# AMENDED DRAFT POLICY FOR EXTERNAL ELECTRIFICATION OF HOUSING SCHEMES / COLONIES /SOCIETIES

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#### Preamble

- 1. In order to streamline the procedures for external electrification of housing colonies / societies, a series of instructions had been issued by the Member (Power) WAPDA, General Manager (Distribution) WAPDA, General Manager (Operation) WAPDA, General Manager (C&M) WAPDA, General Manager (RED&S) WAPDA, Chief Engineer (Distribution Engineering) WAPDA etc., in the past. These instructions were subsequently amended by the concerned offices of DISCOs from time to time to update the same as per changing requirements. Ironically these instructions/subsequent amendments did not reach the concerned personnel and thus remain unimplemented. Presently, some of the DISCOs are practicing different approaches in this regard after getting approval from their respective BoDs.
- It is of common knowledge that the SOPs for external electrification of housing schemes / societies / colonies were standardized by WAPDA 25-years back, while dynamics of the Sector have changed tremendously since then. Consequently, revision of existing policy is badly felt.
- 3. In response to various queries raised by HESCO and to bring uniformity among all DISCOs in this regard, a series of meetings and consultative discussions / session were held with concerned technical officers of all DISCOs / NTDCL and existing policy for external electrification of housing schemes / societies has been revised / consolidated in the form of a booklet.
- 4. This self contained guideline will serve as a practical guide for DISCO engineers who are supposed to yet the design of external electrification of housing schemes kocieties. It will also facilitate the consultants for preparing the design of external electrification of housing scheme/societies.
- 5. The references of instructions imparted from time to time by the WAPDA/PEPCO authority have also been appended herewith.
- 6. This draft SOP is required to be taken as guidance only for preparation of the company specific SOP for external electrification of housing schemes / colonies / societies, while incorporating specific local requirements, if needed. Implementation of the same in the field, however, will be after approval or ratification by the respective BODs of DISCOs.
- 7. As PEPCO coordinated with all the DISCOs and has provided technical support for preparation of a draft of uniform policy / guidelines on the issue, the draft SOPs may not be considered as any specific direction from the management company and the final document be firmed-up as a DISCO SOP, thus warding-off any possible future legal complications for PEPCO.

General Manager (Technical Services)
PEPCO

Draft SOP for Electrification of Housing Schemes

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### Documents to be submitted by the Sponsors

#### For Individual Connections

- 1. Approval from respective
  Development Authority / Town
  Management/Cantonment
  Board/Concerned Civic Authority.
  This includes:
  - · Approval letter
  - Approved master plan of society with sanction letter \*
- 2. Application for load along with following documents:
  - > Proof of ownership, registry, original fresh fard
  - > Power of attorney in favor of sponsor from owners of land
  - Photo copy of consultant's registration certificate with P.E.C duly renewed for the current year
  - > Geographical site sketch
  - > C.N.I.C. (photo copies) of sponsor duly attested
  - Authority letter from sponsor in favour of consultant
- Design of external electrification duly prepared by PEC registered &PEPCO / DISCO approved consultant as per PEPCO's instructions contained in this SOP

#### For One Point Supply

- 1. Approval from respective Development
  Authority / Town Management/Cantonment
  Board/Concerned Civic Authority. This
  includes:
  - · Approval letter
  - Approved master plan of society with sanction letter \*.
- 2. Application for load along with following documents:
- > Proof of ownership, registry, original fresh fard
- > Power of attorney in favor of sponsor from owners of land
- > Photo copy of consultant's registration certificate with P.E.C duly renewed for the current year
- > Geographical site sketch
- > C.N.I.C. (photo copies) of sponsor duly attested
- > Authority letter from sponsor in favour of consultant
- License from NEPRA for distribution of power (as per NEPRA Regulations, 2015 for sale of power issued vide SRO No.1134 (I)/2015) for load demand of 20MW and above.
  - Approval from NEPRA for 0 & M agreement (as per NEPRA Regulations, 2015 for sale of power issued vide \$RO No.1134 (1)/2015).
- 4. Design of external electrification duly prepared by PEC registered & PEPCO/DISCO approved consultant as per PEPCO's instructions contained in this SOP

\*Note: Before processing applications for external electrification of housing societies, clearance from all concerned civic (development) authorities must be obtained.

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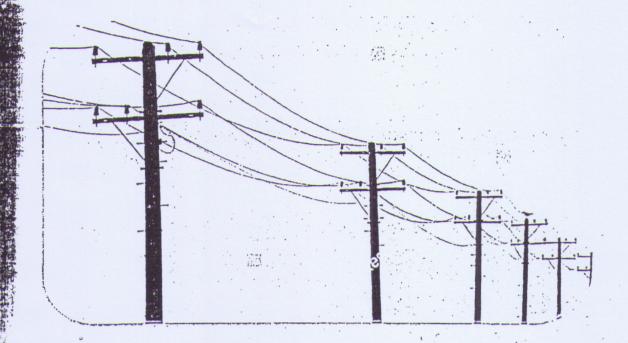
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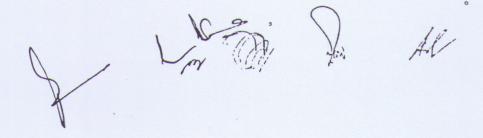
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# Standards & Design Criteria





#### Load Assessment Criteria

The consultant will work out detail of plots to be fed from each distribution transformer according to load criteria. The assessed load on each distribution transformer should not exceed 80% of its rated capacity.

Load Criteria for Cities, Dist. HQ Level, All Cantonment Areas

nal	Components	No.	Watts	Total (kW)	Demand Factor (%)	Total Load (kW)
L'a	Light Points	110	40	4.400	30	1.32
~	Ceiling Fans	20	80	1.600	30	0.48
1	Exhaust Fans	8	80	0.640	30	0.19
Size	Ordinary Plugs	25	100	2.500	3()	0.75
Plot	Power Plugs	6	1000	6.000	100	6.00
	ACs	6	1500	9.000	100	9.00
		Total Loa	d			17.74 KW

To To	Components	No.	Watts	Total (kW)	Demand Factor (%)	Total Load (kW)		
Plot Size= 1Kanal	Light Points	80	. 40	3.200	30	0.96		
	Ceiling Fans	16	80	1.280	30	0.38		
	Exhaust Fans	7	30	0.560	30	0.17		
	Ordinary Plugs	20	100	2.000	30	0.60		
	Power Plugs	4	1000	4.000	100	4.00		
	ACs	3	1500	4.500	100	4.50		
	Total Load							

arla	Components	No.	Watts	Total (kW)	Demand Factor (%)	Total Load (kW)		
Z	Light Points	60	40	2.400	30	0.72		
=	Ceiling Fans	12	80	0.960	30	0.29		
2/	Exhaust Fans	6	80	0.430	30	0.14		
S	Ordinary Plugs	15	100	1.500	30	0.45		
2	Power Plugs	2	1000	2.000	100	2.00		
	ACs	2	1500	3.000	100	3.00		
	Total Load							

arla	Components	No.	Watts	Total (kW)	Demand Factor (%)	Total Load (kW)		
2	Light Points	40	40	1.600	30	0.48		
10	Ceiling Fans	. 8	80	0.640	31)	0.19		
ize	Exhaust Fans	6	80	0.480	30	0.14		
S	Ordinary Plugs	10	. 100	1.000	30	0.30		
5	Power Plugs	2	1000	2.000	100	2.00		
	ACs	i	1500	1.500	100	1.50		
	Total Load							

rla	Components	No.	. Watts.	Total (kW)	Demand Factor (%)	Total Load (kW)	
Marla	Light Points	20	40	0.840	30)	0.24	
1	Ceiling Fans	5	80	0.400	30	0.12	
Size	Exhaust Fans	2	80	0.160	30	0.05	
Plot :	Ordinary Plugs	8	100 .	0.800	30	0.24	
Ξ	Power Plugs	1	1000	1.000	100	1.00	
	ACs	1	1500	1.500	100	1.50	
	Total Load						

### Load Criteria for Commercial Centers

Description	Watts/ Sq. Ft.
Banks, Office Building	5
Beauty Parlors, Hair Saloons	4
Schools, Mosques	3
Shops, Hospitals, Clubs, Community Centres, Restaurant, Hotels, Motels, Court Rooms	2
Lodges	1.5
Auditoriums, Masjid, Church	1
Garages, Corridors	0.5
Ware-House Storage, Play Ground	0.25
Fan Load, TV, Refrigerator, Deep Freezer	2
Air Conditioning Load	8

Note: Load of other provisions like escalators, lifts, water supply, etc. will be taken as per actual demand.

Draft SOP for Electrification of Housing Schemes

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#### **Load Determining Factors**

1. Development Factor = 75%

2. Diversity Factor = 125 %

3. Power Factor = 85 %

4. Location Factor (Big City) = 100 %

5. Location Factor (Small City) = 80 %

U.L.D = Total demand x Development factor x Location Factor
Diversity Factor

U.L.D = Ultimate Load Demand

Loading of T/F may be kept within 80 %

• Big City = Dist, HQ.Cantonment Boards

• Small City = Tehsil, Sub Tehsil & UC administration.

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#### Design Criteria for Over Head Network

- 1. Residential plots of 2 Kanals & above are to be fed from 200 kVA distribution transformers
- 2. Residential plots of 1 Kanal, 10 Marlas, 5 Marlas & 3 Marlas must be supplied electricity from 200/100 kVA distribution transformers with ratio of 2:3
- 3. For main 11 kV circuits ACSR conductors will be used (HT conductors and cables be provided strictly in accordance with their rating not more than 80% loading)
- 4. For LT lines Wasp & Ant conductors will be used (LT conductors and cables be provided strictly in accordance with their rating not more than 80% loading)
- 5. Length of LT line must not exceed 800 feet
- 6. Maximum 6 No. services to be tapped from one structure / pole. Every connection must be given through independent service.
- 7. Independent transformers of appropriate capacity shall be used for street light & for tube wells. The load for street light shall be accessed and incorporated in the design.
- 8. Every HT/LT steel structure shall be earthed as per SDI No.PTW/DF-246
- 9. Two separate earths shall be provided for every distribution transformer, one for neutral and other for the body of transformer as per SDI No.PTW/DF-264
- The approved design shall remain intact till completion of the project provided the design vetting charges are paid within a period of one month.
- 11. Spun poles shall also be earthed as per latest Standard Design Instructions.

Note: Load of commercial buildings located in any housing scheme will be assessed on the basis of single-story design. However, in case of multi-storied commercial buildings, load will be re-assessed as per actual covered area and connection will be processed accordingly.

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### Design Criteria for Underground Network

- 1. Residential areas are to be fed from 200kVA & 400kVA pad mounted transformers and commercial areas/high-rise buildings from 400kVA & 630kVA transformers depending upon the actual covered area.
- 2. HT and LT cables to be provided strictly in accordance with their rating not more than 60% loading.
- 3. Sizes of HT Single Core cables (e.g. 240mm², 120mm²) & LT cables shall be strictly in accordance with NTDCL/DISCO specifications.
- 4. Single phase 63 kVA pad mounted transformers shall be used for street lighting. The load for street light shall be accessed and incorporated in the design.
- Every steel enclosure and pole shall be earthed.
- 6. Three separate earths to be provided for every pad mounted transformer.
- 7. The approved design shall remain intact till completion of the project provided the design vetting charges are paid within a period of one month.
- 8. Design of underground electrical power distribution system shall be strictly in accordance with following Standard Design Instructions (SDIs).
  - Standard Design Instruction No. 20.2/DD
  - Standard Design Instruction No. 20.3/DD
- 9. Underground cables should not be leaded beyond 60% of their capacities.

Note: Load of commercial buildings located in any housing scheme will be assessed on the basis of single-story design. However, in case of multi-storied commercial buildings, load will be reassessed as per actual covered area and connection will be processed accordingly.

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# Design Criteria-Maximum Span Lengths

Daniel	Single (	Double/Triple Circuit	
han/Rural Areas	36 ft. Steel Structure 36 ft. Spun Pole		45 ft. Steel Structure/Spun Pole
Ösprey	200 ft.	200 ft.	200 ft.
Dog	200 ft.	200 ft.	200 ft.
Rabbit	200 ft.	200 ft.	200 ft.

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# Guidelines for Electrification of Housing Societies Having Ultimate Load Demand upto 2500 kW

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#### Design Criteria of Feeders

#### For Load upto 2500 kW

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For an ultimate load demand upto 2500-kW, supply of power shall be proposed from the existing nearest 11 kV feeder with the assurance that its voltage drop and technical losses will remain within permissible limits of 5% and 3.5% (kW loss) respectively.

If the voltage drops and technical losses of the existing 11 kV feeder from which the electrification is proposed are within permissible limits and remain within permissible limits even with simulation of the ultimate load demand, the proposed load shall be accommodated.

If the voltage drops and technical losses of the existing 11 kV feeder from which the electrification is proposed, are within permissible limits before simulation of the load demand of the scheme but exceeds the permissible limits when analyzed the ultimate load demand, then rehabilitation of the feeder shall have to be done. The sponsor shall pay the cost of rehabilitation in a way to bring voltage drop and technical losses within permissible limits.

If the existing 11 kV feeder from which the load is proposed has percentage voltage drops and technical losses already more than the specified value, analysis may be made with the consideration of feeding the proposed load through augmentation / renovation to bring down the voltage drops and technical losses within permissible limits. The sponsor shall pay the cost of rehabilitation on cost sharing basis in a way to bring voltage drops and technical losses within permissible limits. His cost share will be to compensate for change in voltage drops and power loss percentages arising out of the simulation of his ultimate load demand from the initial figures, whereas the balance cost of rehabilitation to bring the values within permissible limits shall stand on DISCO's part. The physical rehabilitation of the system under DISCO program shall not be made a pre-requisite because DISCO has its own program to follow, as the load of the scheme also takes a long time to fully develop.

Power supply can be given from independent feeder to the housing society if opted for the same on full-cost deposit basis with cost of grid end circuit breaker (alongwith cost of allied material and installation, testing, commissioning, etc. charges of grid end breaker).

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### **Procedure for Electrification of Housing Societies**

- Sponsor / Consultants shall submit proposal of design to Chief Executive officer / Chief Engineer (P&E) of DISCO alongwith all requisite documents mentioned at page No.3 of this SOP.
- 2. (P&E) Department of DISCO will carry out scrutiny and vetting of proposal as per standard and design criteria.
- The sponsor will opt about execution of external electrification through DISCO for private execution through PEPCO / DISCO/ IESCO approved contractors. The contractors shall not be the same as the consulting Engineer.
- 4. Recovery of charges as mentioned in this SOP.
- 5. Technical clearance will be issued by the respective Chief Engineer (Planning & Engineering) DISCO after approval by the CEO and fulfillment of all formalities.
- 6. The Housing society is defined as per NEPRA Eligibility criteria.
- 7. The policy for electrification of High Rise buildings / Plazas and apartments situated other than the Housing Societies shall be the same as within the Housing society/scheme/colony.

Draft SOP for electrification of Housing Schemes.

### Electrification of Housing Schemes Having Individual Metering

# Sponsor opting for private execution through PEPCO / DISCO approved contractors

- 1. Sponsor will submit Bank Guarantee @ 25% of total electrification cost valid up to the completion of electrification work & this will be released on successful completion & inspection of the network.
- 2. Sponsors of the scheme will bear full responsibility for procurement and installation of quality material as per NTDCL/DISCO approved specifications from the manufacturers approved by PEPCO/ DISCO. The material shall be duly inspected by Chief Engineer (Quality Assurance & Inspection) NTDCL or DISCO's representatives.
- Sponsors will not purchase / use any material bearing DISCO's monogram or DISCO's colour scheme or identification.
- 4. NTDCL/ DISCO Standard Design & Specifications will be strictly followed.
- The sponsor will give advance information to S.E/XEN concerned for starting the work.
- In case DISCO material is found installed, DISCO reserves the right to lodge FIR against the spensors.
- Colour code of the following three major items of procured material will be:-
- a. Transformers "Blue"
- b. Spun Poles / Structures "Blue"
   (1 foot wide strip at a height of 10 ft from ground level.)
- c. Conductor Reel "Red"

- 3. Right-of-Way is the responsibility of sponsor and in case of any problem, estimate will be revised & difference will be paid by the sponsor.
- Sponsor's name & name of the scheme shall be embossed on structures/Spun poles/transformers/ meters/conductor reels.
- 10. All PO's shall be vetted by the P&E section of DISCO.
- The procured material will undergo stage & final inspection by Chief Engineer (Quality Assurance & Inspection) NTDCL or DISCO's representatives.
- Consultant will submit completion report, as built map depicting proper inventory & equipment installed comparing it with approved BOQf

# Sponsor opting for construction through PEPCO / DISCO

- 1. The sponsor shall deposit the estimated cost with Chief Financial Officer (CFO) DISCO. CFO will issue credit advice to Project Director (Construction) for execution of work under intimation to Chief Engineer (P&E).
- Committee comprising Manager (Operation) concerned & Manager (Material Management) shall watch the progress & quality of work on regular basis in association with the consultant of the sponsor.
- 3. Right of Way is the responsibility of sponsor and in case of any problem, estimate will be revised & difference will be paid by the sponsor.

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# Sponsor opting for private execution through PEPCO / DISCO approved contractors

## Sponsor opting for construction through PEPCO / DISCO

- 13. Committee comprising Manager (Operation) concerned, Manager (Material Management) of DISCO, in association with the representatives of consultant, sponsor and of the contractor, will check the completed work/documentation & inventory before declaring it safe & authorizing for energization of the Housing Scheme
- 4. The sponsor will keep and pass on the following record to DISCO while procuring material.
  - Purchase Order showing name of manufacturer; quantity, type, make, cost and equipment identification.
  - b. Invoice bearing the name of the sponsors with cost of material and sales tax paid.
- 15. Spun poles installed in the housing society will bear the following markings embossed on wet concrete.
  - a. Initial letter of Housing Scheme
  - b. Short initials of the place of the Scheme.
  - c. Initial of the manufacturer
  - d. Serial No. of Pole (Separate Sr. No. for each order and each type of pole).
  - e. Date of manufacturing

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# Procedure for Provision of Bank Guarantee Equivalent to 25% of the Entire Estimated Cost

(a) In case Sponsors desire to carry out work through PEPCO/DISCO approved contractor, they will submit a Bank Guarantee equivalent to 25% of total electrification cost, valid for the entire period upto completion of full electrification work of the scheme.

(b) In case of large scale schemes, external electrification of a housing scheme approved by a Civic

Authority may be allowed to proceed in phases provided:-

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 Area included in a phase will be contiguous and ultimate load demand of each phase will be above 5MW. Complete plan for electrification of scheme will be submitted through the Consultant.

ii) Phase-wise electrification will be allowed only if the Housing Scheme has

provided/mutated suitable land for a Grid Station to the DISCO.

- the Sponsors of the Housing Scheme will provide Bank Guarantee equal to 25% of the estimated cost of electrification for the phase that they intend to electrify at one time. Alternatively mortgage of plots of equal value of 25% of the estimated cost of electrification for the phase intended to be electrified may also be acceptable."

  However, comprehensive policy/procedure for the mortgage will be determined by the respective DISCO after due consideration of procedures adopted in similar cases by Lahore Development Authority (LDA) or other equivalent institutions /regulatory authorities.
- iv) DISCO will also obtain a suitable undertaking from the Sponsors or sign an agreement with Sponsors of large Housing Schemes agreeing expressly to the terms and conditions for the splitting up of the Housing Scheme into phases as stated above so as to avoid any legal complications at a later stage.
- v) On the satisfactory completion of each phase, the work will be duly inspected and taken over for the purpose of grant of connections. Connections will be allowed only in the area falling in the particular phase which has been electrified and the network taken over by a DISCO. This, in no way establish the right of the Sponsor of prospective consumers to get electric connections in other phases of the Housing Schemes where electrification is yet to be undertaken or the network has not been taken over by the DISCO due to any reason.

(c) Bank Guarantee to be submitted by the sponsoring agency before getting approval for execution of the work through PEPCO/DISCO approved Contractors may be released observing the following procedure.

"The Guarantee shall be released in phases on successful completion of the part of the system by the Sponsoring Agency duly verified by the inspection committee nominated in the SOP. The release of Guarantee shall be worked out on proportional cost basis for the completed work against the total work".

Draft SOP for Electrification of Housing Schemes

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### Amounts Recoverable From the Sponsors Opting for Individual Metering for Load Upto 2500 kW

# Sponsor opting for private execution through PEPCO/DISCO approved contractors

- Design vetting charges @ 1.5% of capital cost for external electrification of housing society / colony.
- Inspection & supervision charges @ 1.5% of capital cost for external electrification of housing society / colony.
- Grid sharing cost @50% from sponsors of housing societies.
  - (@ Rs. 4,900 per kW)
- Bank Guarantee @ 25% of total estimated cost for external electrification of housing society / colony.
- Rehabilitation charges in case of mixed load feeder & total cost of feed line for independent feeder along with cost of grid end breaker etc.
- 6. Material inspection charges @ 2.5%
- Security will be paid by the individual prospective consumers at the time of obtaining connections.

# Sponsor opting for construction through PEPCO/DISCO

- 1. Capital cost for external electrification of housing society / colony.
- Design vetting charges @ 1.5% of capital cost for external electrification of housing society / colony.
- 3. Grid sharing cost @50% from sponsors of housing societies.
  - (@ Rs. 4,900 per kW)
- 5. Rehabilitation charges in case of mixed load feeder & total cost of feed line for independent feeder along with cost of grid end breaker etc.
- 6. Security will be paid by the individual prospective consumers at the time of obtaining connections.

The sharing cost of construction of the grid station and transmission line has been assessed as follows:

- > Rs. 8.948 Million per MW of as cost of Grid Station and Transmission Line
- > Rs. 0.355 Million per MW as cost of land

Draft SOP for Electrification of Housing Schemes

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# Amount Recoverable from the Sponsors Opting for One Point Supply for Load upto 2500 kW

& Magreement (as per NEPRA Regulations, 2015 for sale of power issued vide SRO No. 1134 (1)/2015)

# Sponsor opting for private execution through pepCO/DISCO approved contractors

The sponsor will furnish bank guarantee @ 25% of estimated cost of electrification of housing society.

Design vetting charges @ 1.5% of total capital cost of electrification of housing society.

Inspection & supervision charges @ 1.5% of capital cost of electrification of housing society.

Material Inspection charges @ 2.5%
Grid Sharing cost @ 50% from sponsors of housing societies (@ Rs. 4,900 per kW).

Security for the total ultimate demand (as per relevant tariff approved by NEPRA). Rehabilitation charges in case of mixed load feeder & total cost of feed line for independent feeder along with cost of grid

Sponsor will ensure procurement of material as per NTDCL/ DISCO specifications & design.

end breaker etc.

Sponsor will ensure procurement of material from PEPCO/ DISCO approved manufacturers/suppliers and duly inspected by Chief Engineer (Quality Assurance & Inspection) NTDCL or DISCO's representatives.

## Sponsor opting for construction through PEPCO/DISCO

- Capital cost for external electrification of housing society/colony.
- 2. Design vetting charges @ 1.5% of total capital cost of electrification of housing society.
- 3. Grid sharing cost @50% from sponsors of housing societies (@ Rs. 4,900 per kW).
- 4. Security for the total ultimate demand
  (as per relevant tariff approved by NEPRA)
- 5. Rehabilitation charges in case of mixed load feeder & total cost of feed line for independent feeder along with cost of gridend breaker etc.

The sharing cost of construction of the grid station and transmission line has been assessed as follows:

> Rs. 8.948 Million per MW of as cost of Grid Station and Transmission Line

> Rs. 0.855 Million per MW as cost of Land

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### System beyond Metering Point for One Point Supply

- 1. The sponsors will obtain approval as O&M operator for one point supply for sale of power from NEPRA (as per NEPRA regulations, 2015 for sale of power issued vide SRO No. 1134(I)/2015)
- 2. The system beyond the metering point i.e. within the colony area shall be maintained & operated by the sponsors/O&M operators. The system shall be constructed by the sponsors through approved contractor/DISCOs (at sponsors' cost) according to the design approved by DISCO.
- 3. The material shall be purchased from PEPCO/NTDCL/ DISCO approved manufacturers. The procured material will be inspected by Chief Engineer (Quality Assurance & Inspection) NTDCL or DISCO's representatives.
- 4. All purchase orders shall be vetted by the P&E section of DISCOs. The sponsor will get the design of the internal network, after one point supply approved from DISCO & will pay design vetting charges @ 1.5 % of total estimated capital cost of the external electrification.
- 5. The sponsor will pay @ 1.5% of the total estimated cost of electrification of housing society as inspection/supervision charges.
- 6. The sponsor will pay @ 2.5% as material inspection charges:
- 7. Sponsors of the scheme will bear full responsibility for the procurement & installations of quality material according to NTDCL/ DISCO approved specifications.
- 8. The sponsor will not purchase/use any material bearing DISCO's monogram or DISCO's colour scheme or identification.
- 9. Documents relating to purchased material shall be examined by the Manager (Operation) concerned, Manager (Material Management) & Project Director (Construction) DISCO at the time of final inspection of electrification works.

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# Guidelines for Electrification of Housing Societies Having Ultimate Load Demand from 2.5 MW to 10 MW

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### **DESIGN CRITERIA OF FEEDERS**

### For Load more than 2500 KW but less than 10000 KW

- If load demand is more than 2500 KW but less than 5000 KW, supply of power shall be proposed through an independent feeder from the nearest grid station on full cost deposit basis with cost of grid end circuit breaker (alongwith cost of allied material and installation, testing, commissioning, etc. charges of grid end breaker), in case if grid is in a position to bear the prospective load.
- 2. If load is more than 5000 KW and less than 10000 KW, then supply shall be proposed through number of independent 11 KV feeders as per requirement.
- 3. In case position of grid station does not permit the ultimate load of the housing society then urgent load requirement of the housing society may be allowed after the recovery of:
  - · Grid sharing cost on ultimate load demand.
  - Design vetting charges.
  - Inspection / supervision charges (if applicable).
  - Meterial inspection charges (if applicable)
  - Capital cost of source fee line and external electrification (if applicable)
  - Bank Guarantee (if applicable)

and augmentation/extension of grid station may be arranged in due course of time at DISCO cost so as to meet with ultimate demand of housing scheme.

#### 4. Land for Grid Station.

For load above 05 MW and upto 10 MW, the sponsor shall provide 10 Kanal suitable piece of land free of cost to IESCO. However in case the load of the Colony as a result of extension of the Scheme increases above 10 MW, then the sponsor will be dealt as per new policy. If the Sponsor constructs Grid Station at his own cost, then the already recovered Grid Sharing cost will be adjusted in the cost of Grid Station.

Draft SOP for electrification of Housing Schemes.

# Amount Recoverable From The Sponsors Opting For Individual Metering – For Load 2.5 MW to 10 MW.

#### Sponsor Opting for Private Execution through PEPCO/ DISCO approved contractors

- 1. The sponsor will furnish bank guarantee @ 25% of the total estimated amount of electrification of Housing Scheme.
- 2. The Sponsor will construct source feed line at his cost.
- 3. Design vetting charges @ 1.5 % of estimated cost of external electrification of Housing Scheme
- 4. Inspection and supervision @ 1.5% of estimated cost of external electrification of Housing Scheme.
- 5. Grid Sharing cost @ 50% from sponsors of Housing Societies @ Rs. 4900 per KW.
- 6. Material inspection charges (a) 2.5 %.
- 7. Security will be paid by the individual prospective consumers at the time of obtaining connection.
- 8. Sponsor will insure procurement of the material as per PEPCO / NTDCL / DISCO specification and design.
- 9. The sponsor will ensure purchase of material from PEPCO / NTDCL / DISCO approved manufacturers specification / suppliers duly inspected by Chief Engineer (Quality assurance and inspection) NTDCL or DISCO, s representatives.

# Sponsor Opting for Construction through PEPCO/ DISCO

- Capital cost of external electrification of Housing Scheme.
- 2. Cost of independent feeder.
- 3. Design vetting charges (a) 1.5% of estimated capital cost of external electrification of Housing Scheme.
- 4. Grid sharing cost (a) 50% from sponsors of housing societies (a) Rs. 4900 per KW.
- Security will be paid by the individual prospective consumers at the time of obtaining connections.

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# Amount Recoverable from the Sponsors Opting for One point supply For Load 2.5 MW to 10 MW.

O&M Agreement (As per NEPRA Regulations, 2015 for sale of Power issued vide SRO No.1134 (1)/2015)

# Sponsor Opting for Private Execution through PEPCO/ DISCO approved contractors

- The sponsor will furnish bank guarantee @ 25% of the total estimated amount of electrification of Housing Society.
- 2. Design vetting charges @ 1.5 % of estimated cost of external electrification of Housing Society
- 3. Inspection and supervision @ 1.5% of estimated cost of external electrification of Housing Society.
- 4. Material inspection charges @ 2.5 %.
- 5. Grid Sharing cost @ 50% from sponsors of Housing Societies @Rs. 4900 per KW.
- 6. Sponsor will construct source feed line at his cost.
- 7. 100 % Security for the ultimate demand (as per relevant tariff approved by NEPRA).
- Sponsor will insure procurement of the material as per PEPCO / NTDCL / DISCO specification and design.
- The sponsor will ensure purchase of material from PEPCO / NTDCL / DISCO approved manufacturers specification / suppliers duly inspected by Chief Engineer (Quality assurance and inspection) NTDCL or DISCO,s representatives.

# Sponsor Opting for Construction through PEPCO/DISCO

- 1. Design vetting charges (a) 1.5% of estimated capital cost of external electrification of Housing Society.
- Capital cost of external electrification of Housing Society/ colony.
- Cost of independent feeder including cost of Grid end Breaker, etc.
- Grid sharing cost \(\text{iq}\) 50% from sponsors of housing societies \(\text{iq}\) Rs. 4900 per KW.
- 5. 100 % Security for the ultimate demand (as per relevant tariff approved by NEPRA).

The sharing cost of construction of Grid Station and Transmission line has been assessed as follows.

> Rs.8.948 Million / MW of as cost of Grid Station and transmission line.

Rs.0.855 Million / MW as cost of Land.

Draft SOP for electrification of Housing Schemes.

### System beyond Metering Point for One Point Supply

- 1. The sponsors will obtain approval as O&M operator for one point supply, for sale of power from NEPRA (as per NEPRA regulations, 2015 for sale of power issued vide SRO No. 1134(I)/2015)
- 2. The system beyond the metering point i.e. within the society/colony area shall be maintained & operated by the sponsors/O&M operators. The system shall be constructed by the sponsors/DISCOs (at sponsors' cost) according to the design approved by DISCO.
- 3. The material shall be purchased from PEPCO/NTDCL/DISCO approved manufacturers. The procured material will be inspected by Chief Engineer (Quality Assurance & Inspection) NTDCL or DISCO's representatives.
- 4. All purchase orders shall be vetted by the P&E section of DISCO. The sponsor will get the design of the internal network, after one point supply, approved from DISCO& will pay design vetting charges @ 1.5 % of total estimated capital cost of the external electrification of housing scheme.
- 3. The sponsor will pay @ 1.5% of the total estimated cost of electrification of housing society as inspection/supervision charges.
- 5. The sponsor will pay @ 2.5% as material inspection charges.
- 6. Sponsors of the scheme will bear full responsibility for the procurement & installations of quality material according to NTDCL/ DISCO approved specifications.
- 7. The sponsor will not purchase/use any material bearing DISCO's monogram or DISCO's colour scheme or identification.
- 8. The sponsors may construct the internal network in phases after getting approval from DISCO.
- 9. Documents relating to purchased material shall be examined by the Manager (Operation) concerned, Manager (Material Management) & Project Director (Construction) DISCO at the time of final inspection of electrification works.

Praft SOP for Electrification of Housing Scheme

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# Guidelines for Electrification of Housing Societies having Ultimate Load Demand More than 10 MW

Draft SOP for electrification of Housing Schemes.

### A. Housing Society Having Ultimate Demand Load More Than 10 MW.

Construction of Grid Station.

One Point Supply as per NEPRA Regulations, 2015 for sale of Power issued vide SRO No.1134 (1)/2015

#### Sponsor Opting for Private Execution at its own through PEPCO/DISCO approved contractors

- 1. Distribution License (in case load demand is 20 MW or above) or approval for O&M agreement from NEPRA.
- 2. Approval of Master Plan by relevant Civic Authority.
- 3. Sponsor to construct Grid Station at his cost (Transmission line to be constructed by DISCO at sponsor's cost).
- 4. For Ultimate load demand upto 50MW, an adequate piece of land located at a suitable place within the boundary of Housing Scheme has to be transferred in the name of DISCO free of Cost to accommodate AIS/GIS Grid Station with standard specifications as per NTDCL design including staff residences, field offices etc. In any case, the land must not be less than 20 Kanal for AIS and 12 Kanals for GIS Grid Station.
- 5. For Ultimate load demand above 50MW but less than 100 MW, another separate single piece of land measuring not less than 20 Kanals for AIS and 12 Kanals for GIS Grid Station, located at a suitable place within the boundary of Housing Scheme has to be transferred in the name of DISCO free of Cost to accommodate Second AIS/GIS Grid Station with specifications as per NTDCL design including staff residences, field offices etc.
- 6. For Ultimate load demand of above 100 MW, 220 KV Grid Station will be constructed as per standard requirements and approval of NTDCL.
- 7. The sponsor will furnish bank guarantee equivalent to 100 % of estimated cost of Grid Station and transmission line for a period of four years after the signing of MOU.
- 8. Completion period for construction of Grid Station will be four years.
- 9. Sponsor will deposit 100 % Security for ultimate load demand (as per relevant tariff approved by NEPRA)
- 10. Design vetting charges @ 1.5 % of estimated cost of project.
- 11. Inspection and supervision charges @ 1.5 % of estimated cost of G/S and T/L.

#### Sponsor Opting for Construction through PEPCO/ DISCO

- Distribution License (in case load demand is 20 MW or above) or approval for O&M agreement from NEPRA.
- 2. Approval of Master Plan by relevant Civic Authority.
- 3. Sponsor to deposit 100 % cost of Grid Station and transmission line with DISCO.
- 4. For Ultimate load demand upto 50MW, an adequate piece of land located at a suitable place within the boundary of Housing Scheme has to be transferred in the name of DISCO free of Cost to accommodate AIS/GIS Grid Station with standard specifications as per NTDCL design including staff residences, field offices etc. In any case, the land must not be less than 20 Kanal for AIS and 12 Kanals for GIS Grid Station.
- 5. For Ultimate load demand above 50MW but less than 100 MW, another separate single piece of land measuring not less than 20 Kanals for AIS and 12 Kanals for GIS Grid Station, located at a suitable place within the boundary of Housing Scheme has to be transferred in the name of DISCO free of Cost to accommodate Second with AIS/GIS Grid Station standard specifications as per NTDCL design including staff residences, field offices etc.
- 6. For Ultimate load demand of above 100 MW. 220 KV Grid Station will be constructed as per standard requirements and approval of NTDCL.
- 7. Completion period for construction of Grid Station will be four years.
- 8. Sponsor will deposit 100 % Security for ultimate load demand (as per relevant tariff approved by NEPRA)
- 9. Design vetting charges @ 1.5 % of estimated cost of project.
- 10. Sponsor will provide facility of right of way to extend supply from G/S to other loads.
- 11. DISCOs reserve the rights for use of T/L and Bus Bar for the extension of G/S for other loads.
- 12. Policy for connecting of private consumers Grid Station to the NTDC / DISCO network and its operation and maintenance, already issued vide GM (C&M) PEPCO vide his No.3226-40/GM(O)

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12. Material Inspection charges for:

For locally procured items @ 2.5% of estimated cost of G/S & T/L

For foreign inspection, boarding, lodging, round air tickets, incidental charges, daily allowance etc. for 2 inspectors of DISCOs

- 13. Sponsor will ensure procurement of the material as per NTDCL/ DISCO specifications & design
- 14. The sponsor will ensure purchase of material from PEPCO/NTDCL/DISCO approved manufacturers / suppliers duly inspected by Chief Engineer (Quality Assurance & Inspection) NTDCL or DISCO's representatives
- Sponsor will provide facility of Right of Way to extend supply from G/S to other loads
- 16. DISCOs reserve the rights for use of T/L & Bus Bar for the extension of G/S for other loads
- 17. Policy for connecting of private consumers grid station to the NTDC/DISCO net work and its operation and maintenance, already issued vide GM(C&M) PEPCO vide his No. 3226-40/GM(O) PEPCO/PA dated 30-07-2010 will be implemented, and it will be ensured by the Standing Technical Committee before energization 6f grid station

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#### B. Housing Society Having Ultimate Demand Load More Than 10 MW.

Construction of Grid Station for Case of Individual Metering.

#### Sponsor Opting for Private Execution at its own through PEPCO/DISCO approved contractors (without Grid Sharing cost)

- 1. Approval of Master Plan by relevant Civic Authority.
- Sponsor to construct Grid Station at his cost (Transmission line by DISCO at sponsor's cost).
- 3. For Ultimate load demand upto 50MW, an adequate piece of land located at a suitable place within the boundary of Housing Scheme has to be transferred in the name of DISCO free of Cost to accommodate AIS/GIS Grid Station with standard specifications as per NTDCL design including staff residences, field offices etc. In any case, the land must not be less than 20 Kanals for AIS and 12 Kanals for GIS Grid Station.
- 4. For Ultimate load demand above 50MW but less than 100 MW, another separate single piece of land measuring not less than 20 Kanals for AIS and 12 Kanals for GIS Grid Station, located at a suitable place within the boundary of flousing Scheme has to be transferred in the name of DISCO free of Cost to accommodate Second AIS/GIS Grid Station with standard specifications as per NTDCL design including staff residences, field offices etc.
- For Ultimate load demand of above 100 MW, 220 KV Grid Station will be constructed as per standard requirements and approval of NTDCL.
- 6. The sponsor will furnish bank guarantee equivalent to 100 % of estimated cost of Grid Station and transmission line for a period of four years after the signing of MOU.

 Completion period for construction of Grid Station will be four years.

- 8. Security to be deposited by the prospective consumers at the time of obtaining connections.
- Design vetting charges @ 1.5 % of estimated cost of G/S & T/L.
- 10. Inspection and supervision charges @ 1.5 % of estimated cost of G/S and T/L.
- 11. Metering inspection charges for:
  For locally procured items @ 2.5% of estimated cost of G/S & T/L.

#### Sponsor Opting for Construction through PEPCO/ DISCO after payment of Grid Sharing cost

- Approval of Master Plan by relevant Civic Authority.
- 2. For Ultimate load demand upto 50MW, an adequate piece of land measuring 32 Kanals located at a suitable place within the boundary of Housing Scheme has to be transferred in the name of DISCO free of Cost to accommodate AIS Grid Station with standard specifications as per NTDCL design including staff residences, field offices etc.
- 3. For Ultimate load demand above 50MW but less than 100 MW, another separate single piece of land measuring 32 Kanals for AIS, located at a suitable place within the boundary of Housing Scheme, has to be transferred in the name of DISCO free of Cost to accommodate Second AIS Grid Station with standard specifications as per NTDCL design including staff residences, field offices etc.
- For Ultimate load demand of above 100 MW, 220 KV Grid Station will be constructed as per standard requirements and approval of NTDCL.
- 5. Grid sharing cost @ 50% form Sponsors of Housing Societies (@ 4474 per KW i.e. excluding cost of land).
- 6. Security to be deposited by the prospective consumers at the time of obtaining connections.
- 7. Grid station will be constructed as per DISCOs STG Development plan.
- 8. Design vetting charges @ 1.5% of estimated cost of project.
- Sponsor will provide facility of right of way to extend supply from G/S to other loads.
- DISCOs reserve the rights for use of T/L and Bus Bar for the extension of G/S for other loads.
- 11. Policy for connecting of private consumer Grid Station to the NTDC / DISCO network and its operation and maintenance, already issued vide GM (C&M) PEPCO vide his No.3226-40/GM(O) PEPCO/PA dated 30.07.2010 will be implemented, and it will be ensured by the

Draft SOP for electrification of Housing Schemes.

For foreign inspection, boarding, lodging, round air tickets, incidental charges, daily allowance etc. for 2 inspectors of DISCOs

- 12. Sponsor will ensure procurement of the material as per NTDCL/ DISCO specification & design
- from PEPCO/NTDCL/DISCO approved manufacturers / suppliers duly inspected by Chief Engineer (Quality Assurance & Inspection) NTDCL or DISCO's representatives
- 14. Sponsor will provide facility of Right of Way to extend supply from G/S to other loads
- 15. DISCOs reserve the rights for use of T/L & Bus Bar for the extension of G/S for other loads
- 16. Policy for connecting of private consumers grid station to the NTDC/DISCO net work and its operation and maintenance, already issued vide GM(C&M) PEPCO vide his No. 3226-40/GM(O) PEPCO/PA dated 30-07-2010 will be implemented, and it will be ensured by the Standing Technical Committee before energization of grid station

Standing Technical Committee before energization of grid station

#### Note:

- Design of grid station will be approved by CE (Substation Design) NTDCL / TSW of respective DISCO even if the grid station is sponsored and constructed by the sponsors.
- The case for external electrification of housing scheme and development of grid station will be processed by Chief Engineer (P&E) DISCO
- In any case 132 kV transmission line will be constructed by DISCO on cost deposit
- A Committee comprising of the following officers will carry out final inspection and precommissioning, necessary tests and energization of 132/11kV grid station. The Committee will carry, out inspection of the total infrastructure and prepare a list of all outstanding points to be attended by the Sponsors, if any, before issuance of final taking over certificate:
  - i. Director Design, O/O CE Design NTDC.
  - ii Manager GSO DISCO
  - iii Manager Operation DISCO
  - iv Deputy Manager (P&I) DISCO
  - vi Deputy Manager (T&I) DISCO
- Metering shall be carried out on 132kV side in and out (separately).
- Metering system will be 3-phase / 4-wire.
- . The Separate room for housing the 1.2 kV metering panels shall be constructed as per

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PEPCO/DISCO specification / drawing at the proposed grid station with the direct excess near main gate, it will be ensured by the Standing Technical Committee before energization of Grid Station. Metering room be provided in such a way that the metering cables emanating from metering CTs and PTs installed in switchyard run independently in solid conduit pipes in the switch yard trenches and then enter into the metering room properly secured.

- AMR enabled static energy meters of accuracy class 0.2 will be provided by the sponsors for billing as well as backup metering
- Dedicated 132kV metering C.Ts & P.Ts will be installed for metering purpose. Control cables from metering CTs & PTs will be laid in separate steel conduits. Size of control cables will be 4-core 6 mm<sup>2</sup> and 2.5 mm<sup>2</sup> for CT & P.T circuits respectively.
- Secondary connection boxes of all the 132 kV CTs & PTs will be secured properly be posting
  postal orders to be signed by all the committee members.

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### C. Housing Society Having Ultimate Demand Load More Than 10 Mw (One Point Supply)

#### System beyond Metering Point.

- 1. The Sponsors will have to obtain Distribution license (in case load demand is 20 MW or above) or approval for O&M Agreement from NEPRA for one point supply/ sale of power (bulk supply as per NEPRA (Supply of power) Regulations 2015, issued vide SRO 1134(I)/2015).
- The system beyond metering point i.e. within Society / Colony area shall be maintained & operated by the Licensee / O&M Operator. The system shall be constructed by the Sponsors /DISCO (at sponsor's cost) according to the design approved by DISCO.
- The material shall be purchased from PEPCO/ NTDCL/DISCO approved manufacturers. The procured material will be inspected by Chief Engineer (Quality Assurance & Inspection) NTDCL or DISCO's representative.
- 4. All purchase order shall be vetted by the P&E Section DISCO. The Sponsor will get the design of the internal network, after one point supply, approved from DISCO & will pay design vetting charges (a 1.5% of the total estimated capital cost of the external electrification of housing Scheme.
- 5. The Sponsor will pay @ 1.5% of the total estimated cost of electrification of Housing Society as inspection / supervision charges.
- 6. The sponsor will pay (a) 2.5% as material inspection charges.
- 7. Sponsors of the Scheme will bear full responsibility for the procurement & installation of quality material according to NTDCL / DISCO approved specifications.
- 8. The sponsor will not purchase / use any material bearing DISCO's monogram or DISCO's colour scheme or identification.
- 9. The Sponsors may construct the internal network in phases after getting approval from DISCO.
- Documents relation to purchased material shall be examined by the Manager (Operation) concerned.
   Manager (Material Management) & Project Director (Construction) DISCO at the time of final inspection of electrification works.

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# D. Housing Society Having Ultimate Demand Load More Than 10 MW. <u>External Electrification (Individual Metering).</u>

## Sponsor Opting for Private Execution at its own through PEPCO/DISCO approved contractors

- a. The sponsor will furnish bank guarantee @ 25% of total estimated amount of electrification of housing scheme.
- b. Design vetting charges @ 1.5% of estimated cost of external electrification of Housing scheme.
- c. Inspection & supervision @ 1.5% of estimated cost of external electrification of housing Scheme.
- d. Grid sharing cost @ 50% form sponsors of housing Societies if grid station is to be constructed by DISCO at its cost. (without cost of land, if the same is provided by the Sponsors).
- Sponsor will ensure procurement of the material as per NTDCL/DISCO specification & design.
- f., The sponsor will ensure purchase of material from PEPCO/NTDCL/DISCO approved manufacturer / supplier duly inspected by Chief Engineer (Quality Assurance & Inspection) NTDCL or DISCO's representative.
- g. Material inspection charges @ 2.5%.
- h. Sponsor will construct source feed line at his cost.
- Security will paid by the individual prospective consumers at the time of obtaining connection (as per relevant tariff approved by NEPRA).

#### Sponsor Opting for Construction through PEPCO/ DISCO

- Capital cost of external electrification of housing scheme to be deposited by the Sponsors.
- b. Design vetting charges @ 1.5% of estimated capital amount.
- c. Grid sharing cost @ 50% from sponsors of housing Societies if grid station is constructed by DISCO at its cost. (without cost of land, if the same is provided by the Sponsors).
- d. Cost of independent feeder or share cost in case of Grouped Independent feeder. However in case of sharing cost with other society if could not materialized due to any reason, full cost of independent feeder will have to be paid.
- e. Security will paid by the individual prospective consumers at the time of obtaining connection 100% security for the ultimate demand (as per relevant tariff approved by NEPRA).

Draft SOP for electrification of Housing Schemes.

### . To Meet with Immediate Demand of Housing Society

-		One Point Supply			lual Metering		
Sr. No.	Description	Execution through DISCO	Private execution through DISCO's approved contractor	Execution a through DISCO	Private Execution Through DISCO's approved contractor		
1	Requirements to meet with immediate demand of load through Independent feeder in case immediate demand is more than 1-MW	11 kV Line to be constructed by DISCO at the cost of sponsor	11 kV Line to be constructed by the Sponsor through PEPCO/ DISCO's approved contractors	11 kV Line to be constructed by DISCO at the cost of sponsor	11 kV Line to be constructed by the sponsor through PEPCO/ DISCO's approved contractors		
2	Through mixed load feeder in case immediate demand is less than 1-MW	Feeder rehabilitation charges will be paid by the sponsor					
3	Design vetting charges, supervision charges and inspection of material charges @ 1.5 % on the estimated cost of 11 kV Independent feeder	Design vetting charges @ 1.5%	<ul> <li>Design vetting charges @</li> <li>1.5%</li> <li>Supervision charges @</li> <li>1.5%</li> <li>Inspection charges @</li> <li>2.5%</li> </ul>	Design vetting charges @ 1.5%	> Design vetting charges @ 1.5% > Supervision charges @ 1.5% > Inspection charges @ 2.5%		

#### Note:

#### Execution through DISCO

- 1. Immediate load demand will only be allowed after fulfilling prerequisites as mentioned in B, C & D.
- Independent feeder will be constructed on full cost deposit for immediate demand of load exceeding 1 MW
- 3. In case immediate demand of load is less than 1 MW, feeder rehabilitation tharges will be recovered

#### 4. Build-up of load will be:

- i. For initial specified period = Immediate load requirement (to be governed by appropriate tariff)
- ii. After specified period = Ultimate demand of load (to be governed by appropriate tariff)

### Private execution through DISCO's approved contractor

To meet with immediate initial lead demand of the societies to be developed on self-execution basis, only 3 No. connections i.e. for sito office, tube well and street light under appropriate tariff shall be provided. No other connection shall, be provided till the completion and energization of the schemes.

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### Energization, Operation & Maintenance

The energization of the system shall be made as soon as the final inspection of the works is completed by the committee (earlier nominated) and all the pre-requisites have been fulfilled by the Sponsoring Agency. The process shall not be ordinarily-delayed.

The above policy instruction shall be applicable to all the conceptual projects and however, the ongoing projects shall be dealt with on case to case basis and if their process stage is such that any of the above instruction can apply, it shall be processed.

Planning, designing and supervision of the works of housing schemes / colonies shall be done by the qualified consultants duly registered with Pakistan Engineering Council and contractors must be approved by DISCOs.

Operation and maintenance of the grid station will be carried out in line with "PEPCO's Policy for connecting consumer grid station to the NTDCL/DISCO network and its operation and maintenance" issued vide GM (C&M) PEPCO letter No.3226-40/GM(O)/PEPCO/PA dated 30.07.2010 amended vide letter No.5213-24/GM(C&M)/CE(O)/DHQ/F-169/housing scheme dated 03.05.2011.

This draft SOP is required to be taken as guidance only for preparation of the company specific SOP for external electrification of housing schemes / colonies / societies, while incorporating specific local requirements, if needed. Implementation of the same in the field, however, will be after approval or ratification by the respective BODs of DISCOs.

PEPCO has coordinated with all the DISCOs and has provided technical support for preparation of a draft of uniform policy / guidelines on the issue, the draft SOPs may not be considered as any specific direction from the management company and the final document be fixed-up as a DISCO SOP, thus warding-off any possible future legal complications for PEPCO.

#### Reference:

- 3046-59 /GM0P / DHQ / 327 (L) Dated 2<sup>nd</sup> July 1991
- PS/MDD/GMO/DHQ/327L/5371-83 Dated 13th Oct. 1991
- GM (PE&S)/CEDE/DDE/E-42/2163-81 Dated 26th Oct 1993
- GM (PE&S)/CE(DP)/4467-80 Dated 21<sup>st</sup> May 1998
- GM(PE&S)/CE(DP)/6891-97 Dated 6<sup>th</sup> Oct 1998
- Minutes of Meeting (Chairman's Monthly Conference of CEOs 23-24th Dec 2002)
- GN(C&M)P/E-5 Dated 2<sup>nd</sup> Jan 2003
- 179-91/GM(C&M)/P/E-172 Dated 3rd April 2003
- 5443-60/GM(C&M)/CE(O)/DHQ Dated 1st Oct 2011
- 5448-60/GM(C&M)/CE(O)/DHQ Dated 1st Oct 2011
- 6907-18/GM(C&M)/CE(O)/DHQ Dated 28th Oct 2011
- NEPRA Regulations, 2015 for sale of power issued vide SRO No.1134 (1)/2015)

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