HESCO

Pakistan Electric Power Company

Draft

Standing Operating Procedure

External Electrification of

Housing Schemes/Colonies/Societies

&

Commercial Plazas/Multi Storey

Buildings

January, 2020

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, 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 in DISCOS but ironically these instructions/subsequent amendments were not uniform and could not be consolidated at PEPCO level. Therefore, presently, some of the DISCOs are practicing different approaches in this regard after getting approval from their respective BODs which need to be discussed at PEPCO level.
2. 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 / sessions 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 practical guide for HESCO engineers who are supposed to vet the design of external electrification of housing schemes / societies/commercial plazas and multi storey buildings. 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 has been taken as guidance for preparation of the company specific SOP for external electrification of housing schemes / colonies / societies/commercial plazas and multi-storey buildings, while incorporating specific local requirements. Implementation of the same in the field, however, will be after approval or ratification by the BODs of HESCO.
7. PEPCO also provided draft /guideline with the direction of its own dynamics and requirement.

Chief Engineer (P&E)
HESCO

Table of Contents

Documents to be submitted by the Sponsor.

For Individual Connections	For One Point Supply
1. Approval from respective Development Authority / Town Planning Department /Cantonment Board/Concerned Civic Authority. This includes: • Approval Letter • Approved lay out plan of society with sanction letter. 2. Application for load along with following documents: ➢ *Proof of ownership, Deh-Form-II, 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 favor of consultant* 3. Design of external electrification duly prepared by PEC registered & PEPCO / DISCO (HESCO) approved consultant as per HESCO' instructions contained in this SOP.	1. Approval from respective Development Authority / Town Management/Cantonment Board/Concerned Civic Authority. This includes: • Approval letter • Approved lay out plan of society with sanction letter. 2. Application for load along with following documents: ➢ *Proof of ownership, Deh-Form-II, 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 favored consultant* 3. 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. or Approval from NEPRA for O & M agreement (as per NEPRA Regulations, 2015 for sale of power issued vide SRO No. 1134(I)/2015). 4. Design of external electrification duly prepared by PEC registered & PEPCO/DISCO (HESCO) approved consultant as per HESCO's instructions contained in this SOP.

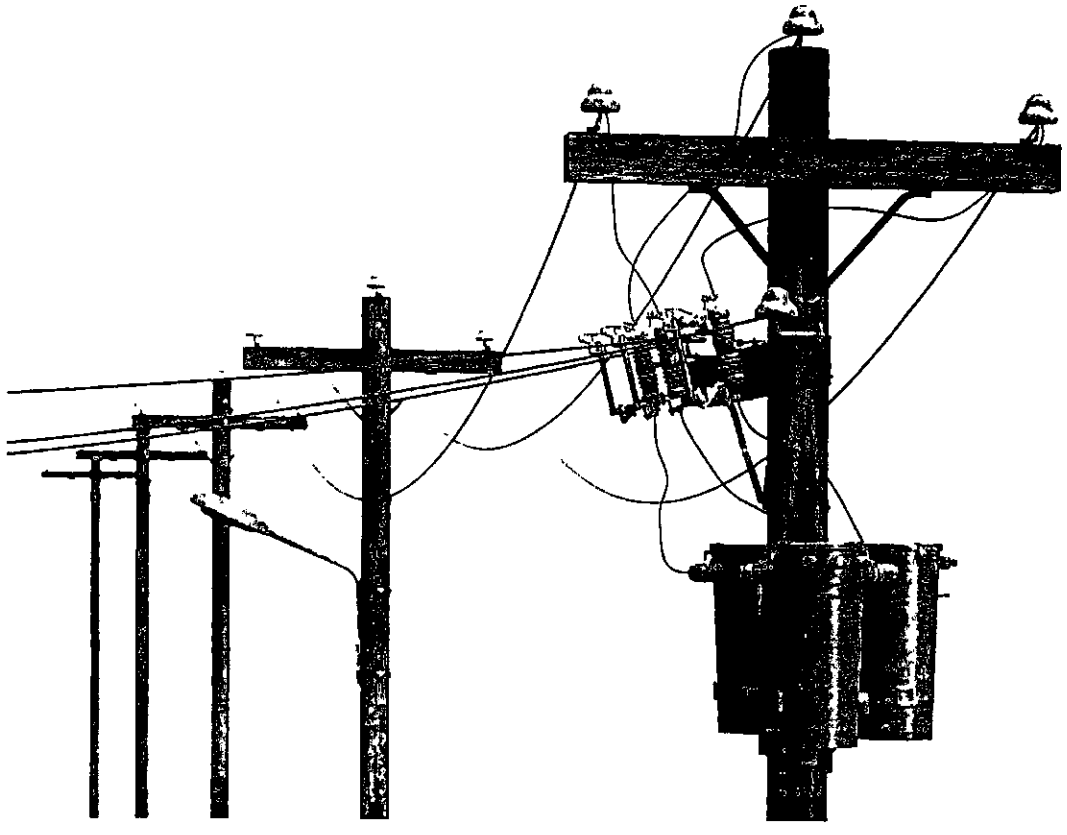
Note:

1- Before processing applications for external electrification of housing societies / high rise buildings, clearance / No Objection Certificate from all concerned civic (development) authorities must be obtained.

2- The sponsors/consultant shall be solely responsible regarding the authenticity/genuiness of the documents viz. technical approval of concerned Civic authority, approved layout plan, ownership documents etc. and consequences thereof.

3- If ownership documents, HDA/SBCA/Town Planning Dept. approval documents or any other document submitted by sponsors/ consultant is found fake at any stage, the sanction of P&E Directorate HESCO shall stand revoked automatically and consumer / applicant will be responsible for this or any other consequences.

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

Plot Size=2 Kanal	Components	No.	Watts	Total	Demand Factor (%)	Total Load (kW)
	Light Points	110	40	4.400	30	1.32
	Ceiling Fans	20	80	1.600	30	0.48
	Exhaust Fans	8	80	0.640	30	0.19
	Ordinary Plugs	25	100	2.500	30	0.75
	Power Plugs	6	1000	6.000	100	6.00
	ACs	6	1500	9.000	100	9.00
Total Load						**17.74 kW**

Plot Size=1 Kanal	Components	No.	Watts	Total	Demand Factor (%)	Total Load (kW)
	Light Points	80	40	3.200	30	0.96
	Ceiling Fans	16	80	1.280	30	0.38
	Exhaust Fans	7	80	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						**10.61 kW**

Plot Size=10 Marla	Components	No.	Watts	Total	Demand Factor (%)	Total Load (kW)
	Light Points	60	40	2.400	30	0.72
	Ceiling Fans	12	80	0.960	30	0.29
	Exhaust Fans	6	80	0.480	30	0.14
	Ordinary Plugs	15	100	1.500	30	0.45
	Power Plugs	2	1000	2.000	100	2.00
	ACs	2	1500	3.000	100	3.00
Total Load						**6.60kW**

Plot Size=5 Marla	Components	No.	Watts	Total	Demand Factor (%)	Total Load (kW)
	Light Points	40	40	1.600	30	0.48
	Ceiling Fans	8	80	0.640	30	0.19
	Exhaust Fans	6	80	0.480	30	0.14
	Ordinary Plugs	10	100	1.000	30	0.30
	Power Plugs	2	1000	2.000	100	2.00
	ACs	1	1500	1.500	100	1.50
Total Load						**4.61 kW**

Plot Size=3 Marla	Components	No.	Watts	Total	Demand Factor (%)	Total Load (kW)
	Light Points	20	40	0.840	30	0.24
	Ceiling Fans	5	80	0.400	30	0.12
	Exhaust Fans	2	80	0.160	30	0.05
	Ordinary Plugs	8	100	0.800	30	0.24
	Power Plugs	1	1000	1.000	100	1.00
	ACs	1	1500	1.500	100	1.50
Total Load						**3.15kW**

Load Criteria for Commercial Centers

Description	Watts/ Sq. Ft.
Bank, Office Building	5
Beauty Parlors, Hair Saloons	4
Schools, Mosques	3
Shops, Hospitals, Clubs, Community Centers, 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.

Load Assessment Factors

1. Development Factor =85%
2. Diversity Factor =125%
3. Power Factor =85%
4. Location Factor (Big City) = 100%
5. Location Factor (Small City*) =80%

U.L.D $= \frac{\textbf{Total Demand x Development Factor x Location Factor}}{\textbf{Diversity Factor}}$

U.L.D =Ultimate Load Demand

Loading of transformers may be kept within 80%

- Big City =Dist. HQ. Cantonment Boards
- Small City =Tehsil, Sub Tehsil & UC administration

Load Criteria for Over Head Network

1. Residential plots of 2 Kanals & above are to be fed from 200/100 kVA distribution transformers
2. Residential plots of 1 kanal, 10 Marlas,5 marlas & 3 Marlas must be supplied electricity from 200/100 kV distribution Transformers with ration of 2:3
3. For main 11kV 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 Insulated Wasp & Insulated 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-246
10. 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 storey commercial buildings, load will be re-assessed as per actual covered area and connection will be processed accordingly. The Sponsor will submit an undertaking regarding the actual load requirement of commercial building at the time of submission of design book.

Design Criteria for Underground Network

1. Residential areas are to be fed from 100kVA, 200kVA & 400kVA pad mounted transformers and commercial areas/high-rise buildings from 400kVA & 630kVA or other capacity 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. 240mm^2, 120mm^2) & LT cables shall be strictly in accordance with PEPCO/NTDCL/DISCO specifications.
4. Every steel enclosure and pole shall be earthed.
5. Three separate earths to be provided for every pad mounted transformer.
6. The approved design shall remain intact till completion of the project provided the design vetting charges are paid within a period of one month.
7. 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
8. Underground cables should not be loaded 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-storey commercial buildings, load will be re-assessed as per actual covered area and connection will be processed accordingly. The Sponsor will submit an undertaking regarding the actual load requirement of commercial building at the time of submission of design book.

Design Criteria-Maximum Span Lengths

Urban/Rural Areas	Single Circuit		Double/Triple Circuit	Tetra /Penta Circuit
	36 ft. Steel Structure	36 ft. Spun Pole	45 ft. steel Structure/Spun Pole	58 ft. Steel Structure
Osprey	200 ft.	200 ft.	200 ft.	200 ft.
Dog	200 ft.	200 ft.	200 ft.	200 ft.
Rabbit	200 ft.	200 ft.	200 ft.	200 ft.

Guidelines for Electrification of Housing Societies & Commercial Plazas / High Rise Buildings Having Ultimate Load Demand upto 2500 kW

Design Criteria of Feeders

For Load up to 2500 kW

1. For an ultimate load demand up to 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.
2. 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.
3. 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 / high rise buildings but exceeds the permissible limits when analyzed the ultimate load demand, rehabilitation of the feeder shall have to be done. The sponsor shall pay the cost of rehabilitation in the way to bring voltage drop and technical losses within permissible limits.
4. 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 or values before simulation with ultimate load. 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 HESCO's part. The physical rehabilitation of the system under HESCO program shall not be made a pre-requisite because HESCO has its own program to follow, as the load of the scheme / high rise buildings also takes a long time to fully develop.
5. Power supply can be given from independent feeder to the housing society / high rise buildings 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).

Procedure for Electrification of Housing Societies / High Rise Buildings

1. Sponsors/Consultants shall submit proposal of design to Chief Executive Officer/Chief Engineer (P&E) of HESCO along with all requisite documents mentioned at Page No.3 of this SOP.
2. P&E Department of HESCO will carry out scrutiny & vetting of proposal as per standards & design Criteria.
3. The sponsor will opt about execution of external electrification through HESCO or private execution through PEPCO/DISCO (HESCO) approved contractors. The contractor 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) HESCO after approval by the C.E (P&E) / CEO or by the competent authority as per Book of Financial Powers and fulfillment of all codal formalities.

Note: The sponsor of the housing society /high rise building/plaza/ apartment shall pay the grid sharing cost Rs: 6156.00 per kW.

Electrification of Housing Schemes / High Rise Buildings Having Individual metering

Sponsor opting for private execution through PEPCO / HESCO approved contractors	Sponsor opting for construction through HESCO
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 / high rise buildings will bear full responsibility for procurement and installation of quality material as per NTDC/DISCO(HESCO) approved specification from the manufacturers approved by PEPCO/ DISCO (HESCO). The material shall be duly inspected by Chief Engineer (Quality Assurance & Inspection) NTDCL or HESCO's representatives. 3. Sponsors will not purchase / use any material bearing DISCO's monogram or DISCO's colour scheme or identification. 4. NTDCL/ DISCO(HESCO) Standard Design & Specifications will be strictly followed. 5. The sponsor will give advance information to S.E/XEN concerned for starting the work. 6. In case DISCO material is found installed, HESCO reserves the right to lodge FIR against the sponsors. 7. Colour code of the following three major items of procured material will be:- a. Transformers "Blue" b. Spun Poles / Structures "Blue" c. Conductor Reel "Red" 8. 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. 9. Sponsor's name & name of the scheme shall be embossed on structures/Spun poles/transformer/meters/conductor reels. 10. All PO's shall be vetted by the P&E section of HESCO. 11. The procured material will undergo stage & final inspection by Chief Engineer (Quality Assurance & Inspection) NTDCL/PEPCO or HESCO's representatives. Consultant/Contractor will submit completion report, as built map depicting proper inventory & equipment installed comparing it with approved BOQ	1. The sponsor shall deposit the estimated cost with Chief Financial Officer (CFO) HESCO. CFO will issue credit advice to Project Director (Construction) for execution of work under intimation to Chief Engineer (P&E). 2. 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 & deference will be paid by the sponsor.

Sponsor opting for private execution through PEPCO / HESCO approved Contractor	Sponsor opting for construction through HESCO
13. Committee comprising Manager (Operation) concerned, Manager (Material Management) of HESCO & Project Director (Construction) HESCO, 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. 14. The sponsor will keep and pass on the following record to HESCO while procuring material. a. 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 marking 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	

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

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

(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 vide GM(C&M)/CE(O) DHQ (Wapda) letter No.544-60 dated 01-01-2011 provided.

i) Area included in a phase will be contiguous and ultimate load demand of each phase will be above 5000kW. Complete plan for electrification of schemes/high rise buildings will be submitted through the Consultant.

ii) Phase-wise electrification will be allowed only if the Housing Scheme/high rie buildings has provide / mutated suitable land for a Grid Station to HESCO.

iii) The Sponsors of the Hosing Schemes/high rise buildings 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 HESCO after due consideration of procedures adopted in similar cases by Hyderabad Development Authority (HDA) or other equivalent institutions / regulatory authorities.

HESCO will also obtain a suitable undertaking from the sponsors or sign an agreement with sponsors of large Housing Schemes/high rise buildings agreeing expressly to the terms and conditions for the splitting up of the Housing Scheme/high rise buildings into phases as stated above so as to avoid any legal complications at a later stage.

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 failing in the particular phase which has been electrified and the network taken over by a HESCO. This, in no way establish the right of the Sponsor of prospective consumers to get electric connections in other phase of the Housing Schemes where electrification is yet to be undertaken or the network has not been taken over by the HESCO 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 (HESCO) approved Contractors may be released observing the following procedure.

"The Guarantee shall be released in phase 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".

Amounts recoverable From the Sponsors Opting for Individual Metering for Load Up to 2500 kW

Sponsor opting for private execution through PEPCO/DISCO (HESCO) approved contractors	Sponsor opting for construction through HESCO
1. Design vetting charges @ 1.5 of capital cost for external electrification of housing society / colony. 2. Inspection & supervision charges @ 1.5% of capital cost for external electrification of housing societies / high rise buildings. 3. Grid sharing cost @ 50% from sponsors of housing societies/high rise buildings. **@ Rs.6156.00 per kW)** 4. Bank Guarantee @ 25% of total estimated cost for external electrification of housing societies/ high rise buildings. 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. Material inspection charges @2.5% of capital cost for external electrification of housing societies/high rise buildings 7. Security will be paid by the individual prospective consumers at the time of obtaining connections.	1. Capital cost for external electrification of housing society / colony. 2. Design vetting charges @ 1.5% of capital cost for external electrification of housing societies / high rise buildings. 3. Grid sharing cost @50% from sponsors of housing societies/ high rise buildings. **@ Rs.6156.00 per kW)** 4. Rehabilitation charges in case of mixed load feeder & total cost of feed line for independent feeder along with cost of grid end breaker etc. 5. 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. 12.311Million per MW of as cost of Grid Station and Transmission Line.
- Rs. 0.350 Million per MW as cost of land (as per guidelines of PEPCO)

Amounts recoverable From the Sponsors Opting for One Point Supply for Load up to 2500 kW

O&M agreement (as per NEPRA Regulations, 2015 for sale of Power issued vide SRO No. 1134 (I)/2015

Sponsor opting for private execution through PEPCO/DISCO (HESCO) approved	Sponsor opting for construction through HESCO
1. The sponsor will furnish bank guarantee @25% of estimated cost of electrification of housing societies / high rise buildings. 2. Design vetting charges @ 1.5% of total capital cost of electrification of housing societies / high rise buildings. 3. Inspection & supervision charges @ 1.5% of capital cost of electrification of housing societies / high rise buildings. 4. Material Inspection charges @ 2.5% capital cost of electrification of societies / high rise buildings 5. Grid sharing cost @ 50% from sponsor of housing societies / high rise buildings @ **Rs.6156.00 per kW)** 6. Security for the total ultimate demand (as per relevant tariff approved by NEPRA) 7. Rehabilitation charges in case of mixed load feeder & total cost of feed line for independent feeder along with cost of grid end breaker etc. 8. Sponsor will ensure procurement of material as per NTDCL/ DISCO (HESCO) Specification & design. 9. Sponsor will ensure procurement of material from PEPCO/ DISCO (HESCO) approved manufacturers /suppliers and duly inspected by Chief Engineer (Quality Assurance & Inspection) NTDCL/PEPCO or HESCO's representatives.	1. Capital cost for external electrification of housing societies / high rise buildings. 2. Design vetting charges @ 1.5% of capital cost of electrification of housing societies / high rise buildings. 3. Grid sharing cost @50% from sponsors of housing societies / high rise buildings @ **Rs. 6156.00 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 grid end breaker etc.

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

- **Rs.12.311 Million per MW of as cost of Grid Station and Transmission Line.**
- **Rs. 0.350 Million per MW as cost of land** (as per guidelines of PEPCO)

System beyond Metering Point for One Point Supply

1. The sponsor will obtain O&M operator for one point supply for sale of power from NEPRA (as 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 housing societies / high rise buildings area shall be maintained & operated by the sponsors O&M operators. The system shall be constructed by the sponsors through approved contractor/HESCOs (at sponsors' cost) according to the design approved by HESCO.
3. The material shall be purchased from PEPCO/NTDCL/ DISCO(HESCO) approved manufacturers/ the procured material will be inspected by Chief Engineer (Quality Assurance & Inspection) NTDCL or HESCO's representatives/
4. All purchase order shall be vetted by the P&E section of HESCOs. The sponsor will get the design of the internal network, after one point supply approved from HESCO & will pay design vetting charges @ 1.5% of total estimated capital cost of the external electrification of housing societies / high rise buildings.
5. The sponsor will pay @ 1.5% of the total estimated cost of electrification of housing societies / high rise buildings inspection/supervision charges.
6. The sponsor will pay @ 2.5% as material inspection charges of capital cost of the electrification of housing societies / high rise buildings.
7. Sponsors of the scheme will bear full responsibility for the procurement & installation of quality material according to NTDCL/DISCO(HESCO) approved specification.
8. The sponsor will not purchase / use any material bearing DISCO's monogram or DISCO's color scheme or identification.
9. Documents relating to purchased material shall be examined by the Manager (Operation) concerned, Manager (Material Management) & Project Director (Construction) HESCO at the time of final inspection of electrification works.

Guidelines for Electrification of Housing Societies & Commercial Plazas / High Rise Buildings Having Ultimate Load Demand from 2500kW to 5000kW & 5000kW to 10000kW

Design Criteria of Feeders

1. If load demand is more than 2500kW but less than 5000kW, supply of power shall be proposed through an independent feeder from the nearest grind station on full-cost deposit basis with cost of grid end circuit breaker (along with 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. In case position of grid station does not permit the ultimate load of the housing society/high rise building then urgent load requirement of the housing society/high rise building may be allowed after the recovery of:
    - Grid sharing cost on Ultimate Load
    - Design Vetting Charges
    - Inspection/supervision charges (if applicable)
    - Capital cost of source feed 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 (HESCO) cost so as to meet with ultimate demand of housing society/high rise building.

Note: The sponsor of the housing society /high rise building/plaza/ apartment shall pay the grid sharing cost Rs: 6156.00 per kW.

3. If the load is not available on Power Transformer installed at grid station due to general load development and ELR process of HESCO, the sponsor shall opt for 132kV Transformer Bay including appropriate capacity of Power Transformer alongwith Panels, the proportionate cost of land, Control Room, 132kV Transmission Line and Operation & Maintenance of the Grid Station alongwith cost of civil work should be taken, if the space is available in the switchyard and control room.

Land of Grid Station

- **In Case of Housing Scheme**
    - For the ultimate load demand from 5000kW to 10000kW, an adequate piece of land located at a suitable place within the boundary of housing scheme has to be transferred in the name of HESCO free of cost to accommodate AIS/GIS grid station with standard specification as per NTDCL design including staff residences, field offices etc. In any case, the land must not be less than 32kanal for AIS and 20kanal for GIS grid station.
    - For the ultimate load demand above 10000kW, Sponsor will be dealt as per page No 28 of instant revised 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.
    - In addition to land for construction of grid station in both conditions, the sponsor shall pay grid sharing cost, excluding the cost of land as per HESCO Policy.

In Case of High Rise Buildings

- For load above 5000kW and up to 10000kW, the sponsor shall provide 32 kanal suitable piece of land within the radius of 6 kM from the proposed high rise building, free of cost to HESCO for their own utilization as per requirement subject to selection of land by Site Selection Committee of HESCO.
- However in case the load of the high rise buildings as a result of extension of the project increases above 10000kW, then the sponsor will be dealt as per page No 28 of instant revised 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.
- In addition to land for construction of grid station in both conditions, the sponsor shall pay grid sharing cost, excluding the cost of land as per HESCO Policy

Amount Recoverable from the Sponsors Opting for Individual Metering – for Load 2500kW to 10000kW against private execution through PEPCO/DISCO (HESCO) approved contractors

1. The sponsor will furnish bank guarantee @25% of total estimated amount of electrification of housing scheme/high rise building.
2. Sponsor will construct source feed line at his cost.
3. Design vetting charges @ 1.5% of estimated cost of external electrification of housing scheme/high rise building.
4. Inspection & supervision @ 1.5% of estimated cost of external electrification of housing scheme/high rise building.
5. Grid sharing cost @ 50% from sponsors of housing scheme/high rise building.
   i. For load 2500kW upto 5000kW @ Rs.6156.00 per kW.
   ii. For load above 5000kW upto 10000kW @ Rs.5981.00 per kW (excluding cost of land) it is only applicable when sponsor shall provide 32 kanal land
6. Material inspection charges @ 2.5% estimated cost of electrification of housing scheme/high rise building.
7. Security will be paid by the individual prospective consumers at the time of obtaining connection.
8. Sponsor will ensure procurement of the material as per PEPCO/DISCO (HESCO) specification & design.
9. The sponsor will ensure purchase of material from PEPCO / DISCO (HESCO) approved manufacturer / suppliers duly inspected by Chief Engineer (Quality Assurance & Inspection) NTDCL or HESCO's representatives.

Note: In case of individual metering, for load above 5000kW and upto 10000kW, the sponsor shall provide 10 kanal suitable piece of land free of cost to HESCO for their own utilization as per requirement. However in case the load, as a result of extension of the housing scheme/high rise building, increases above 10000kW, then the sponsor will be dealt as per page No 28 of instant revised 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.

Amount Recoverable from the Sponsors Opting one Point supply for Load 25000kW to 10000kW against private execution through PEPCO/DISCO (HESCO) approved contractors

1. The sponsor will furnish bank guarantee @25% of total estimated amount of housing scheme/high rise building.
2. Design vetting charges @ 1.5% of estimated cost of electrification of housing scheme/high rise building.
3. Inspection & supervision charges @ 1.5% of estimated cost of housing scheme/high rise building.
4. Material inspection charges @ 2.5% of estimated cost of housing scheme/high rise building.
5. Grid sharing cot @.50% from sponsors of housing schemes/high rise buildings @ **Rs.6156.00 per kW)**
6. The sponsor will construct source feed line at his cost.
7. 100% security for the ultimate demand. (as per relevant tariff approved by NEPRA).
8. Sponsor will ensure procurement of the material as per NTDCL/DISCO (HESCO) specification & design.
9. The sponsor will ensure purchase of material from PEPCO/NTDCL/DISCO (HESCO) approved manufacturer / suppliers duly inspected by Chief Engineer (Quality Assurance & Inspection NTDCL or HESCO's representatives.

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

- **Rs. 12.311 Millions per MW of as cost of Grid Station and Transmission Line.**
- **Rs. 0.350 Million per MW as cost of Land**

System beyond Metering Point for One Point Supply

1. The sponsors will obtain approvals 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(1)/2015).

2. The system beyond the metering point i.e. within the housing scheme/high rise building area shall be maintained & operated by the sponsors/O&M operators. The system shall be constructed by the sponsors / HESCO (at sponsors' cost) according to the design approved by HESCO.

3. The material shall be purchased from PEPCO/NTDCL/DISCO (HESCO) approved manufacturers. The procured material will be inspected by Chief Engineer (Quality Assurance & Inspection) NTDCL or HESCO's representatives.

4. All purchase orders shall be Vetted by the P&E section of HESCO. The sponsor will get the design of the internal network, after one point supply, approved from HESCO & will pay design Vetting charges @ 1.5% of total estimated capital cost of the external electrification of housing scheme.

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 (HESCO) approved specifications.

7. The sponsor will not purchase / use any material bearing DISCO's monogram or DISCO's color scheme or identification.

8. The sponsors may construct the internal network in phases after getting approval from HESCO.

9. Documents relating to purchased material shall be examined by the Superintending Engineer (Operation) concerned, Manager (Material Management) & Project Director (Construction) HESCO at the time of final inspection of electrification works.

Guidelines for Electrification of Housing Societies & Commercial Plazas/High Rise Buildings having Ultimate Load Demand from more than 10000kW for Individual Metering & more than 5000kW for one Point Supply

A. Housing Society/High Rise Building Having Ultimate Demand Load More Than 5000kW

Construction of Grind Station

one point supply as per NEPRA Regulations, 2015 for sale of power issued vide SRO No. 1134/(I)/2015

Sponsor opting for private execution at its own through PEPCO/DISCO (HESCO) approved contractors	Sponsor opting for construction through HESCO
1. Distribution license (in case load demand is 20,000kW or above) or Approval for O&M agreement from NEPRA. 2. Approval of layout plan by relevant Civic Authority. 3. Sponsor to construct Grid Station at his cost (Transmission Line to be constructed by HESCO at sponsor's cost). 4. For the ultimate load demand upto 100,000kW, an adequate piece of land located at a suitable place within the boundary of housing scheme/high rise building has to be transferred in the name of HESCO 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. 5. For ultimate load demand of above 100,000kW, 220kV grid station will be constructed as per standard requirements and approval of NTDCL 6. The sponsor will furnish Bank Guarantee equivalent to 25% of the estimated cost of Grid Station for a period of four years after the signing of MOU 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 approved by NEPRA) 9. Sponsor will ensure procurement of the material as per NTDCL/ DISCO (HESCO) specification & design. 10. The sponsor will ensure purchase of material from PEPCO/NTDCL/DISCO (HESCO) approved manufactures / suppliers duly inspected by Chief Engineer (Quality Assurance & Inspection) NTDCL or HESCO's representatives. 11. Sponsors will provide facility of Right of way to extended supply from G/S to other loads	1. Distribution License (in case load demand is 20,000kW or above) or Approval for O&M agreement from NEPRA. 2. Approval of layout plan by relevant Civic Authority. 3. Sponsor to deposit 100% cost of Grid Station & Transmission Line with HESCO 4. For the ultimate load demand upto 100,000kW, an adequate piece of land located at a suitable place within the boundary of housing scheme/high rise building has to be transferred in the name of HESCO free of cost to accommodate AIS/GIS grid station with standard specification as per NTDCL design including staff residences, field offices etc. In any case, the land must not be less than 32kanals for AIS and 20kanals for GIS grid station. 5. For ultimate load demand of above 100,000kW, 220kV grind station will be constructed as per standard requirements and approval of NTDCL. 6. Completion period for construction of grid station will by your years. 7. Sponsor demand (as per relevant tariff approved by NEPRA). 8. Sponsor will provide facility of Right of way to extend supply from G/S to other loads. 9. HESCO, reserve the rights for use of T/L & Bus Bar for the extension of G/S other loads. 10. Policy for connecting or private consumers grid station to the NTDC/DISCO (HESCO) 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 Standing Technical Committee before energization of grid

12. HESCOs reserve the rights for use of T/L bus Bar for the extension of G/S for other loads. 13. Policy for connecting of private consumers grid station to the NTDC/DISCO (HESCO) network and its operation and maintenance, already issued vide GM (C&M) PEPCO vide his No.3226-40/GM(O) PEPCO/PA date 30-07-2010 will be implemented, and it will be Ensured by the Standing Technical Committee before energization of grid station	station

B. Housing Society/High Rise Building Having Ultimate Demand Load More Than 10000kW

Construction of Grind Station for case of individual metering

Sponsor opting for private execution at its own through PEPCO/DISCO (HESCO) approved contractors	Sponsor opting for construction through HESCO
1. Approval of layout plan by relevant Civic Authority	1. Approval of layout plan by relevant Civic Authority.
2. Sponsor to construct Grid Station at his cost (Transmission) Line by HESCO at sponsor's cost)	2. For the ultimate load demand upto 50,000kW, a single piece of land measuring 32 kanals located at a suitable place within the boundary of housing scheme/high rise building has to be transferred in the name of HESCO free of cost to accommodate AIS grid station with standard specifications as per NTDCL design including staff residences, field offices etc. **Note: For the ultimate load demand above 50,000kW, the sponsor will construct 132kV Grid Station on full cost deposit basis. (without grid station)**
3. For the ultimate load demand upto 100,000kW, an adequate piece of land located at a suitable place within the boundary of housing scheme/high rise building has to be transferred in the name of HESCO 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 20kanals for AIS and 32kanals for GIS grid station.	
4. For ultimate load demand of above 100,000kW, 220kV grid station will be constructed as per standard requirements and approval of NTDCL.	3. For ultimate load demand of above 100,000kW, 220kV grid station will be constructed as per standard requirement and approval of NTDCL.
5. The sponsor will furnish Bank Guarantee equivalent to 25% of the estimated cost of Grid Station for a period of four years after the signing of MOU.	4. Grid sharing cost @ 50% from sponsors of housing societies/high rise buildings @ **Rs.5981.00 per kW i.e. excluding cost of land)**
6. Completion period for construction of grid station will be four years.	5. Security to be deposited by the prospective consumers at the time of obtaining connections.
7. Security to be deposited by the prospective consumers at the time of obtaining connection	6. Grid station will constructed as per HESCO's STG development plan.
8. 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 inspections of DISCO	7. Sponsor will provide facility of Right Way to extend supply from G/S to other load. 8. HESCOs reserve the rights for use of T/L & Bus Bar for the extension of G/S for other loads.
9. Sponsor will ensure procurement for he material as per NTDCL/ DISCO (HESCO) specification & design.	9. Policy for connecting or private consumers grid station to the NTDC/DISCO (HESCO) 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
10. The sponsor will ensure purchase of material	

from PEPCO/NTDCL/DISCO (HESCO) approved manufactures / suppliers duly inspected by Chief Engineer (Quality Assurance & Inspection) NTDCL or HESCO's representatives. 11. Sponsors will provide facility of Right of way to extended supply from G/S to other loads 12. DISCOs reserve the rights for use of T/L bus Bar for the extension of G/S for other loads. 13. Policy for connecting of private consumers grid station to the NTDC/DISCO (HESCO) network and its operation and maintenance, already issued vide GM (C&M) PEPCO vide his No.3226-40/GM(O) PEPCO/PA date 30-07-2010 will be implemented, and it will be Ensured by the Standing Technical Committee before energization of grid station	ensured by the Standing Technical Committee before energization of grid station

Note:

- Design of grid station will be approved by CE (Substation Design) NTDCL/ TSW of HESCO even if the grid station is sponsored and constructed by the sponsors.
- The case of external electrification of housing scheme/high rise building and construction of grid station will be processed for approval by the office of Chief Engineer (P&E) HESCO.
- In any case 132kV transmission line will be constructed by HESCO on cost deposit.
- In A Committee comprising of the following officers will carry out final inspection and pre-commissioning, 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. Superintending Engineer GSO HESCO
    iii. Superintending Engineer Operation HESCO Concerned
    iv. Executive Engineer (P&I) HESCO
    v. Executive Engineer (T&I) HESCO
- 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 132 kV metering panels shall be constructed as per PEPCO/DISCO (HESCO) 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 enable 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. Sizes of control cables will be 4-core 5 mm^2 and 2.5 mm^2 for CT & PT circuits respectively.

- Secondary connection boxes of all the 132kV CTs & PTs will be secured properly be posting postal orders to be signed by all the committee members.

C. Housing Society/High Rise Building Having Ultimate Demand Load More Than 5000kW (One Point Supply)

Private execution through PEPCO/DISCO (HESCO) approved contractors

System beyond Metering Point.

1. The sponsors will have to obtain Distribution License (in case load demand is 20MW 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).
2. The system beyond the metering point i.e within the housing scheme/high rise building area shall be maintained & operated by the License / O & M Operator. The system shall be constructed by the sponsors / HESCO (at sponsors cost) according to the design approved by HESCO.
3. The material shall be purchased from PEPCO/NTDCL/DISCO (HESCO) approved manufacturer. The procured material will be inspected by Chief Engineer (Quality Assurance & Inspection) NTDCL or HESCO's representative.
4. All purchase orders shall be vetted by the P&E section of HESCO/ the sponsor will get the design of the internal network, after one point supply, approved from HESCO & will pay Design vetting charges @ 1.5% of 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 scheme/high rise building as inspection/supervision charges.
6. The sponsor will pay @ 2.5% as material inspection charges of total estimated cost of electrification of housing scheme/high rise building.
7. Sponsors of the scheme will bear full responsibility for the procurement & installation of quality material according to NTDCL/DISCO (HESCO) approved specification.
8. The sponsor will not purchase / use any material baring DISCO's monogram or DISCO's color scheme or identification.
9. The sponsors may construct the internal network in phase after getting approval From HESCO.
10. Documents relating to purchased material shall be examined by the Superintending Engineer (Operation) concerned, Manager (Material Management) & Project Director (Construction) HESCO at the time of final inspection of electrification works

D. Housing Society/High Rise Building having Ultimate Demand Load more than 10000kW External Electrification (Individual Metering)

Private execution through PEPCO/DISCO (HESCO) approved contractors

a. The sponsor will furnish bank guarantee @ 25% of total estimated amount of electrification of housing scheme/high rise building.

b. Design vetting charges @ 1.5% of estimated cost of external electrification of housing scheme/high rise building.

c. Inspection& supervision @ 1.5% of estimated cost of external electrification of housing scheme/high rise building.

d. Grid sharing cost @ 50% from sponsors of housing societies/high rise buildings if grid station is to be constructed by HESCO at its cost. (without cost of land, if the same is provided by the sponsors)

e. Sponsor will ensure procurement of the material as per NTDCL/DISCO (HESCO) specification & design.

f. The sponsor will ensure purchase of material from PEPCO/NTDCL/DISCO (HESCO) approved manufacturer/suppler duly inspected by Chief Engineer (Quality Assurance & Inspection) NTDCL or HESCO's representatives.

g. Material inspection charges @ 2.5% of the estimated cost of electrification of housing scheme/high rise building.

h. Sponsor will construct source feed line at his cost.

i. Security will be paid by the individual prospective consumers at the time of obtaining connection (as per relevant tariff approved by NEPRA)

E. To Meet with Immediate Demand of Housing Society/High Rise Building

Sr. No	Description	One Point Supply	Individual Metering
1	Requirements to meet with immediate demand of load through Independent feeder in case immediate demand is more than 2500kW	11 kV Line to be constructed by the sponsor through PEPCO/DISCO's (HESCO) approved contractors	
2	Through mixed load feeder in case immediate demand is less than 2500kW	Feeder rehabilitation charges will be paid by the sponsor.	
3	Design vetting charges, supervision charges and inspection of material charges on the estimated cost of 11kV Independent feeder.	• Design vetting charges @ 1.5% • Supervision charges @ 1.5% • Inspection charges @ 2.5%	

Note:

Execution through HESCO

1. Immediate load demand will only be allowed after fulfilling prerequisites as mentioned in B, C & D.
2. Independent feeder will be constructed by the sponsor privately through PEPCO/ DISCO's (HESCO) approved contractors.
3. In case immediate demand of load is less than 2500kW, feeder rehabilitation charges will be recovered.

Guidelines for Electrification of Commercial Plazas / Multi Storey Buildings

SOP FOR SHOPPING PLAZAS. HIGH RISE COMMERCIAL AND MULTI STOREY BUILDINGS

The draft of revised PEPCO policy and even existing policy of housing schemes dated 26-10-1993 is silent regarding high rise building / plazas situated other than the housing socieite4s/ IESCO in its recently approved SOP of housing schemes has approved the following regarding the said matter.

"The policy for electrification of high rise building / plazas and apartments situated other than the Housing Societies shall be the same as within the Housing Society / Scheme / colony.

Presently, the load of multi storey building / commercial plazas are being assessed as per Board of Directors HESCO approved criteria vide Board Resolution No.HESCO/BOD/CS/8571 dated 15.07.2018. Grid sharing cost has been incorporated @ Rs.6156.00 per kW after Board of Directors HESCO in its 137th meeting held on 13.12.2017.

Keeping in view the increasing trend of new commercial and high rise building and their ultimate load demands the following for revised SOP is proposed.

1. **Load assessment criteria for electrification of high rise building / plazas and apartment situated other than the housing Societies shall be the same as within the housing Society / scheme colony whereas.**

2. **From 2500kW to 5000kW**
   - Grid sharing cost will be received as per new rates i.e. Rs. 6156.00 per kW @ 50% from sponsor.
   - Supply will be given from existing Grid Station through 11kV mixed load/ independent feeder(s) as per load requirement.

   For load From 5000kW to 10000kW

   i. the sponsor shall provide 32 kanal suitable piece of land within the radius of 6kM from the proposed high rise building, free of cost to HESCO for their own utilization as per requirement subject to selection of land by Site Selection Committee of HESCO.
   ii. In case Land is not available, the sponsor shall opt for 132kV Transformer Bay including appropriate capacity of Power Transformer alongwith Panels, the proportionate cost of land, Control Room, 132kV Transmission Line and Operation & Maintenance of the Grid Station alongwith cost of civil work should be taken, if the space is available in the switchyard and control room
   iii. Supply will be given from 132kV sponsor's Grid station.
   iv. The Construction of grid station will be carried out by sponsor himself at his own cost including network / 11kV feeder.

3. **Load Assessment Criteria for Apartment / flats in Commercial Buildings**
The existing criteria approved vide Board Resolution No. HESCO/BOD/CS/8571 dated 15.07.2018 for flats/ apartments within the commercial / multi storey buildings remain intact as it is, whereas all other previous policies/circulars are silent in this regard. The criteria is given in detailed as under

Shops

S. No.	Description	Load Criteria
1	For Covered area upto 100Sq. ft	1.5kW
2	For Covered area upto 200Sq. ft	3.0kW
3	For Covered area upto 300Sq. ft	4.5kW
4	For Covered area upto 600Sq. Ft to 600 Sq. ft	6.0kW

Office

S. No.	Description	Load Criteria
1	For Covered area upto 100Sq. ft	1.0+1.5=2.5kW
2	For Covered area upto 200Sq. ft	1.5+1.5=3.0kW
3	For Covered area upto 300Sq. ft	3.0+1.5=4.5kW
4	For Covered area upto 600Sq. Ft to 600 Sq. ft	4.0+3.0=7.0kW

Flats/Apartments

S. No.	Description	Load Criteria
1	For Covered area upto 675Sq. ft	1.5+1.5=3.0kW
2	For Covered area upto 676-1125Sq. ft	2.0+3.0=5.0kW
3	For Covered area upto 1126-2250Sq. ft	3.0+3.0=6.0kW
4	For Covered area over 2250Sq. Ft, the load may assessed using above criteria except for general load which may work out more according to the expected facilities/actual ground specifications of the connected equipments and accessories	

Big Halls

S. No.	Description	Load Criteria
1	General Load is being as 1kW per 200Sq. Ft covered area	Area in Sq ft/200*1kW
	AC Load is being as 2.5kW per 400Sq. Ft covered area	Area in Sq ft/400*2.5kW

Note:

- Keeping in view the present developments in technology and lifestyle the Big Malls are being constructed, in such type of Big malls & Commercial Centers, the load will be assessed on actual ground specifications of the connected equipments and accessories as well as machinery like Chiller Plants, Accelerators, Capsule Lifts, Cargo Lifts, Passenger Lifts, Theme Parks, Children's Play Area, Food Courts, Cinepax, Conference Rooms & Lobbies etc.

- Out of total No. of shops, offices, flats and apartments, 30% AC Load has already been added in each Flats/Shops/offices and apartments, however same shall be included as per actual load of A.C installed at site.

- The above instructions for load assessment need to be followed for the buildings located in the posh area of Hyderabad City, main cities of other district 100%, but can be made by application of 80% for suburbs like District for Tehsil/Sub Tehsil level etc on the load assessed observing the above criteria.

- The Developer/Builder/Sponsor shall be responsible for replacement of Transformer in case of damage at any stage.

- The Developer/Builder/Sponsor shall submit an undertaking that if at any stage the load of the building developed beyond the assessed he/she shall get the additional transformer of appropriate capacity installed at his own expenses through HESCO.

Grid Sharing Cost:

- Grid sharing cost has been incorporated @ Rs.6156.00 per kW after Board of Directors HESCO in its 137th meeting held on 13.12.2017, minutes issued vide letter No. HESCO/CS/Min-137th BOD meet:/5458-74 dated 26.12.2017

S.#	Description	Actual Cost in Million for 132 KV Bypass Grid station with 2 Nos. T/Fs (40 MVA) Bay, 12KM T/L	Base for calculating Grid Sharing Cost with 1 No. T/F (40 MVA) Bay, 7KM T/L
1	2	3	4
1	Line Bay	25.849	25.849
2	Grid Power Transformer Bay	290.363	220.363
3	Land Cost + Transmission Line	337.952	197.00
	Total Cost in Million	**654.162**	**443.212**

Considering 40MVA Power Transformer, Power in MW will be	Power in **MVA x p.f** = Power in **MW**	40 x 0.9	=	36 MW
Per MW cost in Million of Grid station, Transmission Line and equipment etc.	(Total Cost of a Grid station mentioned at Column # 4) / (total Power in **MW**) = Per MW cost in Million	443.212/36	=	12.311 Million
Converting the same from Million to Rs.		12.311 x 1,000,000	=	12,311,000
As per policy, sponsor shall borne the 50% Grid Sharing cost in Rs.		12,311,000/2	=	6,156,000
Hence per kW Grid Sharing cost to borne by the sponsor in Rs. is		**6,156,000/ 1000**	=	**6156 Rs. per kW**

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 project and however, the ongoing projects shall be dealt with in 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/high rise buildings shall be done by the qualified consultants duly registered with Pakistan Engineering Council (PEC) and contractors must be approved by WAPDA/PEPCO/HESCO.

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 date" 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 & Commercial Plazas / High Rise Buildings, 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 HESCO.

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 firmed-up as a HESCO SOP, thus warding-off any possible future legal complications for PEPCO.

Reference:

- 3046-59/ GM0P / DHQ/ 327 (L) Dated 2nd 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 21st May 1998.
- GM (PE&S)/CE(DP)/6891-97 Dated 6th Oct 1998.
- Minutes of Meeting (Chairman's Monthly Conference of CEOs- 23,24th Dec 2002)
- GM(C&M)P/E-5 Dated 2nd Jan 2003.
- 179-91/GM (C&M)/P/E-172 Dated 3rd April 2003.
- 5443-60/GM(C&M)/CE(O) Dated 1st Oct 2011.
- 5448-60/GM(C&M)/CE/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(I)/(2015).

*****