nearest Health Center and/or Hospital for emergency care of workers • Provide workers with access to an existing functional toilet facility (toilets and hand washing area) or provide a self-contained portable toilet with hand washing facilities (open defecation and use of pit latrines to be prohibited) -generated wastewater to be disposed of to wastewater treatment plant • Sufficient toilet facilities should be provided for the number of workers, and there should be an indication of whether the toilet facility is "in use" or "vacant" if not 					

Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	Responsibilities		
				DISCOM (PMA Consultant)	UPPCL PMU (PMC)	Contractor
	<p>segregated.</p> <ul style="list-style-type: none"> Toilet facilities to be provided with adequate supplies of hot and cold running water, soap, and hand drying device. Provide workers with access to clean eating area with supply of drinking water. Adequate supplies of potable drinking water meeting national standards should be provided to workers, groundwater must not be used as supply due to arsenic contamination etc. No forced or child labor to be employed in construction with the minimum age for employment on construction to be 18 given hazardous nature of work involved. 					
Community health and safety such as toppling of concrete poles, traffic and accidents, emergency spill of materials, and access of villagers to dangerous working areas.	<ul style="list-style-type: none"> Install on all poles visual and written warning signages to the public to include the ISO 7010 Hazard Type: Electrical Symbol warning of the risk of electrocution. Install lighting arrestors along all lines. Provision for ensuring security of the cable to avoid vandalism. Install around the base of all ground mounted transformers a fence with locked gate and for pole mounted transformers a suitable anti-climbing deterrent, to be used together with suitable warning signs. Fence and sign immediate working area to prevent public access during construction 	<p>No fatalities or lost time incidents</p> <p>100% of H&S incidents including near miss recorded, immediately investigated, and corrective action taken to prevent repeat</p> <p>Works in accordance with EMP measures</p>	Part of construction cost, to be included in TKC contracts	<p>Supervise and monitor Contractor compliance</p> <p>Undertake site visits using checklist to confirm implementation of measures</p>	<p>Supervise and monitor DISCOM/Contractor compliance</p> <p>Undertake site visits and review documentation to audit implementation of measures at all construction sites</p>	Implement mitigation measures

Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	Responsibilities		
				DISCOM (PMA Consultant)	UPPCL PMU (PMC)	Contractor
	<p>works</p> <ul style="list-style-type: none"> Do not leave hazardous conditions (e.g. unlit open excavations without means of escape) overnight unless no access by public can be ensured Prevent standing water as it may become a breeding habitat for mosquitoes etc. During construction works provide signage detailing site and office contacts in case of grievance. Before handover all poles to be confirmed to have adequate foundation that they will remain vertical during operation, and that all the feeder lines are correctly tensioned. Contractor will ensure affected communities are pre-informed of emergency procedures included in the agreed community health and safety plan and as appropriate given proximity of residents to works included in their mock drills etc. Contractors staff and local communities will also be given awareness raising in COVID-19, HIV/AIDS, other communicable diseases, and sexual, exploitation, abuse and harassment with strict penalties (e.g. immediate removal from site) for any non-compliance of workers to an agreed code of practice Display posters to promote handwashing and respiratory hygiene etc. 	<p>and approved H&S Plans</p> <p>Compliance with national laws and regulations</p> <p>No unresolved grievances from local community</p>				

Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	Res-nsibilities		
				DISCO M (PMA Consultant!	UPPCL PMU (PMC)	Contractor
	<ul style="list-style-type: none"> Wherever possible, the contractor should not discriminate and should proactively encourage the employment of suitably skilled women on the project. 					
C. OPERATIONAL AND MAINTENANCE PHASE						
Impacts on occupational health and safety due to exposure to live power lines, working at heights, and risks of accidents (electrocution, lightning, fires and explosion)	<ul style="list-style-type: none"> DISCOM to appoint suitably qualified and experienced staff on a full time basis to oversee implementation of environment, health and safety matters across the organization, to provide staff regular trainings, and continually improve compliance with national requirements and good international practice for EHS including health and safety and solid and hazardous waste management in particular For all maintenance works undertake risk assessment and prepare H&S plan in accordance with EHS Guidelines, considering occupational and community H&S and including adherence to electrical safety standards and emergency preparedness and response plan with communication systems and protocols to report an emergency situation. Require workers to confirm they have seen and understood the requirements of the OHS plan before proceeding with the work. DISCOM to conduct training on occupational health and safety for all operations and maintenance workers including refreshers. 	<p>No fatalities or lost time incidents</p> <p>100% of H&S incidents including near miss recorded, immediately investigated, and corrective action taken to prevent repeat</p> <p>Works in accordance with EMP measures and approved H&S Plans</p> <p>Compliance with national laws and regulations</p> <p>No unresolved grievances from local community</p>	DISCOM O&M Budget	DISCOM District Units; under supervision of DISCOM management	<p>Supervise and monitor DISCOM compliance</p> <p>Undertake site visits and review documentation to audit implementation of measures</p>	NA

Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	Responsibilities		
				DISCOM (PMA Consultant)	UPPCL PMU (PMC)	Contractor
	<ul style="list-style-type: none"> • DISCOM to conduct training of workers on emergency preparedness and response procedures in case of an occupational health and safety incident during operation and maintenance. • Only allow suitably trained and qualified workers to be allowed to work on electrical equipment and at height, these workers must have training record of attending suitable training course on electrical safety and working at height and have a recent medical checkup to confirm they are fit for work. • Provide PPE for workers in accordance with Table 2.7.1. Summary of Recommended Personal Protective Equipment According to Hazard in EHS Guidelines on OHS with additional PPE provided as needed for COVID-19 risks. • Enforce disciplinary system (e.g. immediate removal from site) for non-compliance with PPE requirements • Ensure proper grounding and deactivation of live power lines during maintenance work or before any work in close proximity to the lines • Require workers to test the structural integrity of poles prior to proceeding with the work • Use fall protection measures when working on poles, i.e. mobile elevated working platform, all workers are required to wear 					

Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	Responsibilities		
				DISCOM (PMA Consultant)	UPPCL PMU (PMC)	Contractor
	<p>body harness</p> <ul style="list-style-type: none"> Require workers to observe the minimum approach distances for excavations, tools, vehicles, pruning, and other activities when working around power lines During maintenance works ensure qualified first aider and trained fire marshal is always available on-site with an appropriately equipped first aid kit and appropriate fire extinguisher and other firefighting equipment immediately available for use Arrange with nearest Health Center and/or Hospital for emergency cares of workers Provide workers with access to an existing functional toilet facility (toilets and hand washing area) or provide a self-contained portable toilet with hand washing facilities (open defecation and use of pit latrines to be prohibited) -generated wastewater to be disposed of to wastewater treatment plant Occupational EMF exposure should be prevented or minimized through the preparation and implementation of an EMF safety program in accordance with the "Environmental, Health, and Safety Guidelines - Electric Power Transmission and Distribution-(IEC) dated 30 April 2007 					
Impacts to community health	<ul style="list-style-type: none"> For all maintenance works undertake risk assessment and prepare H&S plan in accordance with EHS Guidelines, 	No fatalities or lost time incidents	DISCOM O&M Budget	DISCOM District Units; under	Supervise and monitor	NA

Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	Responsibilities		
				DISCOM (PMA Consultant)	UPPCL PMU (PMC)	Contractor
and safety such as electrocution and lightning strikes, explosion and fire, and exposure to magnetic field.	<p>considering occupational and community H&S and including adherence to electrical safety standards and emergency preparedness and response plan with communication systems and protocols to report an emergency situation.</p> <ul style="list-style-type: none"> DISCOM to conduct training of workers on emergency preparedness and response procedures in case of a community health and safety incident during operation and maintenance. Undertake public information/awareness campaign covering all Project villages using distribution of posters, leaflets and safety booklets as well as orientation at village level on health and safety risks related to live electric lines and how to avoid or respond to incidents. Ensure affected communities are pre-informed of emergency procedures included in the agreed community health and safety plan and as appropriate given proximity of residents to works included in mock drills etc. Regularly inspect (at least quarterly) the condition of poles, lines and transformers to check minimum vertical clearance and protection is maintained; integrity of the poles and line is in good condition; electrical safety warning signs and lightning arrestors in place; missing or corroded parts are immediately identified and 	<p>100% of H&S incidents including near miss recorded, immediately investigated, and corrective action taken to prevent repeat</p> <p>Works in accordance with EMP measures and approved H&S Plans</p> <p>Compliance with national laws and regulations</p> <p>No unresolved grievances from local community</p>		<p>supervision of DISCOM management</p>	<p>DISCOM compliance</p> <p>Undertake site visits and review documentation to audit implementation of measures</p>	

Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	Responsibilities		
				DISCOM (PMA Consultant)	UPPCL PMU (PMC)	Contractor
	<p>replaced; that any leaking oil from transformers is immediately addressed; and, the status of any vegetation growth that may damage or threaten the integrity of the lines.</p> <ul style="list-style-type: none"> • Inspection protocol should include possible conductor snapping and de-energizing of the line within three cycles to avoid the potential for electrocution from a breakage • Keep photographic records and log of all inspections and actions taken in response. 					
Disturbance to local community due to operation and maintenance works.	<ul style="list-style-type: none"> • DISCOM to inform users of the timings of agricultural feeder operation • Preference is to allow electricity to be supplied to agricultural pumps at night due to opportunity for reduced evaporation of water thereby conserving water resources. • Provide awareness raising in respect of energy efficiency measures in order that energy consumption does not significantly increase as a result of increased hours of supply to residential properties. • Provide at least one month advance notice to local community through the village heads about the schedule of, location plan, and details of planned maintenance works. • Carry out maintenance works only during daytime hours and on weekdays unless otherwise agreed with the village heads. 	<p>Users informed of timings of feeder operation</p> <p>Energy efficiency awareness program delivered</p> <p>Works in accordance with EMP measures and approved H&S Plans</p> <p>Compliance with national laws and regulations</p> <p>No unresolved</p>	DISCOM O&M Budget	DISCOM District Units; under supervision of DISCOM management	<p>Supervise and monitor DISCOM compliance</p> <p>Undertake site visits and review documentation to audit implementation of measures</p>	NA

Environmental Impact	Mitigating Measures	Performance Standard	Budget/ Source	Responsibilities		
				DISCOM (PMA Consultant)	UPPCL PMU (PMC)	Contractor
	<p>detailing site and office contacts in case of grievance.</p> <ul style="list-style-type: none"> Implement traffic management controls during maintenance works with advance warning signs or flag persons to ensure health and safety of maintenance workers and road users. Prohibit the use of herbicides, pesticides or burning to control any vegetation growth or to manage vegetation waste. Removal and disposal of identified invasive plant species in an ecologically sound manner. Scrap metal waste to be immediately removed off-site to the DISCOM stores for appropriate reuse or disposal with all waste transfer records retained. Vegetation and other solidwaste to be immediately removed off-site and disposed of to a suitably licensed waste management facility with all waste transfer records retained. 	grievances from local community				

No.	Environmental Features	Aspect to be Monitored	Time, Frequency, Location and Method of Monitoring	Performance Standard	Responsible party		
					DISCOM PMA (PMA Consultant I	UPPCL PMU (PMC)	Contractor
PRE-CONSTRUCTION STAGE							
1.	PCBs in transformer oil	Transformer oiltesting to confirm transformers manufactured before 2016 to be retained as part of the project are PCB free. To start with a representative sample of conservator type transformers should be screened for containing PCBs and if positiveshould be tested for PCB in a laboratory, starting with those at highest risk of containing PCBs as indicated in Table 16. If any of these are found to contain PCBs then, taking a precautionary approach, the remaining conservator type transformers belongingto the same manufacturers batch should be labelled as positivefor PCB and other conservator type transformers at risk should also be tested.	Testing of transformer oil following UNEP Guidelines pre-construction to identify any with PCB	100% of transformers retained as part of the project are confirmed to be PCB free by 2025	DISCOMto facilitate testing by specialists and report at least quarterly to UPPCL	UPPCL to supervise testing and report at least semiannually to ADB	N/A
2.	Dust levels	Baseline dust levels for feeder separation subprojects based on sample subproject components.	Undertake PM10 monitoring taking 24-hour averages once over a fortnight during dry season, using professional, calibrated portable monitoring devices in	National standards for PM10 24 hour, no change from available baseline if WHO 24-hour guidelines exceeded	DISCOMto undertake testing (or arrange for it to be undertaken e.g.by TRTA Consultant) and rennrt at	UPPCL to supervise testing and report at least semiannually to ADB	N/A

No.	Environmental Features	Aspect to be Monitored	Time, Frequency, Location and Method of Monitoring	Performance Standard	Responsible party		
					DISCOM PMA (PMA Consultant I)	UPPCL PMU (PMC)	Contractor
			at least one typical village per subproject.		least quarterly to UPPCL		
3.	Noise levels	Baseline noise levels for feeder separation subprojects based on sample subproject components.	Undertake noise monitoring as 1hr LAeq over a 48-hour period, using professional, calibrated portable monitoring devices in at least one typical village per subproject.	Noise level limited to 55dB(A) as 1hour LAeq day and 45dB(A) as 1hour LAeq at night, no change from available baseline >3dBA if WHO guidelines exceeded	DISCOM to undertake testing (or arrange for ii to be undertaken e.g.by TRTA Consultant) and report at least quarterly to UPPCL	UPPCL to supervise testing and report at least semiannually to ADB	NIA
CONSTRUCTION STAGE							
4.	Construction materials and wastes	Materials used and waste generated during construction	Record all construction materials used and waste generated by construction (including type, volumes, sources, and disposal routes with copies of licenses if third parties are used)	100% of materials used and waste generated sourced or disposed of in environmental sound manner	DISCOM to supervise record keeping and to report at least quarterly to UPPCL	UPPCL to supervise record keeping report at least semiannually to ADB	Contractor to keep records and report monthly to DISCOM

No.	Environmental Features	Aspect to be Monitored	Time, Frequency, Location and Method of Monitoring	Performance Standard	Responsible party		
					DISCOM PMA (PMA Consultant I	UPPCL PMU (PMC)	Contractor
5.	Trees	Number of trees removed and replanted during construction	Record all trees removed during construction, compensation paid, and replacements planted (including location, species, size, and, economic value) and monitor their current health and survival status, for up to two years following a plantation	100% of trees removed compensated for or with 10:1 replacement by native tree species remaining established after two years	DISCOM to supervise record keeping and to report at least quarterly to UPPCL	UPPCL to supervise record keeping report at least semiannually to ADB	Contractor to keep records and report monthly to DISCOM
6.	Health and safety; injury to workers and villagers	Health and safety incidents (near miss including fires, minor, lost time, and fatal) to workers and villagers	Record all incidents associated with construction and responses taken (including date, time, and, details of incident, treatment given and the outcome)	Zero lost time or fatalities 100% lost time and fatalities reported to DISCOM/UPPCL in 24 hours For 100% incidents immediate action taken to avoid re-occurrence	DISCOM to supervise record keeping and to report quarterly to UPPCL but to report lost time and fatalities within 24 hours	UPPCL to supervise record keeping and report semiannually to ADB, but to report lost time and fatalities to ADB within 48 hours	Contractor to keep records and report monthly to DISCOM, but to report lost time and fatalities to DISCOM and directly to UPPCL within 24 hours
7.	Dust levels	Only required if DISCOM/UPPCL are concerned Contractor is not complying with the EMP measures or there are grievances raised related to dust generation.	Undertake PM10 monitoring taking 24-hour averages once over a fortnight with active earthworks during dry season, using professional, calibrated portable monitoring devices.	National standards for PM10 24 hour, no change from available baseline if WHO 24-hour guidelines exceeded	DISCOM to undertake testing (or arrange for it to be undertaken e.g. by TRTA Consultant) and report at	UPPCL to supervise testing and report at least semiannually to ADB	NIA

No.	Environmental Features	Aspect to be Monitored	Time, Frequency, Location and Method of Monitoring	Performance Standard	Responsible party		
					DISCOM PMA (PMA Consultant I)	UPPCL PMU (PMC)	Contractor
					least quarterly to UPPCL		
8.	Noise levels	Only required if DISCOM/UPPCL are concerned Contractor is not complying with the EMP measures or there are grievances raised related to noise generation.	Undertake noise monitoring as 1hr LAeq over a 48-hour period twice during active construction and once on completion prior to handover, using professional, calibrated portable monitoring devices.	Noise level limited to 55dB(A) as 1hour LAeq day and 45dB(A) as 1hour LAeq at night, no change from available baseline >3dBA if WHO guidelines exceeded	DISCOM to undertake testing (or arrange for ii to be undertaken e.g. by TRTA Consultant) and report at least quarterly to UPPCL	UPPCL to supervise testing and report at least semiannually to ADB	NIA
OPERATION STAGE							
9.	Trees	Number of trees replanted surviving during operation	Record the current health and survival status of all replacement trees, for up to two years following plantation	100% of replacement trees remaining established after two years	DISCOM to keep records and to report at least quarterly to UPPCL	UPPCL to supervise record keeping report at least semiannually to ADB	NIA
10.	Health and safety; injury to workers and Villagers	Health and safety incidents (near miss including fires, minor, lost	Record all incidents associated with orniect facilities and	Zero lost time or fatalities	DISCOM District Units to r"ort	UPPCL to supervise record	NIA

No.	Environmental Features	Aspect to be Monitored	Time, Frequency, Location and Method of Monitoring	Performance Standard	Responsible party		
					DISCOM PMA (PMA Consultant I	UPPCL PMU (PMC)	Contractor
		time, and fatal) to workers and villagers	responses taken (including date, time, and, details of incident, treatment given and the outcome)	100% losttime and fatalities reported to DISCOM/UPP CL in 24 hours For 100% incidents immediate action taken to avoid repeat	quarterly to UPPCL but to report lost time and fatalities within 24 hours	keeping and report semiannually to ADB, but to report lost time and fatalities to ADB within 48 hours	

Table 3. Common Corrective Action Plan for Existing Substations

No.	Issue	ICorrectiveAction	IBvwhom	IBv when	Budaet (source)
SHORT TERM CORRECTIVE ACTIONS					
1	Housekeeping / Waste Management	<ul style="list-style-type: none"> Label and move all drums of transformer DISCOM / SS oil and other stored fuels or chemicals to Managers to a covered, impermeable, 110% bunded implement, area. If bunded area is not currently supervised by UPPCL PMU available on-site then store them temporarily on drip trays undercover. Identify and cover all open ducts, channels, holes in the floor of buildings with solid panel or grating to remove trip hazards. Identify and demark within the SS compound appropriate waste storage yard and for storage of oil barrels etc. Collect all debris to remove trip hazards and segregate all solid and hazardous waste and ensure environmentally sound storage of all solid and hazardous waste in dedicated, labelled areas in the waste storage yard. Quantify and request stores to remove current scrap metal and electronic wastes stored on site; remove and transport all stored scrap metal waste from substation to DISCOM stores. Quantify and request stores to remove any old transformers and oil stored on site; remove and transport all stored 		Immediately to be completed by DISCOMs before any project works utilizing this substation	DISCOM SS operational budget.
2	Transformer Oil Leakage	<ul style="list-style-type: none"> Soak up existing oil spills and remove soil to depth 30cm for 1m beyond footprint for disposal to hazardous landfill site by reputable. 			

No.	Issue	Corrective Action	By whom	By when	Budget/source
		<ul style="list-style-type: none"> licensed contractor keeping photographic records and waste transfer notes. Extra gravel to at least 30cm depth extending 1m beyond footprint to be placed to intercept and prevent any further oil percolation into the ground. Provide in a signed, accessible location on-site enough absorbent materials (e.g. sorbents, dry sand, sandbags) to soak up oil soils. 			
3	Lighting and Ventilation	<ul style="list-style-type: none"> If existing lighting does not provide enough illumination to meet EHS Guideline standards (<i>Table 2.3.3. Minimum Limits for Workplace Illumination Intensity in OHS Guidelines</i>) install additional illumination Ensure existing ventilation ducts 	DISCOM / SS Managers to implement, supervised by UPPCL PMU	Immediately to be completed by DISCOMs before any project works utilizing this substation	DISCOM SS operational budget.
4	First Aid Equipment	<ul style="list-style-type: none"> Ensure appropriately equipped first aid kits available at first aid stations in each working area and building to be signed and easily accessible; to include list of equipment and use by dates. Ensure that a qualified first-aider is always provided on-site; this can be a member of staff trained in first aid. Eye-wash station and/or emergency shower to be provided, locate close to working area where immediate flushing with water is recommended 	DISCOM / SS Managers to implement, supervised by UPPCL PMU	Immediately to be completed by DISCOMs before any project works utilizing this substation	DISCOM SS operational budget.
5	Fire Safety Equipment	<ul style="list-style-type: none"> In each working area and building provide fire extinguishers and other manual fire fighting equipment maintained in good working order and 	DISCOM / SS Managers to implement, supervised by UPPCL PMU	Immediately to be completed by DISCOMs before any project works utilizing this	DISCOM SS operational budget.

No.	Issue	Corrective Action	By whom	By when	Budget (source)
		<p>readily accessible- number to be adequate for size of premises, equipment installed, physical and chemical properties of substances present, and the maximum number of people present.</p> <ul style="list-style-type: none"> Ensure that a firemarshal is always provided on-site; this can be a member of staff trained in emergency procedures to follow in event of fire. 			
6	Community Health and Safety	<ul style="list-style-type: none"> Erect a new or maintain existing fence with locked gates around the SS compound to prevent access by unauthorised persons if there are gaps Provide appropriate signage to warn of electrical hazards to include the ISO 7010 Hazard Type: Electrical Symbol warning of the risk of electrocution Erect a new or maintain existing fence around the transformer and switchyard appropriately signed to include the ISO 7010 Hazard Type: Electrical Symbol 	DISCOM / SS Managers to implement, supervised by UPPCL PMU	Immediately to be completed by DISCOMs before any project works utilizing this substation	DISCOM SS operational budget.
LONG TERM CORRECTIVE ACTIONS					
7	Housekeeping / Waste Management	<ul style="list-style-type: none"> Develop and cascade to all SS for implementation a standardized hazardous materials and waste management system/procedure in accordance with national laws and regulations and the EHS Guidelines on Hazardous Materials Management and Waste Management. If waste generation cannot be avoided but has been minimized, the preference should be recovery and reuse. Where waste cannot be recovered or 	UPPCL DISCOMs to develop system/procedure and provide training with technical support TRTA consultant	By project completion, 2025-2029 depending on legal requirements	TRTA Budget and DISCOM SS operational budget.

No.	Issue	Corrective Action	By whom	By when	Budget (source)
		<p>reused, reputable, legitimate, licensed contractors must be appointed to treat, destroy and dispose of it in an environmentally sound manner.</p> <ul style="list-style-type: none"> Develop as part of the system/procedure a checklist for SS managers to follow on correct storage and disposal of old transformers, transformer oils, other fuel, oil, lubricants, and chemicals, scrap metals and electronic wastes, lead acid batteries, municipal solid wastes, etc. Once stockpiled waste cleared enough workers and vehicles to remain available to collect from all the SS on a regular basis. Provide training to all SS managers on implementation of the hazardous materials and waste management system/procedure and use of the checklist on storage and disposal (document training and attendance) 			
8	Transformer Oil Leakage	<ul style="list-style-type: none"> Carry out preventive maintenance of transformers and ensure valves, nuts and bolts are fully functional and tightly secured, ensure rubber seals of radiators are intact, continue to do so on a regular basis. Existing concrete foundations for transformers to be retrofitted so that an impermeable platform extends 1m beyond the footprint and incorporate elevated impermeable bunds to 110% capacity above the highest known flood level. If not available construct dedicated, covered bunded impermeable area to 	DISCOM / SS Managers to implement, supervised by UPPCL PMU	By project completion, 2025-2029 depending on legal requirements	DISCOM SS operational budget.

No.	Issue	Corrective Action	By whom	By when	Budget (source)
		<p>110% for storage of new transformer oil to prevent the leakage of oil into the ground.</p> <ul style="list-style-type: none"> • Test for PCBs in accordance with the EMP and label transformers as PCB free or containing PCBs in accordance with international good practice and keep inventory of equipment and the PCB status on-site. • Soil and groundwater investigation to be undertaken by suitably qualified consultant to confirm extent of any contamination across/beneath SS from oil leaks and spills and determine if additional remedial measures required. 			
9	Fire Safety Equipment	<ul style="list-style-type: none"> • In control buildings, all rooms to be installed with fire detectors with visible and auditable alarm. 	DISCOM / SS Managers to implement, supervised by UPPCL PMU	By project completion, 2025-2029 depending on legal requirements	DISCOM SS operational budget.
10	Handling Emergencies	<ul style="list-style-type: none"> • Develop and implement emergency preparedness and response plans for (i) environmental incident, (ii) health and safety incident in accordance with the General EHS Guidelines to include details of emergency equipment on site, DISCOM designated team, nearest doctors, hospital, fire station, monthly testing of fire alarms, emergency preparedness and response training plan, and quarterly emergency drills with records. 	DISCOM / SS Managers to implement, supervised by UPPCL PMU	By project completion, 2025-2029 depending on legal requirements	DISCOM SS operational budget.
11	Health and Safety of Staff	<ul style="list-style-type: none"> • Conduct health and safety training and awareness workshop for staff- the importance of safety needs to be stressed to effect behavioral/attitudinal change 	DISCOM / SS Managers to implement, supervised by UPPCL PMU	By project completion, 2025-2029 depending on legal requirements	DISCOM SS operational budget.

No.	Issue	Corrective Action	By whom	By when	Budget (source)
		<ul style="list-style-type: none"> • PPE (footwear, masks, protective clothing and goggles in appropriate areas) to be provided to the staff in accordance with Table 2.7.1. Summary of Recommended Personal Protective Equipment According to Hazard in EHS Guideline on OHS with additional PPE provided as needed for COVID-19 risks • Introduce disciplinary system for non-compliance with PPE requirements to enforce their use in accordance with the DISCOM requirements for work being carried out • Periodic checks of safety kits at substations should be carried out, recorded and information on the same should be monitored as per operating procedures. • Survey for asbestos containing materials in existing control buildings following national requirements that exist and international good practice; retain copy of survey on site for future record. 			
12	Drainage	<ul style="list-style-type: none"> • Identify areas of the SS most susceptible to flooding from experience. Install underground drainage pipe or channel of enough size to accommodate runoff around the perimeter of SS site with oil interceptor fitted on the outlet into the drainage system outside the boundary of the SS. • Once built, the drainage pipe or channel must be kept clear of scrap-metal and other solid waste in order to not clog the hydraulic flow into the drains outside. 	DISCOM / SS Managers to implement, supervised by UPPCL PMU	By project completion, 2025-2029 depending on legal requirements	DISCOM SS operational budget.
13	Sanitation and Welfare Facilities	<ul style="list-style-type: none"> • Provide SS staff with access to an 	DISCOM / SS	By project	DISCOM SS

No.	Issue	Corrective Action	By whom	By when	Budget (source)
		<p>existing functional toilet facility (toilets and hand washing area) connected to existing sewerage system or functional septic tank with soakaway or provide a self-contained portable toilet with hand washing facilities (use of pit latrines to be prohibited).</p> <ul style="list-style-type: none"> • Toilet facilities to be provided with adequate supplies of hot and cold running water, soap, and hand drying device as well as a lock or an indication if occupied. • Provide SS staff with access to indoor kitchen facilities and a clean eating and rest area that has an adequate supply of drinking water. • Supply of potable drinking water meeting national standards to be available to SS staff. 	Managers to implement, supervised by UPPCL PMU	completion, 2025-2029 depending on legal requirements	operational budget.

4. Drawings

3.1. REC standard drawings and UPPCL drawings provided in **Volume II Part-5** are indicative drawings for execution of the scope of works. During the implementation stage, the Contractor shall prepare and submit actual drawings according to plant / equipment / material being supplied and as per site requirements which should be approved the Employer.

3.2. In case any detail relating to the scope of works are not covered in the indicative drawings, additional drawings should be prepared by the Contractor in accordance with the existing practice of the DISCOM and as per applicable standards & statutory requirements for approval of the Employer

5. Supplementary Information

5.1 Contractor's obligations for PMS, QAM and OSM

The Contractor when carrying out project implementation works is required to partake assigned responsibilities for implementing the Project Management System (**PMS**) and Quality Assurance and evaluation Mechanism (**QAM**) in coordination with the Employer for successful implementation of the project. The Contractor is also required to implement an occupational health & safety management system (**OSM**) when carrying out specified scope of works.

5.2 Project Management System (PMS)

5.2.1 Employer will designate a Team Leader to coordinate and manage all project related activities who will act as the overall in-charge whose decisions are binding on the binding on implementation of the project. The Contractor shall assign a Team Leader with the authority to make commitments and decisions. All communications between Employer and the Contractor shall be coordinated through the project managers.

5.2.2 Project Management Agency (PMA):

Employer will appoint a Project Management Agency (PMA) to assist the DISCOM Project Manager for carrying out project management functions on behalf of the Employer.

PMA will carry out project planning, implementation and quality monitoring activities on behalf of the Employer / Project Manager. This includes effective implementation of PMS and QAM for successful implementation of the Project. PMA in consultation with the Project Manager will introduce necessary systems including formats for submittals and communications for project implementation.

The Contractor is required to effectively coordinate implementation activities with the PMA and comply with the instructions / directions provided by them on behalf of the Project Manager.

5.2.3 Project Management Unit (PMU):

A project Management Unit (PMU) will be established at UPPCL level to monitor and supervise the overall progress of the Project at all DISCOMs. PMU will also coordinate top level project management activities and provide IT enabled online services for project management.

The Contractor is required to comply with the systems established by the PMU for provision of above services.

5.2.4 Organogram:

The Contractor shall supply to the Employer an organization chart showing the proposed

organization to be established by the Contractor for implementation of project activities. This should include names, contacts and roles of proposed key project personnel.

5.2.5 Project Implementation Program:

The bidder shall submit a preliminary implementation plan along with the bid.

The Contractor shall submit detailed implementation program showing the sequence in which proposed implementation activities to be carried out with time periods in the form of "BAR CHART" and "SUB BAR CHARTS" within 28 days after effective date. Also Contractor shall indicate the dates by which the Contractor reasonably requires that the Employer shall have fulfilled its obligations under the Contract so as to enable the Contractor to execute the contract in accordance with the program and to achieve completion, commissioning and acceptance in accordance with the Contract. The program so submitted by the Contractor shall accord with the dates and periods specified in the Contract. The Contractor shall update and revise the program as and when appropriate or when required by the Project Manager, but without modification in the times for completion given in the SCC and any extension granted and shall submit all such revisions to the Employer.

The detailed project implementation program shall include schedule of following activities:

- Surveying of sites
- Documents submission and approval schedule
- Material procurement and testing
- Material dispatch
- Installation, testing and commissioning

5.2.6 Progress Report

The Contractor shall monitor progress of all the activities specified in the project implementation program and supply a progress report to the Project Manager every month. The progress report shall be in a form acceptable to the Project Manager and shall indicate:

(a) percentage completion achieved compared with the planned percentage completion for each activity; and (b) where any activity is behind the program, giving comments and likely consequences and stating the corrective action being taken.

5.2.7 Transmittals

Every document, letter, progress report, change order, and any other written communications exchanged between the Contractor and employer shall be assigned a unique transmittal number. The Contractor shall maintain a correspondence index and assign transmittal numbers for all Contractor documents. Employer will maintain a similar numbering scheme identifying documents and correspondence that Employer initiates.

Transmittals shall be submitted in accordance with the formats designed by the PMA and indicative time schedules where applicable.

5.2.8 Meetings

Scheduled project meetings shall be conducted each month attended by the Contractor, Employer, PMA and PMU in order to review the progress and to discuss and resolve any implementation issues. Minutes of the meetings shall be maintained.

5.2.9 Web portal

A project web portal will be established by the Employer for effective management of project implementation activities. This will be established by the Project Management Unit (PMU). Most of the project processors including QAM, approvals, submittals and progress monitoring will be carried out online through the project web portal. The Contractor is required to make use of the project web portal as instructed by the Project Manager including provision of necessary inputs and submittals, obtaining necessary approvals and updating project information.

5.2.10 Quality Assurance and Evaluation Mechanism (QAM)

The quality assurance and evaluation mechanism (QAM) will be established by the Employer to ensure functionality, reliability, durability and performability of plant, equipment, materials and works implemented under the project.

The key objectives and measures to accomplish these objectives for effective implementation of the QAM are indicated in the table below;

Scope	QAM Objective	QAM Measures
Supply	<ul style="list-style-type: none"> • All plant, equipment and materials are supplied in accordance with the technical specifications and drawings. • Any deviations from the above are declared and approved. • The subcontractors / manufacturers possess required qualifications and experience as per specified requirements including licenses. • Type testing requirements as per technical specifications are fully complied. • Acceptance and routine tests are carried out as per specifications during the manufacturing process. • All items supplied conform to the guaranteed technical Particulars (GTPs) furnished by the Contractor . • All items are packed and transported as per requirements of technical specifications. • All items are stored in accordance with specified requirements. 	<ul style="list-style-type: none"> • Verification of qualifications of the subcontractor / manufacturer for supply of plant / equipment and materials. Factory inspections may be conducted if required. • Verification of material data, specifications, drawings and samples submitted by the Contractor including GTPs. • Verification of type test reports including qualifications of the test laboratory, completeness and acceptance of the type test reports. • Witnessing acceptance tests carried out by the subcontractor / manufacturer. • Carrying out pre-dispatch inspections for all key items. • Inspection of storage facilities of the Contractor.
Works	<ul style="list-style-type: none"> • All erection / installation works are carried out in full complacence with the specifications including requirements specified in scope of works, technical specifications and drawings. • All items installed at site are approved materials complying with the specifications. • All Installations are carried out following proper technical procedures including correct tensioning of cables, proper jointing / connections / 	<ul style="list-style-type: none"> • Carry out filed inspections on sample basis during implementation to verify works are carried out in compliance to technical specifications and acceptable quality of workmanship. • Issue Site Observation Reports (SOR) and follow-up with the Contractor implementation of any remedial actions. • Issue Warning Letters for any serious non-compliances and Advisory Notices

Scope	QAM Objective	QAM Measures
	<p>terminations and using proper equipment and tools.</p> <ul style="list-style-type: none"> • Workmanship of installations are of acceptable quality. • All works are approved for hand-over and acceptance. 	<ul style="list-style-type: none"> • Review Contractors notice of work completion including commissioning test reports for compliance to technical requirements. • Upon completion, carry out joint inspections together with the DISCOM staff and Contractor for final measurements and quality inspections. • Ensure all defects / punch list items are cleared by the Contractor prior to hand over and processing of payments for respective works. • Follow-up any on technical issues for corrective action during defects liability period.

It should be noted that no functional guarantees are applicable for equipment installed as a part of this contract hence Guarantee Tests are not applicable.

The PMA is responsible to implement the QAM measures including verifications and inspections mentioned above. The project manager may also engage third party inspectors for this purpose in addition to PMA as and if required.

PMA shall design systems and procedures to implement QAM system including formats for submittals by the Contractor in line with the above requirements and provisions of the Contract. The Contractor shall cooperate with and follow these QAM systems and procedures to ensure proper implementation of an effective quality assurance and evaluation mechanism.

1.1. Occupational Health and Safety Management

- 1.1.1. As per provisions laid down in CEA regulation – 'safety requirements for construction, operation and maintenance of electrical plants and electric lines', 2011 or subsequent amendments thereof (<http://www.cea.nic.in/regulations.html>), safety requirements of the owner are required to be complied by the Contractor's employees as well during execution of works.
- 1.1.2. Contractor shall be fully responsible for the safety of workers, public, plant and equipment during execution of works until handover. Further as per sated regulations the Contractor is

required to appoint a safety coordinator to ensure the implementation of safety requirements and to liaise with the safety officer of the Employer.

1.1.3. The Contractor is therefore required to prepare a **Safety Plan** indicating provisions for ensuring for safety, incorporating safety requirements of the owner and as provided in regulations. The safety plan submitted by the Contractor should include the following;

- Defining policy and responsibilities for safety
- Allocation of human, physical and financial resources
- Compliance to owner's safety requirements
- Measures to ensure safety at work
- Defined procedures for obtaining permit to work, isolation & earthing of lines
- Provisions to ensure use of safety equipment such as safety belts, helmets etc. during execution of works
- Provisions to ensure public safety during execution of works
- Provisions to ensure awareness of works on safety requirements including training
- Emergency management plan for quickly and effectively dealing with probable emergencies / accidents including first aid, medical evaluation etc.
- System to monitor and report matters of safety including compliance and accident reporting.
- Provision for liaising and reporting on matters of safety with the owner

1.1.4. The Safety Plan shall be approved by the Project Manager. The Contractor is responsible to ensure compliance to the safety plan. The Project Manager will make arrangements to monitor effective implementation and compliance to the approved safety plan.

1.2. Scope of Supply

Supply of all plant / equipment and materials to be installed as a part of the specified scope of works comes under the scope of supply. The following general requirements shall apply in this respect subject to detailed requirements provided in the technical specifications and drawings given in Volume II.

1.2.1. Data and Samples

The Contractor shall furnish technical data sheets / guaranteed technical particulars (GTP) for supply of all plant / equipment and materials in accordance with forms provided in technical specifications. In addition, catalogues, engineering data, technical information, design documents, drawings etc shall also be provided. Samples of the items shall be provided for inspection upon request of the Employer during the implementation stage.

The Contractor shall ensure that manufacturer shall not commence production until written approval of the Employer is provided for proposed material upon review of all documents and

samples including technical data sheets / GTP, non-compliance schedules and type test reports.

1.2.2. Deviations and Non-compliances

The Contractor shall submit schedule of deviations / non-compliances for all items under the scope of supply clearly indicating any deviations from specifications and drawings. Any discrepancy between the specification and the catalogues or the bid, if not clearly indicated in the schedule of deviations, will not be considered as valid deviation.

Manufacturers may have standardized on the use of certain components, materials, processes or procedures different from those specified in technical specifications. Alternate proposals offering similar equipment based on the manufacturer's standard practice will also be considered provided such proposals meet the basic design, standard and performance requirements and are acceptable to the Employer.

1.2.3. Type Tests

It is necessary that certified copies of type test reports for all mandatory type tests specified in relevant technical specifications / standards for each item in the scope of supply to be furnished by the Contractor issued during period not exceeding 5 years from the date of submission for approval.

In case the Contractor opts to supply any item from more than one manufacturer, certified copies of type tests reports shall be submitted for each manufacturer / product.

Type tests shall be carried out at a reputed independent CPRI / ERDA accredited testing laboratory and/or accredited to ISO/IEC 17025:2005 for carrying out specified type tests.

The Employer may intend to conduct additional (optional) type tests or repeat any specific type tests prior to approving a specific item. In this case the Contractor shall facilitate and make necessary arrangements to conduct these tests in coordination with the manufacturer.

1.2.4. Acceptance Tests

The Contractor shall submit notice of acceptance tests to be carried out by the manufacturer for each batch of supply at least two weeks in advance. The Employer may nominate his representative and / or third party inspection company to witness the tests to verify compliance to the specified technical requirements. The Contractor shall facilitate such inspections in coordination with the manufacturer. The manufacturer shall afford the inspector

all reasonable facilities, without charge, to satisfy him that the material is being furnished in accordance with the specifications.

1.2.5. Inspection of goods

The Contractor shall submit schedule of dispatch by the manufacturer for each batch of supply and Employer may nominate his representative and / or third party inspection company to inspect the items prior to dispatch. The Employer may also make similar arrangements to inspect items at Contractor's stores upon delivery. The Contractor in coordination with the manufacturer shall afford the inspector all reasonable facilities, without charge, to carry out such inspections.

1.2.6. Packing and Marking

Packing and markings shall be provided in supplied items as specified technical specifications.

All the items shall be suitably protected, coated, covered or boxed and crated to prevent damage or deterioration during transit, handling and storage. The Contractor shall be responsible for any loss or damage during transportation, handling and storage due to improper packing.

1.2.7. Handling, storage and installation

The Contractor shall be responsible for examining all shipments and notify the Employer immediately of any damage, shortage, discrepancy etc. for the purpose of information only.

The Contractor shall be solely responsible for any shortages or damages in transit, handling and/or in storage and erection of the equipment at site. Any demurrage, wharfage and other such charges claimed by the transporters, railways etc. shall be responsibility of the Contractor.

The Contractor shall be responsible for making suitable indoor/ outdoor storage facilities, to store all equipment and materials until installation. The Contractor shall be fully responsible for the equipment / material until the same is handed over to the Employer in an operating condition after commissioning.

2. Specifications

6. Certificates

6.1 Form of Completion Certificate

Contract: [. . . *insert name of contract and contract identification details.* . . .]

Date:

Certificate No.:

To: [. . . *insert name and address of contractor.* . . .]

Dear Ladies and/or Gentlemen,

Pursuant to GCC Clause 24 (Completion of the Facilities) of the General Conditions of the Contract entered into between yourselves and the Employer dated [. . . *insert date.* . . .], relating to the [. . . *brief description of the Facilities* . . .], we hereby notify you that the following part(s) of the Facilities was (were) complete on the date specified below, and that, in accordance with the terms of the Contract, the Employer hereby takes over the said part(s) of the Facilities, together with the responsibility for care and custody and the risk of loss thereof on the date mentioned below.

1. Description of the Facilities or part thereof: [. . . *description* . . .]
2. Date of Completion: [. . . *date* . . .]

However, you are required to complete the outstanding items listed in the attachment hereto as soon as practicable.

This letter does not relieve you of your obligation to complete the execution of the Facilities in accordance with the Contract nor of your obligations during the Defect Liability Period.

Very truly yours,

[. . . *Signature* . . .]

Project Manager

6.2 Form of Operational Acceptance Certificate

Contract: [. . . .insert name of contract and contract identification details. . . .]

Date:

Certificate No.:

To: [. . . .insert name and address of contractor. . . .]

Pursuant to GCC Subclause 25.3 (Operational Acceptance) of the General Conditions of the Contract entered into between yourselves and the Employer dated [. . .date. . .], relating to the [. . .brief description of the facilities. . .], we hereby notify you that the Functional Guarantees of the following part(s) of the Facilities were satisfactorily attained on the date specified below.

1. Description of the Facilities or part thereof: [. . .description . . .]
2. Date of Operational Acceptance: [. . .date . . .]

This letter does not relieve you of your obligation to complete the execution of the Facilities in accordance with the Contract nor of your obligations during the Defect Liability Period.

Very truly yours,

[. . . .Signature]

Project Manager

7. Change Orders

7.1 Change Order Procedure

- 7.1.1 General
- 7.1.2 Change Order Log
- 7.1.3 References for Changes

7.2. Change Order Forms

- 7.2.1 Request for Change Proposal
- 7.2.2 Estimate for Change Proposal
- 7.2.3 Acceptance of Estimate
- 7.2.4 Change Proposal
- 7.2.5 Change Order
- 7.2.6 Pending Agreement Change Order
- 7.2.7 Application for Change Proposal

7.1. Change Order Procedure

7.1.1 General

This section provides samples of procedures and forms for implementing changes in the Facilities during the performance of the Contract in accordance with GCC Clause 39 (Change in the Facilities) of the General Conditions.

7.1.2 Change Order Log

The Contractor shall keep an up-to-date Change Order Log to show the current status of Requests for Change and Changes authorized or pending. Entries of the Changes in the Change Order Log shall be made to ensure that the log is up-to-date. The Contractor shall attach a copy of the current Change Order Log in the monthly progress report to be submitted to the Employer.

7.1.3 References for Changes

- (1) Request for Change as referred to in GCC Clause 39 shall be serially numbered CR-X-nnn.
- (2) Estimate for Change Proposal as referred to in GCC Clause 39 shall be serially numbered CN-X-nnn.
- (3) Acceptance of Estimate as referred to in GCC Clause 39 shall be serially numbered CA-X-nnn.
- (4) Change Proposal as referred to in GCC Clause 39 shall be serially numbered CP-X-nnn.
- (5) Change Order as referred to in GCC Clause 39 shall be serially numbered CO-X-nnn.

Note:

- (a) Requests for Change issued from the Employer's Home Office and the Site representatives of the Employer shall have the following respective references:

Home Office	CR-H-nnn
Site	CR-S-nnn

- (b) The above number "nnn" is the same for Request for Change, Estimate for Change Proposal, Acceptance of Estimate, Change Proposal and Change Order.

7.2 Change Order Forms

7.2.1 Request for Change Proposal Form

[*Employer's letterhead*]

To: [*Contractor's name and address*]

Date:

Attention: [*Name and title*]

Contract Name: [*Contract name*]

Contract Number: [*Contract number*]

Dear Ladies and/or Gentlemen:

With reference to the captioned Contract, you are requested to prepare and submit a Change Proposal for the Change noted below in accordance with the following instructions within [*number*] days of the date of this letter [or on or before (*date*)].

1. Title of Change: [*Title*]
2. Change Request No./Rev.: [*Number*]
3. Originator of Change:
Employer: [*Name*]
Contractor (by Application for Change Proposal No. [*Number Refer to Annex 6.2.7*])
4. Brief Description of Change: [*Description*]
5. Facilities and/or Item No. of equipment related to the requested Change: [*Description*]
6. Reference drawings and/or technical documents for the request of Change:

Drawing No./Document No.	Description
--------------------------	-------------
7. Detailed conditions or special requirements on the requested Change: [*Description*]
8. General Terms and Conditions:
 - (a) Please submit your estimate showing what effect the requested Change will have on the Contract Price.
 - (b) Your estimate shall include your claim for the additional time, if any, for completing the requested Change.
 - (c) If you have any opinion that is critical to the adoption of the requested Change in connection with the conformability to the other provisions of the Contract or the safety of the Plant or Facilities, please inform us in your proposal of revised provisions.
 - (d) Any increase or decrease in the work of the Contractor relating to the services of its personnel shall be calculated.
 - (e) You shall not proceed with the execution of the work for the requested Change until we have accepted and confirmed the amount and nature in writing.

[*Employer's name*]

[*Signature*]

[*Name of signatory*]

[*Title of signatory*]

7.2.2 Estimate for Change Proposal Form

[Contractor's letterhead]

To: [Employer's name and address]

Date:

Attention: [Name and title]

Contract Name: [Contract name]

Contract Number: [Contract number]

Dear Ladies and/or Gentlemen:

With reference to your Request for Change Proposal, we are pleased to notify you of the approximate cost to prepare the below-referenced Change Proposal in accordance with GCC Subclause 39.2.1 of the General Conditions. We acknowledge that your agreement to the cost of preparing the Change Proposal, in accordance with GCC Subclause 39.2.2, is required before estimating the cost for change work.

1. Title of Change: [Title]
2. Change Request No./Rev.: [Number]
3. Brief Description of Change: [Description]
4. Scheduled Impact of Change: [Description]
5. Cost for Preparation of Change Proposal: [insert costs, which shall be in the currencies of the contract]

(a)	Engineering	(Amount)
(i)	Engineer _____ hours (hrs) x _____ rate/hr =	_____
(ii)	Draftsperson _____ hrs x _____ rate/hr =	_____
	Sub-total _____ hrs	_____
	Total Engineering Cost	_____
(b)	Other Cost	_____
	Total Cost (a) + (b)	_____

[Contractor's name]

[Signature]

[Name of signatory]

[Title of signatory]

7.2.3 Acceptance of Estimate Form

[*Employer's letterhead*]

To: [*Contractor's name and address*]

Date:

Attention: [*Name and title*]

Contract Name: [*Contract name*]

Contract Number: [*Contract number*]

Dear Ladies and/or Gentlemen:

We hereby accept your Estimate for Change Proposal and agree that you should proceed with the preparation of the Change Proposal.

1. Title of Change: [*Title*]
2. Change Request No./Rev.: [*Request number/revision*]
3. Estimate for Change Proposal No./Rev.: [*Proposal number/revision*]
4. Acceptance of Estimate No./Rev.: [*Estimate number/revision*]
5. Brief Description of Change: [*Description*]
6. Other Terms and Conditions: In the event that we decide not to order the Change accepted, you shall be entitled to compensation for the cost of preparing the Change Proposal described in your Estimate for Change Proposal mentioned in para. 3 above in accordance with GCC Clause 39 of the General Conditions.

[*Employer's name*]

[*Signature*]

[*Name of signatory*]

[*Title of signatory*]

7.2.4 Change Proposal Form

[Contractor's letterhead]

To: [Employer's name and address]

Date:

Attention: [Name and title]

Contract Name: [Contract name]

Contract Number: [Contract number]

Dear Ladies and/or Gentlemen:

In response to your Request for Change Proposal No. [Number], we hereby submit our proposal as follows:

1. Title of Change: [Name]
2. Change Proposal No./Rev.: [Proposal number / revision]
3. Originator of Change: Employer: [Name] / Contractor: [Name]
4. Brief Description of Change: [Description]
5. Reasons for Change: [Reason]
6. Facilities and/or Item No. of Equipment related to the requested Change: [Facilities]
7. Reference drawings and/or technical documents for the requested Change:
[Drawing/Document No./Description]
8. Estimate of increase/decrease to the Contract Price resulting from the Change Proposal:

Amount

[insert amounts in the currencies of the Contract]

(a)	Direct material	
(b)	Major construction equipment	
(c)	Direct field labor (Total hrs)	
(d)	Subcontracts	
(e)	Indirect material and labor	
(f)	Site supervision	
(g)	Head office technical staff salaries	
	Process engineer	_____ hrs @ _____ rate/hr
	Project engineer	_____ hrs @ _____ rate/hr
	Equipment engineer	_____ hrs @ _____ rate/hr
	Procurement	_____ hrs @ _____ rate/hr
	Draftsperson	_____ hrs @ _____ rate/hr
	Total	_____ hrs

- (h) Extraordinary costs (computer, travel, etc.) _____
- (i) Fee for general administration, % of Items _____
- (j) Taxes and customs duties _____
- Total lump sum cost of Change Proposal [*Sum of items (a) to (j)*]
- Cost to prepare Estimate for Change Proposal [*Amount payable if Change is not accepted*]

9. Additional time for Completion required due to Change Proposal
10. Effect on the Functional Guarantees
11. Effect on the other terms and conditions of the Contract
12. Validity of this Proposal: within [Number] days after receipt of this Proposal by the Employer
13. Other terms and conditions of this Change Proposal:
- (a) You are requested to notify us of your acceptance, comments or rejection of this detailed Change Proposal within [Number] days from your receipt of this Proposal.
- (b) The amount of any increase and/or decrease shall be taken into account in the adjustment of the Contract Price.
- (c) Contractor's cost for preparation of this Change Proposal: [. . . insert amount. This cost shall be reimbursed by the employer in case of employer's withdrawal or rejection of this Change Proposal without default of the contractor in accordance with GCC Clause 39 of the General Conditions . . .]

[*Contractor's name*]

[*Signature*]

[*Name of signatory*]

[*Title of signatory*]

7.2.5 Change Order Form

[*Employer's letterhead*]

To: [*Contractor's name and address*]

Date:

Attention: [*Name and title*]

Contract Name: [*Contract name*]

Contract Number: [*Contract number*]

Dear Ladies and/or Gentlemen:

We approve the Change Order for the work specified in the Change Proposal (No. [*number*]), and agree to adjust the Contract Price, Time for Completion, and/or other conditions of the Contract in accordance with GCC Clause 39 of the General Conditions.

1. Title of Change: [*Name*]
2. Change Request No./Rev.: [*Request number / revision*]
3. Change Order No./Rev.: [*Order number / revision*]
4. Originator of Change: Employer: [*Name*] / Contractor: [*Name*]
5. Authorized Price:
Ref. No.: [*Number*] Date: [*Date*]
Foreign currency portion [*Amount*] plus Local currency portion [*Amount*]
6. Adjustment of Time for Completion
None Increase [*Number*] days Decrease [*Number*] days
7. Other effects, if any

Authorized by: _____
Employer

Date: _____

Accepted by: _____
Contractor

Date: _____

7.2.6 Pending Agreement Change Order Form

[*Employer's letterhead*]

To: [*Contractor's name and address*]

Date:

Attention: [*Name and title*]

Contract Name: [*Contract name*]

Contract Number: [*Contract number*]

Dear Ladies and/or Gentlemen:

We instruct you to carry out the work in the Change Order detailed below in accordance with GCC Clause 39 of the General Conditions.

1. Title of Change: [*Name*]
2. Employer's Request for Change Proposal No./Rev.: [*number/revision*] dated: [*date*]
3. Contractor's Change Proposal No./Rev.: [*number / revision*] dated: [*date*]
4. Brief Description of Change: [*Description*]
5. Facilities and/or Item No. of equipment related to the requested Change: [*Facilities*]
6. Reference Drawings and/or technical documents for the requested Change:
[*Drawing / Document No. / Description*]
7. Adjustment of Time for Completion:
8. Other change in the Contract terms:
9. Other terms and conditions:

[*Employer's name*]

[*Signature*]

[*Name of signatory*]

[*Title of signatory*]

7.2.7 Application for Change Proposal Form

[*Contractor's letterhead*]

To: [*Employer's name and address*]

Date:

Attention: [*Name and title*]

Contract Name: [*Contract name*]

Contract Number: [*Contract number*]

Dear Ladies and/or Gentlemen:

We hereby propose that the work mentioned below be treated as a Change in the Facilities.

1. Title of Change: [*Name*]
2. Application for Change Proposal No./Rev.: [*Number / revision*] dated: [*Date*]
3. Brief Description of Change: [*Description*]
4. Reasons for Change:
5. Order of Magnitude Estimation (amount in the currencies of the Contract): [*Amount*]
6. Scheduled Impact of Change:
7. Effect on Functional Guarantees, if any:
8. Appendix:

[*Contractor's name*]

[*Signature*]

[*Name of signatory*]

[*Title of signatory*]

8. Personnel Requirements

Using Form PER - 1 and PER - 2 in Section 4 (Bidding Forms), the Bidder must demonstrate that it has personnel who meet the following requirements:

The minimum requirement of key and non-key project personnel are given below. The bidder may propose any additional staffs / positions as required;

S. No.	Position	Nos	Total Work Experience (Yrs)	Relevant Work Experience (Yrs)
Key Project Personnel				
1	Team Leader	1	15	10
2	Procurement and Material Management Engineer	1	10	5
3	Quality Control and Inspection Engineer	1	10	5
4	Planning and Design Engineer	1	10	5
5	Site Engineers	1 per each district	5	3
6	Safety Engineer / Officer	1	10	5
Non-key Personnel				
7	Site supervisors	Contractor to	N.A.	N.A.

S. No.	Position	Nos	Total Work Experience (Yrs)	Relevant Work Experience (Yrs)
8	Gang leader / skilled labor	provide as per site requirements	N.A.	N.A.
9	Semi-skilled / un-skilled labor		N.A.	N.A.

Using Form EXP-6 in Section 4 (Bidding Forms), the Bidder must demonstrate that it has EHS personnel who meet the following requirements:

Key Personnel as determined by the EMP and other safeguard management plans

Item No.	Position/specialization	Relevant academic qualifications	Minimum years of relevant work experience	Minimum time on-site (%FTE)
1				
2				
3				

9. Equipment Requirements

Using Form EQU in Section 4 (Bidding Forms), the Bidder must demonstrate that it has the key equipment listed below:

The Bidder must demonstrate that they possess the required equipment for erection & construction of HT and LT overhead distribution lines, underground cable lines and distribution substations. The Bidder shall provide further details of proposed equipment using the relevant Form in Section-4 (Bidding Forms). The use of appropriate equipment and tools for work at site will be verified as a part of Quality Assurance and Evaluation Mechanism (QAM) established for the project.

No.	Equipment Type and Characteristics	Minimum Number Required
1		
2		
3		
4		
5		

10. Resettlement Plan

Resettlement Plan

Document Stage: Draft
MFF Project Number: 51395-002 May
2020

India: MFF Uttar Pradesh Power Distribution Network Rehabilitation Project

(This is a draft Resettlement Plan and the time lines and survey data will change as per project progress and will be updated when a substantial change / Impact occurs.)

Prepared by the Uttar Pradesh Power Corporation Limited, Government of Uttar Pradesh for the Asian Development Bank.

CURRENCY EQUIVALENTS

(as of (as of 19 September 2020 (4 Month
forward rate as of 19 May 2020)

Currency Unit	=	Indian Rupee (₹)
₹1.00	=	\$0.013072
\$1.00	=	₹76.5129

ABBREVIATIONS

ABC	-	aerial bundled conductors
ADB	-	Asian Development Bank
ASI	-	archeological survey of India
ATC	-	aggregate technical and commercial (losses)
BCM	-	billion cubic meters
CEA	-	Central Electricity Authority
CERC	-	Central Electricity Regulatory Commission
CPCB	-	Central Pollution Control Board
DISCOM	-	distribution company
DVVNL	-	Dakshinanchal Vidyut Vitran Nigam Limited (South Distribution Company)
EFS	-	environmental framework and safeguards (of UPPCL)
EHS	-	environment, health, and safety
EIA	-	environmental impact assessment
EMF	-	electromagnetic field
EMP	-	environmental management plan
ESP	-	environmental and social policy (of UPPCL)
GFP	-	grievance focal person
GHG	-	greenhouse gas
GRC	-	grievance redress committee
GRM	-	grievance redress mechanism
ICNIRP	-	International Commission for Non-Ionizing Radiation Protection
IEE	-	initial environmental examination
IFC	-	International Finance Corporation
ILO	-	International Labour Organization
MFF	-	multitranchise financing facility
MOEF&CC	-	Ministry of Environment, Forest, and Climate Change
MOP	-	Ministry of Power
MVVNL	-	Madhyanchal Vidyut Vitran Nigam Limited (Central Distribution Company)
OBC	-	other backward class
PCB	-	polychlorinated biphenyls
PIU	-	project implementation unit
PMA	-	project management agency
PMC	-	project management consultant
PMU	-	project management unit
POPs	-	persistent organic pollutants

PTW	- private tube wells
PuVVNL	- Purvanchal Vidyut Vitran Nigam Limited (East Distribution Company)
PVVNL	- Pashchimanchal Vidyut Vitran Nigam Limited (West Distribution Company)
REA	- rapid environmental assessment
ROW	- right of way
R&R	- resettlement and rehabilitation
SAUBHAG	- Sahaj Bijili Har Ghar Yojana (Government of India project to provide electricity to the households)
HYA	
SARF	- safeguard assessment and review framework (combined environmental assessment and review framework and resettlement framework under ADB's Safeguard Policy Statement (2009))
SDDR	- Social Due Diligence Report
SEC	- social and environmental cell (of UPPCL)
SEP	- social and environmental policy (of UPPCL)
SP&P	- social policy and procedure (of UPPCL)
TKC	- turnkey contractor
UPPCB	- Uttar Pradesh Pollution Control Board
UPPCL	- Uttar Pradesh Power Corporation Limited
WHO	- World Health Organization

WEIGHTS AND MEASURES

amp	- ampere
ha	- hectare
km	- kilometer (1,000 meters)
kV	- kilovolt (1,000 volts)
kW	- kilowatt (1,000 watts)
mG	- milligauss
Hz	- hertz

NOTES

- (i) The fiscal year (FY) of the Government of India ends on 31 March. FY before a calendar year denotes the year in which the fiscal year ends, e.g., FY 2020 ends on 31 March 2020.
- (ii) this report, "\$" refers to US dollars unless otherwise stated.

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I. EXECUTIVE SUMMARY

- i. This is a draft Resettlement Plan (RP) for the proposed MFF Uttar Pradesh Power Distribution Network Rehabilitation (referred hereafter as “project”) Project. The MFF project is proposed for financing by the Asian Development Bank (ADB) and the Government of Uttar Pradesh. Uttar Pradesh Power Corporation Limited (UPPCL), the Executing Agency (EA), is a Public Sector Undertaking (PSU) which is responsible for planning and managing the power sector including transmission, distribution, and supply of electricity in Uttar Pradesh.
- ii. The MFF projects, tranche one will be implemented over a three-year period. The Project is estimated to cost \$806.4 million. The Government of Uttar Pradesh through Government of India has requested ADB to provide financing in the form of an MFF with a ceiling on ADB financing of \$500 million. ADB will provide a loan through time sliced MFF¹ of \$500 million for the program to UPPCL with a first tranche of \$300 million and an indicative second tranche of \$200 million. Tranche 2 will be requested when substantial progress on disbursements has been achieved under Tranche 1.
- iii. Tranche 1 of the project has been categorized as category B for environment, category B for involuntary resettlement, and category C for indigenous people based on ADB's Safeguard Policy Statement (SPS) 2009. Tranche 2 will be categorized in due course but as a time sliced MFF the safeguard categories will likely remain as for Tranche 1.
- iv. For MFF, SPS requires an Environmental Assessment and Review Framework and Resettlement Framework to ensure compliance with SPS requirements and guide subproject selection, screening and categorization, and assessment during implementation. Since the environmental and social impacts of the subprojects are anticipated to be limited, the safeguard assessment review framework (SARF) combines the requirements of both an Environmental Assessment and Review Framework and a Resettlement Framework to streamline the safeguards implementation. The SARF has been justified as resettlement impacts of the project are minor and for efficient project implementation in terms of safeguards, most of the work on the field such as screening, due diligence, consultation and grievance redressal are likely to be jointly undertaken with environment team.
- v. The project's tranche one (relevant to this RP) has two physical outputs, (a) rehabilitation of existing Low Voltage (LV) distribution network by replacing bare conductors with Aerial Bundled (AB) Cables, replacing the service wires with armoured cables and in two Distribution Companies (DISCOMs), namely, Purvanchal Vidyut Vitran Nigam Limited (PuVVNL) and Madhyanchal Vidyut Vitran Nigam Limited (MVVNL)² covering approximately 26,633 rural habitations³ using ADB loan proceeds and in 19,183 habitations in Paschimanchal Vidyut Vitran Nigam Limited (PVVNL) and Dakshinanchal Vidyut Vitran Nigam Limited (DVVNL) using counterpart funds ; and (b) installing new 11 kV distribution feeders and associated works for separation of agricultural and non-agricultural consumers in two DISCOMs, namely, PVVNL (484 feeders) and DVVNL (608 feeders). UPPCL, the EA, will be responsible for project implementation oversight while the

¹ The activities under each tranche are the same but the implementation schedule is different, thus MFF tranches are divided based on the schedule. Under this modality, there is no need to prepare another RP separately for Tranche 2 as this is only continuation of the same project.

² Given that UPPCL has fast tracked the conversion of low voltage network to AB Cables in PVVNL and DVVNL using domestic financial resources

³ The habitations to be covered are ones that are already electrified; have a population size of 1000 to 5000; and are characterized by high levels of distribution losses and high per capita power consumption.

four DISCOMs, namely, DVVNL, MVVNL, PuVVNL, and PVVNL will act as the project Implementing Agencies (IA).

vi. The replacement of low voltage conductors, service wires and installation of electricity meters (output 1) will not have any involuntary resettlement or livelihood disruption impacts as no new poles are to be erected and only the bare conductors are to be replaced with AB Cables. The feeder separation (output 2) does not cause any significant resettlement impacts but it may have some impact on private land and assets. The lines will follow mostly public area such as right of way of the existing roads with avoiding and minimizing impacts on private properties.

vii. his RP has been prepared based on field survey of the sample project components for output 2. The due diligence activities are undertaken at the sample project sites including: (a) consultation meetings held during May and June 2019 across eleven habitations in Agra district (Kirawali and Fathehpur Sikri blocks) along four feeders⁴; (b) consultation meetings held during October 2019 across eight habitations in Meerut district (across Saharanpur, Bulandshahar, Meerut and Ghaziabad zones) along four feeders⁵; (c) public consultations with beneficiaries of Government of India's SAUBHAGYA scheme⁶ and DDUGJY under which AB Cabling and feeder separation work is currently being implemented in PVVNL (Meerut Division) in May 2019, (d) secondary data analysis; and (e) survey of 251 agricultural consumers that are likely to be covered by the feeder separation works across Agra and Bulandshahar zones in DVVNL and PVVNL respectively.

viii. Transect surveys were conducted to assess the likely impact of installation of new 11 kV distribution feeders (lines) (10,981 kms. in DVVNL and 6,354 kms. in PVVNL) and associated works for separation of agricultural and non-agricultural consumers. These surveys demonstrated that there will not be significant involuntary resettlement or livelihood disruption impacts. Under Output 2 no land acquisition under law is anticipated as the new 11 kV lines are largely drawn on government land and only in very rare circumstances, due to technical reasons, the line may be drawn through private (agricultural) land. It is suggested that during planning, when it is realised that a line will be passing through private land, the DISCOMs will advise the turnkey contractors (TKCs) to work out an alternative route so as to ensure that the line doesn't pass through private land and either passes through government land or is aligned along the boundary of two agricultural plots. Under output 2 no impact is likely on households located in private land or on any structures (residential, commercial, or institutional). For new line installations, there may be some temporary impacts on crops and trees. These will be avoided, wherever possible, but may require tree trimming; when lines are installed along agricultural boundaries or if lines are drawn through private agricultural land.

ix. For the purpose of developing a budget for the RP the following assumptions have been made: (a) for tree cutting/trimming costs a sum of ₹1,000 per km. has been allocated (the total length of 11 kV line to be installed across PVVNL and DVVNL is 16,926 kms); (b) for compensation for crop loss a sum of ₹10,000 has been allocated per habitation (a total of 2,200 habitations are likely to be covered across PVVNL and DVVNL under the feeder separation output); (c) for compensation of occupation of land due to erection of poles a sum of ₹3,000 is allocated per sq. foot of agricultural land likely to be impacted. It is likely that only 2 percent of the habitations to be covered by the feeder separation works, that is 44 habitations, are likely to be

⁴ Daudpur and Dawar feeder in Fathehpur Sikri block and Feeder No. 2 and Feeder No. 3 in Kirawali block

⁵ Satedhi feeder originating from Khatauli Rural Substation in Saharanpur zone; Goana Shyam Nagar Feeder originating from Modinagar Road Substation in Bulandshahar Zone; Alipur Feeder originating from Lohiya Nagar Substation in Meerut Zone; and Duhai Feeder originating from Aslat Nagar Substation in Ghaziabad Zone

⁶ Under SUBHAGYA 7.98 million rural households have been electrified in the state since October 2017

affected due to erection of poles in private agricultural land. Further, it is assumed that 10 poles may need to be installed in agricultural fields across each of these potentially affected habitations. The final details will be available only in the MFF project, tranche 1 implementation stage.

x. At the early stage of preparation, consultation meetings were held during May, June, and October 2019, across DVVNL and PVVNL to support the preparation of this RP. The consultations in DVVNL (Agra DISCOM) were conducted across two blocks, namely, Kirawali and Fathehpur Sikri covering eleven habitations⁷ located along four feeders, namely, Daudpur and Dawar feeder⁸ in Fathehpur Sikri block and Feeder No. 2 and Feeder No. 39 in Kirawali block. In PVVNL (Meerut DISCOM) the consultations were organised across eight habitations¹⁰ located along four feeders, namely, Satedhi feeder originating from Khatauli Rural Substation in Saharanpur zone; Goana Shyam Nagar Feeder originating from Modinagar Road Substation in Bulandshahar Zone; Alipur Feeder originating from Lohiya Nagar Substation in Meerut Zone; and Duhai Feeder originating from Aslat Nagar Substation in Ghaziabad Zone. In addition, a survey of 251 agricultural consumers that are likely to be covered by the feeder separation works was also conducted across Agra and Bulandshahar zones in DVVNL and PVVNL respectively in March 2019. A total of 527 persons participated in the consultations / surveys, which included 462 men and 65 women. Women's participation was limited as there were social constraints regarding their participation.

xi. Additional consultations will be undertaken to share this draft RP, some of which will be women only meetings. A fact sheet with key MFF project information should be distributed during the meetings. During implementation, (i) IAs (DISCOMs) will consult communities, with the help of turnkey contractors (TKCs), project management agency (PMA), and their field level officials, to develop an implementation schedule in order to minimize any temporary impact, (ii) IAs (DISCOMs) will inform communities, with the help of TKCs, and PMA and their field level officials, about the project implementation/construction schedule in order to minimize the temporary impact, (iii) IAs/DISCOM will inform the Affected Persons (APs)/Affected Households (AHs) on consent to support and/or compensation to be paid for the temporary loss of crop and trees and loss of private land for erection of poles, and (iv) safeguard monitoring reports will be disclosed in the same manner as the RP. In addition to the above the IA will also put up public notice boards in villages with details of the Project. The summary of the RP, including the eligibility and entitlement, will be translated into the local language (Hindi) and will be disclosed to the APs at site level offices of EA/IAs. The draft and final RP will also be disclosed on ADB website and on the websites of UPPCL and DISCOMs.

xii. The principles adopted for addressing compensation for this MFF project (tranche one) have been guided by the existing legislation and policies of the Government of India, Government of Uttar Pradesh, UPPCL and by the involuntary resettlement policy of ADB stated in the ADB's Safeguard Policy Statement (2009). The DISCOMs and their TKCs will seek to ensure that all new 11 kV lines are drawn on government land or are aligned along the boundary of two agricultural lands (a narrow strip of land, which, generally, is not privately owned). In cases where the line needs to pass through private land it shall be the responsibility of the DISCOM through the TKC with support from PMA, to have a dialogue with the landowner and the local elected representatives (including the Panchayat members and the Sarpanch) to record the letter's

⁷ The habitations where consultations were held included Daudpur, Utto, Dabar, Sirauli, Banja Nagra, Santha, Khera Bakanda, Singarpur, Nachani, Nagla Shyuram and Mori.

⁸ Both Daudpur and Dawar Feeder are under the Madanpura Substation

⁹ Both Feeder No. 2 and 3 are under the Kirawali Substation

¹⁰ The habitations where consultations were conducted included Sathedi, Sardhan, Goana, Shyam Nagar, Hajipur, Alipur, Bhikampur and Duhai.

consent for erecting the poles in agricultural fields in the village. The TKC will have to use the prescribed formats for recording the discussions with APs and communities. The AP will not be coerced or intimidated in any way. If there is no alternative, consultations fail, and the line must pass through an APs private land, then compensation as per the entitlement matrix is to be paid. The entitlement matrix in this RP, incorporates compensation for land affected by pole installation, trees and affected by the installation of distribution feeders will be provided at replacement cost to the affected persons as per the ADB SPS 2009.

xiii. To swiftly address grievances and complaints from any potentially AHs a Project Grievance Redress Mechanism (GRM) will be established. The proposed GRM, which will handle both environmental and social grievances, includes grievance redress committees (GRCs) to be setup by UPPCL (EA) at Project (corporate) level and each DISCOM HQ (IA) to provide the means for the effective resolution of complaints and issues on each subproject. The GRCs will be convened as necessary by the UPPCL or DISCOM grievance focal point (GFP) and, in addition, include a representative of the affected person, a representative of women groups, the relevant Village Headman (Gram Pradhan), the relevant zonal or DISCOM chief engineer, a nominated divisional forest officer or equivalent for environment safeguards grievances or nominated district revenue officer as nodal officer for social safeguards grievances, and, the designated GFP of the contractor dealing with the environmental or social safeguards as applicable. The GRCs will meet as and when a major grievance (i.e. grievance which cannot be resolved at contractor or DISCOM level) arises. The GRM will not impede access to the country's judicial or administrative remedies.

xiv. Institutional Arrangements: UPPCL is the executing agency (EA) and will be responsible for MFF project implementation oversight while the four DISCOMs (DVVNL, PVVNL, MVVNL, PuVVNL) will act as the MFF project Implementing Agencies (IA). DVVNL and PVVNL will be responsible together with UPPCL for implementing this RP, as these two agencies are responsible for output 2 (installation of the 11kv distribution feeders). The main institutions that will be involved in environmental and social management activities are UPPCL as the Project executing agency and the four DISCOMs as Project implementing agencies. Three sets of consultants will provide safeguards support to UPPCL and the DISCOMs to help them implement the Project.

xv. Monitoring: Project monitoring will be the overall responsibility of the EA. Regular monitoring activities will be carried out by the DISCOMs and UPPCL to assess implementation progress of seeking approval for land from private landowners and disbursement of compensation, due, if any. Semi-annual monitoring reports on compliance with the entitlement's matrix, the status of compensation payments, consultations and grievances will be prepared on a semi-annual basis and submitted to ADB. These reports will be disclosed on the ADB website.

xvi. For rural consumers, the project will result in multiple benefits. First and foremost, the duration of supply will increase to more than 20 hours for domestic consumers and to an acceptable level (i.e. about 8-10 hours during farming season) for agricultural consumers. It is envisaged that the project will facilitate ensuring universal access to electricity and household level connections for all. Further, it is envisaged that the overall availability, capacity, safety and reliability of the network will be enhanced due to replacement of old Low Tension (LT) cables with AB Cables as the latter have immunity against external forces (including, wind, broken trees etc.). The reduction in thefts will also lead to reduction in the load on the lines thereby positively impacting transformer failure rate. There is also likely to be a reduction in/elimination of voltage fluctuations and unplanned outages. All these factors will ensure that the system performance and reliability will improve significantly thereby improving the quality of electricity supply for all rural consumers (including domestic and agricultural).

II. INTRODUCTION

A. Project Background and Rationale

1. Underinvestment in the low voltage distribution network in Uttar Pradesh over several decades combined with an increasing number of legal and illegal electricity connections have imposed a severe stress on the operational performance of the network. Overloading of the network has caused the technical losses, whilst the widespread illegal tapping of distribution wires by consumers, unmetered residential and agriculture consumers, and the inefficiency in billing and collections by Uttar Pradesh Power Corporation Limited (UPPCL) (an Uttar Pradesh government owned distribution utility company) have contributed to the high level of commercial losses.

2. The proposed Uttar Pradesh Power Distribution Network Rehabilitation Project (the Project) will provide improved electricity supply to rural areas of Uttar Pradesh state of India in a financially sustainable manner. The Project is estimated to cost \$806.4 million. The Government of Uttar Pradesh, through the Government of India, has requested the Asian Development Bank (ADB) to provide financing in the form of a large-scale project (time sliced) multitranche financing facility (MFF) with a ceiling on ADB financing of \$500 million. ADB will provide a loan through time sliced MFF of \$500 million for the program to UPPCL with a first tranche of \$300 million and an indicative second tranche of \$200 million. Tranche 2 will be requested when substantial progress on disbursements has been achieved under Tranche 1.

3. The Project will have following outputs:

- **Output 1: Electricity distribution network in rural habitations improved.** This will consist of replacement of existing bare conductors with aerial bundle conductors (ABC) in rural low voltage distribution network in approximately 46,000 rural habitations having a population of more than 1,000 in Uttar Pradesh and the Project impact areas will have a population of approximately 70 million (10.6 million households). It is expected approximately 65,000 km of distribution lines will be converted to ABC. This will improve the reliability and safety of electricity distribution and cost recovery by discouraging the illegal connections. The rural communities including women will also be trained in safe and efficient use of electricity.
- **Output 2: Systems for separating electricity distribution for agriculture consumers from residential consumers established.** Approximately 1,100 11 kV feeders having a length of 17,000 km and supplying 273,000 private tube wells (PTWs) and 2.42 million households will be separated. Separate 11 kV feeders of approximately 17,000 km will be constructed under this component to connect existing distribution transformers to residential consumers while retaining the existing 11 kV feeder for supplying the agricultural consumers. This will enable UPPCL to increase the duration of power supply to rural households from 18 hours at present to 22–24 hours and to control the supply duration to PTWs to match the seasonal requirement of water for agriculture. This is expected to reduce the wastage of electricity and groundwater by agriculture users and reduce the financial and fiscal burden of supplying electricity to unmetered PTWs.
- **Output 3. Systems for bill collection in rural areas, financial management and creating gender sensitive workplace improved.** This will be delivered through the

attached technical assistance (TA) grant. This grant will finance (i) developing and pilot testing innovative bill collection strategies involving active participation of rural women as collection agents; (ii) strengthening the financial management capacity of UPPCL and four distribution companies (DISCOMs), such as establishing and maintaining a comprehensive fixed asset register, reconciliations of receivable balances, ageing analysis and development of provisioning policy; (iii) supporting UPPCL in adopting Indian Accounting Standards and related areas; (iv) facilitating introduction of gender sensitive workplace practices improved working conditions for contractual workers with focus on female contractual workers; and (v) supporting the implementation of Financial Management Action Plan¹ to improve the corporate governance of UPPCL.

4. The project is state-wide and will be implemented under 26 turnkey contracts for ADB funded work and an additional 9 turnkey contracts for counterpart funded work, with exact details of components/activities to be undertaken still to be determined. The components/activities undertaken under each of the turnkey contracts is to constitute a subproject. The 26 contracts to be awarded under the Project for ADB funded work consist of a certain number of components/activities across 3-4 districts in each distribution zone as presented in Appendix 1 with a further district wide breakdown of both the ADB and counterpart funded works in Appendix 2. Replacement of bare conductors with ABC will take place under 13 contracts/subprojects (covering 40 districts in two DISCOMs) funded by ADB with a further 9 contracts/subprojects (covering 35 districts in two DISCOMs) funded by counterpart funds. Separation of 11 kV feeders will take place under 13 contracts/subprojects covering 35 districts of Uttar Pradesh.

5. Upon achieving the significant progress and disbursement under Tranche 1, the periodic financing request (PFR) will be submitted for Tranche 2 to complete the remaining scope of each contract. Given that a time slice approach will be used for the MFF the project is appraised upfront.

6. The executing agency will be UPPCL and it will be responsible for project implementation oversight. The four subsidiary DISCOMs of UPPCL will act as the project implementing agencies, namely, Purvanchal Vidyut Vitran Nigam Ltd (PuVVNL), Dakshinanchal Vidyut Vitran Nigam Ltd (DVVNL), Paschimanchal Vidyut Vitran Nigam Ltd (PVVNL), and Madhyanchal Vidyut Vitran Nigam Ltd (MVVNL). Figure 1 shows the jurisdiction of each DISCOM.

Figure 1: Distribution Areas of each DISCOM in Uttar Pradesh



B. Output 1 Subprojects and Construction Works

7. Under the Project, conversion of the rural low voltage distribution network to ABC will be implemented across all four DISCOMs. The loan proceeds from ADB will finance this work in two DISCOMs, namely MVVNL and PuVVNL, while counterpart funds will fund work in the remaining two DISCOMs, namely DVVNL and PUVNL. There will be 21 districts consisting of a total of 15,334 habitations in PuVVNL and 19 districts consisting of 11,299 habitations in MVVNL funded by ADB. There will be 21 districts consisting of a total of 10,932 habitations in DVVNL and 14 districts consisting of 8,251 habitations in PUVNL which will be counterpart funded.¹¹ In all there will be 32 contracts/subprojects. The output 1 Project activities by DISCOM are given in Table 1.

8. The habitations included are already electrified; have a population size of between 1,000 to 5,000; and are characterized by high levels of distribution losses and a high per capita power consumption

¹¹ Both ADB and counterpart funded components/activities included in the Project are subject to ADB's Safeguard Policy Statement (2009) requirement with all components/activities requiring safeguards screening and assessment.

Table 1: Conversion to ABC

	PuVVNL	MVVNL	DVVNL	PVVNL	Total
	ADB funded		Counterpart funded		
Number of subprojects	6	7	4	5	22
Number of Districts	21	19	21	14	75
Number of Habitations	15,334	11,299	10,932	8,251	45,816
Length to be converted to ABC (km)	10,864	21,248	14,031	19,241	65,384
Cost (₹ Million)	5,612	8,160	5,111	5,612	30,147

9. Most works under output 1 will take place within villages to convert existing bare conductors to ABC. It will generally take less than a week to complete reconductoring works in each village. Conversion to ABC will utilize existing poles emanating from existing ground or pole-mounted 11 kV/400 V transformers. Rehabilitation and replacement of old transformers is not included in the program scope. Considering nature of the work, it is likely that the components under the output 1 is categorized as C for involuntary resettlement.

C. Output 2 Subprojects and Construction Works

10. Feeder separation will be implemented across the regions of two DISCOMs, namely, PVVNL and DVVNL. Under the Project, 1,092 feeders will be separated of which 484 feeders (over 6 subprojects in 14 districts) will be in the PVVNL region and 608 (over 7 subprojects covering 21 districts) in the DVVNL region. No new substations are required, feeders will connect to existing substations which may be augmented to connect the feeders to them. The augmentation includes a control panel for the new feeder, and outdoor cabling and circuit breaker for the new feeder, no works will take place in the substation switchyard or to existing substation transformers.

11. The output 2 project activities by DISCOM are given in Table 2.

Table 2: Feeder Separation

Items to be Installed	Unit	DVVNL	PVVNL
Number of Subprojects		7	6
Construction of New 11kV Feeders			
11 kV line on 8.5 m pre-cast concrete pole with rabbit conductor	km	10,860	6,066
11 kV line on 8.5 m pre-cast concrete pole with ABC	km	-	149
11 kV underground line (to take feeders out from existing substations, and in case of railway line crossing)	km	31	139
11 kV line crossing railway line	Nos.	51	48
11 kV feeder (originating from existing substations)	Nos.	608	484
Construction of New Distribution Transformers			
100 kVA, 11/0.433 kV Distribution Transformer	Nos.	181	2,635
63 kVA, 11/0.433 kV Distribution Transformer	Nos.	336	2,592

Items to be Installed	Unit	DVVNL	PVVNL
25 kVA, 11/0.433 kV Distribution Transformer	Nos.	1,282	1,689

12. Feeder separation involves installing new 11 kV lines from existing 33 kV/11 kV substations to connect to existing 11 kV/400 V transformers supplying residential consumers. In the event the existing 11 kV/400 V transformer is supplying mixed load to households and agricultural users, a new 11 kV/400 V transformer will be installed under the project with the existing transformer retained for supplying pumps for private tube wells for agriculture. The scope of this component does not entail any replacement or rehabilitation of existing ground or pole-mounted 11 kV/400 V transformers. The feeder lines will mostly be constructed on flat terrain along the right of way of existing rural roads, but a percentage will need to cross agricultural land.

D. Safeguard Assessment and Review Framework (SARF)

13. For an MFF, ADB's Safeguard Policy Statement (2009) requires an environmental assessment and review framework, and a resettlement framework to ensure compliance with ADB's Safeguard Policy Statement (2009) requirements and guide subproject selection, screening and categorization, and assessment during implementation. Since the environmental and social impacts of the subprojects are anticipated to be limited, the safeguard assessment and review framework (SARF) combines the requirements of both the environmental assessment and review framework, and resettlement framework to streamline the safeguards implementation.

14. Given that a time slice approach will be used for the MFF, the Project is appraised upfront. This RP has been prepared including sample surveys for eight potential feeder separation subproject components/activities to be implemented by PVVNL and DVVNL. However, as the turnkey contractors will select the actual components/activities based on a long-list of villages including in their contract, per the procedures described in this SARF, the RP may need to be updated and social due diligence reports will need to be prepared for clearance by ADB before commencement of works on subproject components/activities. The DISCOMs with the support of consultants will be responsible for updating the RP and undertaking resettlement due diligence for subprojects during implementation in accordance with this SARF.

E. MFF Project Implementation Schedule

15. The Project will be implemented progressively over nine years with completion date by end 2029. Civil work for each contract will be for 5-6 years. Table 3 presents the implementation schedule.

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III. SCOPE OF IMPACTS

16. This RP is based on (a) consultation meetings held during May and June 2019 across eleven habitations in Agra district across Kirawali and Fathehpur Sikri blocks along four feeders;¹² (b) consultation meetings held during October 2019 across eight habitations in Meerut district across Saharanpur, Bulandshahar, Meerut and Ghaziabad zones along four feeders;¹³ (c) public consultations held in May 2019 with beneficiaries of Government of India's SAUBHAGYA scheme¹⁴ and DDUGJY under which AB Cabling and feeder separation work is being implemented in PVVNL (Meerut Division) ; (d) secondary data analysis to understand the legal framework for resettlement at the national, state and utility (UPPCL) level as well as to map the socio economic composition and gender related variables of the rural population in Uttar Pradesh; and (e) survey of 251 agricultural consumers that are likely to be covered by the feeder separation works across Agra and Bulandshahar zones in DVVNL and PVVNL respectively.

A. Impacts for Output One: Rehabilitation of Distribution Networks

17. The scope of the output 1, is limited to (a) rehabilitation/replacement of the existing low voltage distribution network by replacing bare conductors with AB Cables (b) replacing the service wires with armored cables and (c) installing meters for unmetered connections in 15,334 habitations across PuVVNL and 11,299 habitations across MVVNL. The replacement of low voltage conductors, service wires and installation of electricity meters will not have any involuntary resettlement or livelihood disruption impacts as no new poles are to be erected and only the bare conductors are to be replaced with AB Cables, which basically bundle overhead power lines tightly together. The photographs below (**Error! Reference source not found.**) shows such work underway for replacement of low voltage conductors and service wires in DVVNL.

B. Impacts for Output 2: Installation of New 11kV Distribution Lines



Figure 2: Photographs of ABC Cable replacement work in progress at DVVNL

18. The scope of output 2 includes installation of new 11 kV distribution feeders (lines) (10,981 kms. in DVVNL and 6,354 kms. in PVVNL) and associated works for separation of agricultural and non-agricultural feeders in two DISCOMs, namely, PVVNL (434 feeders) and DVVNL (608 feeders).

19. Details of transect surveys: To assess the likely impact of output 2, transect surveys were conducted across DVVNL and PVVNL.

¹² Daudpur and Dawar feeder in Fathehpur Sikri block and Feeder No. 2 and Feeder No. 3 in Kirawali block.

¹³ Satedhi feeder originating from Khatauli Rural Substation in Saharanpur zone; Goana Shyam Nagar Feeder originating from Modinagar Road Substation in Bulandshahar Zone; Alipur Feeder originating from Lohiya Nagar Substation in Meerut Zone; and Duhai Feeder originating from Aslat Nagar Substation in Ghaziabad Zone.

¹⁴ Under SUBHAGYA 7.98 million rural households have been electrified in the state since October 2017.

- DVVNL: Four feeders namely, Daudpur and Dawar feeder¹⁵ in Fathehpur Sikri block and Feeder No. 2 and Feeder No. 3¹⁶ in Kirawali block. Community consultations were conducted in eleven habitations, located along these feeders (including Daudpur, Utto, Dabar, Sirauli, Banja Nagra, Santha, Khera Bakanda, Singarpur, Nachani, Nagla Shyuram and Mori. *(Details of the community consultations are presented in Section V)*
- PVVNL: Four feeders including Satedhi feeder originating from Khatauli Rural Substation in Saharanpur zone; Goana Shyam Nagar Feeder originating from Modinagar Road Substation in Bulandshahar Zone; Alipur Feeder originating from Lohiya Nagar Substation in Meerut Zone; and Duhai Feeder originating from Aslat Nagar Substation in Ghaziabad Zone. Community consultations were conducted in eight habitations, located along these feeders (including Sathedi, Sardhan, Goana, Shyam Nagar, Hajipur, Alipur, Bhikampur and Duhai. *(Details of the community consultations are presented in Section V)*

20. **Rationale for selection.** The feeders for the transect surveys were selected in consultation with officials of DVVNL and PVVNL DISCOMs. Based on their perspective and experience the officials believed these feeders were representative of both their DISCOM and the state (Uttar Pradesh). In both DISCOMS the feeders are passing through agricultural land as well as either passing along the village boundary or through it to present the spectrum of impacts that may be caused during installation of new 11 kV lines and associated works for separation of domestic and agricultural feeders. In addition, the villages located along the four feeders in DVVNL have a demographic and social composition which is like the state level average as per Census 2011. The gender composition is similar to the state average while the proportion of Scheduled Castes is much higher than the state average (Table 4). The feeders in PVVNL were selected to cover four of the six zones of the DISCOM.

¹⁵ Both Daudpur and Dawar Feeder are under the Madanpura Substation.

¹⁶ Both Feeder No. 2 and 3 are under the Kirawali Substation.

Table 4: Feeders and Villages Located Along the Feeders–Social Composition (Census 2011)

33/11 KV Substation	11 KV Feeders	Village	Households	Population	Male	Females	SCs
Madanpura	Daudpur	Uttoo	101	620	332	288	148
		Daudpur	426	2,702	1,463	1,239	937
	Dawar	Sirauli	282	1,737	936	801	467
		Dabar	420	2,875	1,547	1,328	780
Kirawli	Feeder no.2	Santha	423	2,797	1,459	1,338	839
		Singarpur	293	1,738	922	816	1,142
		Khera Bakanda	247	1,535	869	666	534
	Feeder no.3	Mori	90	623	330	293	8
		Nahchani	338	1,947	1,036	911	376
		Total	1,945	15,089	8,894	7,680	5,231
	% (all villages listed above)				53.66%	46.34%	31.56%
	% (Uttar Pradesh)				52.32%	47.68%	20.31%

21. Findings from transect surveys: The findings from the transect surveys are presented in Table 5.

Table 5: Transect Surveys: Sample feeder, villages, proposed interventions, and likely impact

Map #	Feeder Details	Villages	Proposed interventions	Likely Impact
DVVNL				
Map 1	Existing 11 KV Daudpur feeder (incomer from 33/11 kV Madanpura substation)	Uttoo and Daudpur	Proposed 11 kV incomer from 33/11 KV Madanpura substation—a stretch of 0.8 km new feeder will have to be laid along Bharatpur–Dholpur Road	The 0.8 km new feeder will require trimming of branches along the route. Likely to affect around 10 trees (only branches will need to be trimmed)
Map 2	Existing 11 KV Dawar feeder (incomer from 33/11 kV Madanpura substation)	Banja Nagra, Sirauli and Dabar	Proposed 11 kV incomer from 33/11 kV Madanpura substation—a stretch of 0.7 km new feeder will have to be constructed. The new feeder is proposed to be drawn in such a manner that it is aligned either along road	In village Sirauli the proposed new 11 kV feeder (0.8km new alignment) will be near some houses but is not likely to cause any damage or require shifting, as the road ROW is sufficient for installation.
Map 3	Existing 11 kV Feeder No. 2 (incomer from 33/11 kV Kirawli substation)	Villages: Santha, Singarpur and Khera Bakanda Town: Kirawli	Proposed 11 kV incomer from 33/11 kV from Kirawli substation—a stretch of 0.5 km new feeder will have to be laid within the boundary of the Kirawli town	A stretch of 0.5 km new feeder will have to be laid in the Kirawli residential area which will be in proximity to houses, however the new feeder will be aligned along existing roads for which the ROW is sufficient for installation.
Map #	Feeder Details	Villages	Proposed interventions	Likely Impact

Map 4	Existing 11 kV Feeder No. 3 (incomer from 33/11 kV Kirawali substation)	Mori, Nahchani and Nagla Shyuram	Proposed 11 kV incomer from 33/11 kV from Kirawali substation – a stretch of 0.8 km new feeder will have to be laid along road / boundary of agricultural land	In a settlement called Barauli which is located close to village Mori the new 11 kV feeder stretch of 0.8km will be in close proximity to some houses but it is not likely to cause any damage to the houses or require any shifting for the occupants; as the road ROW is sufficient for installation.
PVVNL				
Map 5	Existing 11 KV Sathedi feeder (incomer from 33/11 kV Khatauli Rural substation) in Saharanpur zone	Sathedi and Sardhan	Proposed 11 kV incomer from 33/11 KV Khatauli Rural substation – the new feeder will be drawn along the same alignment as the existing line along road or on the land which serves as agricultural boundary (which is not private)	No impact is expected (on trees, crops, or land) as the new feeder will be drawn along the same alignment as the existing line along road or on the land which serves as agricultural boundary (which is not private)
Map 6	Existing 11 KV Goana Shyam Nagar Feeder (incomer from 33/11 kV Modinagar Road Substation) in Bulandshahr Zone	Goana and Shyam Nagar	Proposed 11 kV incomer from 33/11 KV Modinagar Road Substation) – the new feeder will be drawn along the same alignment parallel to the existing feeder along the Hapur Modinagar road, Once it crosses Goana Village it will pass through some agricultural fields	For a stretch of 0.5 km. the new feeder will pass through some agricultural fields which are located between Goana and Shyam Nagar village. The standing crop may get affected for 5/6 agricultural field during implementation
Map 7	Existing 11 kV Alipur Feeder (incomer from 33/11 kV Lohiya Nagar Substation) in Meerut Zone	Hajipur and Alipur	Proposed 11 kV incomer from 33/11 KV Lohiya Nagar Substation) the new feeder will be drawn along the same alignment parallel to the existing feeder along roads, some area close to Hajipur village will have impact on standing crop	The proposed 11 kV feeder will mostly be aligned along roads. However, for less than 0.5 km. the new feeder line may cause some damage to standing crop in the neighboring 6-8 fields during implementation.
Map 8	Existing 11 kV Duhai Feeder (incomer from 33/11 kV Aslat Nagar Substation) in Ghaziabad Zone	Bhikampur and Duhai	Proposed 11 kV incomer from 33/11 KV Aslat Nagar Substation) will be aligned along the same alignment as the existing feeder	The new 11 kV feeder line will be aligned as per the existing line's alignment and it is not likely to lead to any impact on trees, crop, or agricultural land.

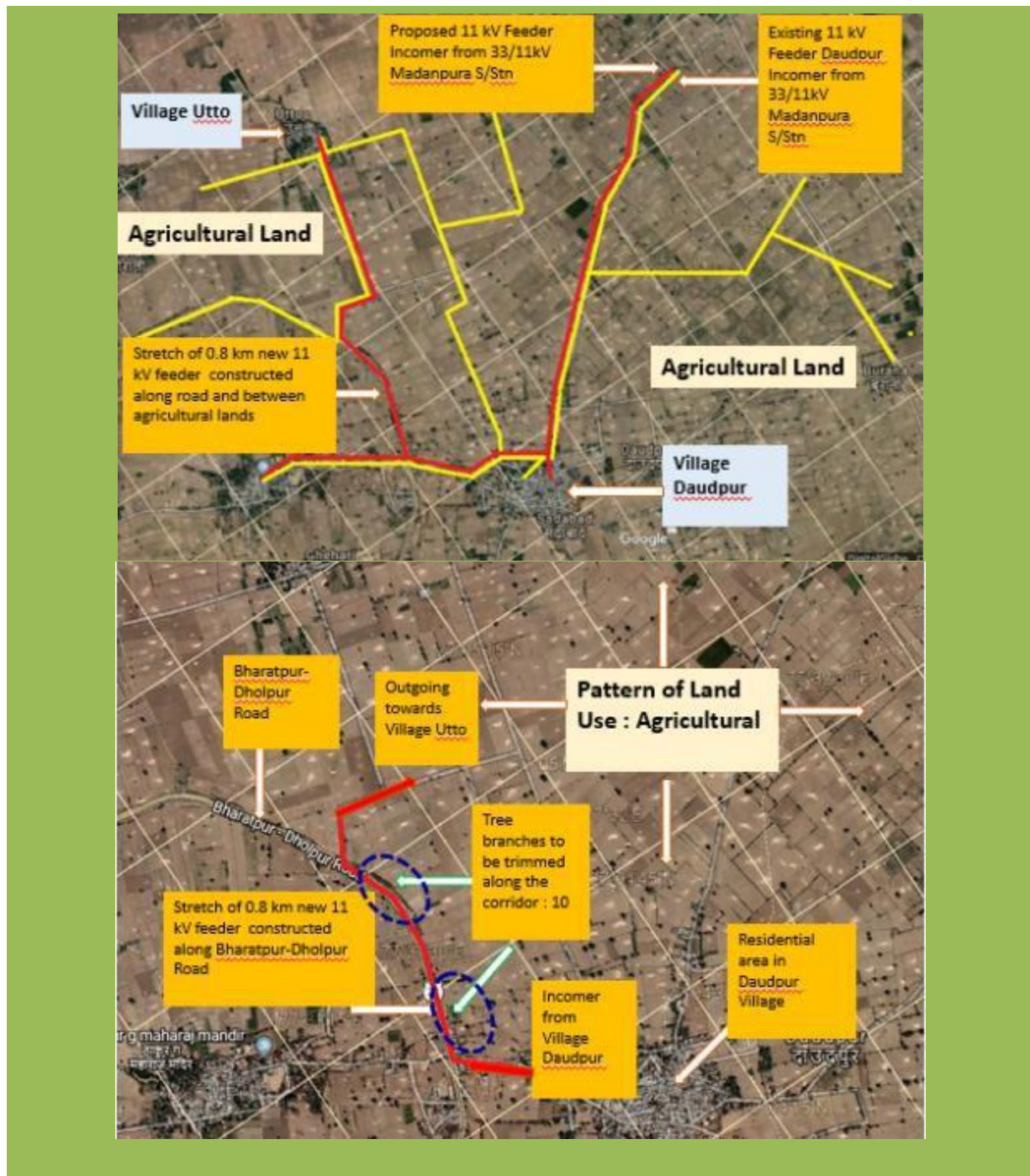


Figure 3: Daudpur Feeder (incomer from 33/11 kV Madanpura substation) in PVVNL

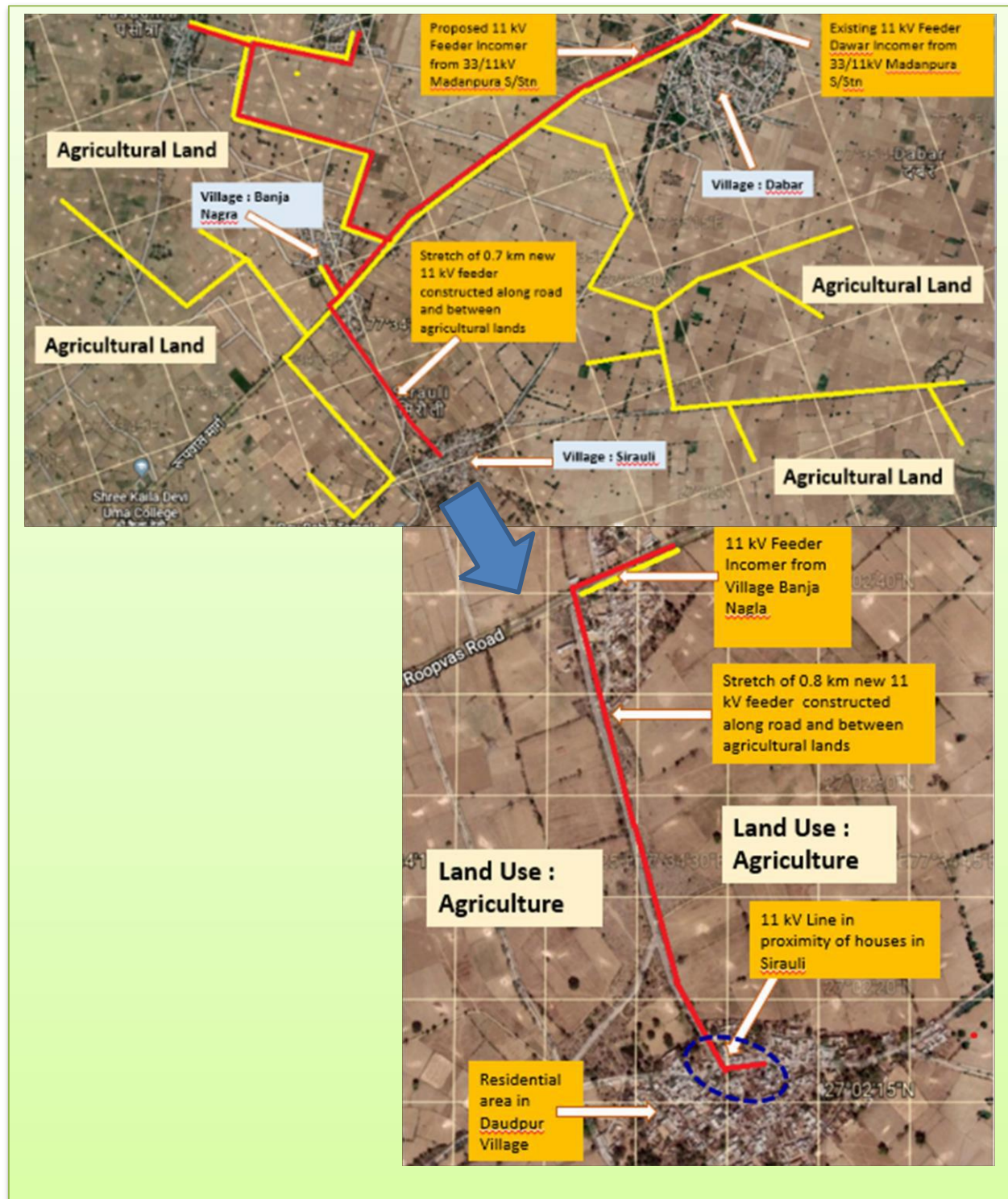


Figure 4: Dawar Feeder (incomer from 33/11 kV Madanpura substation) in PVNL



Figure 5: Feeder No 2 (incomer from 33/11 kV Kirawli substation) in PVVNL

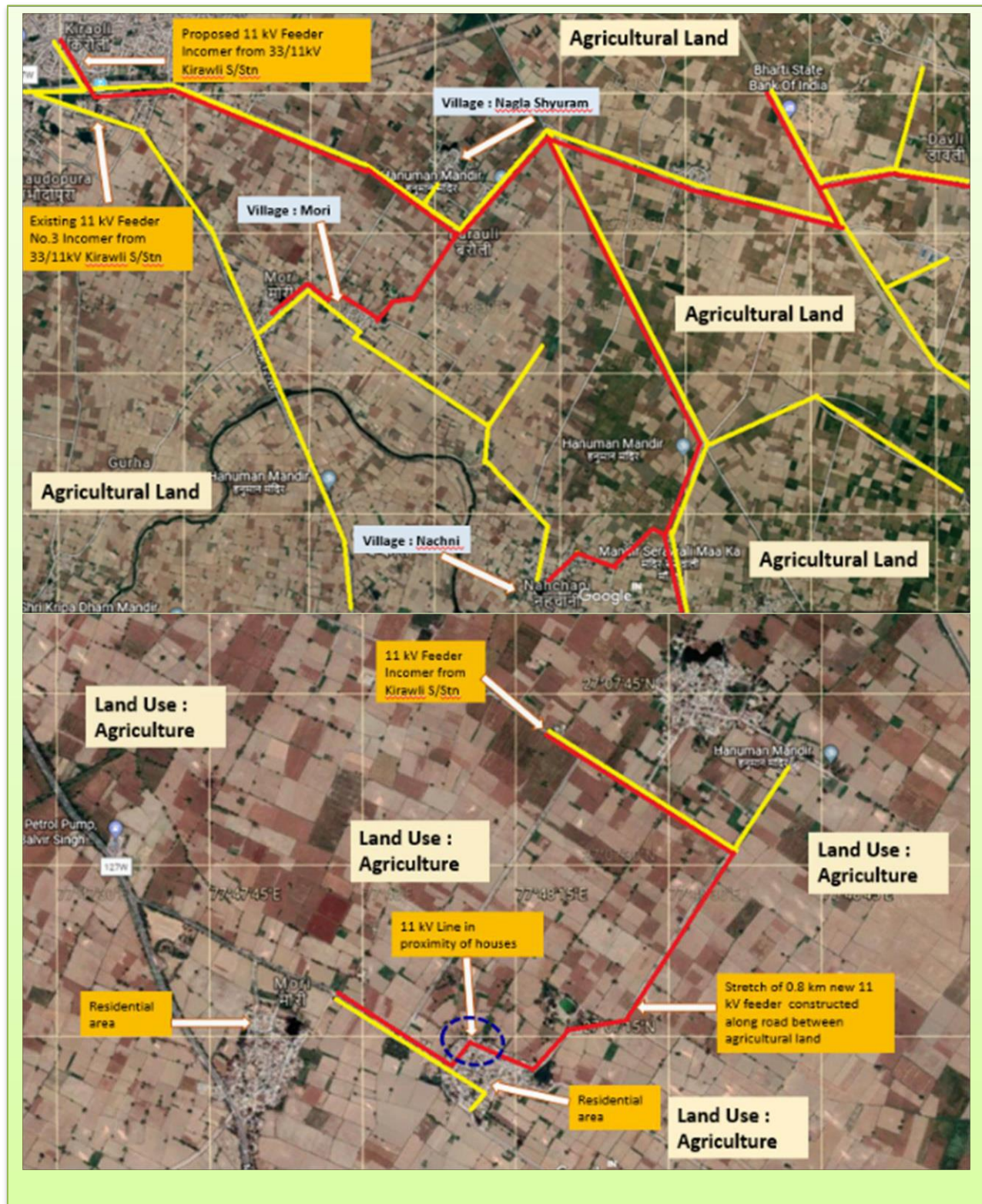


Figure 6: Feeder No. 3 (incomer from 33/11 kV Kirawli substation) in PVVNL



Figure 7: Khatauli Rural Feeder (incomer from 33/11 kV Khatauli Rural substation) in Saharanpur zone in DVVNL



Figure 8: Goana Shyam Nagar Feeder (incomer from 33/11 kV Modinagar Road Substation) in Bulandshahar Zone in DVVNL

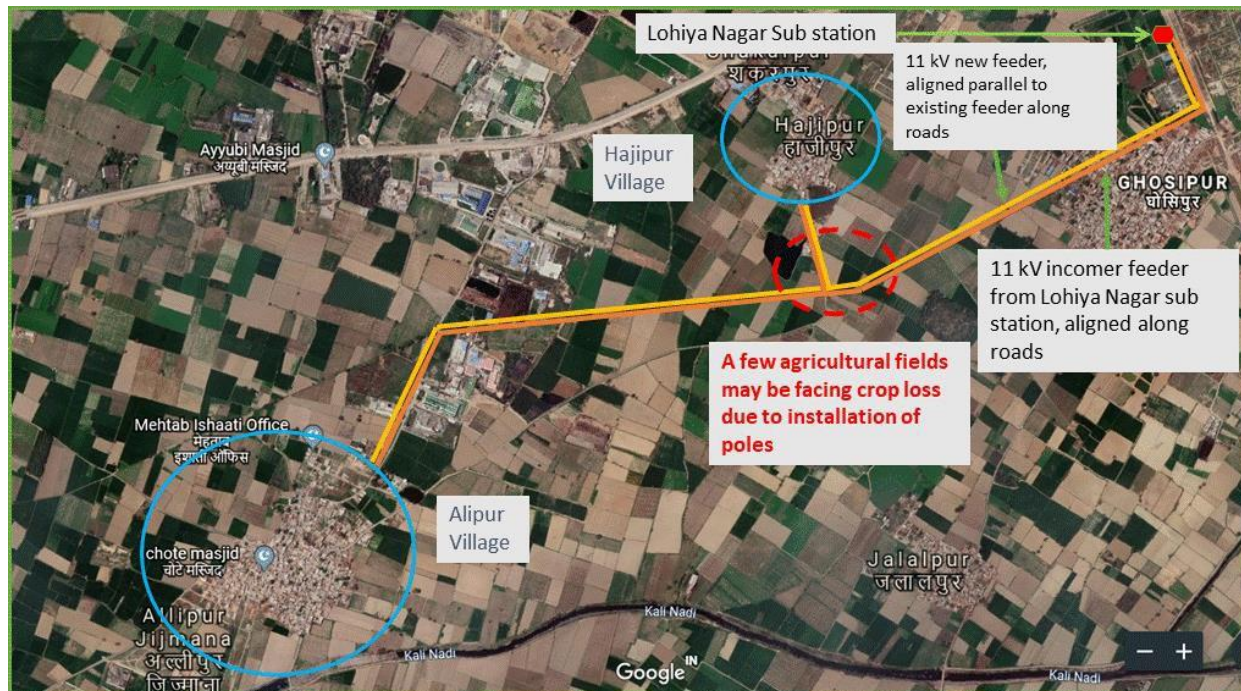


Figure 9: Lohiya Nagar Substation incomer from 33/11 kV Lohiya Nagar Substation in Meerut Zone, DVVNL



Figure 10: Duhai Feeder Incomer from Aslat Nagar Substation in Ghaziabad Zone, DVVNL

22. It is envisaged that the distribution system improvements under output 2 will not generate significant involuntary resettlement impacts. No land acquisition under law is anticipated. Installation of new 11 kV lines are generally drawn on government land and only in very rare circumstances, primarily due to technical reasons, the line may be drawn through private (agricultural) land. In similar projects, during planning, whenever it is realized that a line will be passing through private land, the DISCOMs have advised TKCs to work out an alternative route so as to ensure that the line doesn't pass through private land and either passes through government land or is aligned along the boundary of two agricultural plots. A similar process is suggested to be followed for output 2 under this MFF project tranche.

23. However, in some cases, this may not be possible, as such additional due diligence has been conducted in June and October 2019 to understand the scope of potential impacts on private land which is outlined above in Section III. a. and III b. Information presented here is based on the tentative design and should not be considered as final. While the exact alignment is not known, the information presented here is based on the preliminary plan.

24. For the purpose of developing a budget for the RP the following assumptions have been made: (a) for tree cutting / trimming costs a sum of ₹1000 per km. has been allocated (the total length of 11 kV line to be installed across PVVNL and DVVNL is 16,926 kms); (b) for compensation for crop loss a sum of ₹10,000 has been allocated per habitation (a total of 2200 habitations are likely to be covered across PVVNL and DVVNL under the feeder separation output); (c) for compensation of loss of land due to erection of poles a sum of ₹3,000 is allocated per sq. foot of agricultural land likely to be impacted. It is likely that only 2 percent of the habitations to be covered by the feeder separation works, that is 44 habitations, are likely to be affected due to erection of poles in private agricultural land. Further, it is assumed that 10 poles may need to be installed in agricultural fields across each of these potentially affected habitations.

25. **impacts on private land.** Based on the transect surveys, it is estimated that less than two percent of the households who have private land will be affected for output 2. This impact will be due to the erection of poles in agricultural land in the rare cases where the alignment of the distribution line is such that despite attempts must pass through agricultural fields.

26. **Impacts on structures.** No impacts on any structures (residential, commercial, or institutional) are anticipated for output 2, especially given the ability to alter the feeder alignment and pole placement.

27. **Temporary impacts on crops and trees.** For new line installations under output 2, there may be some temporary impacts on crops and trees. These will be avoided, wherever possible, but may require tree trimming along the route; when lines are installed along agricultural boundaries or if lines are drawn through private agricultural land. The DISCOM, through the TKC will pay compensation, as per the Entitlement Matrix (EM) for such temporary impacts and keep a record of Affected Households (AHs) who receive payments. After civil works are completed the DISCOM (through the TKCs) will ensure any affected agricultural land is restored to its previous condition.

IV. SOCIO ECONOMIC SURVEY

28. The socio-economic profile has been prepared based on (i) analysis of secondary data available from the Census, 2011 and Socio Economic and Caste Census (SECC, 2011); and (ii) household survey, conducted in February / March 2019, covering a sample of 840 households (432 and 408 households in PuVVNL and MVVNL respectively) across 21 habitations.

29. As per Census 2011, PuVVNL had a rural population of 55.14 million (8.55 million households) of which 44 million (86%) were residing in habitations with a population of more than 1,000 people. In MVVNL of the rural population of 48.55 million (8.41 million households) 42 million (81%) were residing in habitations with a population of more than 1,000 people. The household survey covered a population of 5,168 people in 840 households. The average household size is 6 persons. While 54% (2,776) of the population covered by the household survey were male, 46% (2,392) were females. The gender of the chief wage earner (CWE) was male for 96% and female for 4% of the households.

30. As per Census 2011, other backward class (OBCs) constituted 40% of the rural population in Uttar Pradesh.¹⁷ As per the household survey 42% of the population covered (5,168 people) belonged to OBCs. As per Census 2011, 22% of the rural population residing in habitations with a population of more than 1,000 people in PuVVNL and 24% in MVVNL, belonged to scheduled castes (SCs). The proportion of SCs in the population covered by the household survey is 28% in both PuVVNL and MVVNL. In 2011, only 1.57% of the rural population residing in habitations with a population of more than 1,000 people in PuVVNL and 0.2% in MVVNL belonged to scheduled tribes (STs). In comparison the proportion of STs among the total population covered by the household survey is around 5% in both PuVVNL and MVVNL. Given that only component one of the Project, which includes replacement of low voltage conductors, service wires and installation of electricity meters will be implemented in PuVVNL and MVVNL, and it is not expected to have any involuntary resettlement or livelihood disruption impacts no impacts are expected on the SC and ST population.(Tables 10 and 11).

31. As per Census 2011, around 9% of households in PuVVNL and 7% in MVVNL were women headed households (Table 6). As per Census 2011, the overall literacy rate in the state is 67.68%, of which the male literacy stands at 77.28% while the female literacy rate is 57.18%.

Table 6: Total Population Covered by Household Survey Disaggregated by Sex And Social Groups (No. and %)

Caste	Total population	% of total population	Males	% males	Females	% females
General	1,287	24.90	698	25.14	589	24.62
OBC	2,193	42.43	1,172	42.22	1,021	42.68
SCs	1,438	27.83	781	28.13	657	27.47
STs	250	4.84	125	4.50	125	5.23
Total	5,168	100.00	2,776	53.71	2,392	46.28

Table 7: Rural Population, Households, SC and ST Population In Rural Habitations In PuVVNL and MVVNL, Census 2011

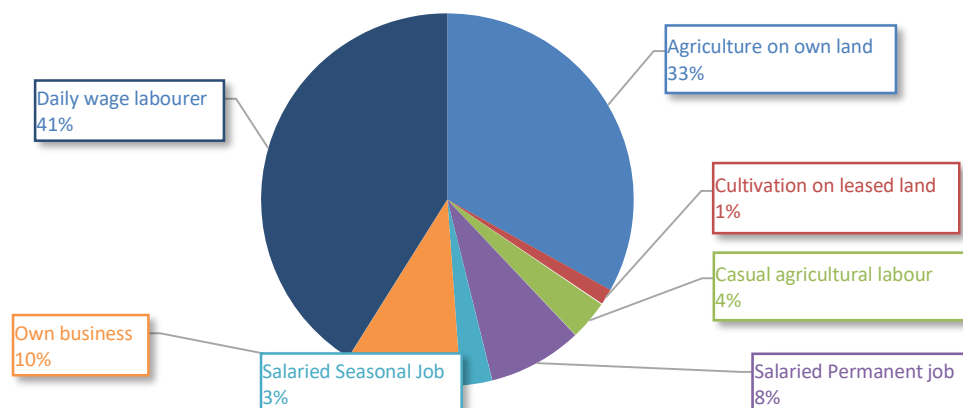
Parameters / DISCOMs	PuVVNL	MVVNL
Rural population (in Million)	55.14	48.55
Number of rural households (in Million)	8.55	8.41

¹⁷ The state has around 200 other backward class (OBC).

Total rural population in habitations with > 1000 population (in Million)	44.27	41.86
Proportion of rural population in habitations with > 1000 population (%)	80.29	86.22
SC population in habitations with over 1000 population (in Million)	9.66	10.22
SC population as a proportion of rural population residing in villages with > 1,000 population (%)	21.83	24.40
ST population in habitations with > 1,000 population (in Million)	0.69	0.08
ST population as a proportion of rural population residing in villages with > 1,000 population (%)	1.57	0.20
Women headed households in habitations with > 100 population (in Million)	0.78	0.61
% of women headed households as a proportion of rural households	9.2	7.2

32. Most of the surveyed households (41%) reported that the “main source of income” is “daily wage labour.” The other significant categories for main source of income of the households include “agriculture on own land” (33%) “own business”¹⁸ (10%) and salaried permanent job (8%). Refer to Figure 10.

Figure 11: Distribution of surveyed households by main source of income



33. While most women, across the surveyed villages, are homemakers some are also engaged in jobs outside their homes as school teachers, community development workers (including ASHA workers and *Anganwadi* workers), running entrepreneurial ventures from home (*Chikan* embroidery, pearl garlands, weaving cotton thread for sarees, packaging and catering), running shops (tailoring, stitching), etc. Most of the women are members of self-help groups (SHGs) and save ₹50 every month and borrow from their group in case of need at an interest rate of 2% per month. Further, a positive trend has been an increase in the number of girls completing their school education and seeking college education in nearby towns and cities.

¹⁸ The category of “own business” includes artisan, auto driver, betel shop, cattle rearing, contractor, cultivation on leased land, driver, electrician, embroidery hand, gardening, general merchant shopkeeper, handicraft work, handloom, juice vending, meat shop, pearl garland making, politician, potter, tuition centre, saloon, sewing machine repair shop, stitching / tailoring shop, street vendor, vegetable shop

34. A little over half of the households covered by the survey have a monthly household income of ₹5,000-10,000. While 36% of the households have a monthly income below ₹5,000 only 13% have a monthly income of more than ₹10,000 (**Error! Reference source not found.11**).
The mean monthly income of households surveyed is ₹5,633.

35. A comparison of the findings from the household survey and the data available from Census 2011 shows that there have been significant improvements in the economic status of rural households during this period (2011-2019). As per the SECC (2011) majority of rural households in PUVVNL (70%) and MVVNL (77%) had a monthly income of less than ₹5,000. Further, only 22% of rural households in PuVVNL and 16% in MVVNL had a monthly income ranging from ₹5,000-10,000. Only 10 and 6% of rural households in PuVVNL and MVVNL had a monthly income of more than ₹10,000 (Table 8).

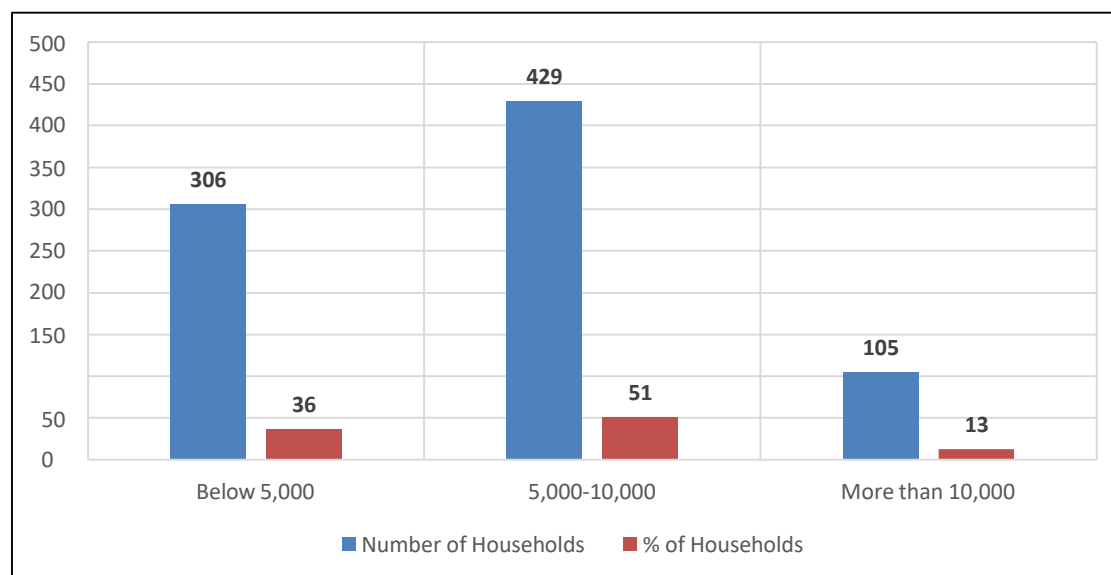


Figure 12: Distribution of households across income categories (No. and %)

Table 8: Proportion of Households Across Different Income Categories In Puvvnl and MVVNL as per SECC, 2011¹⁹

	PuVVNL	MVVNL
% of households with monthly income of less than ₹5,000 as a proportion of all rural households	70	77
% of households with monthly income of ₹5,000-10,000 as a proportion of all rural households	22	16
% of households with monthly income of more than ₹10,000 as a proportion of all rural households	10	6

36. 57% of all households surveyed across PuVVNL and MVVNL possess below poverty line²⁰ (BPL) cards (32.2% in PuVVNL and 82.8% in MVVNL).

¹⁹ Government of India. 2011. Socio-Economic Case Census 2011. <https://secc.gov.in/welcome>.

²⁰ Below poverty line in India is defined as a family earning ₹11,500 per annum.

37. All households covered by the survey have access to electricity. While 56% of households have had access to electricity for less than 3 years, 44% have had access for more than 3 years. Much of the progress related to electrification of rural households in the state has been made since 2017 under the SAUBHAGYA program.

38. All households covered by the survey are connected to the government grid and have a sanctioned load of 1 KW. A vast majority of households (93%) have metered connections. The proportion of households with metered connections is marginally higher in MVVNL (95%) as compared to PuVVNL (90%) primarily because most of the households in MVVNL have been connected for longer.

39. The principles to be adopted for addressing resettlement and compensation for loss of assets such as crops and trees in this Project have been guided by the existing legislation and policies of the Government of India and Government of Uttar Pradesh, UPPCL and by the involuntary resettlement policy of ADB stated in the ADB's Safeguard Policy Statement (2009).

V. INFORMATION, CONSULTATION AND DISCLOSURE

A. Consultations conducted during preparation

40. At an early stage of tranche one preparation, consultation meetings were held during May/June and October 2019 across DVVNL and PVVNL, to support the preparation of this RP.

41. The consultations in DVVNL (Agra DISCOM) were conducted across two blocks, namely, Kirawali and Fathehpur Sikri covering eleven habitations located along four feeders, namely, Daudpur and Dawar feeder²¹ in Fathehpur Sikri block and Feeder No. 2 and Feeder No. 3²² in Kirawali block. The habitations where consultations were held included Daudpur, Utto, Dabar, Sirauli, Banja Nagra, Santha, Khera Bakanda, Singarpur, Nachani, Nagla Shyuram and Mori. In PVVNL (Meerut DISCOM) the consultations were organised across eight habitations located along four feeders, namely, Satedhi feeder originating from Khatauli Rural Substation in Saharanpur zone; Goana Shyam Nagar Feeder originating from Modinagar Road Substation in Bulandshahar Zone; Alipur Feeder originating from Lohiya Nagar Substation in Meerut Zone; and Duhai Feeder originating from Aslat Nagar Substation in Ghaziabad Zone. The habitations where consultations were conducted included Sathedi, Sardhan, Goana, Shyam Nagar, Hajipur, Alipur, Bhikampur and Duhai. In addition, a survey of 251 agricultural consumers that are likely to be covered by the feeder separation works was also conducted across Agra and Bulandshahar zones in DVVNL and PVVNL respectively in March 2019, Table 9 9.

42. A total of 527 persons participated in the consultations / surveys, which included 462 men and 65 women. Women's participation was limited as there were social constraints regarding their participation, however during upcoming consultation activities, efforts will be made to meet separately with women's groups. Participant lists are presented in Annex 1 and Annex 2. In addition, meetings were organised with officials of DVVNL and PVVNL DISCOMs²³ and their TKCs²⁴.

²¹ Both Daudpur and Dawar Feeder are under the Madanpura Substation

²² Both Feeder No. 2 and 3 are under the Kirawali Substation

²³ Mr. Virag Bansal, Chief Engineer, PVVNL and Mr. Sanjay Gupta, Superintendent Engineer, PVVNL

²⁴ B. N. Sahu, Project Manager, L&T; Mr. Chandan Kumar, District In-charge SAUBHAGYA, L&T; Mr. Yogesh, Section In-charge DDUGJY, L&T

Table 9: Consultations and Surveys by locations, participants, and dates

Location	Male	Female	% Indigenous	Participant type	Date
District: DVVNL Block: Kirawali and Fathehpur Sikri Villages / Habitations: Daudpur, Utto, Dabar, Sirauli, Banja Nagra, Santha, Khera Bakanda, Singarpur, Nachani, Nagla Shyuram and Mori	106	9	None	Potentially Affected households	28th & 29th June 2019
District: PVVNL Zone: Saharanpur, Bulandshahar, Meerut and Ghaziabad Villages / Habitations: Sathedi, Sardhan, Goana, Shyam Nagar, Hajipur, Alipur, Bhikampur and Duhai	109	52	None	Potentially Affected households	13-15 th October 2019
DISCOM: DVVNL and PVVNL Zone: Agra (DVVNL) and Bulandshahr (PVVNL) Villages / Habitations in DVVNL: Nagar, Sahai, Mankheda, Ram Nagar, Paravati Shyamo, Angothi, Mithakur, Hazipur Khera, Pait Kheda. Villages / Habitations in PVVNL: Bajwala, Lohgara, Navi Nagar, Ponda, Acheja, Acheja Khurd, Kailavan, Salempur, Barauli Basdev, Khad Mohan Nagar	247	4	None	Potentially affected households	March 2019
Total	462	65			

B. People's perceptions, opinions, and suggested measures

43. During the consultations, interventions and their likely impacts on communities and households were shared with the participants (which included both domestic and agricultural consumers). The consultations focussed on seeking peoples' participation in preparing the RP.

44. Most of the participants of community consultations were aware about the MFF project and have witnessed implementation of similar initiatives under Government of India schemes (including SAUBHAGYA and DDUGJY) in neighbouring habitations. Some were not aware about the MFF project and thus it becomes crucial to engage with more communities during the MFF project preparation phase. Most of the participants of community consultations were supportive of the MFF project. They expressed that the MFF project would be beneficial to the community. They expressed that reliable power supply would be helpful for both domestic and agricultural users. They expressed that there will be longer supply hours for domestic consumers following the MFF project implementation. The participants identified a few issues / concerns and made suggestions which have been summarised along with the MFF project's response in Table 10.

Table 10: Key Questions & Concerns

Concerns, Questions & Suggestions	Response
Concern: Most significant concern was regarding loss of standing crops during the implementation phase. Suggestion: (a) line alignment, as far as possible, should be along the roads or the boundary of agricultural fields rather than passing through any agricultural field and (b) the	While planning the alignment of new feeder lines care will be taken to ensure that, as far as possible, the alignment will be maintained along roads, or the

implementation (erection of poles and changing of lines) should be undertaken when the fields are empty i.e., when the fields do not have standing crop.	boundary of agricultural fields rather than through any agricultural field. The implementation schedule shall be planned in such a way that as far as possible the field should not have any standing crop during implementation
Concern: Loss of land for erection of new poles during implementation phase. Suggestion: (a) line alignment, as far as possible, should be along the boundary of agricultural fields rather than passing through any agricultural field	While planning the alignment of new feeder lines care will be taken to ensure that, as far as possible, the alignment will be maintained along roads, or the boundary of agricultural fields rather than through any agricultural field.
Concern: None of the communities were willing to volunteer or donate land for poles and lines and were of the view that the loss of land and/or crops should be compensated. Some people felt that since the MFF project is for the overall development of the area / community and the land area required for erecting poles is very small there is no need for compensation. Suggestion: The communities felt that the compensation should be based on the existing laws and rules and should be made in cash.	The MFF project will ensure that compensation is provided to APs and they are adequately compensated for loss of land and / or crops as per the Entitlement Matrix in such cases.
Concern: The feeder separation will result in fewer hours (10 hours) of supply as compared to the present (16-18 hours) for agricultural consumers. Most of the farmers irrigate their fields at night (as they are busy with other jobs during the day and evaporation loss is less at night) and were concerned that if the supply is for 10 hours during day time it would not serve their purpose. Suggestion: The supply hours for agricultural consumers should be during evening or night times. The supply hours should be fixed so that the farmers can plan their schedules accordingly as they have other responsibilities as well including taking care of animals or other jobs.	The MFF project will ensure that the supply hours are decided in consultation with the communities and that they are fixed to enable the farmers to plan their schedule in advance.

45. Additional information dissemination will be required to share the summary of the draft RP. It is suggested that public meetings be organised by the IA (the respective DISCOMs) with help of the TKCs in areas where new 11 kV lines are to be installed and the draft RP be presented there. The public meetings should focus on the likely impacts of the MFF project (both positive and negative). The public meetings must be attended by both men and women and domestic consumers as well as agricultural consumers. Additional meetings with women only groups will be undertaken at this time. A fact sheet with key MFF project information will be distributed during the meetings.

C. Consultations to be conducted during Tranche One implementation stage

46. Consultation process will be carried out throughout the tranche one MFF project cycle. Various consultation measures are envisaged for tranche one including; (i) IAs (DISCOMs) will consult communities, with the help of TKCs and their field level officials, to develop a implementation schedule in order to minimize the temporary impact, (ii) IAs (DISCOMs) will inform communities, with the help of TKCs and their field level officials, about the implementation/construction schedule in order to minimize the temporary impact, chinec(iii) IAs/DISCOM will inform the Affected Persons (APs)/Affected Households (AHs) on

consent to support and/or compensation to be paid for the temporary loss of crop and trees, and (iv) all monitoring reports will be disclosed in the same manner as the RP. The TKC will ensure that an information board is placed at residential installation locations with information on the MFF project, work times, contact details and the grievance redress mechanism. The primary responsibility of conducting public / community consultations rests with the IAs. The IAs with the help of the TKC will be responsible for conducting and recording these consultations.

D. Disclosure

47. MFF project information will be disseminated through disclosure of RP. The summary of the RP, including the eligibility and entitlement, will be translated into the local language (Hindi) and will be disclosed to the APs at site level offices of EA/IAs. The draft and final RP will also be disclosed on ADB website and on the websites of UPPCL and DISCOMs. Semi-annual Monitoring Reports will be disclosed on ADBs website.

VI. LEGAL FRAMEWORK

48. The relevant legislations include the Indian Electricity Act (2003), UPPCL Environment and Social Policy and ADB's Safeguard Policy Statement (2009). The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act (2013), does not apply for this Project, as there will be no land acquisition for the laying of new 11kv poles.

A. Applied Policies

49. **The Indian Electricity Act, 2003 (Central Act 36 of 2003).** The act consolidates the laws relating to generation, transmission, distribution, trading and use of electricity and for matters connected therewith or incidental thereto.

(i) Sec 164 empowers the appropriate Government to confer on any Authority or person engaged in the business of supplying electricity under the Act, any of the powers which the Telegraph Authority possesses under the Telegraph Act with respect to the placing of telephonic lines or posts for the purpose of a telephone established or maintained by the Government or to be so established or maintained.

50. **UPPCL Environment and Social Policy:** The UPPCL aims to resettle and rehabilitate the persons affected by its distribution projects in a manner that they do not suffer adversely. UPPCL announced a strengthened policy focusing on distribution system as of 23 July 2020. The following policy on environmental and social sustainability will be implemented by the UPPCL and DISCOMs while designing and implementing the Project.

- Ensure transparency of the project to all stakeholders through dissemination of information and consultation at every stages of project implementation.
- Maintain the highest standards of social and environmental responsibility not only towards its employees but also to the consumers and the community as well.
- Minimize ecological impacts on environment, land, and flora/fauna through progressive policies like consciously economizing on the requirement of the land.
- Avoid operations in environmentally sensitive areas with special respect for fragile ecosystems and their inherent biodiversity.
- Avoid areas like high mountains, hilly terrain prone to landslides, large lakes, reservoirs, marshy places, human habitations, and reserve forest.

- Avoid routes through areas of cultural or historical importance, religious places. Care is taken to route the lines through a path of minimum disturbance.
- Avoid protected area such as sanctuaries, national parks, and habitats of important species.
- ROW is selected duly considering the location of telecommunication lines and railway circuits to avoid electrical interference due to mutual induction.
- Adoption of best technology / latest equipment to abate pollution.
- Minimize energy losses and promote energy efficiency in all its activities.

51. The features and aspects of the previous policy which covered both transmission and distribution systems are still valid if applicable to the projects. The targeted support to vulnerable groups is only triggered when there is land acquisition, thus will not be triggered for the MFF program so long as there is no land acquisition.

- (i) Loss of Privately-owned Land: The lost land will be compensated at replacement value. Wherever people lose more than 25% of holding; or remaining land holding becomes less than one standard hectare; of lands belonging to vulnerable groups, they will be offered land for land option and also be given rehabilitation grant equivalent to 750 days of minimum agricultural wages.
- (ii) Loss of House and Other Assets: The loss of house, house annexure, wells and any other structure will be compensated at replacement value which will be calculated based on the Public Works Department's basic schedule rates applicable for new construction without deducting the depreciation value. Wherever there are more than 25 households then alternative resettlement sites will be developed with adequate basic infrastructure and utilities.
- (iii) Squatters and Encroachers: Squatters and encroachers are generally not entitled legal compensation under Land Acquisition Act. however, to prevent them from further impoverishment and to improve their living standards the project will give certain targeted support and assistance to the squatters falling under vulnerable category.
- (iv) Loss of Access to Common Properties: The loss of access to common properties such as wells, grazing lands, worship places etc. will be replaced in the adjacent areas.
- (v) Targeted Support to Vulnerable Groups: For affected women members, it is proposed to register the allotted house site or agricultural land in the joint name of the Affected Person and his/her spouse. Any award of cash grant should also be given in the joint name of the Affected Person and his/her spouse. Other measures for women include giving transition allowance-equivalent to 20 days of minimum agricultural wages per month for six months-to women headed households of all categories, extending assistance in utilizing the government schemes on women development. These additional assistance measures are over and above the normal measures proposed for Affected Persons of any gender under Entitlement Framework. Indigenous People's Development Plans (IPDP) are to be prepared in the case of acquisition of any loss from the tribal population where their number is large for UPPCL projects. The tribal being socially cohesive groups, it is essential that they should be rehabilitated in surroundings, which are like the area from which they are displaced.

52. **ADB Safeguard Policy Statement.** The objectives of ADB's Safeguard Policy Statement (2009) regarding involuntary resettlement are:

- (i) to avoid involuntary resettlement wherever possible;
- (ii) to minimize involuntary resettlement by exploring project and design alternatives;
- (iii) to enhance, or at least restore, the livelihoods of all displaced persons in real terms relative to pre-project levels; and
- (iv) to improve the standards of living of the displaced poor and other vulnerable groups.

53. ADB's Safeguard Policy Statement (2009) covers physical displacement (relocation, loss of residential land, or loss of shelter) and economic displacement (loss of land, assets, access to assets, income sources, or means of livelihoods) as a result of (i) involuntary acquisition of land; or (ii) involuntary restrictions on land use or on access to legally designated parks and protected areas. It covers displaced persons whether such losses and involuntary restrictions are full or partial, permanent, or temporary.

54. The three important elements of ADB's Safeguard Policy Statement (2009) are (i) compensation at replacement cost for lost assets, livelihood, and income prior to displacement; (ii) assistance for relocation, including provision of relocation sites with appropriate facilities and services; and (iii) assistance for rehabilitation to achieve at least the same level of well-being with the project as without it. The Safeguard Policy Statement gives special attention to poor and vulnerable households to ensure their improved well-being because of project interventions.

B. Policy Framework Gaps and Provisions

55. Given that the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act (2013) does not apply for this Project, the provisions of the Environment and Social Policy of UPPCL and ADB's Safeguard Policy Statement (2009) will apply which provide that any land lost will be compensated at replacement value. While significant impacts are not anticipated for the MFF, in the event of any loss of house, house annexure, wells and any other structure, these will be compensated at replacement value which will be calculated based on the Public Works Department's basic schedule rates applicable for new construction without deducting the depreciation value. Compensation for each potential impact category is outlined in Section IX, to fully align with ADB's Safeguard Policy Statement (2009). Further, as per the Environment and Social Policy of UPPCL, there are no regulatory requirements for preparation of an RP or it is disclosure, nor consultation or a specific grievance redress mechanism. To meet these gaps, this document has been prepared and will be disclosed, consultation will continue to be undertaken throughout the Project and a GRM will be established.

56. Table 11 present the gaps analysis between national/ state laws and regulations and ADB's Safeguard Policy Statement (2009) provisions.

Table 11: Comparison of Involuntary Resettlement Requirements of ADB and Government of India

Project Stage	ADB	Government of India	Gaps for the Project
Screening and categorization	<ul style="list-style-type: none"> Screen the project early on to identify past, present, and future involuntary resettlement impacts and risks. Assigns categories based on potential impacts. 	<ul style="list-style-type: none"> The electricity Act-2003 and The Indian Telegraph Act, 1885 do not refer to such policy principles. 	<ul style="list-style-type: none"> Forms and template for screening and due diligence activities are developed and included in Appendices.
Meaningful Consultation	<ul style="list-style-type: none"> Carry out meaningful consultations with affected persons, host communities, and concerned non-government organizations (NGOs). 	<ul style="list-style-type: none"> The electricity Act-2003 and The Indian Telegraph Act, 1885 do not refer to such policy principles. 	<ul style="list-style-type: none"> Consultation forms are developed and included in Appendix 8.
Grievance redress Mechanism	<ul style="list-style-type: none"> Establish a grievance redress mechanism to receive and facilitate resolution of the affected persons' concerns. 	<ul style="list-style-type: none"> The electricity Act-2003 and The Indian Telegraph Act, 1885 do not refer to such policy principles. 	<ul style="list-style-type: none"> A culturally appropriate GRM is to be established to address program related grievances.
Preparation and disclosure of RP	<ul style="list-style-type: none"> Prepare a RP elaborating on displaced persons' entitlements, the income and livelihood restoration strategy, institutional arrangements, monitoring and reporting framework, budget, and time-bound implementation schedule Disclose a draft RP, including documentation of the consultation process in a timely manner, before project appraisal, in an accessible place and a form and language(s) understandable to affected persons and other stakeholders. 	<ul style="list-style-type: none"> Not specified. 	<ul style="list-style-type: none"> RP has been prepared and will be disclosed.
Negotiated Settlement	<ul style="list-style-type: none"> The borrower will engage an independent external party to document the 	<ul style="list-style-type: none"> The electricity Act-2003 and The Indian Telegraph Act, 1885 	<ul style="list-style-type: none"> A format for "consent to support" is developed to keep records for negotiated settlement,

Project Stage	ADB	Government of India	Gaps for the Project
	<p>negotiation and settlement processes.</p> <ul style="list-style-type: none"> The borrower will agree with ADB on consultation processes, applicable policies, and laws; third-party validation; mechanisms for calculating the replacement costs of land and other assets affected; and record-keeping requirements. For voluntary donation²⁵, due diligence is needed to: (i) verify that the donation is in fact voluntary and did not result from coercion, using verbal and written records and confirmation through an independent third party; (ii) ensure that voluntary donations do not severely affect the living standards of affected persons and benefit them directly; and (iii) in case of failure of negotiation there will be no acquisition. 	<p>do not refer to such policy principles.</p> <ul style="list-style-type: none"> The state act has provision for direct purchase with transparent verification procedure. 	<p>voluntary donation, and third-party acknowledgement.</p> <ul style="list-style-type: none"> The process is transparency and no coercion are to be ensured.
Compensation payment	<ul style="list-style-type: none"> Pay compensation and provide other resettlement entitlements before physical or economic displacement. Implement the RP under close supervision throughout project implementation. 	<ul style="list-style-type: none"> Not specified. 	<ul style="list-style-type: none"> In case compensation is requested, it will be provided before any displacement.
Monitoring	<ul style="list-style-type: none"> Monitor and assess resettlement outcomes, their impacts on the standards of living of 	<ul style="list-style-type: none"> Not specified. 	<ul style="list-style-type: none"> Monitoring reports are to be prepared semi-annually and disclosed.

²⁵ Voluntary donation is not directly covered under ADB SPS but by ADB good practices.

Project Stage	ADB	Government of India	Gaps for the Project
	displaced persons, and whether the objectives of the RP have been achieved by considering the baseline conditions and the results of resettlement monitoring. Disclose monitoring reports.		
Non-title holders	<ul style="list-style-type: none"> Ensure that displaced persons without titles to land or any recognizable legal rights to land are eligible for resettlement assistance and compensation for loss of nonland assets. 	<ul style="list-style-type: none"> They are generally not entitled legal compensation under Land Acquisition Act. However, targeted support and assistance to the squatters falling under vulnerable category are given. 	<ul style="list-style-type: none"> Non-titled persons are entitled to compensation for the losses of non-land assets.
Vulnerability	<ul style="list-style-type: none"> Vulnerable groups, especially those below the poverty line, the landless, the elderly, women and children, and Indigenous Peoples, and those without legal title to land, Ensure that displaced persons without titles to land or any recognizable legal rights to land are eligible for resettlement assistance and compensation for loss of nonland assets. 	<ul style="list-style-type: none"> Affected women Any award of cash grant should also be given in the joint name of the Affected Person and his/her spouse. Other measures for women include giving transition allowance-equivalent to 20 days of minimum agricultural wages per month for six months-to women headed households of all categories, extending assistance in utilizing the government schemes on women development. 	<ul style="list-style-type: none"> Vulnerable people are (i) below poverty line (BPL) as per the state poverty line; (ii) female or minor (under 18 years) or elder (above 60 year) or differently abled persons headed; (iii) scheduled caste or tribe; and households who are landless; and (vi) who are without legal title to land. The vulnerable status for persons without legal title is determined based on the socioeconomic profile. <ul style="list-style-type: none"> In case of compensation is requested, then it will be given commensurate to the impacts on non-land assets.

VII. MITIGATION MEASURES AND ENTITLEMENT MATRIX

A. Anticipated Impacts and Eligibility Criteria

57. **Anticipated Impacts from Output 1.** The scope of component one, is limited to (i) rehabilitation/replacement of the existing low voltage distribution network by replacing bare conductors with aerial bundled (AB) cables; and (ii) replacing the service wires with armoured cables. The replacement of low voltage conductors, service wires will not have any involuntary resettlement or livelihood disruption impacts as no new poles are to be erected and only the bare conductors are to be replaced with AB cables, which basically bundle overhead power lines tightly together.

58. **Anticipated Impacts from Output 2.** It is envisaged that the distribution system improvements under component two will not include involuntary resettlement impacts that are not deemed significant. No land acquisition under law is anticipated. Installation of new 11 kV lines are generally drawn on government land (i.e. along public roads) and only in very rare circumstances, primarily due to technical reasons, the line may be drawn through private (agricultural) land. In similar subprojects, during planning, whenever it is realised that a line will be passing through private land, the DISCOMs have advised turn key contractors (TKCs) to work out an alternative route so as to ensure that the line does not pass through private land and either passes through government land or is aligned along the boundary of two agricultural plots. A similar process is suggested to be followed for component two under this Project. However, in some cases, this may not be possible, as such additional due diligence has been conducted in June and October 2019 to understand the scope of potential impacts on private land which is outlined above in Section IV.a. and IV.b. Information presented here was based on the tentative design and should not be considered as final. While the exact alignment is not known, the information presented here is based on the preliminary plan.

59. For the purpose of developing a budget for the RP the following assumptions have been made (i) for tree cutting/trimming costs a sum of ₹1000 per km. has been allocated (the total length of 11 kV line to be installed across PVVNL and DVVNL is 16,926 kms); (ii) for compensation for crop loss a sum of ₹10,000 has been allocated per habitation (a total of 2,200 habitations are likely to be covered across PVVNL and DVVNL under the feeder separation component); and (iii) for compensation of loss of land due to erection of poles a sum of ₹3,000 is allocated per sq. foot of agricultural land likely to be impacted. It is estimated that 2% of the habitations to be covered by the feeder separation works based on the sample, that is 44 habitations are likely to be affected due to erection of poles in private agricultural land and 10 poles are erected at each habitat.

- **Impacts on Private Land:** Based on the transect surveys, it is estimated that none of the households who have private land will be affected for component two of the Project.
- **Impacts on Structures:** No impacts on any structures (residential, commercial, or institutional) are anticipated for component two of the Project, especially given the ability to alter the feeder alignment and pole placement.
- **Temporary Impacts on Crops and Trees:** For new line installations under component two of the Project, there may be some temporary impacts on crops and trees. These will be avoided, wherever possible, but may require tree trimming in the right of way; when lines are installed along agricultural boundaries or if lines are drawn through private agricultural land. The DISCOM, through TKC will pay compensation, as per the entitlement matrix (EM) for such temporary impacts and keep a record of affected households (AHs)

who receive payments. After civil works are completed the DISCOM (through the TKCs) will ensure any affected agricultural land is restored to its previous condition.

B. Subproject Component Eligibility Criteria

60. The following subproject component eligibility criteria will be applied for the selection of components by turnkey contractors:

- (i) All components involving activities included in the ADB Prohibited Investment Activities List (list provided in Appendix 5) must be excluded from the Project,
- (ii) All Involuntary Resettlement Category A subproject components should be excluded from the Project.²⁶
- (iii) All Indigenous Peoples Category A and B subproject components (e.g. expected to have any impacts on Indigenous Peoples) shall be excluded from the Project.
- (iv) The private land and assets will be avoided as much as possible. Right of ways of existing roads, and vacant government land will be explored first for erecting poles and installing lines. If there are any interference into private land and assets, the procedure of consent to support and/or compensation should be followed.
- (v) The augmentation work will be undertaken within the existing premises of the current substations, and government land available which are free from informal settlers. No compulsory land acquisition will be adopted for any proposed augmentation work.
- (vi) There will be no new substations, thus land acquisition for new substations is not required under the project.

C. Screening and Categorization

61. Social screening and categorization will be conducted utilizing the checklists (environment, involuntary resettlement, and indigenous people) presented in Appendix 5. On confirmation of subproject components/activities for inclusion in the Project, UPPCL will submit the completed checklists to ADB, one consolidated checklist per subproject, covering all components/activities to be included in that subproject and make a recommendation for the proposed environment, involuntary resettlement, and indigenous peoples categorizations for concurrence by ADB. A consolidated categorization for each Division will be submitted to ADB based on the component level screening forms prepared. The contract will commence work after ADB approval of consolidated categorization form at Division level.

62. The project has minor resettlement impact as it is a distribution intervention of converting to ABC and separating 11 kV feeders without any new substations. The project does not require any land acquisition as all work will be done within the premises of existing substations and distribution lines will mostly follow existing road or vacant government or public areas, thus most of the subproject categories are expected to be either C (including all ABC subprojects) or B for resettlement. If a subproject component/activity is found to be resettlement Category A, then the component/activity will not be eligible for further consideration under the Project.

²⁶ Category A triggered if 200 or more persons will experience major impacts, which are defined as (i) being physically displaced from housing, or (ii) losing 10% or more of their productive assets (income generating).

D. Measures to avoid and reduce project impacts

63. The DISCOMs and its TKCs with support from PMAs will seek to ensure that all new 11 kV lines are drawn on government and/or public land (scenario 1).
64. During planning, when it is realized that a line will have to pass through private land, the DISCOMs and TKCs needs to, as a first option, “work out an alternative route so as to ensure that the line doesn’t pass through private land and passes either through government land or is aligned along the boundary of two agricultural lands.”
65. In cases where the line needs to pass through private land (scenario 2), it shall be the responsibility of the DISCOMs TKCs with support from PMAs to conduct due diligence (attached as Appendix 7) and have a dialogue with the affected persons and village sarpanch (headman/woman) and to record his/her consent for erecting the poles in his village. The DISCOMs and TKCs with support from PMAs will have to use the prescribed formats for recording the discussions with and consents from the affected persons, and village headman/woman (Sarpanch) (attached as Appendix 8). The affected persons will not be coerced or intimidated in any way.
66. If there is no alternative, consultations fail, and the line must pass through an affected persons agricultural land, then compensation as per the entitlement matrix is to be paid.
67. Table 12 summarises two emerging scenarios from the point of view of impact on land while laying new 11 kV distribution lines, each of which will require a different process.

Table 12: Scenario Details and Required Process

Scenario	Details (location of poles)	Required Process
Scenario 1	Poles erected on government land along the roads or Poles erected on land along the boundary of two agricultural fields (these narrow strips of land are not privately owned)	Record of land ownership is to be collected and kept by the DISCOMs, PMAs and TKCs to demonstrate that the land is owned by government or public entities.
Scenario 2	Poles erected on private land	If an alternative route is not possible, then discussions on consent to support with the affected persons are required. The DISCOMs, PMAs and TKCs must complete (a) the social due diligence report (SDDR) attached as Appendix 7; and (b) consultation and consent to support checklist as per the format attached as Appendix 8. In the event that the affected person is not willing to donate and there is no alternative route then compensation as per the entitlement matrix is required.

E. Compensation/Income Restoration

68. Resettlement impact will be avoided and/or minimized, however, if there are any impacts on private assets based on the screening result such as erecting poles and/or cutting of trees on private land, social due diligence will be undertaken by the DISCOM and contractor to seek consents to support. For losses which are unavoidable and unacceptable to the owners of the

assets, compensation will be given to commensurate to the impacts in accordance with the RP. The social due diligence result and compensation details will be documented in a Social Due Diligence Report (SDRR) using the format developed for the Project in Appendix 7. The SDDR should be submitted by the DISCOMs to ADB for review and clearance prior to the commencement of construction works it relates to.

69. The Entitlement Matrix (Table 13) summarizes the main types of losses and the corresponding entitlements in accordance with ADB's Safeguard Policy Statement (2009) and UPPCL's Environment and Social Policy.

Table 13: Entitlement Matrix

	Type of Loss	Affected Persons/ Institutions	Entitlement	Details	Responsibility
1	Private land for 11kV pole installation	Legal titleholders	Consent for pole erection	<ul style="list-style-type: none"> The poles and lines will follow existing roads or vacant public area or government If there is any interruption to private land, consultation and prior consent will be sought with 3rd party signature. For impact unavoidable and unacceptable to the owners of assets, compensation will be provided at replacement cost²⁷ 	<ul style="list-style-type: none"> DISCOMs and TKC
2	Trees	All affected households (titled holders and non-titled holders)	Compensation at market value/ replacement cost	<ul style="list-style-type: none"> Compensation at replacement cost to be computed with assistance of horticulture department. In case of cutting trees, for fruit bearing trees compensation at average fruit production for next productive years to be computed at market value. In case of cutting trees, or timber trees compensation at market value based on type of trees and 	<ul style="list-style-type: none"> DISCOMs and TKC

²⁷ The rate of compensation for acquired housing, land and other assets will be calculated at full replacement costs. The calculation of full replacement cost will be based on the following elements: (i) fair market value; (ii) transaction costs; (iii) interest accrued, (iv) transitional and restoration costs; and (v) other applicable payments, if any.

	Type of Loss	Affected Persons/ Institutions	Entitlement	Details	Responsibility
				timber will be retained by the owner.	
3	Crops and other agricultural assets	All affected households (titled holders, sharecroppers, lease holders and non-titled households)	Compensation at market value/ replacement cost	<ul style="list-style-type: none"> • Compensation at market value to be computed with assistance of agriculture department. • Advance notice to Affected Persons to harvest crops. • In case of standing crops, cash compensation at market value to be calculated of mature crops based on average production. 	<ul style="list-style-type: none"> • DISCOMs and TKC
4	Damages to structures	Legal titleholders, non-titleholders, tenants	Repair damages or provided cash compensation to repair damages.	<ul style="list-style-type: none"> • Compensation for repair of structures at replacement cost. • Cash assistance at market rate for shifting, registration and other charges, if any. 	<ul style="list-style-type: none"> • DISCOMs and TKC
5	Vulnerable households	(i) below poverty line (BPL) as per the state poverty line; (ii) female or minor (under 18 years) or elder (above 60 year) or differently abled persons headed; (iii) scheduled caste or tribe; and households who are landless; and (vi) who are without legal title to land. The vulnerable status for persons without legal	In kind support	<ul style="list-style-type: none"> • Extending assistance in utilising the government schemes for vulnerable households. 	<ul style="list-style-type: none"> • DISCOMs and TKC

	Type of Loss	Affected Persons/ Institutions	Entitlement	Details	Responsibility
		title is determined based on the socioeconomic profile.			
6	Unforeseen impacts	Other unforeseen impacts related to loss of assets or livelihood not previously identified.	Compensation at replacement cost commensurate to the impacts	<ul style="list-style-type: none"> Unforeseen impacts should be documented and mitigative measures must be proposed within the overall principles and provisions of Entitlement Matrix, the Legal Framework in Chapter VII and the ADB's Safeguard Policy Statement 2009. 	<ul style="list-style-type: none"> DISCOMs and TKC

VIII. GRIEVANCE REDRESS MECHANISM

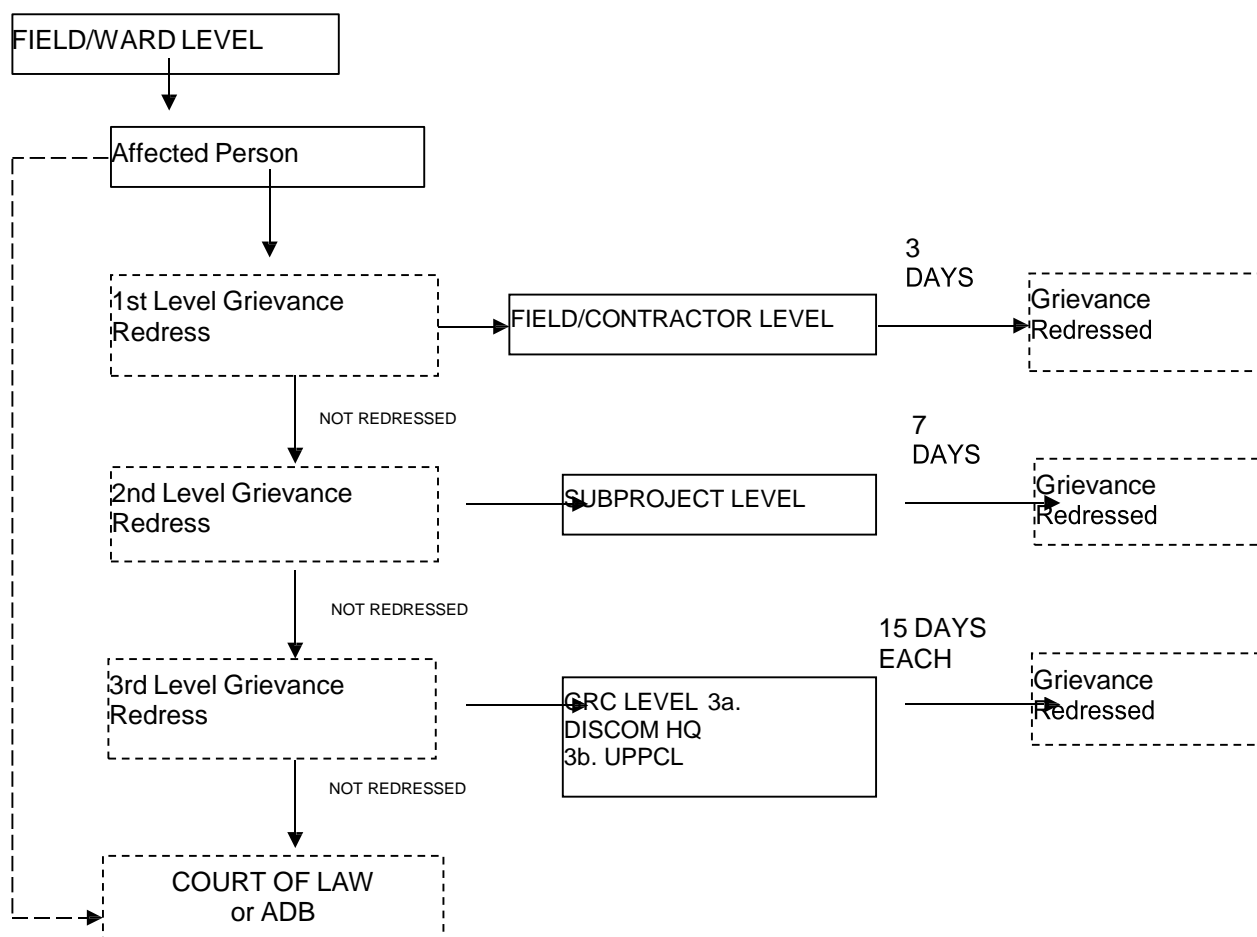
70. GRM can be an effective tool for early identification and resolution of complaints on subprojects. Under the Project, it is required that an efficient consultation and grievance redress mechanism be established to assist affected persons to resolve queries and complaints, if any, in a timely manner. The guidelines on GRM will be applied at project and subproject level to assure that adequate resources are made available for the Project GRM to function effectively.

71. ADB's Safeguard Policy Statement (2009) requires the establishment of a responsive, readily accessible, and culturally appropriate GRM capable of receiving and facilitating the resolution of affected persons' concerns and grievances about the physical, social, and economic impacts of the Project. The GRM aims to (i) reduce conflict, risk of undue delay and complication in Project implementation; (ii) improve the quality of Project activities and outputs; (iii) ensure that the rights of affected persons are respected; (iv) help identify and respond to unintended impacts of Project on individuals; and (v) maximize participation, support and benefits to local communities. The proposed GRM for the Project is presented in Table 14 and Figure 12.

72. The proposed GRM, which will handle both environmental and social grievances, includes grievance redress committees (GRCs) to be setup by UPPCL (EA) at Project (corporate) level and each DISCOM HQ (IA) to provide the means for the effective resolution of complaints and issues on each subproject. The GRCs will be convened as necessary by the UPPCL or DISCOM grievance focal point (GFP) and, in addition, include a representative of the affected person, a representative of women groups, the relevant Village Headman (Gram Pradhan), the relevant zonal or DISCOM chief engineer, a nominated divisional forest officer or equivalent for environment safeguards grievances or nominated district revenue officer as nodal officer for social safeguards grievances, and, the designated GFP of the contractor dealing with the environmental or social safeguards as applicable. The GRCs will meet as and when a major grievance (i.e. grievance which cannot be resolved at contractor or DISCOM level) arises.

73. The fundamental objectives of the GRM are:

- (i) To reach mutually agreed solutions satisfactory to both, the project, and the affected persons, and to resolve any Project-related grievance locally, in consultation with the aggrieved parties;
- (ii) To facilitate the smooth implementation of the EMPs and RP and resolution of compensations and prevent delay in subproject implementation;
- (iii) To democratize the development process at the local level, while maintaining transparency as well as to establish accountability to the affected people;
- (iv) To facilitate an effective dialogue and open communication between the Project and affected persons; and
- (v) To have clear definition of roles and responsibilities of the various parties involved in consideration and resolution of grievances.

Figure 13: Chart View of Grievance Handling Process**Table 14: Grievance Handling Process**

Level	Name of Level	Description	Time frame ²⁸
1	Field level (by contractor and DISCOM field officials)	<p>One Grievance Focal Person (GFP) will be assigned by each contractor and the DISCOM to receive and handle grievances. Complaints can be registered by contractor or directly to DISCOM.</p> <p>Contractor's GFP should receive the complaint (written or verbal) and provide acknowledgement letter to the complainer within 3 days after receipt of the complaint.</p> <p>Contractor's GFP should maintain data of Grievance Logbook and submit/update all necessary data related to the registered grievances to the DISCOM's GFP on a weekly basis.</p> <p>Upon resolution the Contractor's GFP should convey the solution to the affected person and seek their concurrence (written or verbal) that it is acceptable</p>	3 working days

²⁸ The health and safety issues and ongoing issues which pose a life-and-death risk shall be resolved immediately on receipt.

Level	Name of Level	Description	Time frame ²⁸
		to them. If the grievance cannot be solved within 3 working days, then Contractor's GFP should submit information to the next level (DISCOM GFP at subproject level) and provide updated information to the complainant regarding the grievance resolution process being followed.	
2	MFF subproject level (DISCOM GFP)	The DISCOM GFP for each subproject should review the grievance with the support of the environment and social safeguards officers and resolve it within 7 working days. If the case is complex and requires investigation (experts' opinion) expertise or confirmations from the state bodies, the resolution period can be extended up to 15 calendar days. Upon resolution the DISCOM's GFP should convey the solution to the affected person and seek their concurrence (written or verbal) that it is acceptable to them. If the grievance cannot be resolved still, or the complaining party is not agreed with the offered solution, then the DISCOM GFP should submit information to the next level (DISCOM HQ GRC) and provide updated information to the complainant regarding the grievance resolution process being followed. DISCOM's GFP should maintain data of Grievance Logbook and submit/update all necessary data related to the registered grievances to DISCOM HQ and UPPCL monthly.	7 working days
3a	Implementing Agency level Grievance Redress Committee (DISCOM HQ)	The DISCOM GFP will request the DISCOM HQ GRC to review the grievance and resolve it within 15 calendar days. If the grievance is found invalid (after investigation of the GRC) a written response should be given to the complaining party explaining the reasons for its rejection. Otherwise a written response explaining the resolution should be provided to the complaining party and their concurrence (written or verbal) sought by the DISCOM GFP to confirm that it is acceptable to them. If the grievance cannot be resolved still, or the complaining party is not agreed with the offered solution, then the DISCOM GFP should submit information to the next level (UPPCL GFP and GRC) and provide updated information to the complainant regarding the grievance resolution process being followed.	15 working days
3b	Executing Agency level	The UPPCL GFP will request the UPPCL GRC to review the grievance and resolve it within 15	15 working days

Level	Name of Level	Description	Time frame ²⁸
	Grievance Redress Committee (UPPCL)	calendar days. If the grievance is found invalid (after investigation of the GRC) a written response should be given to the complaining party explaining the reasons for its rejection. Otherwise a written response explaining the resolution should be provided to the complaining party and their concurrence (written or verbal) sought by the DISCOM GFP to confirm that it is acceptable to them.	
4	Court or INRM	<p>If the affected person is still not satisfied with the GRC decision, the affected person can submit his/her complaint to the appropriate court of law in India for its resolution. The GRM does not impede access to the country's judicial or administrative remedies, so the project affected can file the case to the court of law regardless of the GRM stage and process.</p> <p>In addition, the affected person may raise the concern with ADB Operations Department through INRM for resolution.</p> <p>Project-affected people can also submit complaints to ADB's Accountability Mechanism. The Accountability Mechanism provides an independent forum and process whereby people adversely affected by ADB-financed projects can voice, and seek a resolution of their problems, as well as report alleged violations of ADB's operational policies and procedures</p>	Depends on nature of the complaint

74. *Receiving grievances:* All the received grievances should be registered by the GFPs of contractor and DISCOMs. Submitting grievances and registration should be a straightforward process, and the affected persons should be able to submit their grievances and questions directly or through a third party. This process requires availability of (i) responsible person to receive and register the complaints (GFP); (ii) multiple points (at field, DISCOM office) for receiving grievances; (iii) procedure for acknowledging the receipt (registered and signed) and informing the complaining party about the expected timeframe for the review and resolution; and (iv) grievance logbook about the complaints and their status.

75. The complaining party should be able to submit grievance in person, by phone call, email, letter, or fax, to the GFP assigned by the contractor or DISCOM. Receipt of grievance lodged in person or via phone should be acknowledged immediately by a paper issued by the GFP or other persons who received the grievance.

76. All the grievances, however minor, and regardless of its nature and eligibility, should be recorded in a grievance logbook in detail. Upon receipt of grievances, the contractor's GFP in coordination with the DISCOM GFP should sort them into the following categories to define if the complaint is eligible for the Project established GRM. The procedure should establish clear parameters (if complaint is caused by the Project activities) for qualifying grievance as eligible or

ineligible for the Project established GRM. The following types of grievances are not eligible for resolution by the Project established GRM:

- Grievances that are not related to the Project, or
- Grievances that should be reviewed by separate, more appropriate procedures (e.g. issues of fraud and corruption).

77. *Feedback provision:* After receiving grievance, the GFP (or another responsible person) should:

- Provide acknowledgement of the grievance receipt, with response/ recommendations to complainant;
- Provide the complainant with information about the status of grievance resolution in each of the grievance resolution levels;
- If the resolution is not reached or seem to be unreachable in each level, the grievance should be passed on to the next level and the complainant should be informed accordingly. Information to the complainant shall include the date when the case was passed on to the next level and the date by which the resolution is expected; and
- The resolution proposed at each level should be informed to the complainant.

78. In all the levels, the parties involved in resolution for grievance should closely discuss the issue and resolution alternatives with the complainant to come to the resolution that is reasonable and acceptable for all parties.

79. *Reporting:* The DISCOM is responsible to monitoring implementation of the Project established GRM and reflect the outcomes in the safeguard monitoring reports.

- The GFP of the contractor should document and monitor the grievance status in a grievance logbook. All grievances, no matter how minor, and regardless if immediately resolved by the contractor, will be logged.
- GFP of the contractor should report to GFP of the DISCOM on GRM on weekly basis and immediately inform them on receipt of any grievance.

80. GFP of the DISCOM will record all grievances, no matter how minor, and regardless if immediately resolved by the contractor, in a tracking table (provided by ADB–Table 15) and report on a monthly basis to the UPPCL GFP and to ADB on semiannual basis through the safeguard monitoring reports and immediately inform them of any grievance which reaches level 3a or 3b of the GRM. Besides, all grievances and their status along with details of the grievance and their resolution should be reflected in the safeguard monitoring reports.

Table 15: Grievance Registration Form
 (Project: Uttar Pradesh Power Distribution Network Rehabilitation)

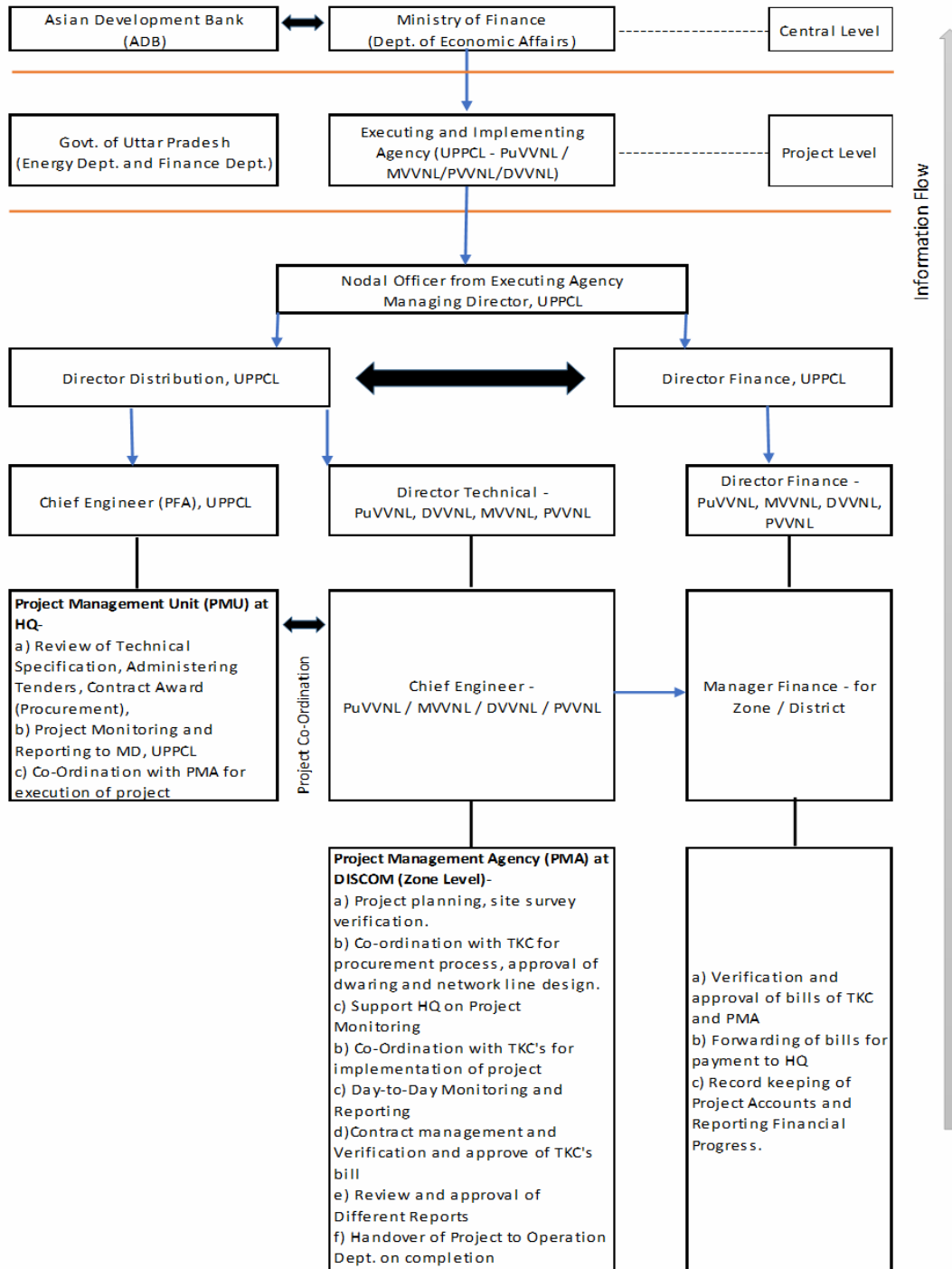
No	Title of complaint	Type of complaint	Date received	Name of plaintiff	Contact details of plaintiff	Summary of complaint	Action taken	Status of complaint / date	Notes/ comments

IX. INSTITUTIONAL ARRANGEMENTS AND RESPONSIBILITIES

A. Project Implementation Arrangements

81. Figure 14 shows the overall Project organization structure.

Figure 14: MFF Project Organization Structure



82. The main institutions that will be involved in environmental and social management activities are UPPCL as the Project executing agency and the four DISCOMs as Project implementing agencies. Three sets of consultants will provide safeguards support to UPPCL and the DISCOMs to help them implement the Project,

- (i) TRTA consultants will be recruited by ADB under the accompanying TRTA project to (a) support the DISCOMs with updating the IEE and preparing social due diligence reports in accordance with the SARF for clearance by ADB prior to the commence of construction works, and assist with updating them during further implementation if required; (b) provide safeguards capacity development to UPPCL, the DISCOMs, and their consultants and contractors; and (c) ensure UPPCL, the DISCOMs, and their consultants are undertaking adequate safeguards supervision and monitoring during project implementation. The TRTA consultants will comprise national environment and social assessment specialists, international environment and national environment, health and safety supervision specialists and national social development specialist. TOR for the safeguards TRTA consultants are included in the TA paper.
- (ii) PMC at UPPCL will assist UPPCL and their Project Management Unit (PMU) in overall coordination and project management. They will support the executing agency prepare environmental and social monitoring reports during project implementation, help establish the GRM and address grievances received, and help ensure compliance with the safeguard requirements including the SARF, IEE, EMPs, and RP. The PMC contract has already been advertised, it is currently scheduled to include one environment specialist for 4 person months, and one social specialist for 4 person months, these time inputs are for a period of 24 months and given project implementation is until 2029 will need to be extended given the duration of the Project and the number of subproject component/activities involved.
- (iii) our PMA (consultant teams) to support each of the DISCOMs with day to day project implementation. They will support the implementing agencies in completing environment and social screening forms, undertaking site visits and consultations, establishing the GRM and addressing grievances received at subproject level, supervising and monitoring their contractors day to day work, and ensuring compliance with the safeguard requirements including the SARF, IEE, EMPs, and RP. The PMAs' contract has already been advertised, it does not include dedicated environment and social specialists, but members of the PMA consultant team will be required to have necessary environment, health and safety expertise in order to ensure adequate safeguards supervision and monitoring during project implementation.

83. Responsibility for environmental and social management and compliance with ADB's Safeguard Policy Statement (2009) requirements ultimately lies with UPPCL. UPPCL has the ultimate responsibility for all aspects of the Project. A PMU will be established within UPPCL which will be responsible for the overall management of the technical, environmental, and social aspects of the Project with the support of the PMC. UPPCL will be required to nominate as part of the PMU at least one suitably qualified and experienced staff to be receiving trainings and act as their (i) environmental focal; (ii) occupational health and safety focal; and (iii) social focal (also acting as GFP for UPPCL) to liaise with the DISCOMs.

84. Each DISCOM will act as implementing agency for their respective jurisdictions and a nominated DISCOM Project Manager will be responsible for the day to day management of the

technical, environmental, and social aspects of the Project. In addition, each DISCOM will be required to nominate at least one suitably qualified and experienced staff to receive trainings and act as environment focal, health and safety focal, and community liaison/GFP for the DISCOM.

85. UPPCL and the DISCOMs will ensure that the specified staff resources and adequate environmental and social management and monitoring budgets are available to the Project and utilized as necessary for timely and satisfactory safeguards implementation.

86. Each contractor, for each contract package if they are awarded multiple contracts, will nominate the following to receive trainings prior to the commencement of works and ensure compliance with the safeguard requirements including the SARF, IEE, EMPs, and RP (i) one appropriately qualified and experienced, dedicated Environment Officer designated with responsibility for ensuring implementation of the project-level EMP and any site-specific EMP included in the updated IEE; (ii) one appropriately qualified and experienced, dedicated Health and Safety Officer designated with responsibility for ensuring implementation of the health and safety requirements under the project-level EMP and any site-specific EMP included in the updated IEE; (iii) one appropriately qualified and experienced, dedicated community liaison officer who will also act as the GFP for the contractor to undertake consultations and deal with any grievances received by the subproject; and (iv) appropriately qualified and experienced environment, health and safety site supervisors (several site supervisions will be required, the actual number depending on the scheduling of subproject works) responsible for day to day implementation of the EMPs who will be permanently based on-site for the duration of all works being undertaken for each subproject component/activity implemented.

87. The main responsibilities of each institution are listed below (this is not an exclusive list):

a. UPPCL (PMU) Responsibilities with Support PMC

- (i) Ensure that all environment and social safeguards requirements as given in ADB's Safeguard Policy Statement (2009), this SARF, applicable laws and rules of the Government of India, Government of Uttar Pradesh, and UPPCL social and policy procedure (SP&S) and environmental framework and safeguards (EFS) for transmission and distribution projects, the IEE, EMPs, and RP are being fully complied with during all tranches and stages of the subprojects supported by the Project, including counterpart funded components/activities.
- (ii) Nominate at least one suitably qualified and experienced staff to act as the PMU's (a) environmental focal, (b) occupational health and safety focal, and (c) social focal (also acting as GFP for UPPCL) to liaise with the DISCOMs.
- (iii) Ensure that all required environment and social safeguards documents (i.e. screening checklists, consultation proformas, updated IEE, social due diligence reports) are prepared as required by the DISCOMs for all subprojects and components/activities prior to approval of the contractor's detailed designs and the commencement of any construction works associated with them.
- (iv) Review and approve all environment and social safeguards related documents prepared (such as screening checklists, consultation proformas, updated IEE, social due diligence reports, safeguard monitoring reports etc.) seeking recommendations and clarifications from the DISCOMs where necessary prior to endorsement and submission to ADB for clearance and disclosure on the ADB website.

- (v) Timely endorsement and signing of key documents and forwarding to the respective agency such as documents required for the processing of tree cutting permission, etc.
- (vi) Taking proactive and timely measures to address any environment and social safeguards related challenges at the national or state level such as delays in processing of clearances (during pre-construction stage) or significant grievances.
- (vii) Ensure that the DISCOMs have access to the SARF, IEE, EMPs and RP and that they fully understand their responsibilities to implement the requirements set out therein and to mitigate the environmental and social impacts associated with design, pre-construction, construction, and operational and maintenance stages of the Project and, supported by the TRTA consultants, provide necessary safeguards training to their staff and contractors.
- (viii) Ensure that the requirements of the SARF, EMPs and RP as relevant to the contractor are incorporated by the DISCOMs in the contract documents for each subproject.
- (ix) Support the DISCOMs in reviewing and approving contractor sub-plans e.g. construction EMPs plus traffic management plans, construction waste management plans, and health and safety plans.
- (x) Support the DISCOMs in undertaking ongoing consultation and establishing and implementing the GRM, ensuring effective implementation of the GRM and that all relevant concerns and complaints are being promptly and effectively addressed by the DISCOMs.
- (xi) Supervise and monitor that the SARF, EMPs and RP are being properly implemented.
- (xii) Ensure that the DISCOMs submit their quarterly reports for consolidation into and prepare the semi-annual combined environmental and social monitoring reports.
- (xiii) Submit semi-annual combined environmental and social monitoring reports to ADB.
- (xiv) In case unanticipated environmental and social impacts occur during the Project implementation stage, including design changes for example due to site conditions encountered by contractors, inform ADB, and, as required, ensure the DISCOMs update the IEE, EMPs and RP for clearance by ADB before any changes are implemented.
- (xv) In case of non-compliance, inform ADB, and prepare in consultation with relevant government agencies and implement as necessary a corrective action plan for clearance by ADB.

b. DISCOM (Project Manager) Responsibilities with Support PMAs

- (i) Together with UPPCL, ensure that all environment and social safeguards requirements as given in ADB's Safeguard Policy Statement (2009), this SARF, applicable laws and rules of the Government of India, Government of Uttar Pradesh and UPPCL SP&S and EFS for transmission and distribution projects, the IEE, EMPs, and RP are being complied with during all tranches and stages of respective subprojects supported by the Project, including counterpart funded components/activities.

- (ii) Nominate at least one suitably qualified and experienced environment focal, health and safety focal, and community liaison focal who will also act as the GFP for the DISCOM.
- (iii) Prepare all required environment and social safeguards documents (i.e. screening checklists, consultation proformas, updated IEE, social due diligence reports) for all subprojects and components/activities prior to approval of the contractor's detailed designs and the commencement of any construction works associated with them.
- (iv) Undertake site visits and consultations with villagers and landowners and complete the environment and social screening forms and consultation proformas for all subproject components/activities in accordance with the SARF requirements.
- (v) Provide necessary support and all required documentation to the TRTA consultants to enable them, on behalf of the DISCOMs, to adequately support preparation of the updated IEE and SDDR in accordance with the SARF requirements.
- (vi) Obtain necessary permits and/or clearances from relevant government agencies (except those required to be obtained by the contractor) ensuring that all necessary regulatory clearances are obtained before the contractor is given permission to commence any construction works on the relevant components/activities.
- (vii) Timely endorsement and signing of key documents and forwarding to the respective agency such as documents required for the processing of tree cutting permission by contractor, etc.
- (viii) Implement the SARF, EMPs and RP in respect of actions which have been allocated to the DISCOMs during the design, pre-construction, construction, and operation and maintenance stages.
- (ix) Ensure that the requirements of the SARF, EMPs and RP as relevant to the contractor are incorporated in the contract documents for each subproject.
- (x) Ensure that the contractors have access to the SARF, IEE, EMPs and RP and that they fully understand their responsibilities to implement the requirements set out therein and mitigate environmental and social impacts associated with their design, pre-construction and construction activities and with support of UPPCL/TRTA consultants provide necessary safeguards training to them.
- (xi) Review and approve contractor sub-plans e.g. construction EMPs plus traffic management plans, construction waste management plans, and health and safety plans.
- (xii) Undertake ongoing consultation and establish and implement the GRM, ensuring effective implementation of the GRM and that all relevant concerns and complaints are being promptly and effectively addressed at DISCOM level.
- (xiii) Undertake the requisite quantitative environmental and social monitoring as set out in the EMPs and RP during design, pre-construction, construction and operation.
- (xiv) Supervise and monitor that the SARF, EMPs and RP are being properly implemented on a day to day basis.
- (xv) Ensure that the contractors submit monthly environmental and social management reports (to be included as part of contractors' monthly progress reports) for consolidation into and prepare quarterly reports on environmental and social

safeguards.

- (xvi) Submit quarterly reports on environmental and social safeguards to UPPCL for consolidation into the semi-annual combined environmental and social monitoring reports.
- (xvii) In case unanticipated environmental and social impacts occur during the Project implementation stage, including any design changes for example due to site conditions encountered by contractors, inform UPPCL, and, as required, update the IEE, EMPs and RP in consultation with relevant government agencies for clearance by ADB before any changes are implemented.
- (xviii) In case of non-compliance, inform UPPCL, and help prepare in consultation with relevant government agencies and implement as necessary a corrective action plan for clearance by ADB.

c. Turnkey Contractors' Responsibilities

- (i) Nominate the qualified and experienced, dedicated Environment Officer designated with responsibility for day to day ensuring implementation of the project-level EMP and any site-specific EMP included referred in the updated IEE;
- (ii) qualified and experienced, dedicated Health and Safety Officer designated with responsibility for day to day ensuring implementation of the health and safety requirements under the project-level EMP and any site-specific EMP included in the updated IEE;
- (iii) appropriately qualified and experienced, dedicated community liaison officer who will also act as the GFP for the contractor to undertake consultations and deal with any grievances received by the subproject; and
- (iv) appropriately qualified and experienced environment, health and safety site supervisors (several site supervisions will be required, the actual number depending on the scheduling of subproject works) responsible for day to day implementation of the EMPs who will be permanently based on-site for the duration of all works being undertaken for each subproject component/activity implemented.
- (v) Undertake the line alignment of AB Cable and 11 kV feeder alignments for approval by PMA the DISCOMs, provide the inputs required for completing the screening forms for subproject components to PMA.
- (vi) Assist the PMA in undertaking consultation, disclose the propose line alignment including pole locations in private land prior to the consultation.
- (vii) Obtain the details of landowners on whose lands poles are to be erected and record the discussions with and consents from the affected persons, and village headman/woman.
- (viii) Implement the requirements of the SARF, EMPs and RP as relevant to the contractor as incorporated in the contract documents, and specifically the project-level EMP and any site-specific EMPs included in the updated IEE, in respect of

actions allocated to the contractor during design, pre-construction and construction.

- (ix) Inform the DISCOM if there is a need to review and update EMPs (and IEE if required) based on site conditions i.e. a change in subproject scope or design is required and as needed provide documentation to update the IEE and EMPs.
- (x) Prepare sub-plans including construction EMPs plus traffic management plans, construction waste management plans, and health and safety plans as specified in the EMPs for review and approval by the DISCOM.
- (xi) Ensure that construction workers including all formal and informal subcontractors understand their responsibilities to implement the EMPs and RP and mitigate environmental and social impacts associated with their design, pre-construction and construction activities and with support of UPPCL and the DISCOM provide training to construction workers as required.
- (xii) Support the DISCOM in undertaking ongoing consultation and implementing the GRM.
- (xiii) Undertake the requisite quantitative environmental and social monitoring as set out in the EMPs and RP during detailed design, pre-construction, and construction.
- (xiv) Submit monthly environmental and social management reports to the DISCOM (as part of the contractors' monthly progress reports). These reports will identify the details of work undertaken over the reporting period and document the environmental and social measures including monitoring activities that have been carried out on a component/activity basis, problems encountered, and follow-up actions that were taken (or will be taken) by the contractor to correct the problems.
- (xv) In case unanticipated environmental and social impacts occur during the Project implementation stage, including design changes for example due to site conditions encountered by contractors, inform DISCOM, and, as required, help them to update the IEE, EMPs and RP for clearance by ADB before any changes are implemented.
- (xvi) In case of non-compliance, inform the DISCOM, and help prepare and implement as necessary a corrective action plan for clearance by ADB.

d. **PMC and PMA Responsibilities**

88. Given UPPCL and DISCOM do not currently have adequate capacity and have not previously implemented an ADB project, the PMC and PMA consultant teams will complement and backstop UPPCL and the DISCOMs in meeting their responsibilities as outlined above, including but not limited to:

- (i) undertaking site visits and consultations with villagers and landowners and completing the environment and social screening forms and consultation proformas for all subproject components/activities in accordance with the SARF requirements;
- (ii) providing necessary support and documentation to the TRTA consultants to enable them to provide the updated IEE and social due diligence reports for subprojects;

- (iii) reviewing contract documents to ensure SARF, EMPs and RP requirements as relevant to the contractors have been included, or assisting with variations if required;
- (iv) reviewing contractor sub-plans e.g. construction EMPs plus traffic management plans, construction waste management plans, and health and safety plans;
- (v) establishing environmental and social monitoring and reporting procedures that are in accordance with ADB's Safeguard Policy Statement (2009), SARF, EMPs and RP requirements;
- (vi) providing input on safeguards and GRM for regular project progress reports;
- (vii) undertaking environmental and social compliance supervision and monitoring; and
- (viii) preparing the semi-annual combined environmental and social monitoring reports.

e. ADB's Responsibilities

- (i) review and approval of subproject component/activity eligibility in accordance with the subproject component eligibility criteria and the subproject safeguards categorizations;
- (ii) review and clearance of subproject safeguard documentation prepared by UPPCL and DISCOMs i.e. updated IEE, social due diligence reports prior to approval to commence works;
- (iii) review and clearance of semi annual combined environmental and social monitoring reports;
- (iv) disclosure of all cleared documents on the ADB website in accordance with ADB's Safeguard Policy Statement (2009);
- (v) conduct review mission regularly including site visits as needed during the Project implementation to confirm compliance with the SARF, EMPs and RP;
- (vi) in case of significant issues, conduct supervision missions with detailed review by ADB's safeguard specialists/officers or consultants;
- (vii) review the semi-annual combined environmental and social monitoring reports submitted by UPPCL to ensure that adverse impacts and risks are mitigated as planned and agreed with ADB;
- (viii) work with UPPCL and DISCOMs to rectify to the extent possible any failures to comply with their safeguard commitments, as covenanted in the loan agreement, and exercise remedies to re-establish compliance as appropriate; and
- (ix) prepare a project completion report that assesses whether the objective and desired outcomes of the SARF, EMPs and RP have been achieved, considering the baseline conditions and monitoring results.

89. Given UPPCL and DISCOM do not currently have adequate capacity and have not previously implemented an ADB project, as well as the consultant support, which is to be provided, training activities are required.

Table 16: Institutional Roles and Responsibilities for Resettlement Plan

Activity	Responsible Agency
Finalization RP	
Appointment of TKC	UPPCL
Finalization of route alignment and update RP	UPPCL and TKC
Implementation and Monitoring of RP	
Assessment on loss of land and other assets	TKC
Consultations and Disclosure of Safeguards Information	UPPCL/DISCOMS/TKC with support from consultants
Estimate the compensation	DISCOMS/TKC with support from consultants
Allocation of Budget related to compensation	TKC to be reimbursed by DISCOMS
Payment of compensation	TKC to be reimbursed by DISCOMS
Distribution of Cheques	DISCOMS/TKC with support from consultants
Grievances Redress	UPPCL/DISCOMS
Monitoring	UPPCL/DISCOMS

X. BUDGET & SCHEDULE

90. The calculation of full replacement cost will be based on the following elements: (i) fair market value; (ii) transaction costs; (iii) interest accrued, (iv) transitional and restoration costs; and (v) other applicable payments, if any.

91. Furthermore, replacement cost of the land, trees, crops, and other assets affected had been assessed using the following assumptions:

- i) (a) for tree cutting / trimming costs a sum of ₹1000 per km. has been allocated (the total length of 11 kV line to be installed across PVVNL and DVVNL is 16,926 kms);
- ii) (b) for compensation for crop loss a sum of ₹10,000 has been allocated per habitation (a total of 2200 habitations are likely to be covered across PVVNL and DVVNL under the feeder separation output);
- iii) (c) for compensation of occupation of land due to erection of poles a sum of ₹3,000 is allocated per sq. foot of agricultural land likely to be impacted. It is likely that only 2 percent of the habitations to be covered by the feeder separation works, that is 44 habitations, are likely to be affected due to erection of poles in private agricultural land. Further, it is assumed that 10 poles may need to be installed in agricultural fields across these potentially affected habitations. (a) for tree cutting/trimming costs a sum of ₹1000 per km. has been allocated (the total length of 11 kV line to be installed across PVVNL and DVVNL is 16,926 kms.);
- iv) The cut-off date for compensation will be the date on which the TKC will finish survey and confirm the line alignment for the concerned section.

Table 17: Tentative Budget

S. No	Item (Description)	Assumptions / Rationale	Unit	Quantity	Unit Costs	Total Costs
A	Compensation to affected households					
1	Tree trimming/cutting costs	A total length of 16,926 km. of 11 kV line will be installed in PVVNL and DVVNL (10,860 kms in DVVNL and 6066 kms in PVVNL). A repo rate of ₹1,000/km. is allocated for tree cutting/branch trimming.	km.	16,926	1,000	16,926,000
2	Crop loss during implementation	A total of 1092 mixed feeders will be separated under the project (484 in PVVNL and 608 in DVVNL). The number of habitations to be covered are approx. 2200 (as there are two habitations per feeder). Based on discussions with DISCOM officials, TKCs and village headmen a rate of 10,000 per habitation has been fixed for compensation for crop loss during project implementation	Habitation	2,200	10,000	22,000,000
3	Land loss for erection of pole	A total of 2200 habitations across PVVNL and DVVNL will be covered by feeder separation works. Based on field visits it is assumed that in only 2% of the habitations (44) the lines would need to be aligned through agricultural fields. In each habitation it is assumed at 10 poles will need to be erected in each of the affected habitation. The cost per sq. foot (land required for one pole) is assumed at ₹3000 (based on current circle rates)	sq. foot	440	3,000	1,320,000
	Total (A)					40,246,000
B	Other					
1	Information dissemination at each habitation	2200 habitations will be covered; 1 board per habitation	1 board / habitation	2,200	3,000	6,600,000
2	Translation of the summary of RP in local language and distribution of it	lump sum				90,000
3	Grievance Redressal	lump sum				90,000
	Total (B)					6,780,000
	Total (A+B)					47,026,000
D	Contingency					

1	Budget contingency (@ 10% of total budget A+B)					4,702,600
	Grand Total					51,728,600

92. The project will be implemented progressively over nine years with completion date by end 2029. Civil work for each contract will be for 5-6 years. Each sub project component will have to be screened using the screening form included in SARF by the PMA. A consolidated categorization for each division will be submitted to ADB based on the component level screening forms prepared. The contract will commence civil work only after ADB approval of consolidated categorization form at division level. Social due diligence will be undertaken based on the screening results as needed and meaning consultation including consent to support procedure will be conducted throughout the project. As the length of the distribution lines is about 17,000km, the alignment is not able to be finalized during project processing but going to done by contractors during project implementation. The lines will follow public area mostly (i.e ROW of existing roads), and about 2% of them may cross private area. Considering above, DISCOMs with support from PMA and TKC will prepare due diligence reports for this 2% of possible cases following the format in the SARF and RP, rather than updating RP for each case. However, the RP will be updated if there are unexpected impacts which have not been identified and there is change in scope of the project.

XI. MONITORING AND REPORTING

91. Resettlement monitoring will be the responsibility of UPPCL, the consultant/staff assigned to the Project will be responsible for preparing semi-annual monitoring reports. Regular monitoring activities will be carried out by the DISCOMs to assess implementation progress of seeking approval for affected assets from private landowners and disbursal of compensation, due, if any. Semi-annual monitoring reports on compliance with the entitlement matrix, the status of compensation payments, consultations and grievances will be prepared on a semi-annual basis and submitted to ADB. The format of the combined safeguard monitoring reports is attached as Appendix 9. The submission arrangement is the same with that of environment as above. These reports will be disclosed on the ADB website and to affected people.

APPENDIX 1: LIST OF PARTICIPANTS OF COMMUNITY CONSULTATIONS IN DVVN

Village - Daudpur, Feeder Name - Daudpur 27.072839, 77.528973

LIST OF PARTICIPANTS

S.No.	Name	Age	Sex (M/F)	Education	Occupation	Project Affected (yes/No)	Signature
1.	Mr. Radhe Shyam Dagar	50	M	High School	Agriculture	No	
2.	Kanaiya Lal	70	M	B.T.C.	Head Master Agriculture	No	
3.	Mohan Singh	62	M	8th	Labour Agriculture	No	
4.	Girdhar Singh	55	M		Labour	No	
PTW 5.	Madan Singh	65	M		Agriculture	No	
PTW 6.	Ram Murti	"	M	8th	Agri	No	
7.	Rajil Singh	23	M	Graduate	Teaching	No	
PTW 8.	Jai Pal	32	M	B.A.	Agri	No	
PTW 9.	Hem Chand	32	M	10th	Agri	No	
Shop 10.	Nek Ram	60	M	8th	Agri	No	
Not connected (No meter) 11.	Mahendra	35	M	12th	Labourer	No	

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Village - Utho, Feeder Name - Daudpur

LIST OF PARTICIPANTS

S.No.	Name	Age	Sex (M/F)	Education	Occupation	Project Affected (yes/No)	Signature
PTW 1.	Mr. Subhash Chander Solanki	50	M	12th	Agri/Shop	No	
PTW 2.	Raj Kumar	23	M	BSC	Studying	No	
3.	Rohit Solanki	20	M	BA (Final)	Studying	No	
4.	Anil Choudhary	24	M	Graduate	Studying	No	
5.	Anjum Singh	55	M	10th	Agri	No	
PTW 6.	Harender Singh	32	M	10th	Agri/Labour	No	
7.	Veer Singh	65	M	10th	Agri	No	
8.							
9.							

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Village - Dabar , Feeder Name - Dabar

LIST OF PARTICIPANTS							
S.No.	Name	Age	Sex (M/F)	Education	Occupation	Project Affected (yes/No)	Signature
1.	Dharam Singh	52	M	RSC (LBS)	Lawyer, Agri, Dairy	No.	
2.	Geeta Gireesh Chand	64	M	10th	Agri	No.	
3.	Devi Singh	72	M	10th	Agri	No.	
4.	Atar Singh	53	M	12th	Agri	No.	
5.	Damodar	66	M	10th	Agri	No.	
6.	Vijay Singh	46	M	M.A.	Agri	No.	
7.	Prashant Faujdar	25	M	Diploma	Shop	No.	
8.	Mapesh Singh	47	M	5th	Agri/Labour	No.	
9.	Chandan Singh	67	M	12th	Agri	No.	
10.	Lal Singh	41	M	-	Agri/Labour	No.	
11.	Rajveer Singh	45	M	12th	Agri	No.	
12.	Raju	50	M	-	Agri	No.	
13.	Gopal	45	M	5th	Agri/Labour	No.	

Village - Sirauli , Feeder Name - Dabar

LIST OF PARTICIPANTS							
S.No.	Name	Age	Sex (M/F)	Education	Occupation	Project Affected (yes/No)	Signature
1.	Mr Madan Lal	49	M	9th	Agri	No	
2.	Mewa Ram	55	M	12th	Agri	No.	
3.	Padam Singh	45	M	8th	Agri	No	
4.	Mapesh Kumar	44	M	8th	Agri/Labour	No.	
5.	Mukesh Kumar	48	M	10th	Agri	No.	
6.	Rahel Kumar	20	M	Graduation (pursuing)	Studying	No.	
7.	Shyam Veer Singh	37	M	8th	Agri	No.	
8.	Ram Babu	63	M	Primary	Agri	No.	
9.	Hari Singh	38	M	8th	Agri/Shop	No.	
10.	Khubi Ram	30	M	-	Agri/Labour	No.	
11.	Ram Kumar	34	M	10th	Agri/Labour	No.	
12.	Anil Kumar	28	M	Graduate	Agri	No.	
13.	Ravinder Singh	35	M	8th	Agri	No.	

Village - Banga Nagra , Feeder Name - Dobar

S.No.	(Problem)	Name	Age	LIST OF PARTICIPANTS		Occupation	Project Affected (yes/no)	Signature
				Sex (M/F)	Education			
1.		Sewa Ram	65	M	Primary	Agri	No.	सेवा राम
2.		Darinder Malik	32	M	8th	Agri	No.	ਦਰਿੰਦਰ ਮਲਿਕ
3.		Khem Chand	25	M	High school	Agri	No	ਖੇਮ ਚੰਦ
4.		Yashpal	30	M	12th	Agri/Labour	No.	ਯਸ਼ਪਾਲ
5.		Tinku	29	M	6th	Shop	No	ਟਿੰਕੂ
6.		Poonan Singh	44	M	6th	Agri	No.	ਪੂਨਾਮ ਸਿੰਘ
7.		Bhoore Lal	36	M	-	Agri/Labour	No.	ਬਹੂਰੇ ਲਾਲ
8.		Murari	38	M	10th	Agri	No	ਮੁਰਾਰੀ
9.		Ajay Kumar	19	M	12th	Studying	No.	ਅਜੈ ਕੁਮਾਰ
10.		Nareesh Kumar	27	M	8th	Agri/Shop	No.	ਨਰੇਸ਼ ਕੁਮਾਰ
11.		Sekar Singh	27	M	7th	Shop	No.	ਸੇਕਰ ਸਿੰਘ

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Village - Santhia , Feeder Name - Feeder No.2

S.No.	Name	Age	LIST OF PARTICIPANTS		Occupation	Project Affected (yes/no)	Signature
			Sex (M/F)	Education			
1.	Luv Kesh	29	M	12th	Agri	No.	ਲੁਵ ਕੇਸ਼
2.	Sodan Singh	65	M	8th	Agri	No	ਸੋਦਨ ਸਿੰਘ
3.	Laxman Singh	56	M	10th	Agri	No	ਲਕਸ਼ਮਣ ਸਿੰਘ
4.	Om Prakash	26	M	12th	Agri/Shop	No.	ਓਮ ਪ੍ਰਕਾਸ਼
5.	Ashwani Sisodiya	24	M	12th	Agri	No.	ਅਸ਼ਵਨੀ ਸਿਸੋਦੀਆ
6.	Ravi	40	M	8th	Labour	No.	ਰਵੀ
7.	Raghnath	30	M	10th	Agri	No.	ਰਾਘਵਨਾਥ
8.	Sivendra Singh	35	M	12th	Agri	No.	ਸਿਵੇਂਦਰ ਸਿੰਘ
9.	Ram Prakash	55	M	B.Ed.	Agri/Labour	No.	ਰਾਮ ਪ੍ਰਕਾਸ਼
10.	Gaurav Singh	35	M	10th	Agri	No.	ਗੌਰਵ ਸਿੰਘ
11.	Mahendra Singh	30	M	Graduate	Job	No.	ਮਹੇਂਦਰ ਸਿੰਘ

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Village - Singarpar , Feeder Name - Feeder No. 2

LIST OF PARTICIPANTS							
S.No.	Name	Age	Sex (M/F)	Education	Occupation	Project Affected (yes/no)	Signature
PTW 1.	Amar Singh	60	M	5th	Labour/Agr	No.	अमर सिंह
2.	Tez Singh	55	M	—	Labour	No.	
PTW 3.	Ramesh	35	M	5th	Labour/Agr	No.	रमेश
PTW 4.	Mahavir	18	M	9th	Labour/Agr	No.	महावीर
5.	Teeja Solanki	46	M	10th	Repairing shop	No	तेजा सोलंकी
6.	Santosh Baghel	18	M	8th	Labour	No	संतोष
7.	Bhuri Singh	25	M	12th	Labour/Agr	No	बहुरी सिंह
PTW 8.	Mahaveer Singh	28	M	8th	Flour Mill/Agri	No.	महावीर सिंह
9.	Ram	28	M	12th	Studying	No.	राम
10.	Vijay Singh Rana.	32	M	12th	Flour Mill	No.	विजय
11.	Naseer Ahmad	20	M	12th	Tailor	No.	नसीर अहमद

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Village - Khara Bakanda , Feeder Name - Feeder No. 2

LIST OF PARTICIPANTS							
S.No.	Name	Age	Sex (M/F)	Education	Occupation	Project Affected (yes/no)	Signature
1.	Bani Singh	45	M	8th	Labour/Agr	No.	बनी सिंह
PTW 2.	Rajveer	23	M	Graduate	Studying	No.	राजवीर
PTW 3.	Lokesh	21	M	12th	Driver	No.	लोकेश
4.	Mahesh Chand	38	M	8th	Agri	No.	महेश चंद
5.	Shiv Prasad	30	M	12th	Labour	No.	शिव प्रसाद
6.	Pedam Singh	55	M	8th	Agri	No.	पदम सिंह
7.	Amarjeet	35	M	12th	Agri/Labour	No	अमरजीत
8.	Krishna	19	M	12th, 10th	Studying	No.	कृष्णा
9.	Mufesh	28	M	Graduate	Studying	No	मुफेश
PTW 10.	Hari Chandra	39	M	8th	Agri	No	हरी चंद्रा
11.	Harendra Singh	20	M	Graduate	Studying	No.	हरेन्द्र सिंह

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Village - Mori , Feeder Name - Feeder No.3

LIST OF PARTICIPANTS							
S.No.	Name	Age	Sex (M/F)	Education	Occupation	Project Affected (yes/no)	Signature
PTW 1.	Rajan Singh	76	M	10th	Agri	No.	21025712/8
2.	Ata Apshay Kumar	24	M	BA	Business	No.	Harman
3.	Vipin Kumar	32	M	12th	Job	No.	
4.	Shree Bachu Singh	60	M	8th	Agri	No.	
5.	Dwarika	47	M	—	Agri	No.	श्रीधर सिंह
6.	Ram Singh	41	M	10th	Agri/Labour	No.	श्रीधर सिंह

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Village - Nagla Shyuram , Feeder Name - Feeder No.3

LIST OF PARTICIPANTS							
S.No.	Name	Age	Sex (M/F)	Education	Occupation	Project Affected (yes/no)	Signature
1.	Pusbendra Singh	25	M	Graduate	Agri	No.	Pranav
PTW 2.	Raj Rajveer Singh	60	M	—	Agri	No.	श्रीधर सिंह
3.	Kamlesh	50	F	—	Housewife/ Agri	No.	
4.	Prem Singh	32	M	12th	Floor Mill	No.	श्रीधर सिंह
PTW 5.	Rajveer	48	M	—	Agri	No.	श्रीधर सिंह
6.	Krishan Pal	38	M	8th	Agri/Labour	No.	श्रीधर सिंह
7.	Seesh Pal	40	M	5th	Labour	No.	श्रीधर सिंह
8.	Vikram	45	M	10th	Agri/shop	No.	श्रीधर सिंह
9.	Ramwati	32	W/F	5th	Shop/Agri	No.	श्रीधर सिंह
10.	Mukesh	35	M	10th	Labour/Agri	No.	श्रीधर सिंह
PTW 11.	Bachu Singh	55	M	8th	Agri	No.	श्रीधर सिंह

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Village - Nahchani , Feeder Name - Feeder No. 3

S.No.	Name	Age	LIST OF PARTICIPANTS		Occupation	Project Affected (yes/No)	Signature
			Sex (M/F)	Education			
P.T. 1.	Digambar Singh	58	M	Graduate	Agri	No.	डिगम्बर
2.	Shyam Singh	55	M	8th	Agri	No.	श्याम सिंह
3.	Birender Kumar	28	M	12th	Agri/Driver	No.	बिरेन्द्र कुमार
4.	Vijay Pal Singh	58	M	BA	Agri	No.	विजय पाल सिंह
5.	Keshaveer Krishanveer	50	M	10th	Agri	No.	केशव
6.	Kali charan Singh	52	M	8th	Agri	No.	काली चरण
7.	Mahaveer Singh	65	M	12th	Agri	No.	महावीर सिंह
8.	Rashmi Devi	22	F	10th	Housewife	No.	रश्मी
P.T. 9.	Raj Kumari	48	F	5th	Housewife	No.	राजकुमारी
10.	Dharamwati Devi	50	F	5th	Housewife/Shop	No.	धरमवती
11.	Guddi Devi	42	F	10th	Housewife	No.	गुड्डी देवी

APPENDIX 2: LIST OF PARTICIPANTS OF COMMUNITY CONSULTATIONS IN PVVNL

LIST OF PARTICIPANTS

Shyam Nagar Village 1/2

S.No.	Name	Age	Sex (M/F)	Education	Occupation	Project Affected (yes/no)	Signature
11	पुष्पलाल (हे)	52	M	12	दात		हे
12	श्रीमान-स शर्मा	44	M	12	दात		स
13	राजदीप कुमार	20	M	12	दात		स
14	अजीत पाल	20	M	12	दात		स
15	राजेश शर्मा	19	F	12	Housewife		स
16	भूपति	65	F	9			स
17	महेश	40	F		agriculture		स
18	पुष्पलाल शर्मा	31	F	10	दात		स
19	दावरी	55	F		agriculture		स
20	सोनी कुमार	28	M	m.com final	study		सोनी कुमार
21	प्रिन्स भट्टी	19	M	B.A.com	Study		प्रिन्स भट्टी
22	पुष्पलाल शर्मा	45	M	R.A	KISAN		स
23	काशीना	16	F	10th	Study		स
24	सावरी	50	F		Housewife		स

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Shyam Nagar village 2/2

LIST OF PARTICIPANTS

S.No.	Name	Age	Sex (M/F)	Education	Occupation	Project Affected (yes/No)	Signature
15	Kajal Baidya	21	(f)	B.A	study		Kajal
16	ARON BHATI	21	m	m.A	study		ARON BHATI
17	BIMLESH	45	F		Education		शिवेश्वर
18	Gupichand	55	m		Riksha Driver		शिवेश्वर
19	Sandeep Kumar	22	m	B.D	study		शिवेश्वर
20	शिवेश्वर	83	P	5	ईर		शिवेश्वर
21	शिवेश्वर	33	M	12th	गृहस्थ		शिवेश्वर
22	शिवेश्वर	50	M	5	गृहस्थ		शिवेश्वर

40ANA Village 1/2

LIST OF PARTICIPANTS

S.No.	Name	Age	Sex (M/F)	Education	Occupation	Project Affected (yes/no)	Signature
①	Sanjay Kumar	22	M	Inter: 10 th			
②	पुनम कुमार	48	M	8	मजदूरी		
③	सुनील	23	M	10	मजदूरी		सुनील
④	राधमाद सोनी	20	M	8	मजदूरी		राधमाद सोनी
⑤	सुनील सिंह	38	M	10	मजदूरी		सुनील
⑥	रिंकु	39	M	8	मजदूरी		रिंकु
⑦	मोदी राजा	50	M	8	मजदूरी		मोदी राजा
⑧	सुनील कुमार सोनी	30	M	9	मजदूरी		
⑨	पप्पी दवी	38	M	8	खेती		पप्पी
⑩	पप्पी दवी	45	F	8	Agriculture		पप्पी
⑪	शशी देवी	65	F				शशी देवी

GODA VILKE 2/2

LIST OF PARTICIPANTS

S.No.	Name	Age	Sex (M/F)	Education	Occupation	Project Affected (yes/no)	Signature
12	Narain Singh	52	Male	12 th	Farmer		Narain Singh
13	Blaskar Tyagi	27	"	"	Farmer		B
14	Shamir Singh	22		10	Student		Shamir Singh
15	Shamir Singh	57		10	Student		Shamir Singh
16	Shamir Singh	27		8	Student		B
17	Shamir Singh	20		B.S.C.P.	Student		Shamir Singh
18	Kuldeep.	19		BBA	Student		Kuldeep
19	Narish Kumar	35	M	8	unemployed		Narish Kumar
20							

SARDHAN VILLAGE, KHATAULI (R) MUZAFFARNAGAR

LIST OF PARTICIPANTS

S.No.	Name	Age	Sex (M/F)	Education	Occupation	Project Affected (yes/no)	Signature
1	Satto	60	F	Matric	Housewife		
2	नरेश कुमार	42	M	12	कृषि		नरेश कुमार
3	पंचम कुमार	48	M	12	कृषि		पंचम
4	अमन सिंह	60	M	10	"		अमन सिंह
5	देवराज चौधरी	47	M	12	"		देवराज चौधरी
6	Gauri / Son	49	M	12	कृषि		Gauri / Son
7	रौत / R	55	M	10	"		रौत / R
8	मोहन	32	M	9	"		मोहन
9	Ritesh	42	M	12	"		Ritesh
10	सुरेश	54	M	8	"		सुरेश
11	आशीष	42	M	12	"		आशीष


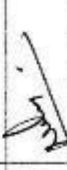

Sardhan Village 2/2

LIST OF PARTICIPANTS

S.No.	Name	Age	Sex (M/F)	Education	Occupation	Project Affected (yes/No)	Signature
12.	Jaiwadi	65.	F	—	Housewife		जयवती
13.	पुनम	48	F	10 th	"		पुनम
14.	सोनिता	23	F	B.A	"		सोनिता
15.	सतीष	38	F	—	"		
16.	निरमला	50	F	5 th pass	"		निरमलोदेवी
17.	रेशा	65	F	—	"		
18.	रुकसाना	35	F	—	"		

SATHEDI VILLAGE, KHATAULI(R)FEEDER, MUZAFFARNAGAR

LIST OF PARTICIPANTS

S.No.	Name	Age	Sex (M/F)	Education	Occupation	Project Affected (yes/No)	Signature
1	सुनील कुमार	38	M	8	अध्यापक		
2	सतमा	40	F	-	घर		
3	समरजेंद्र	18	F	5	Tailoring		समरजेंद्र
4	नितिन कुमार	31	M	B.A	C.S.C		
5	मनीषा रानी	30	F	M.A	Housewife		Manisha
6	शोभिका	34	F	12	"		monika
7	राधा	59	F	5	"		राधा
8	नसीमा	35	F	-	"		
9	जरीना	45	F	-	"		
10	मुनीसा	65	F	-	"		
11	फरनाज	20	F	-	"		फरनाज
12	सुनील कुमार	41	M	10th	कृषि		
13	मनोज कुमार	37	M	5	labour		मनोज कुमार

LIST OF PARTICIPANTS

S.No.	Name	Age	Sex (M/F)	Education	Occupation	Project Affected (yes/no)	Signature
14	2-321	28	M	8	labour		2-321
15	Manoj Kumar	42	M	8	Farmer		Manoj Kumar
16	Mogank Jain	24	M	12	Farmer		Mogank Jain
17	Praygyesh chaurah	22	M	BCA	Farmer		Praygyesh
18	Kayyum	70	M	5	labour		Kayyum
19	Gulshan Jain	20	M	12	Farmer		Gulshan Jain
20.	Kuldeep	55	M	8	Farmer		Kuldeep

Hajipur village 1/2

LIST OF PARTICIPANTS

S.No.	Name	Age	Sex (M/F)	Education	Occupation	Project Affected (yes/no)	Signature
1	प्रमोद साहिद प्रधान	40	M	9	कामान	9917861707	प्रमोद साहिद प्रधान
2	उमेश शंकर		M			9917861707	उमेश शंकर
3	मार्केज शंकर		M				मार्केज शंकर
4	साहेब शंकर		M				साहेब शंकर
5	लाहरी शंकर		M				लाहरी शंकर
6	प्रदीप शंकर		M				प्रदीप शंकर
7	दादर शंकर		M				दादर शंकर
8	फिरोज शंकर		M				फिरोज शंकर
9	बुर शंकर		M				बुर शंकर
10	दादा शंकर		M				दादा शंकर
11	वाणेश शंकर		M				वाणेश शंकर

साहिद प्रधान
प्रमोद साहिद प्रधान
विकास

साहिद प्रधान
प्रमोद साहिद प्रधान
विकास

Hajipur village 2/2 on Kohga Nafat Rehabilitation

LIST OF PARTICIPANTS

S.No.	Name	Age	Sex (M/F)	Education	Occupation	Project Affected (yes/No)	Signature
12	ASHRAV	65	M		खेती		
13	MOHD. ISLAM	70	M		खेती		Mohd
14	Salim O/O Sajid Khan	23	M	B.A	Agriculture		Salim
15	शाहिद	22	M		दुकान		शाहिद
16	सबाना	28	F		खेती		सबाना
17	तखससुम	25	F	S	सेलून		तखससुम
18	अनुम	25	F	S	सेलून		अनुम
19	तरनुम	21	F		दुकान		तरनुम
20	अपसर	40	M		बेल का काग		
21	अजीजन	70	F		घर		
22	Wazih	8	M		खेती		Wazih
23	ALLUDDIN	75	M		कुछ बाला		Alluddin

Allipur Village 1/2

LIST OF PARTICIPANTS

S.No.	Name	Age	Sex (M/F)	Education	Occupation	Project Affected (yes/no)	Signature
1	MOHD. FAHEEM.	24.	Male	B. Com-II	Student.		
2	manish bansal	40	male	MA	Agriculture		
3	Danish	23	Male	12	lives		Danish
4	SEMITA SINGH	38	Male	5	lives		SEMITA
5	Amal Qudus	25	male	BP	job		
6	SHILO SINGH	53	male	Postgraduate	HOME		SHILO SINGH
7	anand	35	male	6	Dayji		anand
8	SAFAT	65	male	7	Home		SAFAT
9	संदीप	25	male	5	Agriculture		
10	Harveer	28	male	BA	Job		Harveer
11	सुखवि	48	male	10th	Agriculture		

Allipur Village 3/2

LIST OF PARTICIPANTS

S.No.	Name	Age	Sex (M/F)	Education	Occupation	Project Affected (yes/no)	Signature
12	एनसिद	49	M		लोहे का काम		Nol
13	अमरावती	30	M		मिक्साटोर		Shankar Singh
14	सासना	17	M	10	मीटर		Prasanna
15	वुरसुद	55	M	5	कार		वुरसुद
16	वुरसुद	50	F	12	कार		प्रवीन
17	परवीन	55	F		कार		कुलसुम
18	कुलसुम	16	F	10	कार		मोनी
19	मोनी	19	F	8	कार		राविपा
20	राविपा	24	F	8	कार		विपा
21	विपा	25	F		कार		
22	एकर	30	M	B.A	Gumir		

GHAZIABAD
ASLAT NAGAR SUB DOHA VILLAGE
STATION

LIST OF PARTICIPANTS

S.No.	Name	Age	Sex (M/F)	Education	Occupation	Project Affected (yes/No)	Signature
1	Jai Prakash	70	M	—	Agriculture		
2	Chhotan	82	M	—	Agriculture		
3	Joginder Opal	62	M	—	Farmer		
4	Mahendra	68	M	10th pass	farmer		
5	Manju	18	F	10th pass	nothing		Manju
6	Kabir	17	F	12th pass	Nothing		Kabir
7	Sumita	45	F	Uteate	Housewife		
8	Rishu	30	F	Uteate	Housewife		
9	Sheetal	34	F	8th pass	Housewife		Sheetal
10	Audish	45	F	Uteate	Housewife	Agriculture	
11	Manuata	50	F	Uteate	Housewife		

12. Manita 30 F Uteate Housewife
13. Asha 45 F Uteate Housewife
14. Shivam 20 M Graduate Student
15. Ravi 48 F High school Anganwadi worker
16. Mahavir 65 M Graduation Farmer
17. Sandeep 41 M 8th Class farmer
18. Raju 42 M High school farmer
19. Lokesh 42 M Inter farmer

BHIKAMPUR VILLAGE
ASLAT NAGAR SUB STATION
GHAZIABAD

LIST OF PARTICIPANTS

S.No.	Name	Age	Sex (M/F)	Education	Occupation	Project Affected (yes/No)	Signature
1	Amir	23	male		मजदूर		Amir
2	शिव	41	M		मजदूर		शिव
3	मुरली	70	M		मेम		मुरली
4	ओमकार	55	M		रेवेन्यू		ओमकार
5	मुरली	35	M		मजदूर		मुरली
6	Rashid	19	M		खेती		Rashid
7	Shivam	20	M		खेती		Shivam
8	Kabir	17	F		घर		Kabir
9	गुलशन	20	M		Electrical		गुलशन
10	इरफान	30	M		मजदूर		इरफान
11	वैष्णव	62	M		कृषक		वैष्णव
12	सुरेश	19	M		student		सुरेश
13	जयराज	61	M		कृषक		जयराज
14	विजय	50	M		मजदूर	जैराज विजय नारायण	विजय
15	मुरली	55	M		रेवेन्यू	मुरली	मुरली
16	मुरली	60	F		घर		मुरली
17	हरी	60	M		घर		हरी
18	लाल	65	M		घर		लाल
19	रवि	18	M		स्ट्रिक		रवि
20	रवि	42			रेवेन्यू		रवि

LIST OF PARTICIPANTS

S.No.	Name	Age	Sex (M/F)	Education	Occupation	Project Affected (yes/No)	Signature
21.	मि. अ. 30 गौड़ा	30	M	9th	शुगर		मि. अ. गौड़ा

APPENDIX 3: PHOTOGRAPHS OF COMMUNITY CONSULTATIONS IN DVVNL









APPENDIX 4: PHOTOGRAPHS OF COMMUNITY CONSULTATIONS IN PVVNL















APPENDIX 5: SAFEGUARDS SCREENING FORM

A. GENERAL INFORMATION

Subproject Name: _____
 Block Names: _____
 District Names: _____
 Package Number: _____
 Contractor: _____
 Construction timeline: _____

B. Screening of Subprojects for Involuntary Resettlement

Probable Involuntary Resettlement Effects	Yes	No	Not Known	Remarks
Involuntary Resettlement Impacts				
1. Does the subproject component have any impact on private land (i.e. installation of poles on and lines over the land)?				If no, then C as only government or public land affected, and the record of land ownership should be collected and kept. If yes, then B as there is impacts on private land, then social due diligence required as per Appendix 7.
2. If there is an impact on private land. Was alternative route by utilizing within an existing public Right of Way (ROW) explored?				
3. Is the site for the impact known?				
4. Is the ownership status and current usage of land to be acquired known?				
5. Will there be loss of shelter and residential land due to land acquisition?				
6. Will there be loss of agricultural and other productive assets due to land acquisition?				
7. Will there be losses of crops, trees, and fixed assets due to land acquisition?				
8. Will there be loss of businesses or enterprises due to land acquisition?				
9. Will there be loss of income sources and means of livelihoods due to land acquisition?				
Involuntary restrictions on land use or on access to legally designated parks and protected areas				

10. Will people lose access to natural resources, communal facilities and services?				
11. If land use is changed, will it have an adverse impact on social and economic activities?				
12. Will access to land and resources owned communally or by the state be restricted?				
Information on Displaced Persons:				
Any estimate of the likely number of persons that will be displaced by the Subproject? [] No [] Yes				
If yes, approximately how many?				
Are any of them poor, female-heads of households, or vulnerable to poverty risks? [] No [] Yes				
Are any displaced persons from indigenous or ethnic minority groups? [] No [] Yes				

C. Screening of Subprojects for Indigenous Peoples Resettlement as per ADB

KEY CONCERNS (Please provide elaborations on the Remarks column)	YES	NO	NOT KNOWN	Remarks
A. Indigenous Peoples Identification				
1. Are there socio-cultural groups present in or use the subproject area who may be considered as scheduled tribes (hill tribes, scheduled tribes, tribal peoples, and indigenous people or communities) in the subproject area?				
2. Are there national or local laws or policies as well as anthropological research/studies that consider these groups present in or using the subproject area as belonging scheduled tribes, tribal peoples, or cultural communities?				
3. Do such groups self-identify as being part of a distinct social and cultural group?				
4. Do such groups maintain collective attachments to distinct habitats or ancestral territories and/or to the natural resources in these habitats and territories?				
5. Do such groups maintain cultural, economic, social, and political institutions distinct from the dominant society and culture?				
6. Do such groups speak a distinct language or dialect?				
7. Has such groups been historically, socially and economically marginalized, disempowered, excluded, and/or discriminated against?				
8. Will the project target any of the groups and communities identified?				
9. Will the subproject directly or indirectly impact on their livelihood?				

SUBPROJECTS MAY ONLY PROCEED IF 'NO' WAS SELECTED FOR ALL THE ABOVE INDIGENOUS PEOPLES SCREENING QUESTIONS.

APPENDIX 6: SOCIAL DUE DILIGENCE REPORT OUTLINE

Due Diligence for Construction of Feeders (11kV Lines)

#	Particulars	Description/Details/Status
1	Length of feeders and numbers of poles	
2	Name of villages	
3	Name of circle/block	
4	Name of district	
5	Is it a tribal area? The answer must be No.	
6	Type of area (road/agricultural/ plantation/residential /commercial etc.,) in the corridor?	
7	Ownership of land (private/ Government)	
8	If private land, how many poles are erected and how much private land occupied by the poles?	
9	Land use pattern for the locations of pole erection.	
10	Have the owner(s) provided consent to support ²⁹ on erecting the poles?	
11	If consent not given, then has compensation been provided to how many households and how much per each household?	
12	Is the feeder passing over houses or buildings?	
13	If yes, how many structures affected approximately?	
14	What type of the structures (residential/commercial/Others)?	
15	What are the impacts on the structures (i.e. number of structures affected, number of households affected and size of damages)?	
16	If damaged, has compensation been provided to how many households and how much per each household? Or damages repaired?	
17	Is the feeder passing over religious or cultural properties?	
18	What are the impacts on these properties (i.e. numbers of structures and size of damages)?	
19	If damaged, has it properly repaired or has compensation for repair been given to how many households and how much per household?	
20	Does the feeder require tree cutting?	
21	If yes, approximate number of trees to be cut	
22	Types and names of trees to be cut	
23	Has compensation been provided to how many households and how much per each household?	
24	Does the feeder require tree trimming?	
25	If yes, approximate number of trees to be trimmed	
26	Have the owner(s) agreed the tree trimming?	
27	If not, then has compensation been provided to how many households and how much per each household?	
28	Does the feeder have any impact on crops?	

²⁹ The format for consent to support is included in section C of Appendix 8.

29	If yes, how much of the crop area affected?	
30	What are the types of crops?	
31	Have the owner(s) agreed to bear the crop losses?	
32	If not, then has compensation been provided to how many households and how much per each household?	
33	Any other impacts? Please specify.	
34	Have consultations undertaken how many times and with how many participants (men and women)?	
35	Remarks	

Submitted by:

(DISCOM or its consultant)

Name and signature: Position:

Date:

Reviewed by:

(DISCOM HQ)

Name and signature: Position:

Date:

Note from the Reviewer, if any:

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APPENDIX 7: CONSULTATION PROFORMA

A. General Consultation

Major Issues to be discussed during the consultation:

1. The project information including implementation schedule
2. Project impacts on land, trees, structures, crops and other assets if any
3. Concerns raised by the participants
4. Support to the project
 - i. Yes (Number of participants disaggregating men and women), why?
 - ii. No (Number of participants disaggregating men and women), why?
2. Mechanism of grievance redressal with contact of focal persons.

Summary of Discussion:

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Villagers		Program officials	
Name of the Participants	Signature	Name and designation of the official	Signature

B. Format of consent to support (this is only applied for affected persons whose private land and assets affected by poles and lines)

Details of the Affected Household

- Name of the affected household head:
- Name of the village:
- Location:
- DISCOM:
- Name of the Sarpanch and contact number
- Description of impacts

The interference to the private land is justified only if the following have been followed:

- All design alternatives have been reviewed to prevent impacts on the household.
- Impacts are marginal (based on percentage of loss and minimum size of remaining assets).
- Impacts do not result in displacement of households from their residential homes or cause loss of household's incomes and livelihood.

- Consultation discussions with the affected households have been conducted in a free and transparent manner and consent to support on erecting pole(s) has been expressed and given considering impacts on the land and other assets; and
- Proper documentation of consultation meetings, grievances and actions taken to address such grievances, if any.

Summary Record of Meetings and Discussions with Affected Household

Date	Location	Name of the Person	Position or title	Topics discussed with list of affected assets	Outcome of meeting	Contact Number	Signature
<p>3rd Party acknowledgement:</p> <p>I have observed the process as a [Village Headman or Counsel or Etc] and confirmed my presence as a 3rd party.</p> <p>-----</p> <p>Signature</p>							

Submitted by:

(DISCOM or its consultant)

Name and signature: Position:

Date:

Reviewed by:

(DISCOM HQ)

Name and signature: Position:

Date:

Note from the Reviewer, if any:

APPENDIX 8: OUTLINE OF A SEMI-ANNUAL SAFEGUARDS MONITORING REPORT

UPPCL is required to prepare and submit to ADB a combined environment and social safeguards semi-annual monitoring reports that describes compliance with safeguard loan covenants, PAM, contract, progress with implementation of the SARF, EMPs, RP, quantitative monitoring results, environment, health and safety and social incidents and responses, grievances and responses, potential or actual non-compliance issues, and corrective actions. A sample Table of Contents that can be adapted as necessary is provided below.

TABLE OF CONTENTS

Part I – Introduction

- Project and subprojects description, including organogram of relationships with Contractors, owner, lender, etc.
- Design, pre-construction, construction, and operational activities and Project progress during previous 6 months
- Confirm if any changes in design and construction (e.g. alignment, construction methods) during previous 6 months
- Confirm if any changes in Project organization and Environmental, Health and Safety management team during previous 6 months

Part II – Loan Covenants

- Status of compliance with environment and social safeguard loan covenants and further action to ensure ongoing compliance; if there is partial or no compliance recommendations for corrective action are required.

Clause	Covenant	Status of compliance to date (full, partial, none, ongoing)	Comment/further action required including timeline

Part III – PAM and SARF

- Status of compliance with environment and social safeguard/monitoring section of PAM and further action to ensure ongoing compliance; if there is partial or no compliance recommendations for corrective action are required.

Para	Details	Status of compliance to date (full, partial, none, ongoing)	Comment/further action required including timeline

Part IV – Contract

- Status of compliance with environment and social safeguard section of Contracts and further action to ensure ongoing compliance; if there is partial or no compliance recommendations for corrective action are required.

Contract Package	Details	Status of compliance to date (full, partial, none, ongoing)	Comment/further action required including timeline

Part V – EMPs and RP

- Site inspections and audits completed—summarize the number and type of site visits, persons involved, and checklists/reporting format used (sample of checklists and reports to be included as an appendix)
- Status of compliance with EMPs and RP measures and further action to ensure ongoing compliance; if there is partial or no compliance recommendations for corrective action are required.
- Copies of clearances, CEMPs, construction method statements, and other documentation produced in accordance with EMPs and RP during the previous 6 months should be included as an appendix.
- Copies of training records related to EMPs and RP during the previous 6 months should be included as an appendix.

Item	Measure	Status of compliance to date (full, partial, none, ongoing)	Comment/further action required including timeline

Part VI - Environmental Monitoring

- Environmental monitoring results—summarize the previous six months quantitative monitoring activities and data obtained in accordance with the EMP and provide explanations of any instances where performance standards were exceeded along with details of responses taken to rectify the exceedance once identified. Typically, this section will include the results of:
 - Noise and vibration surveys
 - Water quality surveys
 - Air quality surveys
 - Flora and fauna surveys
 - Health and safety incident records
- Corrective actions are required to ensure any exceedances will be prevented in the future.
- Graphs can be used in this section to show trends; however, large tables of data or multiple graphs should be attached as an appendix. Calibration and QA certifications of monitoring equipment and laboratories analyzing samples should be included as an appendix.

Part VII – Social Monitoring

- The following key indicators will be included:
 - Number of affected households (AHs) who are affected by 11kV poles on their private land and number of AHs gave consent for land use or received compensation (during reporting period and total);
 - Number of affected households who lose their private assets (i.e. trees and crops) by 11kV poles and lines and number of AHs received compensation or gave consent for the losses (during reporting period and total);
 - Amount of the budget disbursed with breakdowns;
 - Number of the vulnerable households identified and linked with existing government programs and schemes (during reporting period and total), if any.

Part VIII – Consultation and Grievances

- Consultation – report on any ongoing consultation undertaken, and main issues raised by consultees; detailed consultation records should be included as an appendix.

Date	Format/Venue	Participants (Occupation, M/F, Vulnerability)	Main Issues Raised
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- Grievances - list any complaints received, however minor, and responses taken to them; detailed grievance records and response reports should be included as an appendix including total number of new grievances received, and closed in that period

Part IV - Environmental and Social Management

- Report on any unanticipated impacts and updates to IEE, EMPs and RP that were required during the previous 6 months, status of delivery of documents, required amendments, consultation and disclosure undertaken etc.
- Environment, health and safety incidents–summarize details of the responses taken to incidents that arose; detailed response reports should be included as an appendix.
- Non-compliance notices–summarize details on the number of notices given out, the issues covered, and status of compliance with them.
- Corrective action plans–summarize non-compliances identified and if non-compliance, report on timeliness for the preparation and completion of corrective action plan if not already included in above.

Annexes

- Sample checklists and reports
- Clearances and documentation
- Training records
- Photographs
- Detailed monitoring data
- Calibration and QA certificates
- Consultation records
- Consent to support given
- Grievance records
- Environment, health and safety reports

APPENDIX 9: UPPCL POLICY ON ENVIRONMENTAL AND SOCIAL SUSTAINABILITY



उत्तर प्रदेश पावर कारपोरेशन लिमिटेड

(उत्तर प्रदेश सरकार का उपक्रम)

U.P. POWER CORPORATION LIMITED

(Govt. of Uttar Pradesh Undertaking)

CIN:U32201UP1999SGC024928

संख्या-1003-कार्य/चौदह-पाकालि/2020-21-के/2020

दिनांक: 23 जुलाई, 2020

कार्यालय झाप

उपरोक्त पावर कारपोरेशन लि. एवं इसके सहयोगी वितरण निगमों हेतु "Environmental and Social Sustainability" नीति को एतद्वारा संलग्न विवरण के अनुसार निर्धारित किया जाता है।

संलग्नकः—यथोक्त ।

निदेशक मण्डल

संख्या : 1003-(1)-कार्य/चौदह-पाकालि/2020 तददिनांक।

प्रतिलिपि निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित :-

1. प्रमुख सचिव, ऊर्जा, उ० प्र० शासन, लखनऊ।
2. अध्यक्ष के निजी सचिव, उ०प्र० पावर कारपोरेशन लि०, शक्ति भवन, लखनऊ।
3. प्रबन्ध निदेशक के निजी सचिव, उ०प्र० पावर कारपोरेशन लि०, शक्ति भवन, लखनऊ।
4. निदेशक (का०प्र० एवं प्रशा०/वित्त/वितरण/वाणिज्य/कारपोरेट प्लानिंग), उ०प्र० पावर कारपोरेशन लि०, शक्ति भवन, लखनऊ।
5. प्रबन्ध निदेशक, मध्यांचल/पूर्वांचल/पश्चिमांचल/दक्षिणांचल, विद्युत वितरण निगम लि०, लखनऊ / वाराणसी/मेरठ/आगरा/केसको-कानपुर।
6. समस्त निदेशकगण (का०प्र० एवं प्रशा०/वित्त/वितरण/वाणिज्य), समस्त डिस्काम।
7. मुख्य अभियन्ता, नियोजन/वाणिज्य/रेसो/पीपीए/आर०ए०यू०/सी०एम०यू०डी०, उ०प्र० पावर कारपोरेशन लि०, शक्ति भवन विस्तार/शक्ति भवन, लखनऊ।
8. अपर सचिव-I, II, III उ०प्र० पावर कारपोरेशन लि०, शक्ति भवन, लखनऊ।
9. समस्त मुख्य अभियन्ता (वितरण), समस्त डिस्काम एवं केसको, कानपुर।
10. अधिशासी अभियन्ता (वेब), कक्ष संख्या-407, उ०प्र० पावर कारपोरेशन लि०, शक्ति भवन विस्तार, लखनऊ को वेबसाइट-www.uppcl.org पर अपलोड करने हेतु।
11. कट फाइल।

आज्ञा से,

(आर०क० श्रीवास्तव)
उप सचिव (कार्य)

अधीक्षण अधिनं-१/२००३/५४
अधीक्षण अधिनं-१/२००३/५४

मुख्य अधिकारी
सी. आर. म. पू. (अ. ०)

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knf

25/7/22

कार्यालय ज्ञाप संख्या-1003-कार्य/चौदह-पाकालि/2020-21-के/2020 दिनांक: 23 जुलाई, 2020 का संलग्नक

POLICY ON ENVIRONMENTAL AND SOCIAL SUSTAINABILITY

1. Introduction

Uttar Pradesh Power Corporation Ltd. (UPPCL) has been a pioneer in promoting innovative ideas and setting new standards in service delivery. The organization is continuously working towards sustainability of environment and safety. The Corporation is making every effort to ensure that the power requirements of the State are met, and the consumers are provided with reliable, quality and cost-effective electricity along with cleaner, safer and healthier environment with minimum/no social disturbances.

2. Social and Environmental Aspects and Policy Formulation

The distribution system includes and incorporates the distribution line, transformers, cables, switchyards and sub-stations etc. To cater to the power requirement of state, UPPCL is continuously engaged in developing new infrastructure of sub-stations and distribution lines for giving power to every household. UPPCL recognizes that the implementation of distribution schemes may have some unavoidable environmental and social implications in miniscule. The construction of sub-stations and laying of distribution lines would result in acquisition of land and some minor temporary damages to crop and trimming/lofting of tree branches. It is with this objective that UPPCL has formulated the Social Policy and Procedures (SP&P) to address all adverse impacts arising out of its distribution projects systematically.

UPPCL also has concerns for clean environment and sustainable development in all its activities. To achieve this objective, UPPCL has formulated environmental framework and safeguard mechanisms for distribution project and an Environmental Management Plan (EMP) to mitigate the ill effects of the developmental activities.

The Environmental Social Policy and Procedures (ESP&P) being implemented by UPPCL and its associated Discoms, are consistent with relevant national and state policies and regulations, inter-alia the Indian Electricity (Supply) Act 1948, Indian Electricity Rules, 1956 and Indian Electricity Act 2003.

3. Environment and Social Performance Parameters/Standards

UPPCL is developing an E&S assessment framework broadly encompassing the following points:

- i. Assessment and Management of Environmental and Social Impacts
- ii. Labour and Working Conditions
- iii. Community Health, Safety, and Security
- iv. Land Acquisition
- v. Biodiversity Conservation and Sustainable Management of Natural Resources
- vi. Indigenous People
- vii. Cultural Heritage

Central to these requirements is the application of a mitigation hierarchy to anticipate and avoid adverse impacts on workers, communities, and the environment.

Environment and Social Policy Statement of UPPCL

UPPCL is committed to identify, assess, and manage environmental and social concerns at both organization and project levels by consciously following the basic principles of avoidance, minimization and mitigation of environmental & social impacts with the improvement of Management System and introduction of State of the Art and proven technologies.



4. UPPCL and Associated Discoms' Commitments

- i. Ensure transparency of the project to all stakeholders through dissemination of information and consultation at every stage of project implementation.
- ii. Maintain highest standards of social and environmental responsibility not only towards its employees but also to the consumers and the community as well.
- iii. To minimize ecological impacts on environment, land and flora/fauna through progressive policies like consciously economizing on the requirement of land.

5. Principles of Environment and Social Policy / Safeguards

The key principles and safeguards of UPPCL environmental and social policy are:

- i. As far as possible avoid operations in environmentally sensitive areas with special respect for fragile ecosystems and their inherent biodiversity.
- ii. As far as possible avoid areas like high mountains, hilly terrain prone to landslides, large lakes, reservoirs and marshy places.
- iii. Care is taken to route the lines through a minimum disturbance path.
- iv. Avoid protected areas to the extent possible.
- v. ROW (Right of way) is selected duly considering the location of different utilities such as telecommunication lines, railway circuits, and gas pipelines to avoid interference.
- vi. Adoption of best technology/latest equipment to avoid pollution and to ensure electrical safety.
- vii. Minimizing energy losses and promote energy efficiency in all its activities.

UPPCL weighs due consideration to address the associated environmental & social issues in line with above principles to create a suitable organizational structure to implement mitigation measures systematically. The policy and procedures will be subject to periodical review in accordance with the guiding principles of avoidance, minimum disturbance and suitable remedial measures.

6. Environmental and Social impacts of distribution projects

UPPCL has a vast network of Distribution lines and substations spread across Uttar Pradesh. Operational activities and construction of new substations, lines, etc. may have some distinct environmental and social impacts. UPPCL has identified certain environmental and social issues typically associated with its projects.

Loss of Land

UPPCL normally receives land for their sub-stations provided by Gram-Sabha at free of cost/on lease for long period or at a very nominal token amount in rural areas; whereas in urban areas it is provided by Municipal Corporation/statutory body. However, if the land belongs to private owner, it is acquired at the rate prescribed by prevailing government policy. Normally no land is lost in erecting a distribution line. The line is preferably erected on the roadsides, canal sides, boundaries of the fields and on barren land. Similarly, the underground cable is also laid in such a way that it is not likely to be damaged during soil-tilling/ploughing. No compensation is admissible regarding pole erection, conductor stringing or cable laying.

Loss of Crop/Trees/Vegetation

Normally flexibility is adopted in choosing routes to avoid trees but in case, it is unavoidable then minimum trimming/pruning of tree branches is done. In case of complete loss of a tree/fruit bearing tree, adequate compensation is granted as per the prevailing rules as decided by the competent authority.

Every effort is made that erection is done during off-crop-season to avoid any damage to crop. If there is any significant damage to standing crop and/or trees or loss of crop due to electrical fire, the value of damaged crop is assessed by district authorities and is compensated accordingly.



Disposal of used transformer oil, batteries and capacitor bank

The used transformer oil, battery and capacitor banks are to be disposed - off with utmost care as per prescribed norms to minimize any ill-effect on environment.

UPPCL shall ensure a fair, efficient and transparent process relating to land acquisition, including loss of assets and other negative impacts on Affected Persons (APs) resulting from its development program, irrespective of sources of financing.

7. Institutional Arrangements and Grievance Redressal Mechanism

Considering the importance of accountability, the concerns and complaints of Affected Persons and Communities should be addressed in a manner that is fair, objective, and constructive. A mechanism shall be established through the Compliance Officer (CO) at Discom Level to enable individuals and communities affected by any operational activities to raise their grievances to the authority concerned. At UPPCL Head Quarter, an officer shall also be designated to coordinate across Discoms. The CO shall be an officer not below the rank of Chief Engineer (CE). At Discom level CO will act through Divisional Engineer and respective Zonal Chief Engineer as part of grievance redressal mechanism.

The CO shall respond to the complaints from those affected by any operational activities by UPPCL/Discoms with the goal of enhancing environmental and social outcomes on the ground and fostering greater public accountability. The Discom CO shall update the UPPCL CO on regular basis. The E&S Grievance Redressal Cell is to be headed by Director (P&A), UPPCL

