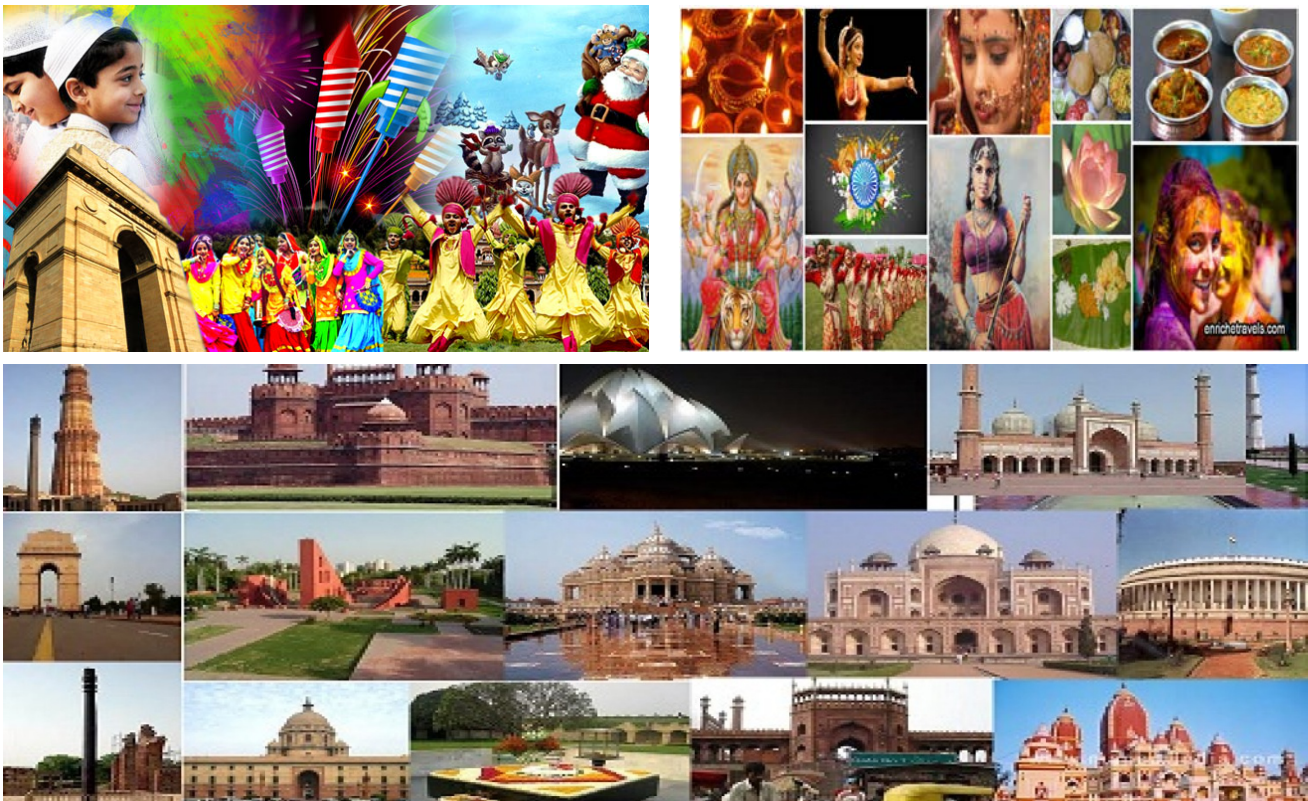


24X7 POWER FOR ALL

A JOINT INITIATIVE OF GOVERNMENT OF INDIA AND GOVERNMENT OF DELHI



JUNE 2016



सत्यमेव जयते

Government of India



Piyush Goyal

Minister of State (Independent Charge) for Power, Coal and New & Renewable Energy

Foreword

Electricity consumption is one of the most important indicators to achieve rapid economic growth and socio-economic development that decides the development level of a nation. The Government of India is committed to provide access to electricity to each household and to improve the quality of life of its citizens through higher electricity consumption by providing reliable and quality power at affordable prices. The 'Power for All' programme is a major step in this direction.

Delhi has been pioneer in unbundling and privatizing the power distribution in the country and has already achieved 100% connectivity. With 1561 units as per capita consumption, it is well ahead of the national average of 1010 units during 2014-15. However, due to dominant share of domestic load and extreme weather conditions, it has its unique load pattern and peak load problems. The Discoms of Delhi have to focus on dynamic power purchase mechanism for cheaper power and assuring affordable & quality power to the consumers of Delhi. The Discoms also have to take necessary actions to promote Demand Side Management and solar roof top system to reduce the peak demand in Delhi

This joint initiative of Government of India and Government of Delhi aims to enhance the satisfaction levels of the consumers and improve the quality of life of people of the State through 24x7 power supply at affordable cost. This would lead to rapid socio-economic development of the state in primary, secondary & tertiary sectors resulting in inclusive development.

I compliment the Government of Delhi and wish them all the best for implementation of this programme. The Government of India will complement the efforts of Government of Delhi State in bringing uninterrupted quality power to all households, industries, commercial businesses, public needs & any other electricity consuming entities as per the state policy.



Arvind Kejriwal

Chief Minister of Delhi



Foreword

Power is one of the most critical components of infrastructure crucial for economic growth and welfare of nations. The existence and development of adequate infrastructure is essential for sustained growth of the Indian economy.

Delhi already has 100% electrification and able to provide reliable 24 X 7 power supply to all its consumers. Power sector of Delhi is different compared to other States of India. While other major States have power deficit from 2.6% to 12%, Delhi has surplus to the tune of 20%. The total area of Delhi is only 1500 sq. km but the power consumption of Delhi is 30,000 million units per annum which is much more than many large states. The peak demand is seasonal and varies from 3000 MW to 6000 MW. However, we have planned according to the maximum peak demand and have met it successfully.

To ensure sustainable development, Delhi Government has also initiated many programs in the field of Renewable Energy, Energy Efficiency and Energy Conservation in order to reduce the dependence on fossil fuels.

The private DISCOMS of Delhi have to showcase their best performance in order to instill confidence in the consumers and the dividends promised therein.

The new Government in Delhi is committed to resolve the problem of consumers and reduce the burden of tariff. Various steps in this regard has been taken like reducing the electricity bills of 90% of the consumers by half, containing the load shedding to lowest ever figures in the history i.e. 0.14% of the total consumption

It is at this juncture that "24x7 Power for all" programme plays a pivotal role. Conceived with the objective of providing 24x7 quality, reliable and affordable power for all, this programme takes a holistic approach for addressing the concerns across the value chain in Power sector.

I extend my best wishes for successful implementation of this programme.



Satyendar Jain

Power Minister of Delhi



Message

The power sector in India is going through sweeping changes. There has been record availability of generation capacity. However, many areas in the country are still power deficit. The need of the hour is to ensure a proper mix of conventional and renewable resources.

Delhi has tied up sufficient power in order to cater to ever increasing demand and ensure reliable and uninterrupted 24x7 power supply to all. The per capita consumption of electricity in Delhi is 1561 kWh which is much above the national average of 1010 kWh. We have also made this power affordable for the citizens of Delhi. Power is now available to consumers in Delhi at one of the cheapest rates in the country.

Various measures like closure of old and inefficient units, management of power procurement in efficient manner and measures to promote renewable energy, energy efficiency and conservation have also been initiated by us in order to enhance the efficiency of the system further.

We have asked the distribution companies to strengthen their distribution network and minimize the outages.

Although, Delhi has already achieved 24x7 'power for all', we expect that this programme will help us in fixing the loophole across the generation, transmission and distribution system, so that we keep providing uninterrupted reliable and quality power to the citizens of Delhi at affordable prices in the years to come.

It will be our endeavor to implement and make this programme a great success.



Government of India




Joint Statement

The State of Delhi is committed to provide quality life to people of state. Electricity supply serves as an important means to achieve this. The programme of "24x7 power for all" is an important step in this direction and this programme will be implemented by Government of Delhi with the objective to continue to ensure supply of quality, reliable and affordable power to all category of consumers on 24x7x365 basis.

Government of Delhi would ensure that all the necessary steps outlined in the PFA document are taken up in terms of capacity addition, power procurement, strengthening the required transmission and distribution network, encouraging renewables, demand side management & energy efficiency measures, undertaking customer centric initiatives, reduction of AT & C losses, bridging the gap between ACS & ARR, and following good governance practices in implementation of all central and state government schemes.

Government of India (GoI) would supplement the efforts of Government of Delhi by fast tracking resolution of key issues pertaining to generation, expediting the additional interstate connectivity and ensuring optimum allocations in various distribution schemes, as per the provisions of applicable policies.

The central and state governments would meet regularly to review the progress of the programme over the next three (3) years and would strive to achieve the objectives of the programme by taking the necessary steps as envisaged in the PFA document.


Jyoti Arora, IAS
Joint Secretary
Ministry of Power (GoI)

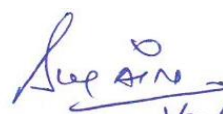

16.6.2016
Sukesh Kumar Jain
Secretary (Power)
Govt. of NCT of Delhi

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MAPS

POWER MAP OF DELHI



EXECUTIVE SUMMARY

24x7 Power for All (24x7 PFA) is a Joint initiative of Government of India (GoI) and State Governments with the objective to ensure availability of 24x7 power supply to all households, industries, commercial businesses, public needs & any other electricity consuming entities and adequate power to agriculture consumers by FY 2018-19 as per the state policy.

This roadmap document aims to meet the above objectives for the state of Delhi. Delhi consumers are already provided power supply on 24x7 hour basis. However the report has been prepared to achieve affordable, reliable and quality power supply, new technology implementation, innovations in Delhi Power sector and to continue with the availability of 24x7 power supply.

Delhi has achieved 100% electrification long time back and the per capita consumption of power in Delhi was 1561 unit in FY 2014-15, which was much higher than the National average of 1010 units observed during FY 2014-15.

The power establishment of Delhi after unbundling of erstwhile Delhi Vidyut Board is shared by Generation companies (IPGCL/PPCL), Transmission company (Delhi Transco Limited) and five DISCOMs- BRPL, BYPL, TPDDL, NDMC and MES.

SUPPLY SCENARIO AND DEMAND GROWTH

The power supply position of Delhi has been viewed in terms of peak demand experienced and met by individual DISCOMs. The maximum demand experienced by individual DISCOMs has been presented in Table-3.1. It can be seen that all the DISCOMs have been able to meet the peak demand in their respective command areas. Thus on peak demand front, Delhi can be placed in comfortable position based on data furnished by SLDC. It can also be seen from Table-3.1 that the state has witnessed 71.1% surplus in energy availability during FY 2014-15 due to the peculiar intraday and seasonal variations.

The annual energy demand of the state has been estimated to grow from present level of 28848 MU in FY 2014-15 to 33979 MU by FY 2018-19 with prevailing rate of demand growth of about 4.5%. During the same period the peak demand likely to

be experienced by individual DISCOMs by FY 2018-19 has been estimated as below:

DISCOMs/Year	In MW	
	FY 2014-15	FY 2018-19
BRPL	2550	2945
BYPL	1496	1725
NDMC	382	418
TPDDL	1691	2012
MES	40	44
DELHI-Overall	6006	7115

SUPPLY ADEQUACY

The available generation capacity (installed as well as allocated share) for the State of Delhi as on 31st March 2015 was 7587 MW. In order to meet the estimated increased demand for providing 24x7 power supply in the state of Delhi, the state based DISCOMs have already planned availability of necessary power through own generating stations, renewable energy sources, central generating stations and long term/medium term PPAs in a phased manner.

Even with the availability of sufficient power, the state of Delhi will still be facing a shortfall of about 4.25 % to 11.17% during the study period (i.e. from FY 2015-16 to FY 2018-19) in terms of peak demand. However, during the same period the state will have surplus availability of energy ranging from 30.32% to 33.41%.

Regarding various DISCOMs, it is to be noted that other than TPDDL, all other DISCOMs will be facing a shortfall in the range of 7.40 % to 23.44% in terms of peak demand during the period FY 2015-16 to FY 2018-19. During this period, TPDDL will have surplus peaking availability in the range of 7.64 % to 14.17%. In terms of availability of energy, during the entire period of study i.e. from FY 2015 – 16 to FY 2018 – 19, all the DISCOMs shall have availability of surplus energy ranging from 20.20% to 44.56% going by the generation plan cited by DISCOMs. During FY 2016-17, MES shall have 6.24% deficit in energy availability, however during the period FY 2017-18 to FY 2018-19 they shall have availability of surplus energy in the range of 4.47 % to 12.17 %.

In order to mitigate shortfall in peak demand, Private DISCOMs/ NDMC would have to effectively



plan through comprehensive power procurement initiatives on short term, medium term & long term basis and look for procurement of power either through competitive bidding or through other sources. At the same time, the deficit in peak demand can be effectively reduced through proper implementation of Demand Side Management (DSM), energy efficiency measures and implementation of solar roof top generation in the respective DISCOMs area. While procuring power, the DISCOM/GNCTD is required to give more preference to Hydro Power in order to improve the hydro-thermal generation mix. This will not only help in eliminating the peak shortage of Delhi but will also balance the energy supply & demand scenario.

Further, the SLDC/distribution companies are required to firm up plan to purchase power on real time basis based upon the prevailing power demand observing the merit order protocol i.e. cheaper to costlier generation in order to optimize the power purchase cost.

Further, the DISCOMs are required to firm up plan for disposing surplus power on short term/medium term basis through bilateral arrangements and power exchange and earn revenue. They should also explore the option of selling the surplus power to needy states at slightly higher than variable cost in order to recover some part of fixed cost and reduce the tariff burden. Alternatively, the surplus energy to the extent possible can be banked with other states having different seasonal demands. This banked energy can be used by DISCOMs when demand of energy of other states gets reduced.

It is worth mentioning that, the state of Delhi has about 1697 MW gas based embedded generation capacity which is not being utilized optimally because of non-availability of full quantity of cheaper gas. This leads to generation of power by arranging costlier spot R-LNG gas resulting in higher cost of generation and ultimately less prioritization in scheduling by SLDC/DISCOMs as per merit order. All gas based stations are capable to operate at full load meeting the normative parameters of DERC/CERC. Proper utilization of these plants will help in reducing the peak shortage, transmission system constraints, system losses & reduce per unit cost of generation from

these plants. Due to non-scheduling of the power by Discoms being slightly costly, the plant run at low PLF which in turn affect the efficiency and further make it expensive.

The availability of embedded generation within the state is critically required for reliable and efficient operation of Delhi Islanding scheme during grid disturbance in northern region.

ADEQUACY OF TRANSMISSION NETWORK

The state is well served by a network of Inter-state transmission lines at 400 kV, 220 kV levels and the existing ISTS transmission system capacity is adequate for meeting the present power requirement.

In ISTS system, Power Grid Corporation of India Limited (PGCIL) & Delhi Transco Limited (DTL) have already undertaken/planned a number of transmission works in consultation with Central Electricity Authority (CEA) for further strengthening & augmenting the capacity and to ensure better connectivity of Delhi Grid with National Grid for providing reliable and quality power supply to the citizen of Delhi.

The existing combined Transformation capacity of PGCIL & DTL system at 400/220 kV level is 8300 MVA and the same shall be increased to 15670 MVA by FY 2018-19. At 765/400kV, the transformation capacity is 6000 MVA (PGCIL – Jhatikalan substation). Presently power demand of Delhi is partly being met through internal generation of Delhi and through Inter State Transmission System. After commissioning of planned 400 kV ISTS GSS at Rajghat / IP (2000 MVA), Tughlakabad (2000 MVA) and Dwarka (2000MVA) by FY 2018-19, the transmission system will be further strengthened and will achieve N-1 redundancy in most of its system which will further ensure the reliability.

The total existing Intra state transmission capacity at 220 kV level is 11420 MVA to cater the maximum demand of about 6000 MW of the state during FY 2015-16. The same shall be increased to 16120MVA by FY 2018-19, which would be adequate to meet the maximum power demand of 7115 MW of the state by FY 2018-19 and cater to 24x7 PFA requirements.



ADEQUACY OF DISTRIBUTION NETWORK

Power distribution in the State is handled by five distribution licensees i.e. BYPL, BRPL, MES, NDMC and TPDDL. These companies are serving about 50,78,627 (14,47,672 BYPL + 20,98,706 BRPL+14,61,479 TPDDL +70,770 NDMC) numbers of electricity consumers during FY 2014-15. It has achieved 100% household electrification except TDPPL jurisdiction area (details given in Distribution Chapter) & 100% metering is done for all categories of consumers. Delhi DISCOMs have proposed several schemes for up-gradation & modernization of their infrastructure during FY 2015-16 to FY 2018-19 in the state to meet the requirement as envisaged for 24x7 PFA. It is also proposed to carry out certain schemes through Integrated Power Development Scheme (IPDS) of Government of India.

Network up-gradation has been planned through a planned capacity addition of 650 MVA (BRPL), 978 MVA (BYPL), 3253 MVA (TPDDL) & 120 MVA (NDMC) at 66/11 kV & 33/11 kV PSS and 927 MVA (BRPL), 807 MVA (BYPL), 390 MVA (TPDDL) & 12 MVA (NDMC) at DT level and creation of 11 kV ABC & Bare conductor lines, U/G cables, LT lines, Electronic consumer meters, Capacitor bank etc. The distribution network with proposed addition (including IPDS funded schemes) would be adequate to take care of projected peak load.

The AT & C losses of the state are projected to reduce from 13.72 % to 12.50 % by FY 2018-19 as per state data.

FINANCIAL POSITION:

After unbundling of Delhi Vidyut Board (DVB) into six successor companies i.e. Delhi Power Company Limited (DPCL) - Holding Company, Delhi Transco Limited (DTL)-Transmission Company, Indraprastha Power Generation Company Limited (IPGCL) -GENCO, and three Private Distribution Companies i.e. BSES Rajdhani Power Limited (BRPL), BSES Yamuna Power Limited (BYPL) and Tata Power Delhi Distribution Limited (TPDDL)

(earlier NDPL) on July 1, 2002, the GNCTD handed over the management of the business of electricity distribution to three private companies BRPL, BYPL and TPDDL with 51%equity being handed over to the private sector and 49% equity being retained by GNCTD(Government of NCT of Delhi) through DPCL.

The financial position of GENCO and TRANSCO and three distribution companies are as follows:

Accumulated Book profits as on 31.03.2014 and 31.03.2015 are as follow :

(Rs. in Crore)		
Name of Utility	FY 2013-14	FY 2014-15
GENCO		
IPGCL	488.57.0	505.94
PPCL	1227.62	1488.61
TRANSCO		
DTL*	-2502.77	-2178.77.0
DISCOMs		
BRPL**	254.89	317.42
BYPL**	236.42	255.72
TPDDL	1756.66	1910.42

* As per provision of transfer scheme rules, Delhi Transco Limited (DTL) was carrying on business of bulk purchase and sale of electricity upto 31.03.2007. The annual actual expenditure of DTL on its power purchase cost was more than the revenue it realized by selling power. This resulted in accumulated losses of Rs. 3648 Cr. in the books of DTL till 31.03.2007, although Cash flow problem was not there as the revenue gap was met through financial assistance from Delhi Government. However, with profits in the subsequent years, the accumulated losses got reduced to Rs 2178.77 Cr by 31.03.2015. Action is being taken by DTL to wipe out / setting off the accumulated losses with corresponding reduction in equity share capital held by GNCTD as per provisions of Company's Act.

Year wise book profit after tax for above Utilities are tabulated as below :

(Rs. in Crore)		
Name of Utility	FY 2013-14	FY 2014-15
GENCO		
IPGCL	121.16	17.37
PPCL	417.86	360.38
TRANSCO		
DTL	-199.97	324.09
DISCOMs		
BRPL**	7.90	62.53
BYPL**	11.23	19.30
TPDDL	333.86	335.99

**These figures are subject to the outcome of various appeals pending before Hon'ble Supreme Court in CAG audit matter.

The data have been sourced from the annual accounts of the respective companies. Although all companies in Delhi power sector are making book



profit, however BSES Discoms BRPL and BYPL are not regularly discharging their payment obligations towards GENCO and TRANSCO. Due to non-payment of outstanding dues by BRPL and BYPL, the cash flow position of DTL and GENCO are severely affected and day to day operation are also affected. The issue is presently pending before Hon'ble Supreme Court and other forums.

After privatization all unbundled distribution companies have to arrange finances required for their licensed area of operation on their own as mandated in the statutory Delhi Electricity Reform (Transfer Scheme) Rules 2001. The fund requirement as projected in the report for achieving 24x7 reliable and quality supply to Delhi citizens shall be arranged by these companies.

Government of India (GOI) Intervention Required

1. GoI's intervention is required to facilitate utilization of embedded generation capacity of Delhi, which are not being optimally utilised due to non-scheduling of power by DISCOMs / SLDC as per merit order. Ministry of Petroleum & Natural Gas need to be requested for allocation of domestic gas at administered price to Delhi to meet the natural gas requirement for the projects (namely GTPS 270MW, PPS-I 330MW, Bawana-1371MW).
2. GoI's intervention is also required to facilitate purchasing cheaper power from CGSs.
3. In the Delhi Metropolitan city, high cost is being charged by Railways for providing right of way (way leave charges for underground cables), which results in high consumer tariff. GOI, MoP may take up with Ministry of Railways for reduction in ROW cost.
4. To approve the whole amount of the DPRs submitted under Integrated Power Development scheme (IPDS) to ensure reliable and secure 24X 7 quality power supply to all.
5. Government intervention is required for rationalization of tariff from central sector generating stations including considering proposal of a uniform pooled tariff.
6. Intervention is required for re-allocation of expensive/excess power to the other states having power shortages. The matter has been taken up with the MoP, GoI for the formulation of a policy for this reallocation. Discoms have also approached CERC for adjudication of matter of surrendering the costly power from Central Generating Stations.
7. Providing corridor for transmission of power from Aravali Thermal Power plant, Jhajjar to Telangana and other needy states.
8. Provide grant for ISTS projects since Delhi has never been the beneficiary of central schemes like APDRP, R-APDRP, FRP and even UDAY since distribution is privatized.
9. Viability Gap Funding (VGF) as applicable for various Solar Projects in the State. Central Financial Assistance, as applicable, may be provided in the beginning of the financial year.
10. BEE may consider formulation of specification for LED bulbs and introducing star label scheme for LED bulbs.
11. BEE may provide technical support for effective enforcement of ECBC and promotion of ESCO based retrofitting works in Government buildings. BEE can provide support for capacity building of state department through establishment of ECBC cells for compliance of ECBC and retrofitting in Government buildings.
12. Energy Efficiency Services Limited (EESL) to take up project design and project development for retrofitting in commercial buildings.



Access to electricity on 24x7 basis for all its citizens means much more than merely an act of infrastructure development to any nation as this has direct co-relation with the socio economic profile of the community. Thus this issue has acquired significant dominance on the national as well as state agenda. Therefore all out efforts to perk-up the growth in electricity consumption should be made to reach the global benchmark on top most priority. The state of Delhi has attained full electricity connectivity in past. Therefore, in the specific context of Delhi, this initiative can be reinterpreted as targeting supply of quality power to citizens of Delhi, and to make this more reliable and affordable.

Under the Indian Constitution, electricity is a concurrent subject and distribution of electricity falls under the purview of the respective State Government/State Power Utility. As per Electricity Act 2003, it is the duty of a distribution licensee to develop and maintain an efficient, co-ordinated and economical distribution system in his area of supply and to supply electricity in accordance with the provisions contained in the Act. The State Electricity Regulatory Commission (SERC) have to specify and enforce standards with respect to quality, continuity and reliability of service by licensees. Accordingly, State Electricity Regulatory Commissions (SERCs) have notified the Standards of Performance specifying maximum allowable time for restoration of supply due to forced breakdowns and Supply Code specifying the supply voltages & frequency etc, to be followed by DISCOMs. SERCs also monitor the performance of distribution companies on the basis of notified Performance of Standards.

OBJECTIVES OF THE 24X7 POWER FOR ALL – JOINT INITIATIVE

To supplement the efforts of State Government, Government of India and Government of Delhi have taken a joint initiative to provide 24 X 7 reliable power in the state to all consumers. This initiative aims at ensuring uninterrupted supply of quality power to existing consumers and providing access to electricity to all

unconnected/upcoming consumers by FY 2018-19.

The initiative of 24x7 Power supply to all encompasses mainly the following:

- i. To provide reliable & quality 24X7 power supply to the existing consumers within a period of three years from the date of commencement of the programme.
- ii. To ensure adequate capacity addition planning & tie ups for power from various sources at affordable price to meet the projected increase in power demand for future in a cost effective manner.
- iii. To strengthen the Transmission and Distribution network to cater to the expected growth in demand of existing as well as forthcoming consumers.
- iv. Monitoring the timely commissioning of various generating plants, transmission and distribution infrastructure to meet the expected growth in demand.
- v. To put in place a strategy to ensure reduction of AT&C losses as per or even better than the specified loss reduction trajectory for the State and methodology and steps required to be taken at every level of distribution.
- vi. Overall Power Supply Improvement – To be achieved by undertaking measures such as energy mix optimization, reduction in power operational inefficiency of state generation plant(s) and optimal fuel procurement policy.
- vii. To take financial measures including investment rollout plans and undertaking necessary balance sheet analysis to assess the financial strength/ weaknesses in the utility finances.
- viii. To introduce modern technologies to monitor reliable supply like sub-station automation, providing adequate communication infrastructure, GIS, Reliability, Centralised Network Analysis and Planning tools, SAP driven ERP systems, DMS (Distribution Management Systems), OMS (Outage Management System), etc.



- ix. To take essential measures for meeting the performance standards as described by SERC.

An action plan would be drawn to achieve the above aims and objectives. The plan will be executed by the State Government with the support of Government of India, wherever necessary, as per their approved plans, schemes and policies. This joint initiative of Government of India and Government of Delhi aims to enhance the satisfaction levels of consumers, improve the quality of life of people, and increase the economic activities resulting into inclusive development of the state.

METHODOLOGY FOR PREPARATION OF THE ACTION PLAN FOR THE 24X7 POWER FOR ALL

The methodology adopted to prepare the 'Action Plan' for 24x7 PFA includes inter-alia:

- 1) Projecting the annual energy requirement and by aggregating the requirement of all consumer categories and applying an appropriate load factor.

The CAGR for the period from FY 2010-11 to FY 2014-15 has been computed for the individual DISCOM under the following classification:

- Domestic consumers
- Commercial
- Industrial
- Public lighting
- Traction
- Agriculture
- Public water works & sewage pumping
- Miscellaneous

- 2) This is added up to arrive at the projected annual energy requirement (MUs) for Delhi State as a whole
- 3) Prepare a broad plan to meet/manage power demand in future through additional generation capacity/ export arrangements in case of surplus power, as the case may be.
- 4) Assess the financial implications on utilities for procuring additional energy to meet the energy requirement of all segments of consumers.
- 5) Assess the adequacy of the network - both inter-state and intra-state transmission as well as distribution so as to meet the projected power requirement of all consumer categories of the State.
- 6) Conduct sensitivity analysis on various parameters namely tariff and AT&C loss reduction, etc. in order to assess the impact thereof on viability.

Set monitor-able targets to achieve the goal of 24x7 Power for All in a cost effective manner to the consumers of the State.



Delhi, with a geographical spread of 1484 km² is the 30th largest state of Indian union in terms of area, and the 18th largest by population (as per census 2011) with total population of 1.68 Cr.

Delhi consumers are already provided power supply on 24x7 hour basis. However to maintain such reliable and quality power supply at all times in future regular technological, innovations are required.

Delhi being a city state with diminishing rural areas and agricultural activities, the thrust on energy front in Delhi is mainly to have uninterrupted power supply and to take care of increasing power demand owing to phenomenal growth of population caused by migrating population from other parts of country and also increased commercial activities.

As a part of reform process, Government has unbundled the various functions of erstwhile Delhi Vidyut Board (DVB) and were entrusted to following entities as follows:

1. GENCO :

Responsible for construction and maintenance of state generating assets through following two companies:

- i) Indraprastha Power Generation Co. Ltd. – Stations with Capacity as under:
 - a) Rajghat Power Stn=2x67.5 MW= 135MW (not operating since May 2015, due to not meeting the pollution norms)
 - b) GT=6GTx30MW+3ST x 34MW =282MW
- ii) Pragati Power Corporation Ltd. – Stations with Capacity as under:
 - a) Pragati Power Station-I =2 x 104 MW + 1 x 122 MW= 330MW
 - b) Pragati Power Station-III =4 GT x 216 MW + 2 ST x 253 MW = 1370 MW
 - c) Pragati Power Station-II =2 GTx250 MW + 1STx250 MW =750MW (Project on hold due to non-allocation of gas).

2. Delhi Transco Ltd. (DTL)

DTL is the State Transmission Utility (STU) and has been discharging the functions

assigned to it under the Electricity Act, 2003, which includes planning, designing, construction and maintenance of state transmission assets. It is also operating the State Load Despatch Centre (SLDC).

3. Distribution :

The distribution of power in Delhi has been handed over to Private companies. These are joint venture companies having majority stake (51%) of Pvt. Players and 49% of Govt. of Delhi. The power distribution in other two municipalities i.e. NDMC and MES respectively remains with Govt. Accordingly the distribution function is taken care of by following companies/ bodies:

- i) BRPL (JV with Reliance Infrastructure) – South and West Delhi.
- ii) BYPL (JV with Reliance Infrastructure) – East and Central Delhi.
- iii) TATA Power Delhi Distribution Ltd. (JV with TATA Power) – North and North West Delhi.
- iv) NDMC – (Govt. owned deemed licensee) – Areas include Parliament house, Rashtrapati Bhavan, Residential areas of Ministers, Members of Parliament, Embassies etc.
- v) MES (deemed licensee under Defence Ministry) – caters to Delhi cantonment area.

The brief profile of the state is as follows:

Table-2.1

Brief Profile of Delhi

Sl. No.	Description	
1.	Area (Sq. Km.)	1484
2.	Population (Persons as per 2011 census)	16787941
3.	Per Capita income at current prices-FY 2014-15(in Rs.)	240849
5.	State GDP growth rate (FY 2013-14)	15.35%

GNCTD website,pib.nic.in&Delhi Statistical Handbook2015

During more than last 50 years there has been substantial growth in power sector in the State of Delhi. For example the power demand during 1971-72 was 275 MW, which has increased to 6006 MW during 2014-15.

The growth is attributed to recent large scale regularization of unauthorized colonies leading to horizontal and vertical load growth and also



better road transport, telecommunication network and regular power supply, liberalization and economic policies which have brought deregulation and favorable industrial policy requirements for investment and expansion. But simultaneously there has been

growth of industries in unorganized sector. This has resulted in establishment of new industrial estates like Bawana and Bhorgarh for resettlement of industries which were earlier operating in the residential areas.

CHAPTER – 3: DEMAND AND SUPPLY SCENARIO

The Power Supply Scenario in Delhi (as per state data) from the FY 2012-13 to FY 2014-15 has been shown as hereunder:

For long, Delhi has adequate peaking support as shown by individual DISCOMs from FY 2012-13

to FY 2014-15 in their actual data. Energy surplus has been observed in previous years ranging from 56.2% in FY 2012-13 to 71.1% in FY 2014-15.

Table-3.1

Power Supply Scenario (Peak Demand/Met DISCOM wise)

Sl. No.	Data description	Year-wise figures from FY 2012-13 to FY 2014-15		
		FY 2012-13	FY 2013-14	FY 2014-15
	Power Supply Position			
	BRPL			
(i)	Peak Demand (MW)	2338	2235	2550
(ii)	Peak Met (MW)	2338	2235	2550
(iii)	Peak Deficit/Surplus (MW) (-/+)	0	0	0
(iv)	Peak Deficit/Surplus (%) (-/+)	0	0	0
	BYPL			
(i)	Peak Demand (MW)	1461	1487	1496
(ii)	Peak Met (MW)	1461	1487	1496
(iii)	Peak Deficit/Surplus (MW) (-/+)	0	0	0
(iv)	Peak Deficit/Surplus (%) (-/+)	0	0	0
	TPDDL			
(i)	Peak Demand (MW)	1567	1579	1691
(ii)	Peak Met (MW)	1550	1579	1691
(iii)	Peak Deficit/Surplus (MW) (-/+)	-17	0	0
(iv)	Peak Deficit/Surplus (%) (-/+)	-1	0	0
	NDMC			
(i)	Peak Demand (MW)	359	374	382
(ii)	Peak Met (MW)	359	374	382
(iii)	Peak Deficit/Surplus (MW) (-/+)	0	0	0
(iv)	Peak Deficit/Surplus (%) (-/+)	0	0	0
	DELHI			
(i)	Peak Demand(MW)	5727	5714	6006
(ii)	Peak Met (MW)	5642	5653	5925
(iii)	Peak Deficit/Surplus (MW)(-/+)	(-)85	(-)61	(-)81
(iv)	Peak Deficit/Surplus (%) (-/+)	(-)1.5	(-)1	(-)1.3
(V)	Energy Requirement at state periphery(MU)	27019	27927	28848
(vi)	Availability (MU)	42210	50942	49347
(vii)	Deficit/Surplus (MU) (-/+)	15191	23015	20499
	Deficit/Surplus (%) (-/+)	56.2	82.4	71.1

Per Capita consumption (consumption of Units/ Year)

Based on the data available, the per capita consumption is 1561 units/ year during FY 2014-15 in the state of Delhi which is higher than the National average of 1010 units/ year.

DEMAND PROJECTIONS

The base year for the purpose of beginning the future assessment has been considered as

The household status of NCTD as per the census figures are shown as follows:

Sl. No.	Particulars	2001	2011	Difference	CAGR	Total H/H by 2015
1	Total Households	2554149	3340538	786389	2.72%	3753651
2	Rural Households	169528	79115	-90413	-7.34%	0
3	Urban Households	2384621	3261423	876802	3.18%	3753651

FY 2014-15 which has an aggregated requirement of energy of 28.7 Billion Unit (BU) at state periphery.

Demand Estimation Methodology

As stated in previous chapters, the electricity distribution in Delhi is taken care of by five DISCOMs- BRPL, BYPL, TPDDL, NDMC and MES (supplying power to Cantonment area of Delhi).



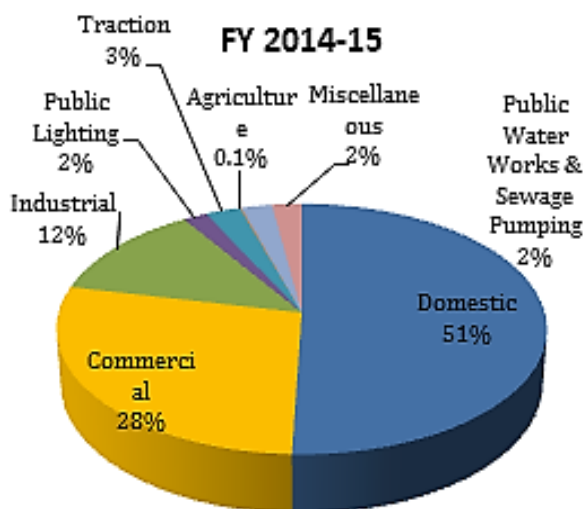
The total energy consumption of NCTD is as arrived at by aggregating the current consumption under command area of different distribution licensees is 24.5 BU in FY 2014-15 (Annexure-I) out of which domestic category accounts for 12.4 BU. Accordingly, the average daily per household consumption for Delhi works out as 9.05 units.

Since NCT of Delhi has attained a matured level of urbanization with almost NIL rural population, the growth in consumption can be attributed to normal growth in households and therefore it is assumed that normal growth rates (CAGR's) based on past trends would be representative and accordingly, the same methodology has been used to arrive at the demand for NCTD.

For the purpose of estimation, power consumers broadly classified into the following segments and their individual growth trend has been worked out:

- Domestic consumers
- Commercial
- Industrial
- Public lighting
- Traction
- Agriculture
- Public water works & sewage pumping
- Miscellaneous

The consumption profile of various segments in Delhi is shown as follows:



Projection for Annual energy requirement

The assumption made for demand projection i.e; the CAGR for the period from FY 2010-11 to FY 2014-15 has been computed for the individual DISCOMs under the above mentioned classification and aggregated to arrive at the projected annual energy requirement (MUs) for Delhi State as a whole.

The summary of energy calculation at consumer level DISCOM-wise and the State as a whole is summarized in the subsequent Para.

Annual energy requirement at state periphery & Peak Demand

The table below shows DISCOM wise projected energy requirement at the state periphery considering Distribution and intra state transmission losses for the years FY 2015-16 to FY 2018-19 and Peak demand for respective DISCOMs arrived at by using appropriate load factors derived from DISCOMs data for previous years -The detailed calculation of CAGR used above for individual DISCOMs is given in Annexure-I.

Consequent upon projections made below, the energy requirement at consumers end is estimated as 29.3 BU which corresponds to 34.0 BU at State periphery for all categories of consumers after accounting for losses. The consequent maximum demand requirement of the state is projected to increase to 7115 MW by FY 2018-19. For projecting the state demand, weighted average load factor has been calculated from the average load factor and projected energy at state periphery (MU) of the DISCOMs as shown in Annexure-II.

As per projections made in 18th EPS of CEA, the projected energy demand and peak load for the state of Delhi would be 43.0 BU and 7335 MW in FY 2018-19 as against the now calculated energy demand of 34.0 BUs and peak load of 7115 MW in FY 2018-19. As against projected energy demand of 34.0 BU in FY 2018-19, the energy availability projections from all possible sources as per State Generation Plan by FY 2018-19 works out to 49.2 BU (shown in next

chapter) and thus, there is a surplus scenario as per projections for FY 2018-19.

Table-3.2

ANNUAL ENERGY REQUIREMENT AT STATE PERIPHERY & PEAK DEMAND

Sl. No.	Description/Year	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19
I	BRPL				
a	Total annual energy requirement (MU) at consumer end	10664	11190	11762	12386
b	Intra state loss (%)	0.95	0.95	0.95	0.95
c	Distribution loss (%)	13.92	13.67	13.17	12.95
d	Annual energy requirement at state periphery	12507	13086	13676	14365
e	Load Factor	0.5569	0.5569	0.5569	0.5569
f	Peak Demand	2564	2682	2803	2945
II	BYPL				
a	Total annual energy requirement (MU) at consumer end	5620	5851	6100	6368
b	Intra state loss (%)	0.95	0.95	0.95	0.95
c	Distribution loss (%)	16.46	16.17	15.58	15.32
d	Annual energy requirement at state periphery	6791	7047	7296	7592
e	Load Factor	0.5025	0.5025	0.5025	0.5025
f	Peak Demand	1543	1601	1657	1725
III	TPDDL				
a	Total annual energy requirement (MU) at consumer end	7961	8323	8705	9107
b	Intra state loss (%)	0.95	0.95	0.95	0.95
c	Distribution loss (%)	9.90	9.70	9.50	9.30
d	Annual energy requirement at state periphery	8920	9306	9711	10137
e	Load Factor	0.5750	0.5750	0.5750	0.5750
f	Peak Demand	1771	1847	1928	2012
IV	NDMC				
a	Total annual energy requirement (MU) at consumer end	1349	1382	1423	1475
b	Intra state loss (%)	0.95	0.95	0.95	0.95
c	Distribution loss (%)	9.85	9.85	9.85	9.63
d	Annual energy requirement at state periphery	1511	1548	1594	1648
e	Load Factor	0.4498	0.4498	0.4498	0.4498
f	Peak Demand	383	393	405	418
V	MES				
a	Annual energy requirement at state periphery	206	216	226	237
b	Peak Demand	40	42	44	46
	Delhi State (I+II+III+IV)				
a	Total annual energy requirement (MU) at consumer end (BRPL+BYPL+NDMC+TPDDL)	25593	26747	27991	29336
b	Annual energy requirement at state periphery (BRPL+BYPL+NDMC+TPDDL+MES)	29936	31203	32503	33979
c	Weighted Average Load Factor for Delhi State	0.5448	0.5449	0.5451	0.5452
d	Peak Demand overall NCTD	6273	6537	6807	7115

The adoption of various energy efficiency measures like energy efficient lighting (use of LEDs), adopting other demand side management initiatives like introduction of Time of Day (TOD) tariff etc., or by adopting accelerated AT & C loss reduction targets would also help in reducing the peak demand.

However, an assessment of the adequacy of Generation, Transmission and Distribution infrastructure has been made in the subsequent chapters to meet the projected demand of 7115 MW of the state and the same are covered in the subsequent chapters.

The generation plan will ensure adequate capacity addition planning & tie ups for power procurement from various sources at affordable price to meet the projected increase in power demand for future. The generation plan includes:

- Existing Generation.
- Future Generation Plans (Projects under construction and future projects).
- Generation capacity required to meet Peak Demand.
- Fuel Scenario & Issues

- Year-wise capacity addition plan from renewable source (separately for Solar, Waste to Energy).
- Action plan of the Government of NCT of Delhi (GNCTD).
- Gol/GNCTD Interventions

Existing Generation Capacity/Availability of Power (as on March 2015)

The details of existing generating capacity available as on 31.03.2015 for the State of Delhi are shown in Table-4.1 below:

Table -4.1

Existing Generation Capacity/ Allocation of Power for Delhi – As on 31.03.2015

Ownership/ Sector	Mode-wise Breakup (MW)							Grand Total (MW)
	Thermal				Nuclear	Hydro (Renewable)	RES (MNRE)	
	Coal	Gas	Diesel	Total				
State	0.00	1697.00	0.00	1697.00	0.00	0.00	0.00	1697.00
Private/IPPs	1023.38	94.00	0.00	1117.38	0.00	0.00	16.50	1133.88
Central	3679.67	205.01	0.00	3884.68	103.00	768.43	0.00	4756.11
Total :	4703.05	1996.01	0.00	6699.07	103.00	768.43	16.50	7587.00

Source: Delhi Power Utilities

Table -4.1a

DISCOM-wise Capacity Allocation of Delhi - As on 31.03.2015(MW)

Ownership/ Sector		State	Private/ IPPs	Central	Total
Share of	BRPL	693.98	232.14	1892.84	2818.96
	BYPL	328.23	257.73	1102.52	1688.49
	TPDDL	449.79	638.00	1507.75	2595.54
	NDMC	200.00	4.61	250.00	454.61
	MES	25.00	1.40	3.00	29.40
TOTAL		1697	1133.88	4756.11	7587.00

Source: Delhi Power Utilities

As shown in above table, the total generation capacity / allocation of power as on 31.03.2015 for the State is 7587.00 MW. Out of which 61.99% is from Coal based Thermal, 26.31% is from Gas based Thermal, 1.36% is from Nuclear, 10.13% is from Hydro and balance 0.22% is from Renewable Energy sources.

In terms of ownership, Central Sector has the largest share i.e. 62.69%, followed by State (22.37 %) and IPPs (14.95%).

Future plan for augmentation of generation capacity / availability of power

As per generation Plan of the State of Delhi, capacity of around 1820.53 MW is expected to

be added by FY 2018-19 (from new projects as well as from allocation from Central sector & Private/ IPP projects).

Out of this, about 1043.38 MW shall be from non-conventional energy sources and about 777.16 MW from conventional energy sources. As such the total available capacity by FY 2018-19 is expected to be 9407.53MW (8347.65MW- Conventional and 1059.88 MW – Non Conventional).

Year wise Summary of Generation Capacity/Availability of Power up to FY 2018-19 is indicated in Table-4.2.



Table -4.2**Generation Capacity/ Allocation of Power for Delhi up to FY 2018-19**

Sl. No.	Particulars	Year wise Existing & Likely Capacity to be added-Cumulative (MW)				
		As on March 2015	FY2015-16	FY2016-17	FY2017-18	FY2018-19
A.	State Sector					
a.	Thermal	1,697.00	1,697.00	1,697.00	1,697.00	1,697.00
B.	Private/IPPs					
a.	Thermal	1,117.38	1,117.38	1,117.38	1,117.38	1,117.38
b.	Hydro (Renewable)	0.00	0.00	0.00	0.00	81.74
c.	RES (MNRE)	16.50	79.00	119.88	1,029.88	1,059.88
C.	Central Generating Station					
a.	Thermal	3,884.68	3,884.68	3,884.68	3,884.68	4,059.73
b.	Hydro (Renewable)	768.43	824.65	856.65	856.65	1,288.80
c.	Nuclear	103.00	103.00	103.00	103.00	103.00
	Total :	7,587.00	7,705.71	7,778.59	8,688.59	9,407.53

Detailed break up of existing and details of likely capacity to be added year wise is indicated in **Annexure-III**.

Year wise Summary of Availability of Power allocated to Distribution Companies up to FY 2018-19 are indicated in Table-4.2a below:

Table -4.2a**DISCOM wise Generation Capacity/ Allocation of Power for Delhi up to FY 2018-19(MW)**

Sl. No.	Particulars	As on March 2015	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19
a.	Share of BRPL	2819	2841	2855	3299	3601
b.	Share of BYPL	1688	1734	1748	2004	2143
c.	Share of TPDDL	2596	2642	2666	2856	3113
d.	Share of NDMC	455	459	459	459	459
e.	Share of MES	29	31	51	71	91
	Total :	7587.00	7705.71	7778.59	8688.59	9407.53

Peaking & Energy Availability to Meet Peak & Energy Demand

Year wise peaking availability has been worked out based on the peaking availability & auxiliary power consumption norms of each plants as per National Electricity Plan (Vol-I) for 12th five year Plan. However 99% contribution (considering 1% withdrawal loss) from capacity added through competitive bidding route (IPP projects-case-I & power purchase through PTC) and 8% from solar installed capacity has been

considered for estimation of Peak demand. Similarly the energy availability in each year has also been worked out based on the PLF & auxiliary power consumption norms of each plant as per National Electricity Plan (Vol-I) for 12th five year Plan and as per the information made available by the State. The availability of peaking capacity and energy availability projection from all possible sources has been worked out up to FY 2018-19 and shown in Table 4.3 below:

Table -4.3**Peaking Capacity and Energy Availability projection for Delhi (Incl. MES)**

Sl. No.	Particulars	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19
1	Total Capacity (MW)	7,705.71	7,778.59	8,688.59	9,407.53
2	Estimated Peak Availability at State Periphery (MW)	6,017.45	6,050.70	6,122.92	6,693.70
3	Energy from all sources (MU)*	44,953.91	45,135.12	46,646.60	49,213.60
4	Energy from renewable energy sources (MU)	160.58	261.59	1783.87	1895.45

* Energy from all sources has been calculated considering the 3.5 % inter-state transmission losses for the energy source from plants located in the other states.



Table -4.3a**DISCOM wise Peaking Capacity and Energy Availability projection for Delhi**

Sl. No.	Distribution Companies	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19
A	Peak Availability				
a.	BRPL (in MW)	2223.48	2235.26	2270.75	2521.63
b.	BYPL (in MW)	1350.18	1360.62	1381.08	1495.85
c.	TPDDL (in MW)	2063.36	2072.79	2087.47	2290.99
d.	NDMC (in MW)	356.61	356.61	356.61	356.61
e.	MES (in MW)	23.82	25.42	27.02	28.62
	Total	6017.45	6050.70	6122.92	6693.70
B	Energy From all Sources				
a.	BRPL (in MU)	16359.14	16399.87	17138.12	18110.29
b.	BYPL (in MU)	10043.16	10100.71	10526.37	11042.08
c.	TPDDL (in MU)	15656.21	15705.88	16020.20	17066.07
d.	NDMC (in MU)	2725.34	2725.34	2725.34	2725.34
e.	MES (in MU)	170.06	203.31	236.57	269.82
	Total (in MU)	44953.91	45135.12	46646.60	49213.60

To meet the power demand of Delhi beyond 2018-19, it is proposed to set up a 750 MW Combined Cycle Gas Turbine Power Project, Pragati Phase-II, at Bamnauli by Pragati Power Corporation Ltd. Contract for the project has been awarded to BHEL and advance also has been paid. Plant is likely to be commissioned by April 2022. However the project is under hold by Government due to non-availability of cheaper gas.

It could be seen from Table 4.4 below that the peak demand of Delhi would be about 7115 MW by FY 2018-19 considering the additional power

requirement for providing reliable and quality uninterrupted 24x7 power supply to all consumers in the State. The expected energy requirement at State periphery for FY 2015-16 is about 29,935 MU which is likely to increase to 33,979 MU by FY 2018-19. It is also observed from Table 4.4 that the State will be facing a shortfall in the range of 4.25% to 11.17% in terms of peak demand during the study period. However, during the same period, the state shall have availability of surplus energy in the range of 30.32% to 33.41%.

Table -4.4**Peak and Energy Surplus / Deficit Projection for State of Delhi**

Sl. No.	Power Supply Position	Unit	Year wise Figures			
			FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19
1	Estimated Peak Requirement at periphery	MW	6,273.00	6,537.00	6,807.00	7,115.00
2	Estimated Availability of Peak Demand as per State Generation Plan	MW	6017.45	6050.70	6122.92	6693.70
3	Peak Surplus (+)/Deficit(-)	MW	-255.55	-486.30	-684.08	-421.30
4	Surplus(+)/Deficit(-)	%	-4.25%	-8.04%	-11.17%	-6.29%
5	Estimated Energy Requirement at Periphery	MU	29,935.00	31,203.00	32,503.00	33,979.00
6	Estimated Energy Availability at Periphery as per State Generation Plan	MU	44953.91	45135.12	46646.60	49213.60
7	Energy Surplus (+)/ Deficit(-)	MU	15018.91	13932.12	14143.60	15234.60
8	Energy Surplus (+)/ Deficit(-)	%	33.41%	30.87%	30.32%	30.96%

The DISCOM wise Surplus/Deficit projections of Peak and Energy are indicated in Table 4.4a. Periphery implies State periphery in the table.



Table -4.4a

Sl. No.	Power Supply Position	Unit	Year wise Figures			
			FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19
BSES Yamuna Power Limited (BYPL)						
1	Estimated Peak Requirement at periphery	MW	1,543.00	1,601.00	1,657.00	1,725.00
2	Estimated Availability of Peak Demand as per State Generation Plan	MW	1,350.18	1,360.62	1,381.08	1,495.85
3	Peak Surplus (+)/Deficit(-)	MW	-192.82	-240.38	-275.92	-229.15
4	Surplus(+)/Deficit(-)	%	-14.28%	-17.67%	-19.98%	-15.32%
5	Estimated Energy Requirement at Periphery	MU	6,791.00	7,047.00	7,296.00	7,592.00
6	Estimated Energy Availability at Periphery as per State Generation Plan	MU	10,043.16	10,100.71	10,526.37	11,042.08
7	Energy Surplus (+)/ Deficit(-)	MU	3252.16	3053.71	3230.37	3450.08
8	Energy Surplus (+)/ Deficit(-)	%	32.38%	30.23%	30.69%	31.24%
BSES Rajdhani Power Limited (BRPL)						
1.	Estimated Peak Requirement at periphery	MW	2,564.00	2,682.00	2,803.00	2,945.00
2.	Estimated Availability of Peak Demand as per State Generation Plan	MW	2,223.48	2,235.26	2,270.75	2,521.63
3.	Peak Surplus (+)/Deficit(-)	MW	-340.52	-446.74	-532.25	-423.37
4.	Surplus(+)/Deficit(-)	%	-15.31%	-19.99%	-23.44%	-16.79%
5.	Estimated Energy Requirement at Periphery	MU	12,507.00	13,086.00	13,676.00	14,365.00
6.	Estimated Energy Availability at Periphery as per State Generation Plan	MU	16,359.14	16,399.87	17,138.12	18,110.29
7.	Energy Surplus (+)/ Deficit(-)	MU	3852.14	3313.87	3462.12	3745.29
8.	Energy Surplus (+)/ Deficit(-)	%	23.55%	20.21%	20.20%	20.68%
TATA POWER DISTRIBUTION DELHI LIMITED(TPDDL)						
1	Estimated Peak Requirement at periphery	MW	1,771.00	1,847.00	1,928.00	2,012.00
2	Estimated Availability of Peak Demand as per State Generation Plan	MW	2,063.36	2,072.79	2,087.47	2,290.99
3	Peak Surplus (+)/Deficit(-)	MW	292.36	225.79	159.47	278.99
4	Surplus(+)/Deficit(-)	%	14.17%	10.89%	7.64%	12.18%
5	Estimated Energy Requirement at Periphery	MU	8,920.00	9,306.00	9,711.00	10,137.00
6	Estimated Energy Availability at Periphery as per State Generation Plan	MU	15,656.21	15,705.88	16,020.20	17,066.07
7	Energy Surplus (+)/ Deficit(-)	MU	6736.21	6399.88	6309.20	6929.07
8	Energy Surplus (+)/ Deficit(-)	%	43.03%	40.75%	39.38%	40.60%
New Delhi Municipal Corporation (NDMC)						
1	Estimated Peak Requirement at periphery	MW	383.00	393.00	405.00	418.00
2	Estimated Availability of Peak Demand as per State Generation Plan	MW	356.61	356.61	356.61	356.61
3	Peak Surplus (+)/Deficit(-)	MW	-26.39	-36.39	-48.39	-61.39
4	Surplus(+)/Deficit(-)	%	-7.40%	-10.20%	-13.57%	-17.22%
5	Estimated Energy Requirement at Periphery	MU	1,511.00	1,548.00	1,594.00	1,648.00
6	Estimated Energy Availability at Periphery as per State Generation Plan	MU	2,725.34	2,725.34	2,725.34	2,725.34
7	Energy Surplus (+)/ Deficit(-)	MU	1214.34	1177.34	1131.34	1077.34
8	Energy Surplus (+)/ Deficit(-)	%	44.56%	43.20%	41.51%	39.53%
MES						
1	Estimated Peak Requirement at periphery	MW	40.00	42.00	44.00	46.00
2	Estimated Availability of Peak Demand as per State Generation Plan	MW	23.82	25.42	27.02	28.62
3	Peak Surplus (+)/Deficit(-)	MW	-16.18	-16.58	-16.98	-17.38
4	Surplus(+)/Deficit(-)	%	-67.90%	-65.21%	-62.84%	-60.73%
5	Estimated Energy Requirement at Periphery	MU	206.00	216.00	226.00	237.00
6	Estimated Energy Availability at Periphery as per State Generation Plan	MU	170.06	203.31	236.57	269.82
7	Energy Surplus (+)/ Deficit(-)	MU	-35.94	-12.69	10.57	32.82
8	Energy Surplus (+)/ Deficit(-)	%	-21.13%	-6.24%	4.47%	12.17%

From the above, it could be seen that all the DISCOMs other than TPDDL will be facing a shortfall in the range of 7.40 % to 23.44% in terms of peak demand during the period FY 2015-16 to FY 2018-19. During this period, TPDDL will have surplus peaking availability in the range of 7.64% to 14.17%. However, during FY2015-16 to FY 2018-19, all the DISCOMs except MES shall have availability of surplus energy ranging from 20.20 % to 44.56 % going by the generation plan cited by DISCOMs. During FY 2015-16 and 2016-17 MES shall have 21.13% and 6.24% deficit in energy availability respectively, however during the period FY 2017-18 to FY 2018-19 they shall have availability of surplus energy in the range of 4.47 % to 12.17 %.

In order to mitigate shortfall in peak demand, state's DISCOMs would have to effectively plan through comprehensive power procurement initiatives on short term, medium term & long term basis and look for procurement of power either through competitive bidding or through other sources. At the same time, the deficit in peak demand can be effectively reduced through proper implementation of DSM & Energy efficiency measures and implementation of solar

roof top generation in the respective DISCOMs area. The DISCOMs are also required to give more preference to Hydro & RES while procuring power in order to improve the hydro-thermal generation mix. This will not only help in eliminating the peak shortage of the state but will also balance the energy supply & demand scenario.

Further, the SLDC/DISCOMs are required to firm up plan to purchase power on real time basis based upon the prevailing power demand observing the Merit order protocol i.e. cheaper to costlier generation in order to optimize the power purchase cost. Further, Distribution Companies are required to firm up plan for disposing surplus power on short term/medium term basis through bilateral arrangement / power exchanges and in turn the DISCOMs may earn revenue. Alternatively, the surplus energy to the extent possible can be banked with other states having different seasonal demands. This banked energy can be used by DISCOMs when demand of energy of other states gets reduced.

The generation mix as per the proposed generation plan (Refer Table-4.2) of the State of Delhi is shown in Table-4.5.

Table -4.5

GENERATION MIX FOR THE STATE OF DELHI

Sl. No.	Description	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19
a.	Thermal	88.30%	86.94%	86.12%	77.10%	73.07%
b.	Hydro (Renewable)	10.13%	10.70%	11.01%	9.86%	14.57%
c.	RES (MNRE)	0.22%	1.03%	1.54%	11.85%	11.27%
b.	Nuclear	1.36%	1.34%	1.32%	1.19%	1.09%

Issue Related to State GENCO

As per the information provided by the State GENCO, State of Delhi has 2391 MW(BTPS-420MW, Bawana-1371 MW, Pragati I-330MW, IPGT- 270MW) embedded generation capacity, mostly environment friendly & energy efficient combined cycle gas based generation (1971MW) standing idle. Most of the capacity remains unutilized because of non – availability of full quantity of cheaper gas to the gas based power stations. This leads to generation of power from these stations by arranging costlier Spot R-LNG gas resulting in higher cost of generation. It

ultimately results in less prioritization of scheduling of these gas stations due to higher tariff. All gas stations are capable to operate at full load with highest efficiency in their category meeting the normative norms of DERC/CERC, but are operating much below the norms. Pragati Power Station- I (Gas based CCGT station) is only 12 years old and has availability more than 95% with fixed cost of Rs. 0.85/unit. Pragati – III (4 x 216 MW GTs + 2 x 253.6 MW STGs) has been commissioned in the year 2014, however, presently domestic gas is available only for one unit. For Pragati –II, 750MW Bamnauli CCGT project (owned wholly by Delhi



Government), the EPC contract has already been awarded to BHEL and Zero Date also has started with payment of Advance. In fact shifting of overhead 400 kV transmission line of Bamnauli Substation of DTL has also been completed which was a pre requisite to start the project. However, the Project is put under hold by Government due to non-availability of cheaper gas.

In view of the present environmental pollution level of Delhi (National Capital) this project should be given priority by ensuring cheaper gas allocation by GoI to ensure reliable embedded power supply to National Capital.

Non availability of working capital to State GENCO is another major constraint due to poor realization / non realization of payments from the DISCOMS.

Therefore, generation from the gas based power plants of State GENCO are not available with their full capacity either due to non-availability of gas or due to non-availability of working capital. The availability of embedded generation of the State is crucial for successful operation of Delhi islanding scheme i.e. survival of Delhi transmission and distribution network during grid disturbance in Northern region.

The availability of the gas based generation will work as life line in cases of grid disturbances as it has always helped in reviving the grid during the failure of northern grid. .

Issue Related to DISCOMs

High Power purchase cost: Delhi DISCOMs are procuring a total of 37485 MU annually from around 45 nos. power plants to cater the power requirement of Delhi Consumers. Out of the total power, around 50% of total long term power is from plants like Dadri-II, BTPS, APCPL, Bawana, Pragati & GT. The average cost of power from these plants are higher in comparison to other plants and in the range of Rs 5.31/unit to Rs 7.00/unit.

Further, in spite of availability of power at cheaper rates from other sources, Discoms are required to schedule power from these plants due to obligation of existing PPAs. The issue of surrender of costly PPA's has been taken up

with Ministry of Power, Govt. of India and is also pending before CERC for adjudication.

There are transmission constraints across BTPS connected network which are being resolved by establishing two nos. 400kV/ 220kV substations at Tuglakabad and Rajghat / IP.

Pool Tariff proposal presented by NTPC before MOP, GOI:

- a. **Proposal – I:** NTPC made a presentation to GOI in May 2014, for pooling of tariff for all the states in the country. By implementing this proposal, tariff from NTPC stations are likely to be reduced significantly.
- b. **Proposal – II:** NTPC made another presentation to MOP GOI in May, 2014 for replacement of 735 MW power from Dadri II for Delhi with unallocated pool power of NTPC. With this proposal, average rate of energy from NTPC coal plants is expected to come down further.

Continued re-allocation of APCPL (Jhajjar)

Existing Delhi's share of APCPL (693 MW) is reallocated to other power consumer till 31-03-16. Power from APCPL plant is costly (Rs 5.50/unit) due to partial fuel supply agreement (FSA), far off coal linkage resulting in higher landed cost of coal and also due to use of costly imported / open market coal. Due to reallocation to other power consumer, Delhi is able to buy cheaper power from other source. Continuation of re-allocation is likely to result in savings for DISCOMs. Telangana indicated its willingness to buy 1000 MW from this station w.e.f. 1.4.2016, however due to the inter regional transmission constraint this power couldn't be reallocated. GOI help is required in this regard.

Re-allocation of Delhi share of Power from 3 x 95 MW units of BTPS to others:

3 x 95 MW units of BTPS have already outlived their normative useful life as per CERC proposed norms for 2014 – 19. The Station Heat Rate is among the Highest resulting in high landed cost of power (i.e Rs. 5.75 / Unit). . These units are not operating due to not meeting the pollution norms.



Re-allocation of Delhi share of Power (735 MW) from Dadri Thermal – II (2 x 490 MW) to others:

The plant is using about 20 – 25% of imported coal and the cost of generation is high (Rs. 5.31 / Unit). Due to reallocation of power, Delhi would be able to buy cheaper power from other source and will be able to save substantially.

Fuel Scenario & Issues:

Fuel availability for various state generating stations is shown in the Table-4.6.

Table -4.6

Gas availability for State Generating Station of Delhi (all figures in MMSCMD)

Sl. No.	Particulars	GTPS	PPS-I	PPS-III
1	Total Domestic Allocation	0.50	0.90	1.00
2	Gas Required for Full Load	1.35	1.65	6.00
3	Balance Gas Required	0.85	0.75	5.00

It could be seen from the above table that at present, against the Gas requirement of 9 MMSCMD, only 2.4 MMSCMD gas is available. This shortfall in availability of gas is adversely affecting the availability of full capacity of environmental friendly embedded power.

Therefore, in order to ensure full availability of installed capacity from the gas based power stations in National Capital, a priority should be given in allocation of cheaper gas for these stations as other sources of power generation in the state are not feasible

Action Plan – State of Delhi

To complete the generating capacities of the State of Delhi and to monitor the Central Generating Sector (CGS) & Private Sector Projects as per following Roll out Plan:

Table -4.7

Central Generating Sector (CGS) & Private Sector Projects as per following Roll out Plan for Delhi

Sl. No.	Power For All (Roll Out Plan)	Year wise Addition (MW)				Total (MW)
		FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	
A.	Private Sector					
a.	Hydro (HEP)	0.00	0.00	0.00	81.74	81.74
b.	RES (MNRE)	62.50	40.88	910.00	30.00	1,043.38
B.	Central Generating Station					
a.	Thermal	0.00	0.00	0.00	175.05	175.05
b.	Hydro (Renewable)	56.22	32.00	0.00	432.15	520.37
	Total :	118.72	72.88	910.00	718.94	1,820.54

The DISCOMs of Delhi are required:

- To procure cheaper peaking power, if required, from the market to meet the peak demand for providing 24x7 power in the State/respective DISCOMs area.
- To improve the generation mix (Thermal: Hydro ratio) through tie ups from hydro & renewable sources in order to shave off the peak demand and to balance the energy supply and demand scenario.
- To firm up plan to reduce peak demand through demand side management and energy efficiency measures and implementation of Solar Roof top generation.
- To firm up plan to meet the shortfall in fuel either through additional Gas allocation on cheaper rates (In order to qualify for merit

order dispatch) from GoI or through import on a time to time basis so that no capacity within Delhi remains unutilized. Better utilization of Gas Based Power Stations will improve availability of peaking power as well as cost of generation will be cheaper. Discoms should ensure regular payment of GENCO bills so that they can make further payment to gas suppliers.

- Distribution Companies are required to firm up plan for disposing surplus power in short term/medium term market through bilateral arrangement & power exchanges for optimum utilization of the available generation capacity and in turn the DISCOMs may earn revenue. Further, the surplus energy to the extent possible can be banked with other states having different seasonal demands. This



banked energy can be used by DISCOMs when demand of energy of other states gets reduced.

POWER PURCHASE PLANNING

Delhi being a land-locked city with neither coal reserves nor hydro potential is largely dependent upon Central Generating Stations (CGSs) as major source of its power supply. The average power purchase cost of Delhi is high vis-à-vis many states of India resulting in the levy of higher electricity tariff.

The Power Purchase Planning and Procurement cell, in each Discom dedicatedly work on the short/medium/long term power purchase planning and regularly monitor the procurement of power on cost effective basis.

Government of India (GOI) Intervention Required

- GoI's intervention is required to facilitate the utilization of embedded generation capacity of Delhi, which are being kept idle due to non scheduling of power by SLDC as per merit order of dispatch. Ministry of Oil & Gas may be requested for allocation domestic gas at administered price to capital city to meet the fuel requirement for gas based generation

projects in Delhi. (GTPS 270 MW, PPS- 1, 330MW and PPS-III, 1371MW).

- GOI's intervention is also required to facilitate in purchasing cheaper power from CGSs.
- GOI's intervention is required for consideration of DISCOMs request for reallocation of costly power, so that relief to the consumers of Delhi can be provided in terms of lower power purchase cost.
- GOI may consider the NTPC pool tariff proposal and take necessary action.
- GOI may consider continuation of re-allocation of power from APCPL, Jhajhar beyond 31-03-16 and provide transmission corridor for the same.
- GOI may consider requests made by DISCOMs for re-allocation of costlier power from BTPS (3x95 MW) (already not operating due to not meeting pollution norms) and Dadri Thermal-II (2 x 490 MW) to other consumers.

Fund Requirement

The detail of estimated fund requirement of the Delhi's own Projects is given in table-4.8 below:

Table- 4.8

For State Sector Projects

Type	Total Cost of Project (Rs. Crs)	Expenditure up to March 2015 (Rs. Crores)	Year wise Fund Requirement (Rupees in crores)			
			FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19
Projects under construction/execution						
Thermal (**) (Pragati –II 750MW Bamnauli CCGT project)	2500	350	Project is under hold by Delhi Govt.			
JV Projects where Delhi Genco is a Partner						
Thermal (APCPL, IGSTPP – I: (3 x 500 MW) JV of NTPC, HPGCL and IPGCL	10131.82	634.75	125.13			
	(Share of Delhi in Total Cost 759.88 cr.)					

(**) To be commissioned by April 2022



CHAPTER – 5 : TRANSMISSION PLAN

The present peak power demand and energy requirement of Delhi at state periphery during FY 2014-15 is 6006 MW and 28690 MU respectively. The above requirement in the coming years is expected to increase significantly due to various factors such as increased uses of various appliances in domestic sector, increase in commercial activities & industrialization in the state. Taking into account all the above with an objective to provide 24x7 power supply to all, the expected power demand of Delhi by FY 2018-19 would be of the order of 7115 MW with annual energy requirement of 33979 MU. To meet this growing demand, a robust & reliable Inter-state & Intra-state transmission network is required. In view of this, existing transmission system would be strengthened both at Inter-state level as well as Intra-state level with proper planning to cater

to the demand in a reliable manner. The connectivity with central grid has been shown in the Power Map of the 400 kV & 220 kV Grid Network which is attached in the report as Annexure.

Existing Inter State Transmission System (ISTS)

Presently about 248.22 ckt. Km of 400 kV EHV transmission line and three (3) numbers of Grid sub-stations with 1 no. 765/400 kV and 2 nos. 400/220 KV with total transformation capacity of 8890 MVA are existing in Delhi under Inter-state Transmission system of PGCIL.

The existing Inter-state transformation capacity at 400 kV level is 2890 MVA having 2 nos. of Grid substations. The details of existing ISTS Grid sub-stations are as mentioned below :

Table-5.1

Details of existing Grid sub-station (ISTS & DTL)

Sl. No.	Owner	Name of GSS	Voltage Ratio	No. of Transformers	MVA capacity	Total Transformer capacity(MVA)
765 kV GRID SUBSTATION						
1	PGCIL	Jhatikalan	765/400 kV	4	4 x 1500	6000
					Total	6000
400 kV GRID SUBSTATION (PGCIL)						
1	PGCIL	Mandola	400/220 kV	4	4 x 315	1260
2	PGCIL	Maharanibagh	400/220 kV	4	2 x 315 + 2 x 500	1630
					Total	2890
1	DTL	Bamnauli	400/220 kV	4	2 x 315 + 2 x 500	1630
2	DTL	Bawana	400/220 kV	6	6 x 315	1890
3	DTL	Mundka	400/220 kV	3	3 x 315	945
4	DTL	Harsh Vihar	400/220 kV	3	3 x 315	945
					Total	5410
Total 400 kV GSS (PGCIL+ DTL)						8300

The present ISTS system capacity of PGCIL at 400/220 kV level would be increased to 9630 MVA by FY 2018-19 after implementation of ongoing schemes. In addition to this, the existing transformation capacity at 400/220 kV level of DTL system is 5410 MVA which would be increased to 6040 MVA by FY 2018-19. (For DTL details refer Intra state transmission system indicated in the subsequent para of this chapter). The combined Transformation capacity of PGCIL & DTL system at 400/220 kV

level would be 15670MVA by FY 2018-19 to take care the increased power demand of Delhi up to FY 2018-19.

ISTS (Inter-State Transmission System) projects:

Three numbers of new grid substation have been planned at Rajghat, Dwarka-I & Tughlakabad with capacity 4x500 MVA at 400/220 kV level by PGCIL.



Table-5.2 a**NEW ISTS GSS**

Project	New Substations	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19
Inter-State Transmission Network	Rajghat GSS		-		2000 MVA (4x500)
	Tughlakabad GSS		-		2000 MVA (4x500)
	Dwarka GSS		-		2000 MVA (4x500)

Table-5.2 b**New ISTS Lines (Overhead lines)**

Sl. No.	Line	Voltage Level	Nos. of Circuits	Circuit length (Ckt. Km)	Completion schedule
1	Kanpur- Jhatikara 765 kV S/C line	765 kV	S/C	483	Dec-16
2	LILO of 400kV Double circuit between 400kV Bawana and Mandola at 400kV Rajghat (28kms approx.)	400 kV	D/C	112	Mar-19
3	LILO of 400kV Double circuit between 400kV Bamnauli and Samaypur at 400kV Tughlakabad (30 kms approx.)	400 kV	D/C	120	Mar-19
4	LILO of single circuit of 400kV Double circuit between 765kV Jhatikalan substation and 400kV Bamnauli substation at 400kV Dwarka substation (10 kms. Approx.)	400 kV	S/C	20	Mar-19

Augmentation/Capacity addition on existing sub-stations (ISTS route)

To meet the growing power demand of Delhi, augmentation of transmission capacity in following substation has been undertaken by PGCIL. This would enable Delhi to draw its share of power from the Grid:

Augmentation of transformation capacity at Mandola substation by replacing existing 4 x 315 MVA, 400/220 kV ICTs with 4 x 500 MVA ICTs. The above augmentation activity is expected to be commissioned by June 2016.

Adequacy to meet Power Transfer requirement of the state till FY 2018-19

The present ISTS system capacity of PGCIL at 400/220 kV CTU level is 2890 MVA and after augmentation the transformation capacity

would be increased to 9630 MVA. At DTL system existing capacity at 400/220 kV level is 5410 MVA and after augmentation the transformation capacity would be increased to 6040 MVA. Hence the combined transformation capacity at 400/220 kV level would be 15670MVA by FY 2018-19 in the state.

The projected power demand of Delhi by FY 2018-19 would be 7115MW (7905MVA). Considering 80% loading on transformers and overall diversity of 1.2, minimum transformation capacity required is 1.5 times the projected peak demand(MVA) i.e. 11858 MVA (=1.5 x7905 MVA).

The year wise generation, total available capacity, peak power demand vis-a-vis transmission system available at 400 kV & 220 kV and below level is tabulated as under:

Table-5.3

Financial Year	Generation Within Delhi – Intra state (MW)		Inter state (ISGS) – Generation for Delhi (MW)		Total Available capacity (in MW)	Peak Power Demand of Delhi at 400 kV level (MW)	Minimum Transformation capacity required at 400 kV level(MVA)*	Transmission System existing/Planned at 400 kV level including PGCIL & DTL (Inter-state & Intra-state) 400 kV GRID S/S MVA
	Addition	Total	Addition	Total				
2014-15		2609.48		5363		6006	10010	8300
2015-16	100.65	2710.13	159.25	5422.25	6285.64	6273	10455	8300
2016-17	58.50	2768.63	32	5454.25	6317.15	6537	10895	9355
2017-18	30.50	2799.13	180	5634.25	6333.48	6807	11345	9355
2018-19	30.50	2829.63	945.05	6579.30	7020.98	7115	11858	15670
* Minimum Transformer capacity in MVA=Peak Power Demand at distribution level(in MW/0.9 x1.5)								

(For 400 kV proposed Grid Substation of PGCIL & DTL from FY 2015-16 to FY 2018-19 refer Annexure-V.

During 2014-15, internal generation of Delhi injecting power at 220kV or below as 800 MW (GT=200 MW, Pragati= 250 MW and BTPS = 350 MW) had been taken into account.

Further there are few 220kV lines through which Delhi is drawing power from ISTS 400kV Samaypur and BBMB 220kV Panipat amounting to around 400 MW. Similarly for 2015-16 and 2016-17 during peak load condition BTPS (2x210MW) will operate till ISTS 400kV Tughlakabad gets commissioned, which is planned for transmission sufficiency of state of Delhi, which will be achieved by 2018-19.

As such, the existing & planned Interstate transmission system of Delhi is adequate to meet the projected peak demand of 7115 MW by FY 2018-19.

Intra state Transmission System:

Existing System:

Existing Intra state transmission capacity at 400kV GSS level (400/220 kV) is 5410 MVA, at 220 kV GSS level (220/66 kV, 220/33kV) is 11420 MVA.

The ongoing strengthening program of existing Intra-state transmission system is under implementation. After implementation of this plan the existing transformation capacity of 11420 MVA at 220 kV level would be increased to 16120MVA by FY 2018-19 after new addition & augmentation.

Note: List of existing 220/66 kV and 220/33 kV substations & transmission lines is enclosed as Annexure-IV.

Ongoing / Planned Intra-State Transmission system:

14nos. of new Substations with 4040MVA capacity addition at 220 kV GSS level would be installed by FY 2018-19. (For details of upcoming GSS refer Annexure-V).

It is proposed to add 510.5 circuit kilometers of 220kV underground and overhead lines in 32 sections by 2018-19.

Augmentation on existing sub-stations

- The augmentation work carried out in the year 2015-16 by replacing 2 x 315 MVA ICT with 2 x 500 MVA ICTs at 400/220 KV Bamnoli GSS (as shown in Annexure-V).
- It is proposed to add one no of 315 MVA at 400/220 KV Mundka GSS in the year 2016-17 and another 315 MVA at Bamnoli during 2017-18 as hot reserve. (as in Annexure-V).
- The augmentation work planned at 12 nos. 220 kV substations by FY 2018-19 with capacity addition 1400 MVA (as shown in Annexure- V).

(The details of year wise ongoing/ planned Intra-state transmission system are enclosed as Annexure -V.)

The year wise proposed physical plan of New Grid sub-station, augmentation & Transmission lines is as follows:



Table-5.4**INTRA-STATE TRANSMISSION NETWORK**

Project	Voltage Level	Unit/ Substation	Existing as on March 2015 *	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19
(New)	400 kV	No./MVA	4/5040	-	-	-	-
		Ckt km	248.22	-	-	-	-
	220kV	No./MVA	32/10680	-	3/720	6/1800	5/1520
		Ckt km	730.21	10/188	5/64	8/118	5/155
(Augmentation)	400/220 kV	MVA		1/370	1/315	1/315	-
	220/66 kV	MVA		5/740	3/240	1/120	
	220/33 kV	MVA		-	3/300	-	-

Adequacy to meet Power Transfer requirement of the state by FY 2018-19

The year wise peak power demand of state, vis-a-vis transmission system available at 220 kV level for Delhi is tabulated as below:

As such, the existing & planned Intra-state transmission system of Delhi is adequate to meet the projected peak demand of Delhi of 7115 MW by FY 2018-19 at 220kV level as well as downstream level.

Table- 5.5

Year	Peak Power Demand(MW)		Minimum Transformation capacity required(MVA)*	Transmission System existing/Planned at 220/66 kV, 220/33 kV (MVA)	
	Addition	Total		Addition	Total
FY 2014-15		6006	10010		10680
FY 2015-16	267	6273	10455	740	11420
FY 2016-17	264	6537	10895	1260	12680
FY 2017-18	270	6807	11345	1920	14600
FY 2018-19	310	7115	11858	1520	16120

* Minimum Transformer capacity in MVA=Peak Power Demand at distribution level (in MW/0.9x1.5)

Year wise fund requirement for development of Planned Transmission system:

Total estimated investment of about Rs3433 Crores from FY 2015-16 to FY 2018-19 has been envisaged for the intra state system. Details of year wise investment plan for transmission infrastructure from FY 2015-16 to FY 2018-19 are indicated in Table-5.6 below:

Year wise details of Physical targets and proposed investments plan are detailed in Annexure-V.

Table-5.6**Intra State Transmission System Investment**

Sl. No.	Financial Year	Investment Rs. (Crores)		
		Intra state (DTL)	Inter State (PGCIL)	Total
1	2015-16	493	190	683
2	2016-17	841	1300	2141
3	2017-18	1026	780	1806
4	2018-19	1073	330	1403
Total Investment		3433	2600	6033

Other initiatives taken by DTL

- DTL is planning complete automation of its all 400kV and 220kV substations with main and standby centralized control centers.
- Strengthening of network to achieve N-1 redundancy at substation and at transmission lines level and further improve it to N-1-1 level for transmission lines.
- To improve availability of its network, augmentation of its networks through Hybrid bays, HTLS conductors, polymer insulators, GIS up-gradations from AIS systems etc.

Inter and Intra state Transmission plan for evacuation of power from existing and upcoming Renewable Energy sources and balancing Infrastructure envisaged for integration of large scale renewable energy.



- The existing renewable energy installed generation capacity, including state's Solar Power Projects is approximately 26.68 MW which would be increased up to 486.83 MW by FY 2018-19. The power evacuation from renewable generation shall be done at distribution level of 11 kV from existing 33/11 kV & 66/11 kV PSS for small scale scattered generating stations. The power evacuation from bulk renewable energy generation units would be at 33kV and 66kV level from various substations spread over in Delhi. Since the quantum of proposed renewable generation is less, new transmission system for renewable power evacuation has not been envisaged.
- As renewable energy will reduce the load of the localized area, so there will not be any new requirement of grid substations particularly for renewable sources.
- There are more than 250 existing substations and more than 50 others planned at various levels like 220kV, 66kV and 33kV spread all over Delhi, which may facilitate the renewable energy integration. Renewable energy generation integration may require compensation devices in the network for reliable operation of the grid.
- **Renewable Energy Management centers are proposed for Real time monitoring of Generation from RE sources:**

State Government intervention

The state government shall expedite all necessary help (i.e Right of Way clearance, Forest clearance if any, land acquisition problems etc) to DTL (STU) for installation of new substation and associated transmission lines to support the objective of providing 24x7 Power for all in Delhi.

Government of India intervention

- In the Delhi Metropolitan city, high cost is being charged by Railways for providing right of way, which results in high consumer tariff. GOI, MoP may take up with Ministry of Railways for reduction in ROW cost.
- GOI, MoP may take up with DDA and Ministry of Urban Development for resolving issues regarding allotment of land for substations.
- The transmission projects with a total cost of Rs. 6033 crores are planned by CEA & PGCIL/DTL to provide N-1 redundancy to Delhi, being national capital. These projects require huge capital expenditure which will ultimately be recovered through tariff. During the planning of these projects it was decided that Government of India will provide financial assistance. However only Rs. 200 crores were released. It is therefore imperative that Government of India should provide financial support to Delhi for successful completion of these projects.



The power demand of the Delhi is always on the rising trend due to a high profile consumer's base & plenty of commercial and industrial activity in & around NCR. The power demand of the state is expected to increase from 5792 MW in FY 2014-15 to 7115 MW by FY 2018-19.

Accordingly the distribution plan for Delhi to be planned.

- Making provision for 24X7 supplies to all connected consumers through capacity augmentations and building redundancies in the upstream network for providing quality & reliable power.
- Introduction in massive way WEB based technology like SAP, SCADA, GIS,OMS etc.
- Making system improvements for reducing AT&C losses in accordance with the targets agreed with the MoP.
- Adopting appropriate technologies and systems to support Energy Efficient / DSM measures in the state.

Existing Distribution System

Delhi has achieved 100% electrification long time back. However recently GNCTD has regularized 895 colonies through notification and the per capita consumption of power in Delhi was 1561 unit in 2014-15 which is much higher than the present National average of 1010 units observed during FY 2014-15.

Power distribution in the state (Delhi) is handled by the following five distribution licensees:

- a) **MES:** Military Engineering Services supplies electricity to Delhi Cantonment area.
- b) **NDMC:** NDMC supplies electricity to Rashtrapati Bhawan, Parliament House, the Supreme Court, North and South Blocks that house the most important ministries and other government buildings, along with residential areas for ministers, lawmakers and top central and Delhi government officials.
- c) **BYPL:** Joint Venture of Reliance Infrastructure and Govt. of NCT of Delhi (51: 49). It distributes power to an area spread over 200 sq kms with a consumer density of 7238 per sq km. It's 14.5 lakh customers are spread across Central and East areas including Chandni Chowk, Daryaganj,

Paharganj, Shankar Road, Patel Nagar, Dilshad Garden, Jhilmil, Krishna Nagar, Laxmi Nagar, Mayur Vihar, Yamuna Vihar, Mayur Vihar, Nand Nagri and Karawal Nagar.

- d) **TPDDL:** Joint Venture of Tata Power Company and Govt. of NCT of Delhi (51: 49). Licensed for distribution of power in North and North West Delhi. During 2014-15 the total registered consumer is 14.61 lakhs serviced 6 million population in network area and handled peak load of 1691 MW with annual energy requirement of 8424 Mus..
- e) **BRPL:** Joint Venture of Reliance and Govt. of NCT of Delhi (51: 49). It distributes power to an area spread over 750 sq. km with a population density of 2665 per sq km. It's about 21 lakhs customers are spread across South and West areas including Alaknanda, Khanpur, Vasant Kunj, Saket, Nehru Place, Nizamuddin, Sarita Vihar, HauzKhas, R K Puram, Janakpuri, Najafgargh, Jaffarpur, Nangloi, Mundka, Punjabi Bagh, Tagore Garden, Vikas Puri, Palam and Dwarka.

A comparative representation of the consumer base and energy handled by the distribution Licensees in the state is presented in Table 6.1. A, B, C, D.

The distribution network comprises of 66/33 kV, 66/11& 33/11 kV PSS, 66 kV & 33 kV Sub transmission lines, 11kV lines and LT distribution systems which deliver electricity to the majority of the end consumers.

An abstract of the distributed network of all distribution licensees in the state in terms of installed transformation capacity and line lengths of feeders at sub-transmission and distribution voltage levels is provided.

Table-6.1. A

BYPL		
Category	Consumer Count	Consumption (in MU)
Domestic	1,084,188	3004
Commercial	350,820	1639
Industrial	8,021	282
Agriculture	48	-
Mushroom Cultivation	4	-
Public Lighting	3,482	101
Delhi Jal Board	819	141
DMRC	1	161
Advertisement and Hoardings (Misc.)	289	77
Total :	14,77,672	5,405



Table-6.1.B**NDMC**

Category	Consumer Count	Consumption (in MU)
Domestic	70770	1321
Commercial		
Small industrial power		
Street lighting		
DMRC		
JJ CLUSTER		
Others		

Table-6.1.C**TPDDL**

Category	Consumer Count	Consumption (in MU)
EXPR/KCG	1172	7548
HRB	65578	
HCB/SCG	1394729	
Total :	1461479	7548

Table-6.1.D**BRPL**

Category	Consumer Count	Consumption (in MU)
Domestic	17,90,641	5788
Commercial	279,817	2827
Industrial	11,874	507
Agriculture	4,550	16
Mushroom Cultivation	11	0.01
Public Lighting	7,628	188
Delhi Jal Board	3,176	207
Delhi International Airport Limited	1	218
Railway Traction	1	24
DMRC	7	271
Advertisement and Hoardings (Misc.)	1000	134
Total :	2098706	10179

The following operational statistics gives an overall view of the strength of BYPL & BRPL distribution network as on 31st March 2015.

Table -6.2

Sl. No.	ITEMS	Units	BRPL	BYPL
1	66/11 & 33/11 kV Power substation	(Nos)	82	52
2	Power Transformers	(Nos)	224	145
3	EHV Capacity	MVA	5159	2622*
4	EHV Cable Length/Line Length	KM	1143	872
5	66 & 33 kV Feeders	(Nos)	204	154
6	Shunt Capacitors	MVAr	1492	975
7	Distribution Transformer	(Nos)	7162	3594
8	Distribution Transformers Capacity	MVA	4301	2620
9	HVDS Transformer Capacity	MVA	883	
10	11 kV Feeders	(Nos)	1240	756
11	11 KV Line Length	KMS	4011	2040.6
12	LT Feeders	(Nos)	21982	13635
13	LT Lines length	KMS	10506	5673

* EHV Capacity excludes 1090 MVA of BRPL and 480 MVA in case of BYPL, intermediate capacity of 66/33 kV level.

The following operational statistics give an overall view of the strength of TPDDL distribution network as on 31st March 2015.

Table -6.3

Network CKT. Length in Kilometers				
Voltage level	Conductor(Km)	ABC(Km)	Cable (Km)	Total
33/66 KV	327.56	0	348.20	675.76
11 KV	1265.10	915.88	1782.30	3963.28
0.433KV	781.33	5264.86	2304.45	8350.64
Total :	2373.99	6180.74	4434.95	12989.68
Transformers & Installed Capacity				
Type of Transformers	Nos.	Total Inst. Cap. (MVA)		
Power Transformers in Grids	168.00	3680.00		
HTC (KCG)	1253.00	740.93		
Distribution	5285.00	2474.39		
HVDS	23408.00	2416.68		
Auxiliary (in Grids)	70.00	22.61		
Total :	30184	9334.612		
11 KV Ring Main Units		Poles & Feeder Pillars		
Type	Nos.	Type	Nos.	
3 Way	1702.00	Poles	285854.00	
4 way	2143.00	Feeders Pillars	6995.00	
Others (1/2 way etc.)	101.00			
Total :	3946	Total :	292849	



The following operational statistics gives an overall view of the strength of NDMC&MES distribution network as on 31st March 2015.

Table- 6.4

Sl. No.	ITEMS	Units	NDMC	MES
1	66/11 & 33/11 kV Power substation	(Nos)	29	3
2	EHV Capacity	MVA	1426	112
3	66 & 33 kV Feeders	(Nos)	82	08
4	66 & 33 kV Feeders Length	CKM	223	32
5	Distribution Transformer	(Nos)	768	331
6	Distribution Transformers Capacity	MVA	936	113.44
7	11 KV Lines laid	CKM	945	408
8	LT Lines laid	CKM	1405	1764

100% metering at consumer level, feeder level and DTs has been achieved in the State. All utilities have installed AMR devices for remote reading of high value consumers.

The process of meter reading for various categories of consumers in BYPL & BRPL fed area is outlined below:

Table-6.5

Load (KW)	Category	Meter Type
>100	Key consumer category HT	AMR
45-100	Key consumer category LT	AMR
< 44	Government consumer category	PREPAID
11-44	Medium load consumer category	100 % downloaded through handheld devices

DT Failure Rate

The DT failure rate amongst utilities viz. MES, NDMC, BRPL, BYPL and TPDDL has remained at very low levels and is amongst the best in the country. The DT failure rate of various utilities is summarized in the Table below:

Table-6.6

Licensee	DT Failure Rate (%)
BYPL	0.50
BRPL	0.4
TPDDL	0.78
NDMC	0.68

The performance of various utilities in the state on reliability indices is summarized in the in below tables:

Table-6.7

Reliability indices

FY 2014-15			
DISCOMs	SAIDI (in minutes)	SAIFI (Nos.)	CAIDI (in minutes)
BYPL	133.87	1.80	74.37
BRPL	194.19	2.35	82.63
TPDDL	190.23	3.42	55.62
NDMC	15.21	1.12	13.58
FY 2013-14			
BYPL	147.93	1.68	88.05
BRPL	193.18	2.23	86.62
TPDDL	188.8	3.47	54.40
NDMC	17.45	1.27	13.74
FY 2012-13			
BYPL	152.80	1.97	77.56
BRPL	190.97	2.48	77.00
TPDDL	223.29	3.42	65.29

The reliability and quality of power in Delhi is significantly better because of usage of underground systems coupled with the ease of O&M due to usage of IT like SCADA, GIS, SAP etc. in daily activities.

Measures for improving Consumer Convenience

DERC REGULATIONS

DERC has issued Regulations “ DERC Standard of Performance 2007”. It covers the norms related to performance of DISCOMs for providing services to the consumers. The SOP 2007 is under revision by DERC. Many consumers friendly measures are likely to came up as the effort of Delhi Government in revised SOP such as consumer own choice meters, Enforcement activities, Reliable Power Supply (24X7) ETC.

Initiatives taken by GNCTD

Public Grievance Cell – 24 x 7 Load Shedding Complaints Call Centre was established. DISCOMS have been directed to ensure that load shedding in any area should not be more than 1 hour at a time

Settlement scheme

In order to resolve long pending consumer grievances and disputes, Government asked the DISCOMS to launch a Settlement Scheme in public interest. The opportunity was given to all the consumers to come to the mainstream by settling their cases.



Time of the day metering: Efforts are being made in consultation with DERC to implement time of the day metering for all consumers to contain consumption during peak hours in order to flatten the load curve of Delhi.

Amendments in “Delhi Electricity Supply Code and Performance Standards Regulations, 2007” regarding MDI: As per these amendments, the Licensee shall take the highest of average of Maximum Demand (MDI) readings recorded as per billing cycle covering any four consecutive calendar months in the previous financial year i.e. from 1st April to 31st March, rounded off to the lower integer. The Discoms will also reduce the sanctioned load if readings are lower than sanctioned load after taking consent of consumer.

GNCTD has also given direction under section 108 to DERC to tackle the unscheduled power cuts by providing adequate compensation payable by the DISCOMS under DERC (Supply Code and Performance Standards) Regulation, 2007.

Measures taken by DISCOMS

Minimized load Shedding: this year DISCOMS were able to contain the load shedding to only 0.14% of the total consumption to the relief of the people of Delhi. This is the lowest ever load shedding figure in the history of Delhi and was 73% less than the previous year.

AT & C Losses

All distribution utilities in the National Capital Territory of Delhi (NCTD) have performed well on reduction of AT&C loss reduction from FY-2003-04 to FY 2014-15.

AT&C losses in the state are targeted to be decreased to 12.50 % in FY 2018- 19 from 14.22 % in FY 2014-15 as per loss trajectory proposed by CEA to MoP, which needs to be adopted by state. TPDDL is way ahead in loss reduction as table 6.17, whereas BRPL and BYPL yet to achieve the targeted loss figures as per table 6.15 and 6.16. Loss reductions in DISCOM network will significantly reduce tariff implications on consumers. BYPL needs to improve its network to achieve significant loss reductions.



The projected AT & C losses are summarized below :

Table-6.8

Year	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19
Distribution losses	13.72	13.22	12.72	12.50

Distribution agencies of Delhi use following steps to reduce the losses.

1. Network Securitization

- 1.1 Changing of Bare conductor to AB cable/armoured cable as per situation.
- 1.2 Distribution Box (DB) Related activities
 - a. DB locking/welding
 - b. DB Compounding
 - c. DB replacement
 - d. Straight through joints
 - e. Relocation of DB
- 1.3 Replacement of Service line having joints.

2. Meter Related Activities

- 2.1 Meter Replacement

Some of the existing meters is required to be replaced for the following reasons:

 - i. Meters booked under enforcement.
 - ii. Faulty/Burnt meters.
 - iii. Temper prone meters.
- 2.2 Meter Relocation Activity
- 2.3 M-Sealing/ Gland Fixing:-
- 2.4 Meter in Box

3. Enforcement Action for deterrence

- a. Booking of direct theft & dishonest abstraction of electricity
- b. Raids:-

4. Social Engagement

- a. Sanjha Prayas
- b. Nukkad Natak
- c. Education Camps
- d. Medical camps

5. Legal Actions

- a. Complaints filing
- b. FIR

6. Removal of illegal cables.
7. Interaction held with area MLAs / Councilors / RWA and other important people who matter to help to curb theft.
8. Intensifying Vigilance activities.

Other steps taken to reduce the losses

1. Providing metered connections to all.
2. Refurbishment of poles and feeder pillars.
3. Providing controllers for street lights.
4. Insulation paints
5. Conducting survey for unmetered connections.
6. Providing Bus bar and sealing them wherever required.
7. Providing new LT feeders.
8. Improvement in power factor.
9. Satellite connectors have been used for eliminating illegal tapping from DB's.
10. Improvement in Bus bar sealing.
11. Conversion of Agriculture Power (AP) transformers to single phase during off season. This deprives persons taking illegal supply for purposes other than Agriculture.
12. Installation of fixed Pole capacitors by TPDDL on DT with Low Power factor to the tune 3000kVAR.
13. Technical Loss reduction through IR thermography. With the help of a thermo vision camera, TPDDL carries out thermo scanning of its critical distribution assets. The objective of thermo scanning is to identify hotspot leading to heat loss, breakdown or failure of equipment thus enhancing the life of equipment and reduce the tech. loss
14. DT Audit Module, a software which helps in identifying high loss pockets. An effective tool for monitoring losses and planning for loss reduction. Intensive analysis of meter data downloaded during meter reading to detect cases where theft is taking place through the meter.
15. Use of energy efficient equipment's.
16. Use of APFC for better power factor at all time by NDMC.

17. Replacement of old and life served equipment and cables in the distribution system.

Improving Consumer Convenience & Revamping Maintenance Philosophy

A. Website:

DISCOMs websites act as a platform for interaction and engagement with customers for information sharing, awareness on organization initiatives, providing connection account details, payment transactions, applying new connection, request and complaint registration, feedback etc. Social media platforms like YouTube, slide share and Wikipedia are also used for providing information to customers. Additionally, DISCOMs have come up with Mobile website / lighter version / mobile applications etc.

Following are the few facilities are available through website:

- Option for Duplicate Bill Printing.
- Current & past Bill Details.
- Option to register for Bills via E-mail.
- Online Complaint Registration Facility.
- Form downloads.
- Details about Payment Options.
- Online payment Facility.
- Energy Calculator.
- Advance Bill payment option.
- Officers Contact Details.
- Energy Conservation & Safety Tips.
- Suggestions & Feedback.
- Preventive Maintenance / Load Shedding Schedule.
- RWA nominated list of trained electricians.
- FAQs on metering / billing / supply etc.
- Status of requests / complaints (DSS related).
- Consumer Grievance Redressal Mechanism matrix

B. SMS Services are also provided by Delhi DISCOMs.

C. CALL CENTER/Sampark Kendra: Unified and integrated call centre. It is the most effective medium for listening to customers. More than 90% of the total customer requests / complaints



(Billing/Meter Issues, Power Supply Related, New Connection, Duplicate Bill Requests, Power theft request etc.) are registered. The Call Centre, through efficient and effective management of complaint/request/communication/query, facilitates customer acquisition, retention and overall satisfaction of present and potential consumers.

O&M Complaint Registration on the IVRS (Interactive Voice Response System) through CLI CTI (Caller Line Identification and Computer Telephony Integration)

D. Customer Communication Mechanism & Relationship Management:

- Timely information of Load shedding schedule
- Client Managers.
- Customer Handbook & Electronic & Print media customer Newsletter
- Customer Meet with Management – RWA / Udyam / IWA / Milap / Eminent Citizens' / Seminars / Conferences/AAP KED WAR/ Vishisht Sahayogi Meetings etc.
- Corporate Social Responsibility Intervention
- Nukkad Natak (on safety / theft).
- Seminar/ Workshop/ Audits: Safety Audit of Customer Sub stations. Workshop & awareness sessions on energy efficiency, Safety, ADR initiatives ESCO.
- Citizens Charters.
- Rolling out “Cool Idea” initiative - over 4,000 energy conservation tips and suggestions already received from the Consumers.
- School Energy Programs.
- Outreach programs are conducted to commemorate worldwide acclaimed events like World Environment Day, Earth Hour, Consumer Day, World Energy Day etc.

E. Grievance Redressal Mechanism:

- Customer Help Desks
- SMS
- Website
- Writing a Letter/Email to Customer Care Department
- Helpline
- WAP site

F. Payment Options:

- Cash Counters
- Payment Kiosk Machines
- Cash Vans
- Net Banking/Credit/Debit Card
- ECS Facility
- Jeevan Counters
- Easy Bill Outlets/ITZ Cash Card
- Drop Boxes
- Suvidha & Oxygen outlets
- Cheque by post

G. Installation of ATMs at all the division offices for the convenience of Customers & Employees.

H. MAINTENANCE ACTIVITIES:

1. break down maintenance
2. routine maintenance
3. preventive maintenance

WAY FORWARD:

Delhi Distribution Companies has also started/planned for adopting some of the state of the art technologies to enhance consumer convenience, such as development of a robust communication network backbone, Geographical Information System (GIS), Grid Substation Automation Systems (GSAS) and Supervisory Control and Data Acquisition (SCADA), Outage Management System (OMS) and GSM modem based Automatic Meter Reading.

By using such advanced and state of the art technologies DISCOMs are able to provide:

1. Faster fault location and restoration,
2. New connections in 24 hours, numerous payment options, etc.
3. Improve internal processes (Integration of GIS, FAR & SAP for Asset Identification)
4. Integration of Geographical Information System and Customer Relationship Management for faster no-dues verification,
5. Signature analysis,
6. SAP notification for day ahead trading.

A few Information Technology and Automation interventions and benefits accrued are below:



In the changing environment with focus on renewable resources of power and Electric Vehicle, the smart technologies would prove to be instrumental. Smart Sensors and meter will play a big role in analyzing the data at the micro level and thus enabling the scope for further optimization.

The future grid would not be unidirectional but multidirectional and this would call for a paradigm shift in the approach of distribution utilities, requiring in depth analysis of-

- Energy resource predictability
- Demand response scope
- EV landscape
- Meter and sensor data

Five major projects to alleviate these high-priority gaps for successful implementation of Smart Grid roadmap:

- **Advanced Metering Infrastructure (AMI) and Meter Data Management (MDM)** – to provide better insights into the customers' usage of electricity, enable energy saving and conservation measures, and provide timely information to improve customer service, distribution system engineering, operations, and control.
- **Enterprise Integration** in a Service Oriented Architecture (SOA) approach – to facilitate the sharing of data and computer applications and services across the utility enterprise. The SOA initiative will establish a platform for preventing silos in technology investments at TPDDL and for improving the maintainability and upgradeability of the technology systems and application software. It is essential to achieving and sustaining benefits of existing technologies and information systems as well as Smart Grid technologies. Enterprise Service Bus (ESB) is a means for implementing SOA, which shall be adopted.
- **Business Intelligence (BI)** – to automate (a) capturing of customer service, business performance, distribution system and asset performance, and other historical data; (b) analysis of the data; and (c) distribution and presenting the information to the

appropriate users in a timely manner so that they can make informed decisions in their respective jobs. The integrated data warehouse, data analytics, and information presentment of BI will maximize business and operational benefits. Besides other benefits, it would facilitate commercial loss detection and transformer/LV network load management. **Integrated Communications Strategy** – to improve the effectiveness in planning, implementing, operating and maintaining the data communication infrastructures that are the core foundation of all Smart Grid systems.

- **Field Force Automation (FFA)** – leveraging the ever advancing mobile communications to extend the traditional capabilities of Mobile Workforce Management (MWM) to empower and improve the productivity of the TPDDL field force with intelligence from Smart Grid. FFA complements the Smart Grid intelligence with field intelligence. It is also essential to the maintenance of the increasing number of Intelligent Electronic Devices (IED) installed for Smart Grid and the number of configuration settings possible with each IED.
 - Enterprise Application Integration (EAI)
 - Mobile Workforce Management (MWM)
 - Smart Grid Pilot Roll out (SG)
 - Demand Response (DR)
 - Disaster Recovery site for IT Infrastructure (DR)
 - Business Analytics (BA)
 - Advanced Metering Infrastructure (AMI)

NDMC has envisaged following measures

In order to transform NDMC into a "SMART DIGITAL UTILITY", a roadmap for some of the baseline technologies for modernization and rehabilitation of the existing network has been prepared to introduce & implement SMART technologies to achieve its vision.

NDMC has sufficient network capacity to handle next five years of load growth; however there is need of investment to replace old age network



equipment. Such investment components are summarized as below:-

- Replacement of old 11KV panels & sick cable.
- Replacement of old LT panels and boards and aging sick LT cable.
- Installation of new & augmentation of distribution transformers.
- Replacement of selected oil filled DTs to dry type DTs to enhance safety and reliability of selected indoor substations.
- Installation of Capacitor Banks to improve Voltage regulation.

Distribution Licensees Proposed Investment Plan

All DISOMs are already supplying 24X7 Power to its consumers and has a reliable network in place to serve its consumers in accordance with the objectives of the PFA program. DISCOMs already have built in redundancies in its network, normally operated in radial mode.

However as the demand for power increases, the demand for improved infrastructure for power shall also increase.

All distribution companies up-gradation plan focuses on improving performance of each network element. Based on focus area, distribution system up-gradation plan is classified into following categories

Load Growth

As per chapter-3 of this PFA document, all DISCOMs will experience increase in PEAK load.

Accordingly all DISCOMs have planned various schemes with the primary objective of meeting load growth and maintaining the desired redundancy level in the system. System has been analyzed during contingency condition and loading of various network elements has been reviewed.

New development/addition/augmentation has been proposed against the overloaded network element based on the degree of overloading. Projects covered under this head are as follows :

- a. New 66, 33, 11&0.4 kV Feeders
- b. New 66/11kV and 33/11kV Grids
- c. New 11/0.4kV Substations
- d. Power transformer addition/augmentation
- e. Distribution transformer addition/augmentation

Connecting the un-electrified households/ Regularised Colonies

Delhi Government has regularized 895 colonies in Delhi. Subsequent to the regularization of unauthorized colonies by GNCTD, these areas need to be planned, established/ augmented with electrical substations and other electrical network. This is essentially required to meet increasing electrical load demand of these colonies due to their rapid growth.

DISCOMs are experiencing an unexpected high load growth/ requirement in unauthorized / recently regularized areas on account of their horizontal expansion. This has resulted in overloading of existing network of adjoining areas and it is difficult to provide any new connection and ensure power reliability in nearby areas. Moreover non- uniform extension has resulted into non availability of space for setting up proper electrical network for power distribution.

DISCOMs have prepared detailed plans indicating necessary network augmentation required in various un-electrified colonies.

BRPL: In BRPL area, approximately 400 such areas exist and would entail an investment of around Rs. 800 Crs to ensure reliable power supply for residents in such areas.

TPDDL: Similarly, there are approximately 337 numbers of unauthorized colonies in TPDDL area and require approximately Rs. 771.83 Crores for electrification of these colonies over a period of three years. A snapshot of the total load requirement and tentative cost of electrification has been tabulated as under:

S. No.	Phase	Main Area	Estimated Cost (Rs. Lacs)	Tentative Load (MVA)
1	Phase - 1	Burari	6248.59	18.04
2		Swatantra Nagar	6137.42	21.33
3		Pooth Kalan	7693.80	43.11
4		Kirari	7693.80	28.99
5	Phase - 2	Jagatpur	6582.10	21.34
6		Nangli Poona	6582.10	18.00
7		Sultan Puri	7693.80	30.86
8		Rohini Sec-18	7026.78	35.97
9	Phase - 3	Siras Pur	7137.95	32.37
10		Budh Vihar Ph-1 &2	6915.61	45.56
11		Jain Nagar	7471.46	31.80
Total			77183.41	327.37

Additionally, TPDDL is facing similar issues regarding electrification of Extended Lal Dora area of Kanjhawala Village. There are 1016 residential plots having an area of 2100 sq mtrs each and 1032 industrial plots having an area of 300 sq mtr each.

Load requirement to supply power to these plots has been worked out and it comes out to be around 145 MVA. The details of the load worked out and the network to be established for meeting the load requirement has been attached as Annexure-II.

Tentative cost of the electrification works out to be Rs. 190 Cr and the same may vary based on any change in the load / any specific input from the land developing agency.

System Improvement

Projects under this head area have been planned with the primary objective of replacement of old/obsolete and fault prone equipment in the system. Replacement of these network elements is imperative to maintain high network reliability. Projects covered under this head are as follows :

- Replacement of aged equipment/cables
- Conversion of oil type distribution transformers to dry type

Loss Reduction

Projects proposed under this head focus on reduction of commercial and technical losses in the system in accordance with the proposed AT&C reduction trajectory.

Commercial loss reduction schemes have been formulated to curb theft of electricity through various means i.e direct theft, meter tampering.

Solutions proposed include installation of meters in boxes, replacement of bare conductor with armoured/LTAB cable etc.

Technical loss reduction schemes have been formulated to optimize technical losses in the system. Solutions proposed for the same include optimization of feeder length, installation of connectors with low contact resistance, augmentation of overloaded equipment etc.

Smart Grid

Smart grid technologies provide an essential link between the grid, consumers, generation and storage resources through integration of multiple technologies such as distribution automation, smart metering, integrated communications, data management applications, and standardized software interfaces with existing utility operations and processes. Such a link is a fundamental requirement of a Modern Grid. Key benefits offered by smart grid technologies are :

- High operational efficiency
- High network reliability
- Optimum asset utilization
- High energy efficiency
- Demand side management
- Availability of detailed information like consumption trend, time-based rate options to customers

Smart grid projects have been proposed to leverage the benefits of Smart grid technologies for both consumers and utilities. Projects covered under this head are as follows :

- Advanced Metering Infrastructure - This includes replacement of all three phase meters by smart meters, development of associated communication infrastructure and implementation of meter data management system.
- Distribution management system - This includes installation of motorized RMUs, FRTUs and associated equipment for remote monitoring and control

Infrastructure Development

Civil works includes renovation works for offices and customer cares centres for improved consumer experience.



A. BRPL

In the BRPL supply area. Capital work in progress (**CWIP**) scheme is in progress, total 753 schemes amounting to Rs 159.29 crores for various works such as 214 schemes amounting 22.77 crores for Transformers, 107 schemes amounting to 36.01 crores for HT feeder, 21 schemes amounting to Rs 7.66 crore of electrification, 48 schemes amounting to 4.34 crores for Breaker, 25 schemes amounting to 2.96 crores for load additions, 98 schemes amounting to 5.64 crores for LT works, 71 schemes amounting to 19.35 crores for New- connection, 10 schemes amounting to 34.53 crores for New Grid substation, 159 schemes amounting to 26.02 crores for other works. Details of work proposed under above schemes is shown in Annexure-VII.

BRPL has also proposed various works under the IPDS scheme totaling Rs. 127.49 crores. Annexure-VI- provides the details of work proposed under IPDS.

C. BYPL

BYPL has proposed 1903 crores schemes taking up priority works under the infrastructure rollout plan. Under this schemes various works in sub Transmission & distribution system is planned in Annexure-VIIIA.

In addition to the above schemes BYPL has also proposed several works under the IPDS launched by the Government of India. Proposals totaling Rs. 90.22 Crores have been proposed to be taken up under the scheme. The proposed works covered under IPDS is as shown in the Annexure – VIIIB. The list of new 66 & 33kV Infeeds in BYPL having transmission constraints has been shown in Annexure-VIIIC.

D. TPDDL

TPDDL has prepared a EHV capex plan from FY 2015-16 to FY 2018-19 of various works totalling 1088 crores, similarly they had also Prepared 11kV, DT, LT capex plan from FY15-16 to FY 18-19 of various works

totalling around Rs. 500 crores . Details in attached Annexure XA, XB and XC.

In addition of above schemes Proposals totaling Rs. 388 Crores have been proposed under IPDS scheme. Annexure-IX provides the details of work proposed under IPDS.

D. NDMC Investment Plan

M/s Rural Electrification Corporation (REC), conducted a study of NDMC distribution system. Considering the financial outlay for Delhi under IPDS, a Detailed Project Report (DPR) amounting to Rs. 52870.09 Lacs, covering following schemes was submitted:

Table-6.9

Priority	Scheme	Value Proposed (Rs.) in Lacs
(i)	Strengthening of Sub-transmission and Distribution network.	24424
(ii)	Smart Metering / AMI	7096.83
(iii)	IT enablement of distribution system including Technology infusion & others.	21349.26
	Total :	52870.09

Empowered Monitoring Committee on IPDS in Ministry of Power, in the meeting held on 06.08.2015. After deliberations, Monitoring Committee Approved-In-Principle, the DPR within the proposed value of Rs. 528.70 Crores. The system strengthening works under IPDS would be executed in NDMC within 18 months after the final approval of DPR and release of funds, which would further improve the efficiency of the system.

Funding Plan

DISCOMs (BRPL, BYPL & TPDDL) have given ambitious plan of capital expenditure for the FY 2015-16 to 2018-19. This investment will have a significant effect on consumer tariff. These expenditure shall have to be framed on the basis of cost data book issued by DERC wherein the rates of most of the items/ services have been given for framing the estimates in order to maintain the uniformity of the estimates. All



such expenditure has to be first examined by Delhi Electricity Regulatory Commission (DERC) for its requirement and validity.

As per guidelines, DISCOMs have to submit techno commercial justification and cost benefit analysis with each scheme before the Hon'ble Commission. DERC in turn examine the necessity, techno-commercial feasibility and cost benefit analysis of the proposed schemes and accord in-principle approval to these schemes. Sometimes schemes may be deferred by DERC as the same may not be required immediately keeping in view the peak loading pattern of the particular area. Therefore, the proposed quantum of work has to have the approval of DERC, keeping in view the reliability

of power supply and also affordable tariff to the consumers of Delhi. Union government shall be requested to provide necessary support from time to time.

All five Distribution licensees have proposed to undertake the total investment plan necessary in view of the PFA objectives over the period FY 2015-16 to FY 2018-19 and additional investment required for modernization of infrastructure to match that of world class cities. The tentative year wise phasing of fund requirement and anticipated availability from various sources is provided below. Delhi being the national capital, in order to achieve 24 x 7 PFA objectives:

Table -6.10

Ongoing & Proposed Schemes (NDMC)

(Rs. in Cr.)

Investment Schemes	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	Total
Distribution company own schemes	4	156	103	32	295
IPDS	24	165	48	00	237

Table-6.11

Ongoing & Proposed Schemes (BRPL)

(Rs. in Cr.)

Investment Schemes	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	Total
Distribution company own schemes	337	550	529	520	1937
IPDS		90	38		128
Additional Funding requirement for 24x7 plan	0	362	342	319	1023
Total	337	1002	909	839	3088

Table-6.12

Ongoing & Proposed Schemes (BYPL)

(Rs. in Cr.)

Investment Schemes	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	Total
Distribution company own schemes	117	135	127	145	524
IPDS	0	45	45	0	90
Additional Funding Required for 24x7 Plan	0	444	458	477	1379
Total :	117	624	630	622	1993

Table-6.13

Ongoing & Proposed Schemes (TPDDL)

(Rs. in Cr.)

Investment Schemes	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	Total
HT Capex	132	137	118	114	502
EHV Capex	87	314	466	221	1088
IPDS	116.59	155	117	0	388



Assessment of Adequacy of Distribution System:

To enhance its distribution network in order to meet future demand, **BRPL** has proposed infrastructure rollout plan as shown below:

Table -6.14

BRPL Infrastructure Roll Out Plan till FY 2018-19

Particulars	Units	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19
Sub-transmission System						
66 & 33 KV Feeders	Ckt. Kms	1143	1223	1283	1323	1363
Substations (33kV/ 1kV)	Numbers	78	82	85	87	89
Substation Transformation Capacity	MVA	4069	4294	4469	4619	4769
Distribution System						
11 KV Feeders	Ckt. Kms	4011	4144	4401	4658	4900
Distribution Transformers	Numbers	7162	7282	7485	7700	7900
DT Transformation	MVA	4301	4431	4762	5113	5440
LT Feeders	Ckt Kms	10506	10584	11198	11846	12450
AT&C Loss	In %	14.73	14.2	13.7	13.2	12.7

From the above Table no.-6.14 for BRPL, it is evident that the transformation capacity at 33/11kV is projected to grow from 4069 MVA in FY 2014-15 to 4769 MVA in FY 2018-19 and distribution transformation capacity at 11/0.415 kV level is projected to grow from 4301 MVA in FY2014-15 to 5440 MVA in FY 2018-19. The Projected peak demand of the BRPL, including demand of industrial consumers has been projected at 2945 MW in FY 2018-19. Considering a power factor of 0.9 this corresponds to 3272 MVA in FY 2018-19.

Against this peak requirement at 33/11 kV level in FY 2018-19 the installed capacity is projected

at 4769 MVA. This shows that the sub transmission system would be adequate for meeting the projected load and average loading of the system would be around 68.6% on 33/11 kV transformers under peak demand conditions. Against this peak requirement, the installed capacity 11/0.415 kV level would be around 5440 MVA by FY 2018-19 which shows that the Distribution transformation capacity planned at DT level for FY 2018-19 would be adequate for meeting the projected demand by FY 2018-19 and Average loading of DTs would be around 60%.

BYPL

To enhance its distribution network in order to meet future demand, **BYPL** has proposed infrastructure rollout plan as shown below:

Table-6.15

BYPL Infrastructure Roll Out Plan till FY 2018-19

Particulars	Units	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19
Sub-transmission System						
66 & 33 KV Feeders	Ckt. Kms	872	877	901	918	934
Substations (66/11 kV & 33kV/ 11kV)	Numbers	52	53	56	59	62
Substation Transformation Capacity	MVA	3102	3195	3481	3744	4080
Distribution System						
11 KV Feeders	Ckt. Kms	2041	2111	2231	2366	2493
Distribution Transformers	Numbers	3594	3671	3824	3987	4161
DT Transformation (excluding HVDS)	MVA	2620	2671	2906	3158	3427
LT Feeders	Ckt Kms	5673	5714	5963	6229	6514
AT&C Loss	In %	19.54	18.54	17.54	16.54	15.54



From the above Table no.-6.15 for BYPL, it is evident that the transformation capacity at 33/11kV is projected to grow from 3102 MVA in FY 2014-15 to 4080 MVA in FY 2018-19 and distribution transformation capacity at 11/.415 kV level is projected to grow from 2620 MVA in FY2014-15 to 3427 MVA in FY 2018-19.

The Projected peak demand of the BYPL, including demand of industrial consumers has been projected at 1725 MW in FY 2018-19. Considering a power factor of 0.9 this corresponds to 1916 MVA in FY 2018-19.

Against this peak requirement at 33/11 kV level in FY 2018-19 the installed capacity is projected at 4080 MVA. This shows that the sub transmission system would be adequate for meeting the projected load and average loading of the system would be around 47% on 33/11 kV transformers under peak demand conditions.

Against this peak requirement, the installed capacity 11/0.415 kV level would be around 3427 MVA by 2018-19 which shows that the Distribution transformation capacity planned at DT level for FY 2018-19 would be adequate for meeting the projected demand by FY 2018-19 and Average loading of DTs would be around 56%.

TPDDL

To enhance its distribution network in order to meet future demand, **TPDDL** has proposed

infrastructure Rollout plan as shown in table 6.16.

From the above Table no.-6.16 for TPDDL, it is evident that the transformation capacity at 66/11kV & 33/11kV is projected to grow from 3838 MVA in FY 2014-15 to 7091.5 MVA in FY 2018-19 and distribution transformation capacity at 11/0.415 kV level is projected to grow from 5669 MVA in FY2014-15 to 6059 MVA in FY 2018-19.

The Projected peak demand of the TPDDL, including demand of industrial consumers has been projected at 2012 MW in FY 2018-19. Considering a power factor of 0.9 this corresponds to 2235 MVA in FY 2018-19.

Against this peak requirement at 66/11kV & 33/11 kV level in FY 2018-19 the installed capacity is projected at 7091.5 MVA. This shows that the sub transmission system would be adequate for meeting the projected load and average loading of the system would be around 31.5 % on 66/11kV & 33/11 kV transformers under peak demand conditions.

Against this peak requirement, the installed capacity 11/0.415 kV level would be around 6059 MVA by FY 2018-19 which shows that the Distribution transformation capacity planned at DT level for FY 2018-19 would be adequate for meeting the projected demand by 2018-19 and Average loading of DTs would be around 36.8%.

Table-6.16

TPDDL Infrastructure Rollout Plan till FY 2018-19

Particulars	Units	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19
Sub-transmission System						
66 & 33 KV Feeders	Ckt. Kms	675.76	680.46	754.46	783.46	795.46
Substations (66kV/11 kV & 33kV/ 11kV)	Numbers	67	77	82	88	95
Substation Transformation Capacity	MVA	3838	4444.5	4994.5	6298.5	7091.5
Distribution System						
11 KV Feeders	Ckt. Kms	3976	4077	4202	4316	4429
Distribution Transformers	Numbers	30016	30232	30732	31144	31575
DT Transformation	MVA	5669	5755	5876	5972	6059
LT Feeders	Ckt Kms	9813	10024	10343	10595	10828
AT&C Loss	In %	9.87	9.9	9.7	9.5	9.3



NDMC: To enhance its distribution network in order to meet future demand, NDMC has

proposed infrastructure rollout plan as shown below :

Table-6.17

NDMC infrastructure Rollout Plan till FY 2018-19

Particulars	Units	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19
Sub-transmission System						
66 & 33 KV Feeders	Ckt. Kms	223	223	227	232	237
Substations (33kV/ 1kV)	Numbers	29	30	30	31	32
Substation Transformation Capacity	MVA	1426	1466	1466	1506	1546
Distribution System						
11 KV Feeders	Ckt. Kms	944.44	954	970	990	1020
Distribution Transformers	Numbers	768	768	770	775	780
DT Transformation	MVA	936	936	938	943	948
LT Feeders	Ckt Kms	1405	1405	1408	1415	1423
AT&C Loss	In %	9.85	9.85	9.85	9.85	9.63

From the above Table no.-6.17 for NDMC, it is evident that the transformation capacity at 33/11kV is projected to grow from 1426 MVA in FY 2014-15 to 1546 MVA in FY 2018-19 and distribution transformation capacity at 11/.415 kV level is projected to grow from 936 MVA in FY2014-15 to 948 MVA in FY 2018-19.

The Projected peak demand of the NDMC, including demand of industrial consumers has been projected at 418 MW in FY 2018-19. Considering a power factor of 0.9 this corresponds to 464 MVA in FY 2018-19.

Against this peak requirement at 33/11 kV level in FY 2018-19 the installed capacity is projected at 1546 MVA. This shows that the sub transmission system would be adequate for meeting the projected load and average loading of the system would be around 30% on 33/11 kV transformers under peak demand conditions. Against this peak requirement, the installed capacity 11/0.415 kV level would be around 948 MVA by FY 2018-19 which shows that the Distribution transformation capacity planned at DT level for FY 2018-19 would be adequate for meeting the projected demand by 2018-19 and Average loading of DTs would be around 48.9%.

ACTION POINT-FOR STATE GOVERNMENT:

- To facilitate arrangement of IPDS funds through Govt. of India.
- Delhi Government / DERC may come out with necessary plan for additional electrification requirement in fast expanding regularized unauthorised colonies,

- Procedure for obtaining ROW and handling of associated charges may be through a single department. The charges should be made reasonable so that the same do not adversely impact consumer tariff.
- To support land acquisition in congested areas.

GoI intervention

- To approve the whole amount of the DPRs submitted under Integrated Power Development scheme (IPDS) to ensure reliable and secure 24X 7 quality power supply to all.
- Intervention required for Re-allocation of expensive/excess power to the states which are having less power availability. All three Discoms (BRPL, BYPL and TPDDL) have taken up with the MoP for the formulation of a policy for this reallocation.
- Due to high population density, availability of land and right of way are one of the biggest challenges, Government may consider framing a policy for acquiring private land for electrical services purpose and transferring to Distribution licensee on the lines of policy for transfer of Gram Sabha land. For future electrical infrastructure development, Land policy similar to other states like Maharashtra should be framed for Delhi in which provision of land for electrical infrastructure is mandatory.
- Government may consider the request for dedicated police/CISF for curbing theft in



high loss pockets. This will help in driving the loss reduction exercise.

- GoI's intervention is required to facilitate utilization of embedded generation capacity of Delhi, which are not being optimally utilised due to non- scheduling of power by DISCOMs / SLDC as per merit order. Ministry of Petroleum & Natural Gas need to be requested for allocation of domestic gas at administered price to Delhi to meet the natural gas requirement for the projects (namely GTPS 270MW, PPS-I 330MW, Bawana-1371MW).
- GoI's intervention is also required to facilitate purchasing cheaper power from CGSs.
- In the Delhi Metropolitan city, high cost is being charged by Railways for providing right of way (way leave charges for underground cables), which results in high consumer tariff. GOI, MoP may take up with

Ministry of Railways for reduction in ROW cost.

- Government intervention is required for rationalization of tariff from central sector generating stations including considering proposal of a uniform pooled tariff.
- Intervention is required for Re-allocation of expensive/excess power to the other states having power shortages. The matter has been taken up with the MoP, GoI for the formulation of a policy for this reallocation. Discoms have also approached CERC for adjudication of matter of surrendering the costly power from Central Generating Stations.
- Providing corridor for transmission of power from Aravali Thermal Power plant, Jhajjar to Telangana and other needy states.
- Provide grant for ISTS projects since Delhi has never been the beneficiary of central schemes like APDRP, R-APDRP, FRP and even UDAY since distribution is privatized.



Renewable energy is increasingly becoming an important source of the energy –meeting the twin objectives i.e. energy security and clean energy considerations. Delhi has good potential for promotion and development of non-conventional energy projects, particularly in Solar and Waste to Energy areas. Good explorable options exist for power generation in Solar Roof Top and Waste to Energy etc. Government of Delhi (GNCTD) and Delhi Electricity Regulatory Commission (DERC) have already issued liberal policies related to determination of tariff and net metering for renewable energy for promotion of renewable energy generation. Solar Policy for Delhi is under preparation and will be notified shortly.

GNCTD is keen to tap renewable power potential of the State, particularly solar and waste to energy to meet the growing demand of power in an environmental friendly and sustainable manner. New Delhi (NDMC area) also has been declared as solar city.

The areas of studies are:

- Renewable Energy Plan especially for Solar Photo Voltaic (SPV) based power projects.
- Waste to Energy Plan
- Grid connected and off grid Roof Top Solar schemes.
- Action plan of the state.
- Fund Requirements.
- GoI/ GNCTD Interventions

Grid Connected Renewable Energy:

The total Renewable Energy Sources (RES) installed capacity as on 31.03.15 is 21.324 MW as shown in the Table-7.1 below:

Table-7.1

Sl. No.	Ownership/ Sector	Mode wise Breakup (MW)		Grand Total (MW)
		Solar	Waste to Energy	
1	State	2.40	0.00	2.40
2	Private/ IPPs	2.924	16.00	18.924
3	Central	0.00	0.00	0.00
	Total	5.324	16.00	21.324

The estimate of potential for Non-Conventional Energy in the State is estimated to be about 2181 MW as indicated in Table-7.2 below:

Table-7.2

Sl. No.	Type	Estimated Potential in MW (as per MNRE)
1.	Waste to Energy	131
2.	Solar *	2050
	Total	2181

*Solar potential as per NISE. The potential of Solar Power (100 GW) is estimated considering at 30-50 MW/ Sq.km of open, shadow free area.

Policies & Notifications in place:

Energy Efficiency and Renewable Energy Management Centre (EE&REM) is a sub-division of the Department of Power, GNCTD, which acts as the State Nodal Agency (SNA) for any solar energy generating system with a capacity of 1kWp or more. Similarly Delhi Electricity Regulatory Commission (DERC) is regulating Renewable Purchase Obligation (RPO) and Renewable Energy Certificates (REC) in the NCT of Delhi. The policies notified by Delhi Govt. and DERC are as described below:

- a. Solar PV plants upto 200 KWp capacity have been exempted from inspection by electrical inspector.
- b. DERC has regulated “Renewable Purchase Obligation (RPO)”and Renewable Energy Certificate (REC)” Framework Implementation in the State of Delhi vide order number: 3(392)/ Tariff/ DERC/ 2010-11/3026 dated 01.10.2012.DERC vide no. F11(764)/ DERC/ 2011-12/ 3271/5061 dated 08.01.2013 has notified Regulation 2013 regarding Terms and Condition for Determination of Tariff for Grid connected Solar Photo Voltaic Project.
- c. DERC vide no. F9(116) /DERC/ Tariff/ DS/ 2013-14/C.F.4110/1493 dated 25.09.2014 has notified “Net Metering for Renewable Energy” Regulations 2014.
- d. Delhi Solar Energy Policy 2015, for Delhi is under Draft Stage.

Government of NCT of Delhi Initiatives and Plan

Delhi Solar Energy Policy 2015 Delhi is under approval Stage. Many initiatives have been taken and provisions kept in the policy for



promoting use of Solar Energy in the state. The same are briefly outlined below:

- a) **Generation Based Incentives (GBI):** The State shall offer a limited-time GBI for net metered connections in the domestic/residential segment only.
- b) **Exemption from the payment of Electricity Tax and Cess:** *In order to promote clean and green energy and reduce the pollution burden on the capital, all Municipal corporations of Delhi shall work towards and notify the exemption of Electricity Tax (currently 5%) for solar energy units generated, whether for self consumption or supplied to the grid. In other words, Electricity Tax will be applicable only on net consumption charges billed by the DISCOMs at the applicable rate.*
- c) **Exemption on open access charges:** There shall be no Open Access Charges during the Operative Period of the Policy if the solar electricity is generated and consumed within the State.
- d) **Exemption on conversion charges:** The implementation of rooftop solar energy systems shall be permitted after necessary scrutiny. Residential consumers opting to implement solar plants to sell power to the grid shall be exempted from conversion charges of house tax to commercial tax.
- e) **Exemption on VAT and entry tax:** All solar panels, inverters, energy meters, and other devices purchased for the installation of solar plants in Delhi shall be exempted from VAT and entry tax during the Operative Period.
- f) **Exemption on wheeling and banking charges:** There shall be no wheeling and banking charges for solar plants commissioned within the state during the Operative Period.
- g) **"Must Run" status:** All solar power systems shall be treated as 'Must Run' power plants and shall not be subjected to Merit Order Rating (MOR) / Merit Order Dispatch (MOD) principles.
- h) **Cross subsidy charges:** DERC shall exempt payment of cross-subsidy charges and

surcharge for solar plants commissioned during the Operative Period of the Policy.

- i) **Transmission charge:** There shall be no Transmission Charges for solar plants commissioned within the state during the Operative Period of the Policy.
- j) **CDM (Clean Development Mechanism) benefit:** All risks, costs, and efforts associated with the availing of carbon credits shall be borne by the solar energy generating entity. Further, the generating entity shall retain the entire proceeds of carbon credit, if any, from an approved CDM project.
- k) **Building byelaws amendment for rooftop solar installations:** The State shall advise the Municipal Corporations and local Urban Bodies for making suitable amendments in the existing building bylaws to encourage the installation of solar plants. The following advisories shall be issued by the GNCTD for this purpose –
 - i. The height of the module structure carrying solar panels shall not be counted towards the total height of the building as permitted by building bylaws, except near airports where building regulations issued by the Airports Authority of India take precedence.
 - ii. No approval will be required from concerned Municipal Corporation or other Urban Development Bodies like the DDA for putting up solar plants in existing or new buildings.
 - iii. The support structure on which rooftop solar panels are installed shall be a temporary structure.

As per MNRE program State has to plan to develop Grid Connected Roof Top Solar Projects as per the following programme:

FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	Total
5MW	132 MW	138 MW	165 MW	440 MW



BRPL initiative:

BRPL has been working pro-actively to facilitate the implementation of solar rooftop installations by consumers in its license area.

BRPL has the highest number of net-metering installations in Delhi, 63 as on 31st Dec 2015 with an installed capacity of 3.636 MW.

BRPL has tied up with GERMI for technical collaboration and has empanelled competent vendors to provide support to interested consumers.

BRPL has been carrying out the following activities:

- Regularly conducting interactions with consumers to create awareness on net-metering
- Dedicated trained Team
- Procedure on website and training to customer care
- Application fees through Bill
- Free service to certify protection and inverter output quality
- **BRPL has also contracted 20MW each from SECI under the JNNSM Phase-II, Batch-I scheme of SECI which is available.**

BYPL Initiative

- In order to promote solar rooftop, BYPL has installed generation of 354KW solar power from 1257 rooftop solar panels installed at 8 of its offices. All BYPL grids to go green with this solar generation.
- Partnering with consumers on “Solar Rooftop Lease Model’ under deliberations
- **BYPL has also contacted 20MW each from SECI under the JNNSM Phase-II, Batch-I scheme of SECI which is available.**

TPDDL Initiative

In its endeavor to make Solar Project initiative a success in Delhi, in addition to the provisions available to the Consumers for implementation of rooftop Solar Projects on their own, TPDDL is offering its services for further facilitating Solar Project implementation.

- Our mission is to provide our consumers with the most comprehensive and end-to end solutions and get them on the path of significant savings for the next 25 years besides helping Delhi to become a green city.



The following model has been proposed in line with DERC’s Net Metering Guidelines for our consumers.

- To facilitate the consumers for installation of Solar Projects, TPDDL has undertaken open competitive Techno-Commercial Bidding procedure for empaneling implementation agencies who will install Solar Projects on turnkey basis with optional comprehensive AMC for Solar Plants for 5 / 7 or 10 years.
- **TPDDL has also contracted 20MW each from SECI under the JNNSM Phase-II, Batch-I scheme of SECI which is available.**
- **TPDDL, have also tendered another 180 MW Solar Power. This will be available in financial Year 2017-18.**

Renewable Purchase Obligation (RPO):

Every obligated entity shall purchase electricity (in kWh) from renewable sources, at a defined minimum percentage of the total energy consumption under the Renewable Purchase Obligation. Based on DERC “RPO” and “REC” Regulations, the Commission has set a total “RPO” target as 11.80 % of energy consumption and Solar “RPO” target as 0.45 % of energy consumption for FY 2018-19. Yearly RPO target from 2015-16 to FY 2018-19 are as indicated in the table below:

Table-7.3

Financial Year	(as % of total consumption)		
	Solar RPO	Non-Solar RPO	Total RPO
2015-16	0.30	7.30	7.60
2016-17	0.35	8.65	9.00
2017-18	0.40	10.00	10.40
2018-19	0.45	11.35	11.80

Year Wise Availability (Cumulative) through proposed capacity addition plan – through RES (grid-interactive) is as follows:

Table-7.4

Sl. No	Particulars	Year wise Existing & Likely Capacity to be added (MW)-Cumulative				
		As on March 2015	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19
a.	Solar	5.324	9.924	93.924	286.924	580.924
b.	Waste to Energy	16.00	16.00	52.00	52.00	52.00
	Total :	21.324	25.924	145.924	338.924	632.924

Project details are attached as Annexure-III.

Action Plan of the State for Grid Interactive NCE/ RES Plants

The State has to ensure completion and addition of renewable generating capacity in the State as per the following Roll Out Plan:

Table-7.5

Power For All (Roll Out Plan)	Year wise Addition (MW)				Total (MW)
	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	
Solar	4.60	84	193	294	575.60
Waste to Energy	0.00	36	0.00	0.00	36.00
Total :	4.60	120	193	294	611.60

Fund Requirement:

Total fund requirement (Year-wise) for various RE projects for capacity addition is estimated and the same is shown in the table below:

Table-7.6

Sl. No.	RES Projects	Financial Year wise Fund Requirement (Rs. In Crores)				Total (Rs in Cr.)
		2015-16	2016-17	2017-18	2018-19	
a.	Solar	21	588	1351	2058	4172
b.	Waste to Energy	0	0	0	0	0
	Total		629	1351	2058	4172

Funding of proposed investment

Total proposed investment of Rs. 2090 Crores for installation of additional 440 MW capacity of Renewable Energy Projects will be met mostly through funding of Private developers / IPPs / Consumers. However, assistance/grant, as applicable, from Central/State Government

sources as indicated below may also be sought to meet the total requirement of fund.

- Central Financial Assistance provided by MNRE, GoI under its various schemes.
- Central Financial Assistance provided by MoP, GoI as applicable.
- Grant provided by State Government (GNCTD).
- State Green Energy Cess Fund, as applicable.

Intervention by Govt. of NCT of Delhi:

- Set up single window clearances mechanism to expedite clearances of NCE / RNES projects.
- To provide solar energy generation based rebate in electricity bills for motivating consumers to install solar power plants.
- In line with Delhi's plan to aggressively add solar energy, GNCTD should pro-actively plan for Energy storage and peaking power generation system. This will further help in case of "Islanding" and to ensure uninterrupted power supply for crucial consumers e.g. Hospitals.

Intervention by GOI :

- Viability Gap Funding (VGF) as applicable for various Solar Projects in the State.
- Central Financial Assistance, as applicable, shall be provided in the beginning of financial year.



With increasing importance being given to low carbon growth these days, the cheapest and more affordable option to overcome the energy deficit is Demand Side Management (DSM) and implementation of energy efficiency measures in various sectors such as agriculture, municipalities, Commercial buildings, domestic sector & industrial sector etc. The DSM has been traditionally seen as a means of reducing peak electricity demand. In fact, by reducing the overall load on an electricity network, DSM has various beneficial effects, including mitigating electrical system emergencies, reducing the number of blackouts and increasing system reliability. Possible benefits can also include reducing dependency on expensive imports of fuel, reducing energy cost, and reducing harmful emissions to the environment.

DSM has a major role to play in deferring high investments in generation, transmission and distribution networks. Thus DSM applied to electricity systems provides significant economic, reliability and environmental benefits. Opportunities for reducing energy demand are numerous in all sectors and many are low-cost, or even no cost items that most enterprises or individuals could adopt in the short term, if good energy management is practiced.

Delhi's power demand has been observing a rising trend due to growth in population as well as economic activities. Further, there is varying power demand during different time slots of the day. Such demand supply imbalances are associated with commercial implications relating lower recovery on account of sale of surplus power during off peak periods and higher power purchase costs for purchase of power during peak demand periods.

Demand Side Management (DSM) involves planning, implementation and constant monitoring of various activities that are designed to encourage consumers to modify their electricity consumption patterns, both with respect to timing and level of electricity demand/consumption for use of electricity in an optimal and efficient manner. DSM Regulations are a step forward in this regard that provides frame work for designing, development implementation of DSM related activities.

In view of absence of any data, an exercise has been undertaken using data from other states such Rajasthan & Andhra Pradesh. Going by the experience of these states, one finds the most common measures of DSM and the average normative savings for each measure are as furnished below:

Table-8.1

Sector	DSM Technique	Energy saving Potential as % of total consumption	Investment/MU of savings (INR Crores)
Agriculture	Replacement with Energy efficient pump Sets	27%	1.5
Domestic	Replacement of ICLs with LED bulbs	23%	0.8
Commercial building	Retrofitting of Energy efficient equipments	15%	1.5
Public water Works	Replacement with energy efficient Pumps	26%	0.6
Municipal Street lighting(MSL)	Replacement of existing street light with LEDs	51%	2.0

Application of the above provides substantial energy savings per year. The maximum saving potential is in the street lighting. This sector DSM can be planned and implemented by Municipal Corporation Delhi (MCD). Water Works sector is also having substantial potential for energy saving by replacement of energy efficient pump. Delhi Jal Board being a government organization and having high

penetration rate can implement DSM techniques for harnessing energy saving potential in this sector. In other sectors, serious awareness campaign through stakeholders' consultation is required to achieve and enhances the desired energy savings.

Enlisted below are some of the DSM measures and energy efficiency initiatives to be taken up in the State.



- Mandatory use of LED / CFL in Govt. buildings / Govt. aided institutions / Boards / Corporations.
- Promotion of Solar water heating system in domestic sector.
- Domestic Energy Efficient Lighting Programme (DELP).
- Solar Water Heating System to be made mandatory in industries where hot water is required for processing, hospitals and nursing homes, Govt. hospitals, hotels, motels and banquet halls, jail barracks, canteens, housing complexes set up by Group Housing Societies/Housing Boards, Residential buildings built on a plot of size 500 sq.yds. and above falling within the limits of Municipal Committees/Corporations and all Govt. buildings, Residential Schools, Educational Colleges, Hostels, Technical/Educational Institutes, District Institute of Education and Training, Tourism Complexes and Universities etc.
- Use of star rated pumps to be mandated for agriculture sector.
- Rooftop Solar, Energy Audit of Govt. buildings

Government of NCT of Delhi (GNCTD) Initiatives

- Mandatory use of Compact Fluorescent Lamp and Electronics Chokes in Govt. Building/Govt. aided institution/Boards, Corporations. Thrust is now being given on LED lamps and street lights.
- Mandatory use of ISI marked Motor pump sets, Power capacitor, Foot/Reflex valves in Agriculture Sector.
- Policy/programmes for Solar power generation are under consideration.
- Policy on solar lighting of monuments and waste to energy Projects.
- Installation of Rooftop Solar Plant will result in reduction of Peak Demand, especially during summer season and moreover high valued PPAs to overcome demand deficit can be avoided.

- In order to plug leaks of energy, it is recommended to conduct Energy Audit of all Govt. Buildings located in Delhi.

Agency responsible for DSM

For coordination, implementation and enforcement of Energy Conservation Measures in the state, in accordance with the provisions contained in the Energy Conservation Act-2001 of GoI and Ministry of Home Affairs Notification No. S.O.593(E)/F.No. U-11030/1/2005-UTL dated 24th April 2006 the Lt. Governor of NCT of Delhi, in consultation with Bureau of Energy Efficiency, Ministry of Power and Government of India has designated Energy Efficiency & Renewable Energy Management Centre (EEREMC) as the "Designated Agency" for the NCT of Delhi.

Policy and notification in Place

The following policies and regulations have been issued by the BEE / DERC:

- Energy Conservation Building Code (ECBC) has been launched by Bureau of Energy Efficiency, MOP, GOI on 27th May, 2007 to be implemented on voluntary basis. The code is applicable to buildings/building complexes that have a connected load/ contract demand of 100 kW/ 120 KVA or more. However, in Delhi the ECBC is mandatory for consumers having load more than 500 kW.
- Delhi Electricity Regulatory Commission (Demand Side Management) Regulations, 2014. To bring a focused approach towards Energy Management, DERC has published DSM Regulation 2014 with a mandate to bring about reduction in energy consumption across residential, commercial and industrial establishment and facilitate Energy Efficiency improvement project.

Broad objective is to take up DSM related policy / activity / programs to lower the overall cost of the electricity to the consumers by economical and efficient use of resources which shall include the measures and principles to:



- i) Control, reduce and influence electricity demand.
- ii) Encourage consumers to amend their electricity consumption pattern both with respect to timing and level of electricity demand for efficient use of energy.
- iii) Complement supply side strategies to help the utilities to avoid or reduce or postpone
 - Costly capacity (generation, transmission & distribution network
 - Costly power purchases
- iv) Reduce the environmental damage by reducing the emission of green house gases.
- v) Supplement National Level Efforts for implementation of various DSM programs set out by Bureau.
- vi) Make strategic efforts to induce lasting structural and behavioral changes in the market that shall result in increased adoption of energy efficient technologies / services and practices.

DSM Initiatives already undertaken / Implemented by State DISCOMs:

▪ Saving potential through DSM – Domestic Lighting Sector

Domestic Sector accounts for almost 50.3% of energy consumption in Delhi and lighting is a key component of the same. In order to promote the use of LEDs in household sector and reduce the energy consumption, EESL in consultation with BRPL, BYPL, TPDDL and Government of Delhi, has proposed to implement the DELP programme in Delhi. LED based household lights could reduce energy consumption by 88% (as compared to ordinary bulb) and 50% (as compared to CFLs). DELP promotes the usage of LEDs at a minimal cost and is designed to monetize the energy consumption reduction for the domestic consumers as indicated in the table below.

Table-8.2

Sl. No	Particulars	LED	CFL	ICL
a.	Watt	7	14	60
b.	Energy Efficiency	88 %	50 %	0 %
c.	Annual Cost Saving of Electricity Bill per Bulb (in Rs.)	162.00	85.50	Nil
d.	Life Expectancy (Hrs.)	50,000	8,000	1,200
e.	Free of Cost Warranty	3 Years	1 Year	Nil

▪ Initiative undertaken by BSES (BRPL & BYPL)

BSES has saved about 21.02 MU (by 14.01.2016) of electrical energy through implementation of DELP in their distribution area by distributing 20,47,648 nos. of LEDs as shown in Table 9.3 below. BSES is having a target of distributing 1.4 Cr. LEDs that have the saving potential of about 151.2 MU.

Table-8.3

Sl. No.	Particulars	BRPL	BYPL
1.	Upfront	3,62,445	5,44,602
2.	On Bill	6,09,706	5,20,895
3.	Total LED Sold	9,72,151	10,75,497
4.	Total BSES	20,47,648	
5.	Consumer Covered	244625	245540
6.	Total BSES	4,90,165	
7.	Energy Saved	21.02 MU	

Some of the DSM initiatives undertaken by BRPL detailed below:

▪ Load Research Study

BRPL has conducted a detailed Load Research study. Different DSM schemes emerging from BRPL's Load Research study have been evaluated and viable financial models of schemes have been formulated. On the basis of different Load Reduction and Load Management programs, BRPL has identified 5 schemes to be implemented to curtail the peak demand. The DSM & Energy Efficiency schemes as proposed by BRPL over the next three years are shown in Table 8.4 :

Table-8.4 a

Energy Efficiency Measures by BRPL

Scheme	Potential of Load Reduction	Target Count
1: LED Bulbs (DELP)	54 MW	60 lakh bulbs
2: Demand Response	75 MW	Aggregator based
3: Solar Power Generation	30 MW	-
4: Super-Efficient Fans (DELP)	6 MW	1,50,000 fans
5: AC Program	27 MW	30,000 AC

Some of the DSM initiatives undertaken are BYPL detailed below:

• Renewable Energy Assisted Pump (REAP)

Renewable Energy Assisted Pump is a Solar Photo Voltaic (SPV) pump which is easy to operate & environment friendly. BYPL has implemented this to various pvt. and govt. school of Delhi.



- **Power Factor improvement awareness to conserve Reactive Power**

BYPL has widely spread the awareness about the shunt capacitors and their effect in improvement of power factor to conserve the Reactive power.

- **Awareness Initiatives by way of Energy conservation in schools.**

Various workshops have been organized on energy conservation in schools for giving the awareness to children's of Pvt. and Government school students by our Training and Development department. These camps were organized on monthly basis in different schools.

- **Load Research Study**

BYPL has conducted a detailed domestic survey based Load Research study. Various viable DSM options emerging from BYPL's Load Research study have been evaluated and model schemes have been formulated.

The DSM & Energy Efficiency initiatives as proposed by BYPL over the next years are shown in **Table-8.4b**:

On the basis of various Load Reduction and Load Management programs BYPL has identified 6 schemes to be implemented to curtail the peak demand. Schemes are as follows:

Table-8.4 b

Scheme	Potential of Load Reduction	Target Count
1: LED Bulbs (DELP)	80 MW	40 lakh bulbs
2: Demand Response	12.5 MW	Aggregator based
3: Solar Power Generation	10 MW	1000 (Approx.)
4: Super-Efficient Fans (DELP)	2 MW	50,000 fans
5: AC Program	18 MW	20,000 AC
6: Energy Efficient Tube Lights	15 MW	5,00,000 Lights

- **Initiative undertaken by TPDDL:**

To bring a focused approach towards Energy Management, TPDDL has created a dedicated Demand Side Management and Energy Efficiency (DSM & EE) Group in year 2009 with a mandate to bring about reduction in energy consumption across residential, commercial and industrial establishments

and facilitate energy efficiency improvement projects.

TPDDL has been a frontrunner in adopting latest trends and practices in power distribution sector. Some of the DSM initiatives undertaken are detailed below:

- **Bachat Lamp Yojana (BLY)** - TPDDL had signed a tripartite agreement with BEE & C Quest Capital to implement Bachat Lamp Yojana (a CDM based scheme launched by BEE). The scheme aimed at large scale replacement of incandescent bulbs in households by CFLs. Under BLY, CFLs were offered at Rs. 15 in exchange of working Incandescent bulbs for residential consumers. Project completed in 6 Districts and over 8 lakhs CFLs had been distributed under the scheme.

- **DFID funded Appliance Replacement Program-** TPDDL in association with Bureau of Energy Efficiency (BEE) and ICF International (consultant) developed an Appliance Replacement program for old Refrigerators and Air conditioners. DFID (A UK grant agency) agreed to fund the project. Under the scheme, star rated refrigerators and ACs were offered at the discounted rates (against the prevailing Market Operating Prices) & existing appliances were bought back for the safe disposal.

- **Appliance Replacement Program-** Appliance Replacement Program was launched in association with LG, Voltas & Godrej to promote **Star Rated Appliances- ACs & Refrigerators**. Under the program, consumers were offered exchange scheme, under which existing old Refrigerators and Air Conditioners can be replaced with new Energy Efficient BEE Star Rated Refrigerators & ACs.

- **Automatic Demand Response:**

- Launch of India's first large scale integrated Auto Demand Response (ADR) program with Smart Meter.
- 161 consumers have already been engaged in Automated Demand Response (ADR) through auto controller along with smart meter based on RF Mesh communication



with peak load reduction capacity of 11 MW under this project.

Achieved maximum DR performance of 7.2 MVA load shifting/shaving and average performance of 5.09 MVA through 17 DR events conducted in FY 2014-15. It would save new Power purchase

agreement of 5.73 MVA at generator bus during shortage and grid contingency saving against sale of surplus energy.

The DSM & Energy Efficiency initiatives as proposed by TDDPL over the next four (4) years are shown in **Table-8.4c**:

Table-8.4c

Energy Efficiency measures by TPDDL for Delhi

Sl. No.	DSM Segment	Energy Efficiency appliance replacement	Cumulative saving(in MU)			
			FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19
1.	Domestic: Air Conditioning	20,000 BEE 5 Star/Inverter AC's	2	12	12	12
2.	Domestic: Lighting	20 Lakh LED Bulbs against CFL (DELP Scheme)	12	12	12	12
3.	Domestic: Fan	1 Lakh Ceiling Fans	0	7	7	7
4.	Domestic: Refrigerator	30,000 Refrigerator	0	10	10	10
5.	Domestic: Tube light	1 Lakh T5/ LED tube light against T12	0	5	5	5
6.	Industrial; HVAC	Chillers: Saving Potential to be decided based upon detailed Energy Audit activity completed by EESL				
Total (MU) :			14	46	46	46

Objectives and suggested Interventions

The domestic sector accounted for about 50.3% of the state's energy consumption during 2014-15, there is substantial saving potential exists in this sector through replacement programmes by energy efficient lighting and other energy efficient electrical appliances. In order to stimulate investments in energy efficient lighting projects, high quality LED lamps are proposed to be given to households at the cost of incandescent lamps (ICLs) to encourage them to invest in energy efficiency under the Domestic Energy Efficient Lighting Program (DELP).

The Street lighting sector accounted for about 1.7% of the state's energy consumption during FY 2014-15. There is substantial saving potential (up to 51% of lighting load) exists in this sector through replacement of street lighting by energy efficient LED Bulbs. However, actual potential of savings in the state on account of DSM can be ascertained only after completion of DSM plan for state.

The Domestic Efficient Lighting Programme (DELP) seeks to promote high quality LED lighting in the domestic sector by overcoming the high first cost barrier. DELP will enable sale of LED bulbs from designated places at a cost that is much less than the market price of Rs. 350-450 as replacements of Incandescent

Lamps (ICLs). The programme will reduce connected load and will lead to substantial

DELP KEY FEATURES

- LED at cost of Rs. 95-105 as against a market price of Rs 350-450
- Consumer take LED bulb at Rs. 10/-, Balance paid by DISCOM from energy savings or by consumer in 8-12 months installment.
- 3 years free replacement warrantee
- No impact on tariff
- Total upfront investments by EESL
- Benefits sharing approach

saving (up to 23% of domestic lighting load of 12292MU during FY 2014-15) in annual energy consumption. The saved energy can be sold to better paying consumers like Industry and Commercial, which will provide additional revenue stream to the state utility.

ICLs are extremely energy inefficient form of lighting. In contrast, LEDs consume a fraction of energy used by ICLs to provide better light output. A single LED outlasts about 30 ICLs, and hence on life cycle cost effectiveness it fares better than ICL and CFL. However, the penetration of LEDs is very low because of their high first cost. To overcome this barrier, Energy Efficiency Services Limited (EESL), has been implementing programmes in several states to provide high quality LEDs as replacements to ICLs and CFLs at a cost of Rs. 95-105 each to residential consumers.



EESL procures the LEDs bulbs and provides to consumers at an initial rate of Rs. 10 each (balance by DISCOM from energy savings or by consumer in installment) as against their market price of Rs. 350-450.

EESL will make / arrange the upfront investment for procurement, transportation, distribution of LED to domestic consumers in the state of Delhi.

Approach / Strategy

All the above interventions involve replacement of inefficient equipment / appliances with energy efficient ones for the domestic, commercial buildings and municipalities. **These can be undertaken by the State Government, at no upfront cost by using the Energy Service Company (ESCO) model.** The model is based on the concept of promoting Performance Contract mode where the company invests in any project by entering into a contract agreement with the facility owner which is recovered through the savings accrued due to reduced electricity bills.

Actions Points

The sector-wise Central Government and State Government actions envisaged to facilitate implementation of energy efficiency measures as mentioned above are detailed below:

State level initiatives:

- As per the Planning Commission's projection; residential building are becoming one of the larger consumers of electricity in the country by 2030. BEE is introducing design guidelines for energy efficient multi story residential apartments including in the composite and hot & dry climatic zone. State Government may mandate compliance of these guidelines through institutional framework in the State.
- For residential buildings, the state could adopt the star labeling scheme for multi-

story residential apartment buildings, being prepared by BEE.

In-addition to the above, Delhi Electricity Regulatory Commission (DERC) may be requested to issue directives for creation of DSM funds by DISCOMs / Utilities of the State so that DSM activities can get extra emphasis. Such funds can be utilized for meeting incremental cost of efficiency improvement.

- Distribution Companies / Utilities may file DSM petition with Delhi Electricity Regulatory Commission for getting sanction of the proposed DSM plan.
- Ensure formulation of a detailed time line in consultation with concerned departments like Distribution Companies for implementation of energy efficiency measures in municipalities.
- Ensure establishment of a payment security mechanism so that the company making investments under the ESCO mode recovers the same through the savings accrued due to reduced electricity bills.

Central Government

- BEE may consider formulation of specification for LED bulbs and introducing star label scheme for LED bulbs.
- Energy Efficiency Services Limited (EESL) to take up project design and project development.
- BEE may provide technical support for effective enforcement of ECBC and promotion of ESCO based retrofitting works in Government buildings. BEE can provide support for capacity building of state department through establishment of ECBC cells for compliance of ECBC and retrofitting in Government buildings.
- Energy Efficiency Services Limited (EESL) to take up project design and project development for retrofitting in commercial buildings.



CHAPTER – 9 : FINANCIAL VIABILITY OF UTILITIES

On July 1, 2002, Delhi Vidyut Board (DVB) was unbundled into six successor companies i.e. Delhi Power Company Limited (DPCL)-Holding Company, Delhi Transco Limited (DTL)-Transmission Company, Indraprastha Power Generation Company Limited (IPGCL) – GENCO, and three Private Distribution Companies i.e. BSES Rajdhani Power Limited (BRPL), BSES Yamuna Power Limited (BYPL) and Tata Power Delhi Distribution Limited (TPDDL) (earlier NDPL). The Government of Delhi handed over the management of the business of electricity distribution to three private companies BRPL, BYPL and TPDDL with 51% equity being handed over to the private sector and 49% equity being retained by GNCTD (Government of Delhi) through DPCL.

After privatization all unbundled distributions companies have to arrange finances on their own required for their licensed area of operation as mandated in the statutory Delhi Electricity Reform (Transfer Scheme) Rules 2001.

The financial position of the three distribution companies and GENCO and TRANSCO are as follows:

Accumulated book profit for 2013-14 and 2014-15 are as follows-

(Rs. in Crore)		
Name of Utility	FY 2013-14	FY 2014-15
GENCO		
IPGCL	488.57	505.94
PPCL	1227.62	1488.61
TRANSCO		
DTL*	-2502.77	-2178.77
DISCOMs (Figures as reported by DISCOM)		
BRPL**	254.89	317.42
BYPL**	230.62	255.72
TPDDL	1756.66	1910.42

* As per provision of transfer scheme rules Delhi Transco Limited (DTL) was carrying on business of bulk purchase and sale of electricity upto 31.03.2007. The annual actual expenditure of DTL on its power purchase cost was more than the revenue it realized by selling power. This resulted in accumulated losses of Rs. 3648 Cr. In the books of DTL, till 31.03.2007, although Cash- flow problem was not there as the revenue gap was met through financial assistance from Delhi Government. However, with profits in the subsequent

years, the accumulated losses got reduced to Rs 2178.77 Cr by 31.03.2015. Action is being taken by DTL to wipe out / setting off the accumulated losses with corresponding reduction in equity share capital held by GNCTD as per provisions of Company's Act.

**These figures are subject to the outcome of various appeals pending before Hon'ble supreme court in CAG audit.

Year wise book profit after tax for above Utilities are tabulated as below-

(Rs. in Crore)		
Name of Utility	FY 2013-14	FY 2014-15
GENCO		
IPGCL	121.16	17.37
PPCL	417.86	360.38
TRANSCO		
DTL	-199.97	324.09
DISCOMs (Figures as reported by DISCOM)		
BRPL*	7.90	62.53
BYPL*	11.23	19.30
TPDDL	333.86	335.99

* Book Profit. These figures are subject to the outcome of various appeals pending before Hon'ble supreme court in CAG audit.

The cash flow position of DTL and GENCO are severely affected due to non-payment of dues by the BSES Discoms. This is adversely affecting the day to day operations of DTL and GENCOS. . The issue is presently pending before Hon'ble Supreme Court and other forums.

The dues of Generating/Transmission utility (DTL) from BRPL and BYPL as on date are as under:

(Rupees in Crores)					
Dues of	to DTL	to IPGCL	to PPCL	Total Dues	Remarks*
BRPL	1107	1237	1934	4278	
BYPL	741	938	1483	3162	
Total	1848	2175	3417	7440	

The dues of BRPL and BYPL to DTL is during the period October, 2010 to November, 2015 whereas that of IPGCL & PPCL are of October, 2010 to 23-12-2015

*The issue related to the adequacy, timeliness and propriety of tariff approved by the Regulator is pending before appropriate forums.

As per the Transfer Scheme, DISCOMs are responsible to arrange adequate finance for their distribution network requirement themselves.



Communications:

Successful implementation of 24X7 Power Supply Scheme requires clear communication among all the stakeholders across the value chain, including the consumers. The quantum leap in undertaking the proposed infrastructure rollout, for enabling provision for 24X7 supplies for all consumers in the state would require

significant training and up skilling of the workforces of the power distribution utilities in the National Capital Territory of Delhi (NCTD). In view of the same, the identified capacity building measures proposed to be undertaken by the various utilities in the state is summarized in the following table:

Capacity Building Initiatives

TPDDL

There are two existing training institutes in TPDDL.

1. Centre for Power Efficiency in Distribution (CENPEID)
2. Distribution Operations & Safety Excellence Centre (DOSEC)

DOSEC

Technical - 2000 man days, Non-technical - 500 man days

1. Power Sector, Regulatory and Customer Care
2. Distribution planning and optimization
3. O&M of Distribution Network
4. O&M of Distribution Equipment
5. O&M of Electric Sub-Stations (33 KV and below)
6. Metering, Contracts Management & Reliability Issues.
7. AT&C Losses and Loss Reduction Measures
8. Information Technology & Smart Grid in Distribution
9. Power Sector Scenario, Reliability, Metering and AT&C losses
10. Sub-transmission & distribution lines
11. Safety Zone Creation
12. General Safety
13. Operational Safety
14. Cabling and Earthing
15. Training for Cable Jointer
16. Ethics and Customer Orientation

CENPEID

Functional Technical Trainings -1428 Man days

Non-Technical Trainings (Behav./ Leadership/ Mgt.) - 12053 Man days

Behavioral Programs

1. Utkarsh
2. Pragati Ki Ore
3. Journey Towards Excellence
4. Power of Responsibility

5. Power of Commitment
6. Corporate Etiquettes
7. Communication and Presentation Skills
8. Conflict Management
9. Communication Skills
10. Working Together Works
11. Emotional Intelligence

Leadership Programs

1. Leadership Development Trends
2. Leadership Effectiveness Strategies
3. Leading and Managing Change
4. Developing Leadership Competencies
5. Achievement Oriented Leadership

Management Programs

1. Creativity in Action
2. Coaching for Team Performance
3. Road to Success
4. Building Star Performer
5. Managerial Effectiveness
6. Excellence for Millennium Workforce
7. 4 Coffee Mugs
8. Stepping Ahead
9. Building Blocks to Innovation
10. Mastering Self Discipline

Functional / Technical / Other Programs

1. Function specific programs like HR for Non HR
Legal for Non Legal, Finance for Non Finance.
2. Problem Solving and Quality Tools.
3. Focus Group Training for all Departments
4. Project Management
5. Theme Based lectures on various topics for organizational interest
6. Health and Wellness Programs
7. Reach out Sessions at Zones
8. Computer Skills.
9. Program on SAP Modules.
10. Seekh Sessions on various topics of interest.
Customer Service Programs



BRPL

There are four existing training centers in BRPL

1. Knowledge Centre – Nehru Place
2. Technical &IT Training Facility – Malviya Nagar
3. Technical &IT Training Facility – Punjabi Bagh
4. Apprentice Training Center – Kilokri

Training	Mandays (2014 – 15)
• Functional –	2579
• Technical –	4320
• Behavioral –	1605
• Induction/Others -	8879

Induction Training

1. **Introduction to Power Sector/Organization**
 - a. Overview on Organization / vision and direction of the organization
 - b. Respective department overview
 - c. Roles and responsibilities
2. **Site Visits**
 - a. Field Installations – Grids, SCADA centre O&M installations
 - b. Customer Care Centers
3. **On-the-Job Training**

After the above sessions, the new hires are assigned specific stints in their respective businesses which suit the skill sets of the candidates.

Functional / Other Training

1. MRDC training
2. Analytical Tools & Techniques for SGAs
3. Auto CAD training
4. Basics of Networking
5. DSS-TAB Training
6. DT Audit Module
7. Finance For Non-Finance
8. Functional Training program for AMC Supervisors
9. GIS Training
10. GIS Training for DT health and loss reduction
11. IMS Audit Training
12. INSIGHT
13. Integrated Management Service
14. Intelligence League training (CCO-CHD)
15. Lakshya for BRPL strategic teams
16. MS Office
17. MS Project Training
18. Performance Champion training
19. Power of Writing
20. Quality Circle Crash Course
21. Recovery SLA Module
22. SAP (P-70) training
23. SAP Refresher Training for AMPS

24. SAP Refresher Training for CO
25. Scrap Declaration Form (SDF)
26. Security training
27. SGA Awareness Program
28. SGA Facilitators' Training
29. SOUL Workshop for People Managers
30. Train the Trainer Workshop
31. Training for Cashiers (Prepaid System)
32. Training for CO &CCO
33. Training for GCC (Prepaid System)
34. Training for MMGKPO
35. Training for MMG Sealing Engineer/Lineman
36. Functional training for Vigilance Teams
37. Training on WTI-OTI
38. Vigilance training for CHD
39. Wonder GIS
40. Working on Tabs (DSS)
41. Five S awareness training

Behavioral Competency Development

1. 'Asititva'- Behavioral training for EHV Engineers
2. Behavioral training for AMC Supervisors
3. 'Asha Kiran'-CSR Training
4. 'Karmath'-Behavioral training for Bill distributors
5. 'Prabal'-Behavioral training for Telephone operators
6. 'Sashakt'-Behavioral training for Business staff
7. APEX-Cadre Change Workshop
8. Outbound training program on Teamwork & leadership
9. Outbound training program on Team Building and collaboration

Technical/ Safety Training

1. Maintenance of Distribution Transformers
2. AMC Certification Program-6day workshop
3. Apprentice training
4. Best Practices and Safety Precautions
5. Best Practices for On-site Maintenance of DT
6. CMG Automation
7. EHV Maintenance Staff Training
8. Knowledge Sharing session on Earthing
9. Knowledge Sharing on Preventive Maintenance
10. Net Metering
11. On-site Maintenance of DT
12. On-site minor trouble shooting of LT & HT switchgear
13. Relay Setting
14. Strategic Transformation training
15. Apprentice training



Training for other utilities (UHBVNL)

1. Emerging Technologies and best Practices in O&M
2. Automation and SCADA application in Power Distribution System
3. On-site Maintenance of DT for UHBVN Engineers
4. Training on Safety

External Learning Programs

1. Condition Monitoring of Power Transformers using Transformer Oil Analysis
2. Earthing systems

BYPL

In line with philosophy “ Training for All” BYPL, a learning organization, serves dynamic capability requirements of the employees to drive the performance parameters like revenue , productivity, operational excellence , quality and customer sensitivity pan organization through institutionalization of **Training Policy at par with National Training Policy for Power Sector.**

BYPL Learning & development conforms to quality management system and processes and is **ISO 9001:2015 certified**, maintaining continual upward trend **in training man days by organizing quality trainings as per the learning needs aligned with organizational objectives.**

BYPL L&D was awarded “**National Award for Training & Development** “ by ISTD (Ministry of HRD) for its contribution in Training & Development in Distribution Sector “. It was also conferred upon by “**GOLD Award**” at Quality Convention, Delhi Chapter by QCFI India.

TRACK	Man days
AT&C	3273
Business & Financial Acumen	727
Customer Care	1850
Others	3034
TOTAL	8884

Keeping in line with the organizational objective of pursuing learning opportunities and sharing the best practices with industry professionals and the prospective power sector professionals for the overall benefit of the sector, BYPL has extended learning arm to other state electricity board. More than 20 programs of various themes under RAPDRP initiative has been conducted for Engineers from Northern India, training more than 400 power sector professionals.



3. Legal literacy and legal aspects of Power sector
4. Power Transmission in India -System, Issues & Perspectives
5. Power theft in distribution system
6. Circuit breakers and protection testing
7. Innovation & practices in Transformer design, testing & maintenance
8. Tariff Fixation Process in the Electricity Sector
9. Industrial safety and management
10. Latest Developments and Advances in Power Transformers
11. Power trading and energy exchange

Induction training conducted exclusively for new joiners (Jr. Engineers) of Punjab State Transmission Corporation Ltd.

BYPL has the following dedicated Training infra located at different locations catering to multiple learning needs:

- Knowledge Centre – Patparganj
- IT Training Facility – Shankar Road
- Auditorium Hall – KKD
- Auditorium Hall – KKD
- Training Hall at Karkardooma
- Corporate Library

Induction Training

1. **Introduction to Organization / Power Sector**
 - a. Overview on Organization / vision and direction of the organization
 - b. Knowledge on Power Sector
2. **Various Functional Induction – Generation/Distribution/Transmission as well other Support Functions**
 - a. Introduction about the respective departments
 - b. Context of the organization and department and how it fits into the overall business
3. **HR Induction**
 - a. An overview of the HR policies
 - b. Goal Setting
4. **Management Training**
 - a. Behavioral Training/Personal
 - b. Development Sessions
5. **Site Visits**
 - a. Field Installations – Grids, SCADA centre O&M installations.
 - b. Customer Care Centers
6. **Intensive Technical Training**

7. On the Job Training

- a. After the above sessions, the Fresher are assigned specific stints in their respective businesses which suit the skill sets of the candidates.

Functional Training

1. Best Practices in Distribution Business, Process & Technologies
2. Power Sector Fundamentals, Concepts and Overviews
3. Policies & Regulations
4. Information Technology
5. RAPDRP/DRUM Programs – Training Programs Initiated by MOP & USAID under distribution reforms
6. Finance & Secretarial
7. Human Resource – PMS, Employee Engagement, IR Aspects, HR for Non-HR, Contract Labor laws
8. And Regulations, Recruitment Strategies, Automation in HR.
9. Legal – Legal for Non Legal, Legal compliances, statutory compliances.
10. Quality – ISE, Internal Auditor Course, Six Sigma, Quality Circle.
11. Project Management
12. Equipment Trainings
13. Disaster Management
14. Refresher Programs for the Technicians

Behavioral Competency Development

1. Personal Effectiveness

- a) Personal effectiveness & Business Etiquette
- b) Enhancing Interpersonal Skills Through effective business communication
- c) Developing emotional Strength
- d) Coping with change
- e) Creativity, reinvention & self development
- f) Stress Management
- g) Personal Wellness Programs

2. People Management

- a. Towards Building High Performing Teams
- b. Executive Coaching & Mentoring
- c. Supervisory Leadership
- d. Strategic Talent Management

3. Leadership Development-

- a. Change Management and Organizational renewal
- b. Leadership quotient @ work

4. Business Effectiveness

- a) Gaining satisfaction through customer delight
- b) Negotiation strategies for win win solutions.
- c) Making Effectiveness Presentations
- d) Analytical Techniques for process improvement

- e) Effective communication skills
- f) Train the Trainers

5. Mentoring Program

New Joinees – GET/DET

Technical Trainings

1. Energy Audit and Accounting
2. GIS - Supported Network Planning, Analysis and Asset Management
3. Legal Provision, Electrical Safety Procedures & Accident Prevention
4. SCADA and Network Automation
5. Electrical Protection System
6. Testing, Protection, Operation & Maintenance of Switchgear
7. Best Practices in Distribution Loss Reduction
8. Best Practices in EHV Maintenance
9. Operation, Maintenance and trouble-shooting in RMU
10. Electricity Act 2003 & Regulatory Rules
11. Best Practices in HT/LT Maintenance
12. CEA and IS Specifications
13. Distribution Management System in Utilities
14. Best Practices of Effective Documentation
15. Certification course on SCADA and Network Automation
16. Fault Analysis of Equipments
17. Best Practices in Execution of Scheme work
18. Distribution Efficiency, Demand Side Management and Energy Conservation
19. Fundamentals of Reactive Power
20. Energy Losses and Their Financial Impacts
21. Understanding Lotus Notes Better & Internet Explorer
22. Concept of Smart Grid

Financial Management

1. Strategic Cost optimization
2. Best Practices in Financial Management of Distribution System
3. Finance for Non finance
4. Budgeting and Control
5. Cost & Audit

Quality and Safety

1. Best Practices in Safety for Lineman
2. Safety Induction Training
3. Electrical Safety procedures, accident prevention and CEA safety guidelines
4. Behavior Based Safety
5. Quality in Execution & Operation.
6. Quality Management Systems : ISO 9001: 2015,
7. ISO 14001: 2015, Occupational Health & Safety Management System based on requirements of OHSAS 18001:2007.



CHAPTER - 11 : YEAR WISE ROLL OUT PLAN

DELIVERABLES						
Power for All - Roll Out Plan	Units	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	Total
GENERATION						
Private Sector						
Hydro (HEP)		0.00	0.00	0.00	81.74	81.74
RES (MNRE)		62.50	40.88	910.00	30.00	1043.38
Central Generating Station						
Thermal		0.00	0.00	0.00	175.05	175.05
Hydro (Renewable)		56.22	32.00	0.00	432.15	520.37
Total :		118.72	72.88	910.00	718.94	1820.54
TRANSMISSION						
Inter State (PGCIL)						
New Substation (400/220kV)	Nos./MVA				3/6000	3/6000
Augmentation at 400/220kV level	Nos./MVA		1/740			1/740
400 kV Lines	Ckt km				252	252
Intra State (DTL)						
NEW Works						
400/220kV Substation	Nos./MVA					
400kV Lines	Ckt km					
220/66kV & 220/33 kV Substation	Nos./MVA		3/720	6/1800	5/1520	14/4040
220 kV Lines	Ckt km	10/188	5/64	8/118	5/155	28/525
Augmentation of sub-stations						
400/220kV	MVA	1/370	1/315	1/315		3/1000
220/66kV & 220/33kV	MVA	5/740	6/540	1/120		12/1400
Distribution (Cumulative)						
BRPL						
Sub-transmission System						
66 & 33 KV Feeders	Ckt. Kms	1223	1283	1323	1363	1363
Substations (66/11 kV & 33/11kV)	Numbers	82	85	87	89	89
Substation Transformation Capacity	MVA	4294	4469	4619	4769	4769
Distribution System						
11 KV Feeders	Ckt. Kms	4144	4401	4658	4900	4900
Distribution Transformers	Numbers	7282	7485	7700	7900	7900
DT Transformation	MVA	4431	4762	5113	5440	5440
LT Feeders	Ckt Kms	10584	11198	11846	12450	12450
AT&C Loss	In %	14.2	13.7	13.2	12.7	12.7
BYPL						
Sub-transmission System						
66 & 33 KV Feeders	Ckt. Kms	877	901	918	934	934
Substations (33kV/11kV)	Numbers	53	56	59	62	62
Substation Transformation Capacity	MVA	3195	3481	3744	4080	4080
Distribution System						
11 KV Feeders	Ckt. Kms	2111	2231	2366	2493	2493
Distribution Transformers	Numbers	3671	3824	3987	4161	4161
DT Transformation (excluding HVDS)	MVA	2671	2906	3158	3427	3427
LT Feeders	Ckt Kms	5714	5963	6229	6514	6514
AT&C Loss	In %	18.54	17.54	16.54	15.54	15.54



DELIVERABLES						
Power for All – Roll Out Plan	Units	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	Total
TPDDL						
Sub-transmission System						
66 & 33 KV Feeders	Ckt. Kms	680.46	754.46	783.46	795.46	795.46
Substations (66/11 kV & 33/ 11kV)	Numbers	77	82	88	95	95
Substation Transformation Capacity	MVA	4444.5	4994.5	6298.5	7091.5	7091.5
Distribution System						
11 KV Feeders	Ckt. Kms	4077	4202	4316	4429	4429
Distribution Transformers	Numbers	30232	30732	31144	31575	31575
DT Transformation	MVA	5755	5876	5972	6059	6059
LT Feeders	Ckt Kms	10024	10343	10595	10828	10828
AT&C Loss	In %	9.9	9.7	9.5	9.3	9.3
NDMC						
Sub-transmission System						
66 & 33 KV Feeders	Ckt. Kms	223	227	232	237	237
Substations (33kV/11kV)	Numbers	30	30	31	32	32
Substation Transformation Capacity	MVA	1466	1466	1506	1546	1546
Distribution System						
11 KV Feeders	Ckt. Kms	954	970	990	1020	1020
Distribution Transformers	Numbers	768	770	775	780	780
DT Transformation	MVA	936	938	943	948	948
LT Feeders	Ckt Kms	1405	1408	1415	1423	1423
AT&C Loss	In %	9.85	9.85	9.85	9.63	9.63
ENERGY EFFICIENCY						
Domestic: Air Conditioning	Air 20,000 Air Conditioners BEE 5 Star/ Inverter AC's	2	12	12	12	38
Domestic: Lighting	20 Lakh LED Bulbs against CFL (DELP Scheme)	12	12	12	12	48
Domestic: Fan	1 Lakh Ceiling Fans	0	7	7	7	21
Domestic: Refrigerator	30,000 Refrigerator	0	10	10	10	30
Domestic: Tube light	1 Lakh T5/ LED tube light against T12	0	5	5	5	15
Industrial; HVAC	Chillers	Saving Potential to be decided based upon detailed Energy Audit activity completed by EESL				
Total (MU) :		14	46	46	46	152



CHAPTER – 12 : SECTOR WISE INVESTMENT PLAN

(Rs. in Crores)						
SECTOR		FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	Total
Generation	Projects under construction/execution					
	Thermal (**) (Pragati –II 750MW Bamnauli CCGT project)					
	Expenditure up to Mar 2015	Rs. 350 Cr. out of total project Cost of Rs 2500 Cr				
	Remarks	Project is under hold by Delhi Govt., due to non-availability of natural gas.				
	JV Projects where Delhi Genco is a Partner					
	Thermal (APCPL, IGSTPP – I: JV of NTPC, HPGCL and IPGCL (3 x 500 MW)	125.13				125.13
	Expenditure up to Mar 2015	Rs. 634.75Crores				
	Remarks	Share of Delhi is Rs 759.88 Cr out of Total Cost Rs 10131.82 Cr				
Total Generation		125.13				
Transmission	Inter State	190	1300	780	330	2600
	Intra State	493	841	1026	1073	3433
Total Transmission		683	2141	1806	1403	6033
Distribution						
Ongoing & Proposed Schemes (NDMC)						
Distribution company own schemes		4	156	103	32	295
IPDS		24	165	48	0	237
Ongoing & Proposed Schemes (BRPL)						
Distribution company own schemes		361	530	500	500	1891
IPDS			90	38		128
Ongoing & Proposed Schemes (BYPL)						
Distribution company own schemes		117	135	127	145	524
IPDS		0	45	45	0	90
Additional Funding Required for 24x7 Plan		0	444	458	477	1379
Ongoing & Proposed Schemes (TPDDL)						
HT Capex		132	137	118	114	502
EHV Capex		87	299	466	221	1072
IPDS		116.59	155	117	0	388
Total Distribution		841.59	2156	2020	1489	6506.59
Grand Total :		1765	4500	3899	2527	12565

NOTE: CAPEX projected is as per the data provided by respective utilities.



Annexure-I

DETAILS OF CAGR CALCULATION FOR INDIVIDUAL DISCOM

Sl. No.	Category-wise Growth in consumers (MU)	Year-wise figures from 2010-11 to 2014-15					CAGR % (FY 2010-11 to FY 2014-15)
		FY 2010-11	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	
A	TPDDL						
1	Domestic	2752	2888	2994	3109	3346	5.0%
2	Commercial	1125	1229	1270	1329	1345	4.6%
3	Industrial	1960	2012	2104	2194	2279	3.8%
4	Public Lighting	89	97	109	124	144	12.8%
5	Traction	209	220	210	179	186	-2.9%
6	Agriculture	17	15	13	13	13	-6.5%
7	Public Water Works & Sewage Pumping	182	172	203	204	219	4.7%
8	Miscellaneous	65	65	64	36	84	6.6%
B	BYPL						
1	Domestic	2492	2558	2675	2804	3004	4.8%
2	Commercial	1397	1454	1540	1614	1639	4.1%
3	Industrial	442	434	337	288	282	-10.6%
4	Public Lighting	102	106	105	103	101	-0.2%
5	Traction	92	125	127	173	161	15.1%
6	Agriculture	0	0	0	0	0	-18.1%
7	Public Water Works & Sewage Pumping	119	121	131	140	141	4.3%
8	Miscellaneous	62	46	88	92	77	5.5%
C	NDMC						
1	Domestic	239	244	259	261	261	2.2%
2	Commercial	984	982	1014	1012	1022	1.0%
3	Industrial	0	0	0	0.21	0.00	-100.0%
4	Public Lighting	9	13	8	8	8	-1.2%
5	Traction	0	0	0	0	0	0.0%
6	Agriculture	0	0	0	0	0	0.0%
7	Public Water Works & Sewage Pumping	0	0	0	0	0	0.0%
8	Miscellaneous	7	8	10	16	30	41.7%
D	BRPL						
1	Domestic	4594	4774	5128	5392	5788	5.9%
2	Commercial	2596	2643	2759	2783	2827	2.1%
3	Industrial	603	540	537	526	507	-4.2%
4	Public Lighting	152	137	158	161	188	5.4%
5	Traction	165	293	305	288	295	15.7%
6	Agriculture	18	18	17	16	16	-2.8%
7	Public Water Works & Sewage Pumping	91	103	165	211	207	22.7%
8	Miscellaneous	358	511	310	314	352	-0.4%
	Total	20921	21807	22638	23388	24521	
	Total Domestic	10077	10464	11056	11566	12399	

Annexure-II**DETAILS OF LOAD FACTOR CALCULATION FOR DELHI-OVERALL**

Sl.No.	Description	FY2015-16	FY2016-17	FY2017-18	FY2018-19
	On weighted average basis				
1	TPDDL				
a	Energy at state periphery	8920	9306	9711	10137
b	Load factor	57.50%	57.50%	57.50%	57.50%
2	BRPL				
a	Energy at state periphery	12507	13086	13676	14365
b	Load factor	55.69%	55.69%	55.69%	55.69%
3	BYPL				
a	Energy at state periphery	6791	7047	7296	7592
b	Load factor	50.25%	50.25%	50.25%	50.25%
4	NDMC				
a	Energy at state periphery	1511	1548	1594	1648
b	Load factor	44.98%	44.98%	44.98%	44.98%
5	MES				
a	Energy at state periphery	206	216	226	237
b	Load factor	58.70%	58.70%	58.70%	58.70%
	Wt average Load factor for overall NCTD	54.48%	54.49%	54.51%	54.52%

ANNEXURE – III

BREAK UP & DETAILS OF CAPACITIES EXISTING AND LIKELY TO BE ADDED YEAR WISE (MW)

Sl. No	Power Source/Generating Stations	Type of Plant	Location	State Share (MW)	Share of Discom's for Delhi (MW)					Plant commissioned/ Total Capacity (MW) (Cumulative)				Remarks
					BRPL	BYPL	TPDDL	NDMC	MES	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	
A	State Generating Stations													
A.1	IPGCL Rajghat Power House (2 X 67.5MW = 135MW)	Thermal (Coal)	DL	0	0	0	0	0	0	0	0	0	0	Closed Down
A.2	IPGCL GTPS (6GTx30+3STx34=282 MW)	Thermal (Gas)	DL	270	165	23	82	0	0	270	270	270	270	
A.3	PPCL Pragati Power Station-I (2X104MW+1X122MW= 330MW)	Thermal (Gas)	DL	330	102	58	70	100	0	330	330	330	330	
A.4	Pragati – II Power Project, Bamnauli (1CCGTx750 MW)	Thermal (Gas)	UP	525	231	133	161	0	0	0	0	0	0	COD Beyond 2018-19
A.5	PPCL Pragati Power Station-III, Bawana (4GTx250+2STx250=1500MW)	Thermal (Gas)	DL	1097	427	247	298	100	25	1097	1097	1097	1097	Generation is limited to 300 MW because of Gas Availability.
	Sub Total SGS									1697	1697	1697	1697	
B	Central Generating Stations													
B.1	NTPC Power Plants													
B.1.1	Farakka (3x200MW+3x500MW=2100MW)	Thermal (Coal)	WB	22	10	6	7	0	0	22	22	22	22	
B.1.2	Singrauli (5x200+2x500=2000MW)	Thermal (Coal)	UP	150	30	74	46	0	0	150	150	150	150	
B.1.3	Rihand-I (2X500MW= 1000 MW)	Thermal (Coal)	UP	100	44	25	31	0	0	100	100	100	100	
B.1.4	Rihand -II (2X500MW=1000 MW)	Thermal (Coal)	UP	126	55	32	39	0	0	126	126	126	126	
B.1.5	Rihand -III (2X500 MW=1000 MW)	Thermal (Coal)	UP	132	58	34	40	0	0	132	132	132	132	
B.1.6	Unchahar-I (2 X210 = 420MW)	Thermal (Coal)	UP	24	11	6	7	0	0	24	24	24	24	



Sl. No	Power Source/Generating Stations	Type of Plant	Location	State Share (MW)	Share of Discom's for Delhi (MW)					Plant commissioned/ Total Capacity (MW) (Cumulative)				Remarks
					BRPL	BYPL	TPDDL	NDMC	MES	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	
B.1.7	Unchahar- II (2 X210 = 420MW)	Thermal (Coal)	UP	47	21	12	14	0	0	47	47	47	47	
B.1.8	Unchahar- III (1X 210 = 210MW)	Thermal (Coal)	UP	29	13	7	9	0	0	29	29	29	29	
B.1.9	Anta (3GTx88.71MW +1ST X153.2MW =419.33 MW)	Thermal (Gas)	RJ	44	19	11	14	0	0	44	44	44	44	
B.1.10	Auraiya Gas (4GTx110+2ST 652 MW)	Thermal (Gas)	UP	71	31	18	22	0	0	71	71	71	71	
B.1.11	Dadri (4GTx130.19 MW + 2 ST X 154.51 MW=829.78MW)	Thermal (Gas)	UP	90	39	23	28	0	0	90	90	90	90	
B.1.12	Kahalgaon-I (4X210MW=840MW)	Thermal (Coal)	BR	52	23	13	16	0	0	52	52	52	52	
B.1.13	Kahalgaon-II (3X500MW = 1500MW)	Thermal (Coal)	BR	157	69	40	48	0	0	157	157	157	157	
B.1.14	Dadri-I (4 X 210MW=840MW)	Thermal (Coal)	UP	756	365	72	191	125	3	756	756	756	756	
B.1.15	Dadri-II (2X490MW=980MW)	Thermal (Coal)	UP	735	323	187	225	0	0	735	735	735	735	
B.1.16	Badarpur (3x95+2x210=705 MW Derated)	Thermal (Coal)	DL	632	213	113	181	125	0	632	632	632	632	
B.1.17	Tanda II (2X660MW=1320MW)	Thermal (Coal)	UP	87	51	0	36	0	0	0	0	0	87	1320 MW will be available from FY 2018-19.
B.1.18	Koldam (4X200MW= 800MW)	Hydro (HEP)	HP	56	0	25	31	0	0	56	56	56	56	800 MW will be available from FY 2015-16.
B.1.19	LataTapovan (3X57MW=171MW)	Hydro (HEP)	UK	19	8	5	6	0	0	0	0	0	19	171 MW will be available from FY 2018-19.
B.1.20	TapovanVishnugad (4X130MW=520MW)	Hydro (HEP)	UK	53	31	0	22	0	0	0	0	0	53	520 MW will be available from FY 2018-19.
B.1.21	NTPC North Karanpura (3X660MW=1980MW)	Thermal (Coal)	JH	88	0	40	48	0	0	0	0	0	88	1980 MW will be available from FY 2018-19.
	Sub Total CGS (NTPC)									3224	3224	3224	3471	
B.2	NHPC HYDRO													



Sl. No	Power Source/Generating Stations	Type of Plant	Location	State Share (MW)	Share of Discom's for Delhi (MW)					Plant commissioned/ Total Capacity (MW) (Cumulative)				Remarks
					BRPL	BYPL	TPDDL	NDMC	MES	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	
B.2.1	Bairasuil (3X60MW= 180MW)	Hydro (HEP)	HP	20	9	5	6	0	0	20	20	20	20	
B.2.2	Salal-I (6 X115MW = 690MW)	Hydro (HEP)	JK	80	35	20	25	0	0	80	80	80	80	
B.2.3	Tanakpur (3X40MW=120MW)	Hydro (HEP)	UK	12	5	3	4	0	0	12	12	12	12	
B.2.4	Chamera I (3X180MW=540MW))	Hydro (HEP)	HP	43	19	11	13	0	0	43	43	43	43	
B.2.5	Chamera II (3X100MW=300MW)	Hydro (HEP)	HP	40	18	10	12	0	0	40	40	40	40	
B.2.6	Chamera III (3X77MW=231MW)	Hydro (HEP)	HP	29	13	7	9	0	0	29	29	29	29	
B.2.7	Uri-I (4 X 120MW=480MW)	Hydro (HEP)	JK	53	23	13	16	0	0	53	53	53	53	
B.2.8	Uri-II (4X60MW=240MW)	Hydro (HEP)	JK	32	14	8	10	0	0	32	32	32	32	
B.2.9	Dhauliganga-I (4X70MW=280MW)	Hydro (HEP)	UK	37	16	9	11	0	0	37	37	37	37	
B.2.10	Dulhasti (3X130MW=390MW)	Hydro (HEP)	JK	50	22	13	15	0	0	50	50	50	50	
B.2.11	Sewa-II (3 X40MW=120MW)	Hydro (HEP)	JK	16	7	4	5	0	0	16	16	16	16	
B.2.12	Parbati II (4X200MW=800MW)	Hydro (HEP)	HP	74	34	17	24	0	0	0	0	0	74	800 MW will be available from FY 2018-19.
B.2.13	Parbati-III (4X130MW=390MW)	Hydro (HEP)	HP	66	29	17	20	0	0	66	66	66	66	
B.2.14	Kishanganga (3X110MW=330MW)	Hydro (HEP)	JK	32	14	8	10	0	0	0	32	32	32	330 MW will be available from FY 2016-17.
B.2.15	Kotibhel-IA (3x65MW=195MW)	Hydro (HEP)	UK	22	10	6	7	0	0	0	0	0	22	195 MW will be available from FY 2018-19.
B.2.16	Kotibhel-IB (4X80MW=320MW)	Hydro (HEP)	UK	36	15	10	10	0	0	0	0	0	36	320 MW will be available from FY 2018-19.
B.2.17	Kotibhel-II (530MW)	Hydro (HEP)	UK	60	25	17	17	0	0	0	0	0	60	530 MW will be available from FY 2018-19.



Sl. No	Power Source/Generating Stations	Type of Plant	Location	State Share (MW)	Share of Discom's for Delhi (MW)					Plant commissioned/ Total Capacity (MW) (Cumulative)				Remarks
					BRPL	BYPL	TPDDL	NDMC	MES	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	
	Sub Total CGS (NHPC)									477	509	509	701	
B.3	NPCIL NUCLEAR PLANT													
B.3.1	NAPS - Narora (2X220MW=440MW)	Nuclear	UP	47	21	12	14	0	0	47	47	47	47	
B.3.2	RAPP 5 & 6 (2X220MW=440MW)	Nuclear	RJ	56	25	14	17	0	0	56	56	56	56	
	Sub Total CGS (Nuclear)									103	103	103	103	
B.4	Other (CGS)													
B.4.1	DVC Chandrapura TPS (Unit 7,8) (2X250MW=500MW)	Thermal (Coal)	JH	296	132	76	87	0	0	296	296	296	296	
B.4.2	DVC Mejia TPS (Units-6) (1X250MW=250MW)	Thermal (Coal)	WB	99	44	25	29	0	0	99	99	99	99	
B.4.3	DVC Mejia TPS (Units-7) (1X500MW=500MW)	Thermal (Coal)	WB	111	0	111	0	0	0	111	111	111	111	
B.4.4	THDC Tehri HEP Stage-I (4X250MW = 1000MW)	Hydro (HEP)	UK	80	45	16	19	0	0	80	80	80	80	
B.4.5	THDC Koteswar HEP (4 x 100MW = 400MW)	Hydro (HEP)	UK	39	17	10	12	0	0	39	39	39	39	
B.4.6	THDC Tehri Pump Storage (4X250MW=1000MW)	Hydro (HEP)	UK	150	66	38	46	0	0	0	0	0	150	Only One unit of 250 MW will be commissioned by 2018-19
B.4.7	VishnugadPipalkoti (4X111MW=444MW)	Hydro (HEP)	UK	19	19	0	0	0	0	0	0	0	19	444 MW will be available from FY 2018-19.
B.4.8	SJVNL (Formerly NJPC)- (6 X 250MW=1500MW)	Hydro (HEP)	HP	142	62	36	44	0	0	142	142	142	142	
B.4.9	Tala HEP (JV GoI& Govt. of Bhutan) (6X170MW=1020MW)	Hydro (HEP)	Bhutan	30	13	8	9	0	0	30	30	30	30	
B.4.10	APCPL, IGSTPP-I (Jv of NTPC, HPGCL, IPGCL) (3 X 500MW=1500MW)	Thermal (Coal)	HR	212	0	0	212	0	0	212	212	212	212	
	Sub Total CGS (Other CGS)									1008	1008	1008	1177	
C	Private Power Plant													



Sl. No	Power Source/Generating Stations	Type of Plant	Location	State Share (MW)	Share of Discom's for Delhi (MW)					Plant commissioned/ Total Capacity (MW) (Cumulative)				Remarks
					BRPL	BYPL	TPDDL	NDMC	MES	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	
C.1	CLP India Jhajjar (2X660 MW=1320MW)	Thermal (Coal)	HR	266	134	0	132	0	0	266	266	266	266	
C.2	Maithon Power Limited (JV of Tata & DVC) (2X525MW=1050 MW)	Thermal (Coal)	JH	300	0	0	300	0	0	300	300	300	300	
C.3	Reliance SASAN UMPP (6X660MW=3960 MW)	Thermal (Coal)	MP	457	88	257	112	0	0	457	457	457	457	Case-II route
C.4	Rithala Generation Plant (94.8 MW) JV Project of TPDDL	Thermal (Gas)	DL	94	0	0	94	0	0	94	94	94	94	
C.5	Pakaldul (4X250MW=1000MW)	Hydro (HEP)	JK	82	44	7	31	0	0	0	0	0	82	1000 MW will be available from 2018-19.
	Sub Total CGS (Private)									1117	1117	1117	1199	
D	RES (MNRE)													
D.1	SECI Solar	RES (MNRE)	Other	40.00	20	20	0	0	0	40	40	40	40	40 MW will be available from 01 Jun 2015
D.2	Solar PV		DL	8.50	2	0	0	5	1	9	9	9	9	
D.3	Solar PV		DL	22.50	2	0	15	4	2	23	23	23	23	
D.4	Solar PV		DL	35.00	0	0	15	0	20	0	35	35	35	35 MW will be available from 01 Apr 16.
D.5	Solar PV		DL	730	444	256	10	0	20	0	0	730	730	30 MW will be available from FY 2017-18.
D.6	Solar PV		DL	30.00	0	0	10	0	20	0	0	0	30	30 MW will be available from FY 2018-19.
D.7	Sun Edison		MP	180	0	0	180	0	0	0	0	180	180	180 MW will be available from 01 Jun 17.
D.8	TOWMCL (16 MW)		DL	8.00	8	0	0	0	0	8	8	8	8	
D.9	M/s East Delhi Waste Processing Company Pvt Ltd. (EDWPCL)		DL	5.88	0	6	0	0	0	0	6	6	6	4.90 MW will be available from FY 2016-17.
	Sunb Total RES (MNRE)									71	120	1030	1060	
	Grand Total									7698	7779	8689	9408	

Transmission Network Details of Delhi state (Intra-state) as on March 2016**Transmission lines:**

Sl. No.	Description of Feeder	Circuit	Length of Line (Ckt.Kms.)		
			O/H	U/G	Total
A	400 KV Lines				
1	Mandola – Bawana	I	23.801		23.801
2	Mandola – Bawana	II	23.801		23.801
3	Bawana – Mundka	I	18.681		18.681
4	Bawana – Mundka	II	18.681		18.681
5	Bamnauli – Samaypur (Ballavgarh)	I	52.04	0.76	52.8
6	Bamnauli – Samaypur (Ballavgarh)	II	52.04	0.76	52.8
7	Mundka – Jhatikara	I	18.25		18.25
8	Mundka – Jhatikara	II	18.25		18.25
9	Bamnauli-Jhatikara	I	10.2	0.864	11.064
10	Bamnauli-Jhatikara	II	10.2	0.864	11.064
Total 400kV length (Circuit kilometers)			245.944	3.248	249.192
B	220 KV Lines				
1	Bamnauli – DIAL	I	8.4	4.99	13.39
2	Bamnauli – DIAL	II	8.4	4.99	13.39
3	DIAL – Mehrauli	I	6.23	4.99	11.22
4	DIAL – Mehrauli	II	6.23	4.99	11.22
5	Bamnauli – Najafgarh	I	8.118		8.118
6	Bamnauli – Najafgarh	II	8.118		8.118
7	Bamnauli – Pappankalan-I	I	8.3		8.3
8	Bamnauli – pappankalan-I	II	8.3		8.3
9	Bamnauli – Pappankalan-II	I	10.346		10.346
10	Bamnauli – Pappankalan-II	II	10.346		10.346
11	Bamnauli – Naraina	I	16.8		16.8
12	Bamnauli – Naraina	II	16.8		16.8
13	Bawana – Kanjhawala	I	11.737		11.737
14	Bawana – Kanjhawala	II	11.737		11.737
15	Kanjhawala – Najafgarh	I	15.391		15.391
16	Mundka – Najafgarh	I	18.0		18.0
17	Mundka – Kanjhawala	I	8.6		8.6
18	Bawana – Rohini-I	I	10.05		10.05
19	Bawana – Rohini-I	II	10.05		10.05
20	Bawana – Shalimar bagh	I	10.752		10.752
21	Bawana – Shalimar bagh	II	10.752		10.752
22	Bawana – DSIIDC Bawana	I	5.6		5.6
23	Bawana – DSIIDC Bawana	II	5.6		5.6
24	DSIIDC Bawana – Narela	I	11.95		11.95
25	DSIIDC Bawana – Narela	II	11.95		11.95
26	Shalimarbagh –Rohini-I	I	6.7		6.7
27	Shalimarbagh –Rohini-I	II	6.7		6.7
28	Wazirabad- Gopalpur	I	4.301		4.301

Sl. No.	Description of Feeder	Circuit	Length of Line (Ckt.Kms.)		
			O/H	U/G	Total
29	Wazirabad- Gopalpur	II	4.301		4.301
30	Gopalpur – Subzi Mandi	I	7.3		7.3
31	Gopalpur – Subzi Mandi	II	7.3		7.3
32	Gopalpur – Mandola	I	22.621		22.621
33	Gopalpur – Mandola	II	22.621		22.621
34	Narela – Mandola	I	20.601		20.601
35	Narela – Mandola	II	20.601		20.601
36	Wazirabad – Kashmere gate	I	5.7		5.7
37	Wazirabad – Kashmere gate	II	5.7		5.7
38	Wazirabad – Mandola	I	14.53		14.53
39	Wazirabad – Mandola	II	14.53		14.53
40	Wazirabad – Mandola	III	14.53		14.53
41	Wazirabad – Mandola	IV	14.53		14.53
42	Wazirabad – Geeta Colony	I	6.278		6.278
43	Wazirabad – Geeta Colony	II	6.278		6.278
44	Geeta colony – Patparganj	I	4.4		4.4
45	Geeta Colony – Patparganj	II	4.4		4.4
46	Patparganj – I.P.	I	3.95		3.95
47	Patparganj – I.P.	II	3.95		3.95
48	I.P. – RPH	I	1.5		1.5
49	I.P. – RPH	II	1.5		1.5
50	Pragati – GT	I	0.204	0.179	0.383
51	Pragati – GT	II	0.204	0.179	0.383
52	Pragati – I.P.	I	1.9	0.22	2.12
53	Pragati – I.P.	II	1.9	0.22	2.12
54	Pragati – Park Street	I		7.334	7.334
55	Pragati – Park Street	II		7.334	7.334
56	Pragati – Sarita Vihar	I	11.9	0.22	12.12
57	Pragati – Sarita Vihar	II	11.9	0.22	12.12
58	SaritaVihar – BTPS	I	2.8		2.8
59	SaritaVihar – BTPS	II	2.8		2.8
60	Okhla – BTPS	I	5.85		5.85
61	Okhla – BTPS	II	5.85		5.85
62	Mehruli – BTPS	I	16.604		16.604
63	Mehruli – BTPS	II	16.604		16.604
64	Mehruli – Vasant Kunj	I	6.4		6.4
65	Mehruli – Vasant Kunj	II	6.4		6.4
66	Okhla to T-Off on Mehrauli-BTPS line	I	5.1		5.1
67	Okhla to T-Off on Mehrauli-BTPS line	II	5.1		5.1
68	Maharani Bagh – Lodhi road	I	4.25		4.25
69	Maharani Bagh – Lodhi road	II	4.25		4.25
70	Naraina – Ridge Valley	I	0	4.233	4.233
71	Maharani Bagh –Masjid moth	I	0	9.2	9.2
72	Maharani Bagh – Masjid Moth	II	0	9.2	9.2
73	Maharani Bagh –Trauma center	I	0	9.578	9.578
74	Maharani Bagh – Trauma center	II	0	9.578	9.578
75	Maharani Bagh –Electric Lane	I	0	8.43	8.43
76	Maharani Bagh –Electric Lane	II	0	8.43	8.43
77	Maharani Bagh –Gazipur	I	8.056		8.056

Sl. No.	Description of Feeder	Circuit	Length of Line (Ckt.Kms.)		
			O/H	U/G	Total
78	Maharani Bagh -Gazipur	II	8.056		8.056
79	Shalimar Bagh - Wazirpur	I		4.5	4.5
80	Shalimar Bagh - Wazirpur	II		4.5	4.5
81	Patparganj - Gazipur	I		4.9	4.9
82	Peeragarhi - Mundka	I		13	13
83	Peeragarhi - Mundka	II		13	13
84	Peeragarhi - Wazirpur	I		8.3	8.3
85	Peeragarhi - Wazirpur	II		8.3	8.3
86	AIIMS -Ridge Valley	I		5.8	5.8
87	AIIMS -Ridge Valley	II		5.8	5.8
Total 220kV length (Circuit kilometers)			603.493	174.226	777.719

Transformation capacity:

Sl. No.	Name of the Station	No of transformers and capacity (MVA)	Total capacity (MVA)
400/220 KV SUB-STATIONS			
1	Bamnauli	2x 315 + 2x 500	1630
2	Bawana	6x315	1890
3	Mundka	3x315	945
4	Harsh Vihar	3x315	945
TOTAL Capacity			5410

Remarks:

- Apart from the above, 4 x 315MVA= 1260MVA transformation capacity is available at Mandola S/Stn. of PGCIL is entirely dedicated to Delhi system. These transformation capacity is proposed to be enhanced to 4x500MVA = 2000MVA capacity by 30.06.2016.
- At 400kV Samaypur S/Stn. PGCIL 4 x 315MVA = 1260MVA transformation capacity is available from where about 300 MW (400MVA) capacity is made available to Delhi through 220kV Ballabgarh - BTPS D/C line. These transformation capacity is proposed to be enhanced to 4x500MVA = 2000MVA capacity by 30.06.2016.



220/66kV Sub-station			
1	Tikri Kalan (Mundka)	2x160	320
2	Bawana	1x100	100
3	Harsh Vihar	3x160	480
4	Gopalpur 220 KV	1x100	100
5	Gazipur 220 KV	2x100, 1x160	360
6	I P Extn (Pragati) 220 KV	2x160	320
7	Kanjhawala 220 KV	2x100, 1x160	360
8	Mehrauli 220 KV	3x100, 1x160	460
9	Najafgarh 220 KV	4x100	400
10	Narela 220 KV	3x100	300
11	Okhla 220 KV	2x100	200
12	Patparganj 220 KV	2x100	200
13	Park Street 220 KV	2x100	200
14	Papankalan - I 220 KV	4x100, 1x 160	560
15	Papankalan - II 220 KV	2x100, 2x160	520
16	Rohini-I 220 KV	4x100	400
17	SaritaVihar 220 KV	3x100	300
18	Vasant Kunj 220 KV	2x100, 1x160	360
19	Wazirabad 220 KV	3x100, 1x160	460
20	DSIIDC Bawana 220 KV	2x100, 1x160	360
21	Ridge Valley 220 KV	2x160	320
22	DIAL 220 KV	2x160	320
23	Rohini-II 220 KV	2x160	320
TOTAL 220/66 kV Capacity			7720
NET TOTAL at 220/66 kV & 220/33 kV level			11420
220/33kV level			
1	Gopalpur 220 KV	2x100	200
2	Kashmere Gate 220 KV	2x100	200
3	Lodhi Road 220 KV	2x100	200
4	Naraina 220 KV	3x100	300
5	Okhla 220 KV	3x100	300
6	Patparganj 220 KV	3x100	300
7	Park Street 220 KV	2x100	200
8	Shalimar Bagh 220 KV	3x100	300
9	Subzi Mandi 220 KV	2x100	200
10	Geeta Colony 220 KV	2x100	200
11	Indraprastha 220 KV	3x100	300
12	Trauma Center (AIIMS) 220KV	2x100	200
13	Electric Lane 220 KV	2x100	200
14	Masjid Moth 220 KV	2x100	200
15	Peeragarhi 220 KV	2x100	200
16	Wazirpur 220 KV	2x100	200
TOTAL Capacity at 220/33kV level:			3700

Remarks: 220kV Rohtak road (owned by BBMB) has installed capacity of 300 MVA at 220/33kV level, supplying power to Delhi.



Other Transformation levels available at DTL 66 & 33 kV substations as on March 2016

66/33kV level			MVA
1	Narela	1x30	30
2	Park Street	2x30	60
TOTAL Capacity at 66/33kV level:			90
66/11kV level			
1	Gazipur	2x20	40
2	Khanjawala	2x20	40
3	Najafgarh	3x20	60
4	Mehrauli	2x20	40
5	Okhla	2x20	40
6	Papankalan I	3x20	60
7	Rohini I	2x20	40
8	Sarita Vihar	2x20	40
9	Vasant Kunj	2x20	40
10.	Wazirabad	2x20	40
11	Narela	2x20	40
TOTAL Capacity at 66/11kV level:			480
33/11kV level			
1	Gopalpur	2x16	32
2	Lodhi Road	2x20,2x16	72
3	Kashmere Gate	1x20,1x16	36
4	Naraina	2x16	32
5	Patparganj	1x20,1x16	36
6	Subzi Mandi	2x16	32
7	Shalimar Bagh	1x20,1x16	36
TOTAL Capacity at 33/11kV level:			276

ANNEXURE-V

Details of Transmission Projects of DTL commissioned in the Financial year							2015-16
Serial	Name of scheme			Capacity			Cost
				nos	Unit	Total	Rs Cr.
A	New Sub Stations						
1	400/220 KV substation						
	TOTAL for 400/220 KV level			0	MVA	0	
2	220/66 KV substation						
	TOTAL for 220/66 KV level			0	MVA	0	
3	220/33 KV substation						
	TOTAL for 220/33 KV level			0	MVA	0.00	
	TOTAL Transormation capacity new addition at 400 and 220kV level			0	MVA	0.00	
B	Augumentation						
1	400/220 KV substation						
	a	2x 500MVA in place of 2x315 MVA at Bamnauli	2	185	370	MVA	33.00
	TOTAL for 400/220 KV level			370	MVA	33.00	
2	220/66 KV substation						
	a	100 MVA addition with associated bays at Sarita Vihar	1	100	100	MVA	4.00
	b	160 MVA addition with associated bays at DSIIDC-Bawana	1	160	160	MVA	12.89
	c	2nd 160 MVA addition with (1x220kV & 2x66 bays) at PPK-II	1	160	160	MVA	12.48
	d	160 MVA addition & (1x220kV & 3x66 bays) at Kanjhawala	1	160	160	MVA	13.54
	e	160 MVA addition with associated bays at PPK-I	1	160	160	MVA	10.15
	TOTAL for 220/66 KV level			740	MVA	53.06	
3	220/33 KV substation						
	TOTAL for 220/33 KV level			0	MVA	0	
	TOTAL Transormation capacity augmentation at 400 and 220kV level			1110	MVA	86.06	
C	Transmission Lines						
1	400kV						
	TOTAL for 400 KV level			0	ckt. Kms	0.00	
2	220 kV						
	a	220kV D/C Peeragarhi-wazirpur U/G	2	8	16.6	ckt. Kms	100.00
	C	220kV D/C Bawana to Rohini	2	12	24.4	ckt. Kms	20.00
	D	2nd circuit between Mundka and Peeera garhi	1	13	13	ckt. Kms	120.00
	E	1st ckt LILO of Najafgarh & Kanjhawala at Mundka	2	7	13	ckt. Kms	12.00
	F	220 KV S/C Patparganj-Gazipur U/G cable link	1	5	4.9	ckt. Kms	13.00
	G	220 KV D/C Vasantkunj-R.K.Puram U/G cable	2	7	14	ckt. Kms	73.00
	H	HTLS re-conductoring of D/C of Bamnauli-Naraina	2	17	33.6	ckt. Kms	33.00
	I	HTLS reconductoring of D/C Geeta Clny -Wazirabad	2	6	12.6	ckt. Kms	9.00
	J	HTLS reconductoring D/C Saritavihar-IP Power	2	14	28	ckt. Kms	18.00
	TOTAL for 220 KV level			160.10	ckt. Kms	398	
	TOTAL Transmission capacity augmentation at 400 and 220kV level			160.10	Ckt. kms	484.06	
3	66 kV						
	a	4x66 KV Bays at Kanjhawala S/Stn	4		0	bays	3.14
	b	4x66 KV Bays at Sarita Vihar S/Stn	4		0	bays	3.78
	d	2x66 Kv bays at Gazipur S/Stn	2		0	bays	1.60
	TOTAL for 66 KV level			0	bays	8.52	
4	33 kV						
	TOTAL for 33 KV level			0	bays	0.00	
	Total Scheme cost (A+B+C)						492.58

Details of Transmission Projects of DTL proposed to be commissioned in the Financial year							2016-17
Serial	Name of scheme			Capacity			Cost
				nos	Unit	Total	Rs Cr.
A	New Sub Stations						
1	400/220 KV substation						
	TOTAL for 400/220 KV level				0	MVA	0
2	220/66 KV substation						
	a	PPK-III (AIS)	2	160	320	MVA	65
	TOTAL for 220/66 KV level				320	MVA	65
3	220/33 KV substation						
	a	220kV GIS (AIS up-gradation) at Lodhi road	1	100	100	MVA	35.00
	b	Preet Vihar	3	100	300	MVA	85.00
	TOTAL for 220/33 KV level				400	MVA	120.00
TOTAL Transormation capacity new addition at 400 and 220kV level					720	MVA	185.00
B	Augumentation						
1	400/220 KV substation						
	a	4th ICT addition (shifted from Bamnauli) at Mundka	1	315	315	MVA	7.00
	TOTAL for 400/220 KV level				315	MVA	7.00
2	220/66 KV substation						
	a	100 to 160 MVA capacity additions at Sarita Vihar, Narela and Najafgarh	4	60	240	MVA	32
	b	Busbar strengthening at Kanjhawala, Mehrauli, IP Power, Naraina, PPK-I, PPK-II and Najafgarh	7			busbar	14
	TOTAL for 220/66 KV level				540	MVA	44
3	220/33 KV substation						
	a	3rd ICT at Masjid Moth and 3x220kV bays	1	100	100	MVA	7
	b	3rd ICT at Peera Garhi and associated works	1	100	100	MVA	8
	c	Hot Reserve 100MVA at Patparganj	1	100	100	MVA	6
	d	GIS bay additions at Kashmiri gate	3			bays	9
	E	100 MVA additions at Peeragarhi, Masjid Moth and IP	3	100	300	MVA	18
	ef	Hybrid bay additions at Masjid Moth, Okhla, Shalmimarbagh	12			bays	15
TOTAL for 220/33 KV level				300	MVA	33	
TOTAL Transormation capacity augmentation at 400 and 220kV level					1455	MVA	96
C	Transmission Lines						
1	400kV						
	TOTAL for 400 KV level				0	ckt. Kms	0.00
2	220 kV						
	A	D/C from Harsh Vihar to Patparganj & LILO at Preet Vihar	2	14	28	ckt. Kms	300
	B	LILO of double circuit Bamanuli-Naraina at PPK-III	4	0.5	2	ckt. Kms	2
	C	Single cktU/G cable (IP -Park street-Electric Lane-IP)	1	16	16	ckt. Kms	80
	D	S/C LILO of Bamanuli-Najafgarh at PPK-II	4	4	16	ckt. Kms	10
	E	S/C LILO of Bamanuli-Naraina at PPK-I	2	0.1	0.2	ckt. Kms	1
	F	Double circuit underground from Lodhi road to IP	2	8	16	ckt. Kms	100
	G	Single ckt LILO of Pragati-Sarita Vihar at Maharaniabagh	2	1	2	ckt. Kms	5
	H	HTLS reconductoring of Bawana -rohini section	2	10.5	21	ckt. Kms	12
	I	ERS			0	LS	19.00
	TOTAL for 220 KV level				101	ckt. Kms	529
3	66 kV						
	TOTAL for 66 KV level				0	bays	0
4	33 kV						
	a	33kV GIS at Shalimarbagh	15		0	bays	12.00
	b	33kV GIS at Okhla	15		0	bays	12.00
	c	Augmentation of 16 MVA ICT to 25 MVA ICT at 33/11kV level at Lodhi road and Najafgarh	4	9	36	MVA	8.00
	TOTAL for 33 KV level						32.00
TOTAL Transmission capacity augmentation at 400 and 220kV level					101	Ckt. kms	561
Total Scheme cost (A+B+C)							842

Details of Transmission Projects of DTL proposed to be commissioned in the Financial year							2017-18
Serial	Name of scheme			Capacity			Cost
				nos	Unit	Total	
A	New Sub Stations						
1	400/220 KV substation -NIL WORKS						
2	220/66 KV substation						
	a	220/66kV GIS at Tughlakabad	2	160	320	MVA	95
	b	220/66 kV GIS at Tikri Khurd	2	160	320	MVA	100
	C	220/66 kV GIS at Budella	2	160	320	MVA	95
	d	220/66 kV GIS at R K Puram	2	160	320	MVA	60
	TOTAL for 220/66 KV level				1280	MVA	350
3	220/33 KV substation						
	a	220/33 kV GIS at Rajghat	3	100	300	MVA	100
	b	220/33 kV GIS at R K Puram	2	100	200	MVA	50
	TOTAL for 220/33 KV level				500	MVA	150
TOTAL Transormation capacity new addition at 400 and 220kV level					1780	MVA	500
B	Augumentation						
1	400/220 KV substation NIL WORKS						
	a	4th ICT addition at Bamanuli	1	315	315	MVA	7.00
2	220/66 KV substation						
	a	2x160 MVA and 66 kV GIS at Gopalpur	2	160	320	MVA	60.00
	b	160 MVA in place of 100MVA at Okhla	2	60	120	MVA	16.00
	C	220kV Bus bar from twin to quad conversion at Narela, Okhla and Rohini	3			busbar	6.00
	TOTAL for 220/66 KV level				440	MVA	82
3	220/33 KV substation						
	a	220kV GIS at Shalimarbagh	12		0	bays	36
	b	Hybrid 220kV bays at Patparganj	12		0	bays	15
	c	Isolator replacement at 220kV	150			nos	10
TOTAL for 220/33 KV level				0	MVA	32	
TOTAL Transormation capacity augmentation at 400 and 220kV level					755	MVA	150
C	Transmission Lines						
1	400kV NIL						
2	220 kV						
	a	Multi circuit towers in the existing ROW of lines	10		10	ckt. Kms	6
	b	LILO of Mehrauli-BTPS at Tughlakabad	2	0.5	1	ckt. Kms	2
	c	Multi circuit overhead from Tughlakabad to Masjid Moth	4	7	28	ckt. Kms	40
	d	Double circuit Okhla feeder termination at Tughlakabad	2	1.5	3	ckt. Kms	5
	e	S/C LILO of Bamanuli-Najafgarh at Budella O/H	4	12	48	ckt. Kms	60
	F	Budella to Punjabi bagh overhead	4	6.5	26	ckt. Kms	45
	G	LILo of double circuit Narela-Mandola at Tikri khurd O/H	4	2.5	10	ckt. Kms	12
	H	Multi circuit from Kashmiri gate to IP Power	4	9	36	ckt. Kms	40
	I	HTLS reconductroing of Bamanuli-PPK-II-Budella-Najafgarh-Mundka-Kanjhawala-Bawana	2	80	160	ckt. Kms	80
	j	HTLS reconductoring of BTPS-Mehrauli-Bamanuli section	2	40	80	ckt. Kms	40.00
	k	Polymer insulators			10	nos	10
	TOTAL for 220 KV level				412	ckt. Kms	340
	3	66 kV					
a		66kV GIS bays addition at Harsh Vihar	10		0	bays	15.00
b		66kV hybrid bays conversion at Najafgarh	14		0	bays	12.6
TOTAL for 66 KV level				0	bays	27.6	
4	33 kV						
	a	Augmentation of 16 MVA ICT to 25 MVA ICT at 33/11kV level at Okhla and Sarita vihar	4	9	36	MVA	8.00
	TOTAL for 33 KV level				0	bays	8
TOTAL Transmission capacity augmentation at 400 and 220kV level					412	Ckt. kms	375.6
Total Scheme cost (A+B+C)							1025.6



Details of Transmission Projects of DTL proposed to be commissioned in the Financial year							2018-19
Serial	Name of scheme		Capacity				Cost
			nos	Unit	Total		Rs Cr.
A	New Sub Stations						
1	400/220 KV substation						
	b				0	MVA	
	TOTAL for 400/220 KV level				0	MVA	0
2	220/66 KV substation						
	a	220/66kV GIS at SGTN	2	160	320	MVA	95
	TOTAL for 220/66 KV level				320	MVA	95
3	220/33 KV substation						
	a	220/33kV GIS at Punjabi bagh	3	100	300	MVA	100.00
	b	220/33 kV GIS at Karol Bagh	3	100	300	MVA	100.00
	c	220/33kV GIS Chandrawal	3	100	300	MVA	85
	d	220/33kV GIS Maharanibagh	3	100	300	MVA	100
	TOTAL for 220/33 KV level				1200	MVA	385
	TOTAL Transormation capacity new addition at 400 and 220kV level				1320	MVA	480.00
B	Augumentation						
1	400/220 KV substation						
	TOTAL for 400/220 KV level				0	MVA	0
2	220/66 KV substation						
	TOTAL for 220/66 KV level					MVA	0
3	220/33 KV substation						
	a	220kV Hybrid bays at Gopalpur	15		0	bays	12
	b	220kV GIS bay additions at Park Street	5			bays	15
	TOTAL for 220/33 KV level				0	MVA	27
TOTAL Transormation capacity augmentation at 400 and 220kV level					MVA	27	
C	Transmission Lines						
1	400kV						
		nil					
	TOTAL for 400 KV level					ckt. Kms	0
2	220 kV						
	a	Multi circuit towers in the existing ROW of lines for adequate ground clearanace etc and Miscellaneous LILO	15		0	ckt. Kms	16
	b	D/C from Kashmiri gate to Chandrawal	2	3.5	7	ckt. Kms	70
	C	S/C LILO of Gopalpur-Subzi Mandi at Chandrawal	2	1	2	ckt. Kms	4
	D	D/C LILO of AIIMS-Ridge valley at RK Puram	2	5.2	10.4	ckt. Kms	80
	E	Second ckt LILO of Pragati-Sarita Vihar at Maharanibagh	2	1	2	ckt. Kms	5
	F	IP to Karol bagh D/C U/G	2	9	18	ckt. Kms	135
	G	MULTI circuit overhead from Shalimarbagh to SGTN	4	5	20	ckt. Kms	40
	H	double circuit underground cable from Dwarka to Budella	2	12	24	ckt. Kms	180
	TOTAL for 220 KV level				83.4	ckt. Kms	530
3	66 kV						
	a	66kV hybrid bays conversion at Narela	10		0	bays	9
		66kV hybrid bays conversion at Patparganj	12		0	bays	10.8
	TOTAL for 66 KV level				0	bays	19.8
4	33 kV						
	a	Augmentation of 16/20 MVA ICT to 25 MVA ICT at Gopalpur	2	9	18	MVA	4
		33kV GIS at Gopalpur					12
	TOTAL for 33 KV level				0	bays	16
TOTAL Transmission capacity augmentation at 400 and 220kV level				83.4	Ckt. kms	565.8	
Total Scheme cost (A+B+C)							1072.8



ANNEXURE-VI

SUMMARY OF SCHEMES SUBMITTED UNDER IPDS BY BRPL

Sl. No.	Category	Scheme Description	Cost Estimate in Rs. Lacs
1	Grid	Establishment of 66/11 kV 2 x 25 MVA AISgrid at DichaonKalan.	1499.44
	New Feeder	Laying of 66 kV In-feed cable for DichaonKalan Grid Sub-station from 400/220/66 kV Mundka Grid Sub -station.	1010.36
	Road Restoration	Road Restoration charges for laying of 66 kV In-feed cable for DichaonKalan Grid Sub-station from 400/220/66 kV Mundka tation.	288.00
	Solar Panel	Installation of Roof Top Solar Panel at DichaonKalan.	21.00
2	Grid	Establishment of 66/11 kV 2 x 25 MVA GIS Grid at Molar Bandh.	1842.73
	New Feeder	Laying of 66 kV In-feed cable for Molar Bandh Grid Sub-station from 220/66 kV SaritaVihar Grid Sub -station.	923.78
	Road Restoration	Road Restoration charges for lying of new feeder from 220/66 kV SaritaVihar Grid Sub - station to Molar Bandh Grid Sub-station.	258.00
	Solar Panel	Installation of Roof Top Solar Panel at Molar Bandh	21.00
3	Grid	Establishment of 33/11 kV 2 x 25 MVA Grid at A-43, Mayapuri IndEstate.	1075.84
	Solar Panel	Installation of Roof Top Solar Panel at A-43, Mayapuri Ind Estate.	21.00
4	Sub-station	Renovation and Conversion of 33/11kV into 66/11kV Grid at AndheriaBagh.	1464.79
	New Feeder	Laying of 66 kV In-feed cable for AndheriaBagh Grid Sub-station by LILO of 220/66kV Mehrauli to IGNOU.	120.56
	Road Restoration	Road Restoration charges for laying of 66 kV In-feed cable for AndheriaBagh Grid Sub-station by LILO of 220/66kV Mehrauli to IGNOU.	18.00
	Solar Panel	Installation of Roof Top Solar Panel at AndheriaBagh.	21.00
5	Feeder Augmentation	Augmentation of 33 kV cable from Balaji - East of Kailash Grid	236.79
	Road Restoration	Road Restoration charges for laying of new feeder from Balaji - East of Kailash Grid Sub-station.	216.00
6	Transformer	Addition of 01 No. 25 MVA 66/11 kV Transformer at G-3 Bindapur Grid.	417.19
7		Addition of 01 No. 25 MVA 33/11 kV Power Transformer at IIT Grid	346.26
8		Addition of 01 No. 25 MVA 33/11 kV Power Transformer at Jamiagrid	346.26
9		Addition of 01 No. 25 MVA 33/11 kV Power Transformer at A-4 Paschimvihar (Excluding 11 kV Panels) Grid Sub-station.	294.25
10	Transformer Augmentation	Augmentation of 01 No. 16MVA to 25 MVA 33/11 kV Power Transformer at Hudco Grid Sub-station.	230.54
11	Renovation & Modernization	Renovation and Modernisation of 33/11 kV Grid Sub-station at Chaukhandi.	550.04
12		Renovation and Modernisation of 33/11 kV Grid Sub-station at Udyogh Nagar.	550.04
13	RMUs	Installation of 11kV SF6 Ring Main Units in BRPL area.	976.86
Total			12749.74

Annexure-VII

Summary of CWIP Schemes in BRPL																				
Division	Transformer		HT Feeder		Breaker		Electrification		Load Addition		LT Works		New Connection		New Grid Sub-station		Others		Grand Total	
	No. of Schemes	Amount in Rs. Lacs	No. of Schemes	Amount in Rs. Lacs	No. of Schemes	Amount in Rs. Lacs	No. of Schemes	Amount in Rs. Lacs	No. of Schemes	Amount in Rs. Lacs	No. of Schemes	Amount in Rs. Lacs	No. of Schemes	Amount in Rs. Lacs	No. of Schemes	Amount in Rs. Lacs	No. of Schemes	Amount in Rs. Lacs	No. of Schemes	Amount in Rs. Lacs
Alaknanda	3	68.42	4	117.76	1	-0.01	1	1.87			6	62.95					6	10.66	21	261.66
Dwarka	6	17.55	7	72.43			4	147.63			2	0.30					5	25.81	24	263.73
Hauz Khas	4	34.94	6	283.06	2	15.07					3	9.55					3	9.01	18	351.64
Jaffarpur	11	201.92	5	67.98	3	11.70					4	20.68					2	3.16	25	305.44
Janakpuri	16	165.63	9	147.92	11	68.92	1	8.00			8	30.99					8	30.85	53	452.31
Khanpur	13	147.04	4	73.68	1	5.46					9	67.64					7	38.35	34	332.17
Mundka	12	60.34	2	0.52			2	18.20			3	27.92					8	23.32	27	130.29
Najafgarh	14	101.26	7	56.12	6	24.08	1	18.08			3	29.83					12	24.23	43	253.60
Nangloi	8	88.58	1	13.42	2	10.61	1	0.40			6	15.76	1	6.47			2	141.12	21	276.37
Nehru Place	2	12.95	8	233.53			1	1.13			8	23.35					5	10.81	24	281.77
Nizamuddin	3	10.31	9	97.42	4	32.65					2	4.93					8	90.85	26	236.17
Palam	11	91.27	5	155.86	3	16.17	3	158.79									18	165.35	40	587.43
Punjabi Bagh	7	67.86	3	83.48	3	19.47					8	51.30					9	15.67	30	237.79
RK Puram	3	1.24	1	16.20	1	7.56	2	57.37			10	25.81					4	41.02	21	149.20
Saket	39	246.44	9	177.63	2	7.56					8	31.57					19	161.34	77	624.54
Sarita Vihar	14	184.35	9	132.59	2	11.83	2	83.97			5	31.36	1	0.55			4	0.52	37	445.18
Tagore Garden	9	67.92			2	18.40					4	24.53					2	1.24	17	112.09
Vasant Kunj	27	76.06	2	27.13	1	5.59	1	162.42			5	53.14					4	16.12	40	340.46
Vikasपुरी	9	72.67	9	114.63	1	6.44	1	84.85			4	52.26					3	64.58	27	395.42
Miscellaneous																	14	198.17	14	198.17
KCC							1	23.08	25	296.63			68	1848.54			3	11.49	97	2179.74
EHV	3	560.31	7	1730.07	3	172.34							1	79.75	10	3453.06	13	1518.79	37	7514.32
Grand Total	214	2277.06	107	3601.44	48	433.86	21	765.79	25	296.63	98	563.87	71	1935.31	10	3453.06	159	2602.46	753	15929.47

Note : CWIP details as on 31.07.2015



SUMMARY OF INFRASTRUCTURE ROLLOUT PLAN FOR BYPL

Sl. No.	Project Category	Voltage Level (kV)	Unit	System Upgradation Plan (FY)				
				2015-16	2016-17	2017-18	2018-19	Total
1	Load Growth							
1.1	Feeder Addition/Augmentation	66/33	ckt km	5	24	17	16	62
1.2	Power Transformer Capacity Addition	66/33	MVA	93	286	263	336	978
1.3	Feeder Addition/Augmentation	11	ckt km	70	120	135	127	452
1.4	Distribution Transformer Capacity Addition	11	MVA	51	235	252	269	807
1.5	Feeder Addition/Augmentation	0.4	ckt km	41	249	266	285	840
2	System Improvement							0
2.1	Replacement of Old Control and Relay Panels	66/33	Nos	0	50	50	50	150
2.2	Replacement of 66/33kV MOCB with SF6/VCB	66/33	Nos	15	15	15	15	60
2.3	Conversion of AIS to GIS	66/33	Nos	0	2	2	1	5
2.4	Replacement of PILCA with XLPE Cable	11	ckt km	67	72	72	72	283
2.5	Replacement of Old and Outlived 11KV Switchgear	11	Way	250	133	133	134	650
2.6	Replacement of Oil type DT with Dry Type DT	11	Nos	53	68	68	46	235
2.7	Replacement of Old LT switchgear	0.4	Nos	0	1166	1168	1166	3500
3	Smart Grid							
3.1	Distribution Management System at 11kV S/s	11	Nos	30	850	850	900	2630
3.2	Smart Meters for three phase consumers	0.4	Nos	0	15000	15000	15000	45000
3.3	DT AMR	0.4	Nos	0	2000	2000	0	4000

Sl. No.	Project Category	Voltage Level (kV)	System Upgradation Cost Estimate (Crores)				
			FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	Total
1	Load Growth						
1.1	Feeder Addition/Augmentation	66/33	9	57	44	31	141
1.2	Power Transformer Capacity Addition	66/33	18	78	70	79	245
1.3	Feeder Addition/Augmentation	11	30	103	116	109	359
1.4	Distribution Transformer Capacity Addition	11	18	68	72	77	235
1.5	Feeder Addition/Augmentation	0.4	16	154	165	176	511
2	System Improvement						
2.1	Replacement of Old Control and Relay Panels	66/33	0	4	4	4	12
2.2	Replacement of 66/33kV MOCB with SF6/VCB	66/33	1	1	1	1	4
2.3	Conversion of AIS to GIS	66/33	0	15	10	10	35
2.4	Replacement of PILCA with XLPE Cable	11	10	62	62	62	196
2.5	Replacement of Old and Outlived 11KV Switchgear	11	4	7	7	7	25
2.6	Replacement of Oil type DT with Dry Type DT	11	9	9	9	6	32
2.7	Replacement of Old LT switchgear	0.4	0	6	6	6	18
3	Smart Grid						
3.1	Distribution Management System	11	2	30	30	25	87
3.2	Smart Meters for three phase consumers	0.4	0	23	27	28	78
3.3	DT AMR	0.4	0	7	8	0	15
Grand Total			117	624	630	622	1993

Schemes Planned for Execution in FY 2015-16 (BYPL)

EHV schemes

Sl. No.	Scheme No.	Scheme Description	Estimated Cost (Lacs.)
1	EE13GS4007	C-Block Krishna Nagar	610.0
2	EC12AT4001	Motia Khan	380.0
3	EE08UT4031	30 MVA to 50MVA at Bhagirathi	260.0
4	EE14UT4003	16 MVA to 25MVA at Kailash Nagar	188.0
5	EC13UT4003	Addition of 16 MVA at Lahori Gate	260.0
6	EE13IF4008	C-Block Krishna Nagar (220kv Geeta Colony)	440.0
7	EE15BE4002	Addition of two bays at Shastri Park East for connection of Wazirabad circuits	250.0
8	EE14SH4017	Khichripur to PPG Indutrial Area from 1c x 500sqmm to 1c x 1000sqmm	240.0
9	EE14SW4014	Replacement of 66kV MOCB with SF6 Circuit Breakers at Various Grid	110.0
10	EE14SW4015	Replacement of 33kV MOCB with Vaccum Circuit Breakers at Various Grid	50.0
11	EE14SH4008	Part shifting of Shastri park - Seelampur & Shastri Park - Dwarka puri Circuit	200.0

DISTRIBUTION SCHEMES

Sl. No.	Scheme No.	Scheme Description	Estimated Cost (Lacs)
1	EE13GS4007	C-Block Krishna Nagar	610.0
2	EC12AT4001	Motia Khan	380.0
3	EE08UT4031	30 MVA to 50MVA at Bhagirathi	260.0
4	EE14UT4003	16 MVA to 25MVA at Kailash Nagar	188.0
5	EC13UT4003	Addition of 16 MVA at Lahori Gate	260.0
6	EE13IF4008	C-Block Krishna Nagar (220kv Geeta Colony)	440.0
7	EE15BE4002	Addition of two bays at Shastri Park East for connection of Wazirabad circuits	250.0
8	EE14SH4017	Khichripur to PPG Indutrial Area from 1c x 500sqmm to 1c x 1000sqmm	240.0
9	EE14SW4014	Replacement of 66kv MOCB with SF6 Circuit Breakers at Various Grid	110.0
10	EE14SW4015	Replacement of 33kv MOCB with Vaccum Circuit Breakers at Various Grid	50.0
11	EE14SH4008	Part shifting of Shastri park - Seelampur & Shastri Park - Dwarka puri Circuit	200.0
12	PG11SS4082	Establishment of New S/stnwith 630KVA Transformer at Gali Zameer in division Paharganj.	49.62
13	MV13SS4004	New S/stnwith 630 KVA Transformer at 25 Block Trilokpuri in division Mayur Vihar Ph-1&2.	6.23
14	MV13SS4031	New S/stnwith 630 KVA Transformer at 28 Block Trilokpuri in divn Mayur Vihar Ph-1&2.	4.66
15	LN12SS4035	ESTABLISHMENT OF NEW S/STNAT E BLOCK MAIN VIKAS MARG LAXMI NAGAR	24.50
16	LN12SS4122	ESTABLISHMENT OF NEW S/STNAT F BLOCK LAXMI NAGAR	45.79
17	CC13AT4021	Installation of additional 990 KVA Package S/stnat Zakir Hussain S/stn in division Chandni Chowk	18.83
18	DG12PS4011	INSTALLATION OF 990 KVA PACKAGE SUBSTATION NEAR L N J P COLONY IN DIV DARYA GANJ	35.15
19	YV13PS4042	Addition of 990 KVA Package S/stnat B-5 Yamuna Vihar in division Yamuna Vihar.	18.07
20	CC10AT4005	INST.OF ADD. 630 KVA DTR AT N.HAUZQAZI	4.50
21	CC13AT4025	Installation of additional 630 KVA Transformer at Old Hauz Qazi S/stn in division Chandni Chowk.	1.91
22	DG13AT4029	Installation of additional 990KVA Transformer at Hindi Park S/stn in division Daryaganj.	11.47
23	PG11AT4112	Installation of additional 400 KVA Transformer at Kishanganj S/stn in division Paharganj.	2.75
24	SR13AT4006	Installation of additional 630 KVA Transformer at Joshi Road S/stnkarol Bagh in div Shankar Rd.	4.33
25	SR13AT4007	Installation of additional 630 KVA Transformer at 39 Block S/stnold rajinder nagar in Shankar Road.	4.33
26	SR13AT4010	Installation of additional 400 KVA Transformer at Bachhruddin S/stn in division Shankar Road.	3.64
27	SR13AT4019	Installation of additional 630 KVA Transformer at 8 WEA karol Bagh S/stn in Shankar Road.	3.92



Sl. No.	Scheme No.	Scheme Description	Estimated Cost (Lacs)
28	DL12AT4010	INST.OF ADDITIONAL 630 KVA TR.AT SHAHI MOH	2.15
29	KW10AT4066	INSTALLATION OF ADDITIONAL 400 KVA TRF. AT RAJEEV GHANDHI NAGAR GALI NO. 21	2.37
30	JM13AT4071	Addition of 400KVA Transformer at Halkara Kuan No-2 S/stn in division karkardooma.	4.37
31	PN13AT4057	Installation of additional 630 KVA Transformer at Tikona Park Nehru Nagar P/L S/stn in div Patel Ngr.	4.33
32	PN13AT4067	Installation of additional 630 KVA Transformer at Institutional Area Prasad Ngr S/stn in divn Patel Ngr.	4.33
33	PN13AT4069	Installation of additional 630 KVA Transformer at 17 Block Dev Nagar S/stn in div Patel Nagar.	4.33
34	CC13UT4009	Transformer augmentation630 to 990 KVA at Katra Khushal Rai S/stn in div Chandni Chowk.	8.42
35	CC13UT4016	Transformer augmentation630 to 990 KVA at Lahori Gate Diesel S/stn in div Chandni Chowk.	8.42
36	CC13UT4018	Transformer augmentation400 KVA to 630 KVA at Hamdard S/stn in division Chandni Chowk.	1.61
37	CC13UT4012	Augmentation of 630 to 990 KVA Package S/stnat Maliwara S/stn in division Chandni Chowk	18.07
38	CC13UT4013	Augmentation of 630 to 990 KVA Package S/stnat Nai Sarak Piao S/stn in div Chandni Chowk	18.07
39	CC13UT4014	Augmentation of 630 to 990 KVA Package S/stnat Roshan Pura S/stn in div Chandni Chowk	18.07
40	PG11UT4018	Transformer augmentationfrom 630to 990KVA at Tokriwala PLM S/stn in division Paharganj.	8.83
41	PG11UT4055	Transformer augmentationfrom 630 to 990KVA at Subhash Chowk S/stn in division Paharganj.	9.60
42	PG11UT4106	Transformer augmentationfrom 630KVA to 990KVA at Jhandewalan (K) in division Paharganj.	9.31
43	PG13UT4026	Transformer augmentationfrom 630 kva to 990kva at 6 Tooti S/stn in division Paharganj.	8.42
44	PG13UT4027	Transformer augmentationfrom 400 kva to 630kva at Chimini Mil Kiosk S/stn in division Paharganj.	1.52
45	PG13UT4028	Transformer augmentationfrom 400 kva to 630kva at ARP S/stn in division Paharganj.	1.52
46	DL12UT4016	Transformer augmentationfrom 630 to 990KVA at K-Block Mandir Shahadara in divn Dilshad Garden.	8.42
47	KW09UT4219	Transformer augmentationfrom 630 to 990 KVA at B block Brijpuri in division Karawal Nagar.	12.54
48	KW12UT4022	AUG. OF 400 KVA INTO 630 KVA TRF. AT B BLK. G.NO. 10 SONIA VIHAR	1.60
49	KW12UT4064	Augmentation of 400KVA Transformer in to 630 KVA Transformer at Akbari Masjid Mustafabad in division Karawal Nagar.	1.60
50	MV11UT4019	Transformer augmentationfrom 400KVA to 630KVA at S/stnno.-2 South of Lake, Mayur Vihar Ph-1.	1.84
51	MV13UT4041	Transformer augmentationfrom 630 to 990 KVA at S/stnno-A Pocket-2 in divn Mayur Vihar Ph-1&2.	8.42
52	M312UT4042	Augmentation of 1X630 KVA Transformer into 1X990 KVA Transformer at C-3, New Ashok Nagar S/S-3 in Division MVR III	9.13
53	JM12UT4078	AUG OF 400 KVA TO 990 KVA DTR AT JAGRITY ENCL S/S	3.69
54	JM12UT4102	AUG 400 TO 630 KVA DTR C-BLK SURJML VIH	1.79
55	LN09UT4113	AUGUMENTATION OF DTR 630 KVA TO 990 KVA AT G-2 PREET VIHAR SUB STATION.	10.82
56	LN09UT4168	AUGUMENTATION OF 630 KVA TO 990 KVA DTR AT LSC 3 PREET VIHAR SS	11.39
57	LN13UT4105	Transformer augmentationfrom 630 KVA to 990 KVA at Laying of new LT feeders at Sarvodaya Bal Kanya Vidhalaya(Laxmi Nagar School) S/stn in division Laxmi Nagar.	8.42
58	PN10UT4015	AUG OF 630 KVA TO 990 KVA DTR AT AMBEDKAR PARK PUNJABI BASTI	11.02
59	PN10UT4019	AUG OF 630 KVA TO 990 KVA DTR AT D BLOCK WEST PATEL NAGAR	11.26
60	PN11UT4034	Augmentation of 400KVA Transformer into 630KVA at Road No.-3 in division Patel Nagar.	1.66
61	PN11UT4089	Augmentation of 2X630KVA Transformer into 2X990KVA at Gali No.-6 Dhal Wala Anand parvat in division Patel Nagar.	16.05

Sl. No.	Scheme No.	Scheme Description	Estimated Cost (Lacs)
62	PN12UT4021	AUG OF 630 KVA TO 990 KVA AT 17 B DEV NGR AT DIV PNR	8.99
63	PN12UT4022	AUG OF 630 KVA TO 990 KVA AT BAKRIWALA S/STN AT DIV PNR	8.99
64	PN13UT4048	Transformer augmentationfrom 630 KVA to 990 KVA at Ambedkar Park Punjabi Basti S/stnbaljeet Nagar in division Patel Nagar.	8.42
65	PN13UT4050	Transformer augmentationfrom 630 KVA to 990 KVA at D Block West Patel Nagar S/stn in division Patel Nagar.	8.42
66	PN13UT4051	Transformer augmentationfrom 630 KVA to 990 KVA at F&G Blk west Patel Nagar S/stn in division Patel Nagar.	8.42
67	YV12UT4044	Augmentation of 400KVA Transformer into 990KVA Transformer at A Block Bajanpura S/stn in division Yamuna Vihar.	14.03
68	YV13UT4014	Transformer augmentationfrom 400 to 630kva at Arora Building S/stn in division Yamuna Vihar.	1.52
69	YV13UT4015	Transformer augmentationfrom 400kva to 630kva at Om Sweet S/stn in division Yamuna Vihar.	4.66
70	DG13NF4050	Laying of New HT 11KV Feeder from Jama Masjid Grid to Old Dujana S/stn in division Daryaganj.	32.05
71	DG13NF4051	Laying of new HT 11KV Feeder from Delhi Gate Grid to Commercial School S/stn in division Daryaganj.	13.06
72	SR09NF4021	LAYING OF NEW HT FEEDER FROM FAIZ ROAD TO JHANDEWALAN NO 1 S/STN.	46.04
73	KN11NF4020	Laying of new HT 3CX300 MM2 Feeder from Kailash Nagar Grid to Tikona Park Subhash Road in division Krishna Nagar.	54.60
74	KW12NF4072	Providing new feeder from S/stnno.-3 Karawal Nagar to S/stnkarawal Nagar Ext. Gali No.-4 in division Karawal Nagar.	8.33
75	LN13NF4091	Providing new HT 11KV Feeder from Akshardham Grid to E Block ganesh Nagar Complex Feeder No.-1 in division Laxmi Nagar.	25.78
76	NN12NF4041	LAYING OF NEW HT FEEDER GHONDA GRID TO C BLOCK MEET NAGAR IN DIV NNG	35.99
77	YV13NF4051	Laying of new HT 11 KV feeder from Yamuna Vihar grid to Gamri (K) S/stn in division Yamuna Vihar.	40.02
78	YV13NF4053	Laying of new HT 11 KV feeder from Yamuna Vihar grid to Chauhan Banger Gali No.10 S/stn in divn Yamuna Vihar.	50.23
79	CC12LT4018	LAY LT FDR CM ROAD TO RAJESHTHANI HOTEL IN D-CCL	4.54
80	CC12LT4019	LAY LT FDR JAIPURIA TO DAU BAZAR FEEDER PILLAR IN D-CCK	5.73
81	CC13LT4031	Stringing of 2 No. Additional LT feeders from Nai Sarak Piao S/stn in division Chandni Chowk.	2.90
82	CC13LT4032	Stringing of 3 No. Additional LT feeders from Roshan Pura S/stn in division Chandni Chowk.	2.51
83	CC13LT4048	Stringing of 5 No. Additional LT feeders from Old Hauz Qazi S/stn in division Chandni Chowk.	6.04
84	CC13LT4050	Stringing of 5 No. Additional LT feeders from New Hauz Qazi S/stn in division Chandni Chowk.	7.98
85	CC13LT4054	Stringing of 2 No. Additional LT feeders from Ganesh Ice Factory S/stn in division Chandni Chowk.	3.27
86	DG13LT4012	Laying of 4 No. Additional UG LT feeders from Girdhar Panna S/stn in Division Darya Ganj.	19.55
87	DG13LT4018	Taking out 4 nos LT feeders from Kucha Chalan S/stn in Division Darya Ganj.	6.54
88	DG13LT4020	Taking out 3 nos LT feeders from Bajrang Bali S/stn in Division Darya Ganj.	5.40
89	DG13LT4022	Taking out 4 nos LT feeders from Sheesh Mahal S/stn in Division Darya Ganj.	8.86
90	DG13LT4023	Taking out 15 nos LT feeders from Chandni Mahal S/stn in Division Darya Ganj.	45.93
91	DG13LT4026	Taking out 2 no LT feeder from Gali Shankar S/stn in Division Darya Ganj.	2.49
92	DG13LT4046	Laying of 5 No. Additional UG LT feeders from Hindi Park S/stn in Division Darya Ganj.	25.97
93	PG12LT4041	TAKING OUT 2 NOS LT FEEDERS FROM PROPOSED PACKAGE 990KVA TRANSFORMER AT PRADHAN CHOWK S/STN IN DIVISION PAHARGANJ.	2.76
94	PG12LT4042	TAKING OUT 2 NOS LT FEEDERS FROM PROPOSED PACKAGE 990KVA TRANSFORMER AT XYZ S/STN IN DIVISION PAHARGANJ.	10.68
95	PG13LT4020	Taking out 2 Nos LT Feeders from Ram Nagar S/stngali 1 & Feeder Pillar No.-PHGP423 in Paharganj.	5.25
96	SR13LT4049	Laying 3 nos LT feeder from new proposed 630 kva transformer at Pumposh Road S/stnnew Rajinder Nagar in division Shankar Road.	9.36
97	SR13LT4054	Laying 5 nos LT feeder from Aggarwal sweet S/stn in division Shankar Road.	9.66

Sl. No.	Scheme No.	Scheme Description	Estimated Cost (Lacs)
98	SR13LT4055	Laying 2 nos LT feeder from Handiwala S/stn in division Shankar Road.	8.83
99	DL12LT4022	T/O 3 NOS LT FDRS FROM NEWLY INST. TR AT VERMA CASTLE S/STN FRIENDS	9.38
100	DL12LT4024	T/O 3 NOS LT FDRS FROM NEWLY INST. TR.AT GALI NO.5/6 RAILWAY LINE FR	5.34
101	DL12LT4038	T/O 3 NO LT FDRS FROM NEWLY INST.630 KVA TR.AT OBERAI COMPOUND	4.53
102	DL11LT4052	T/O 5 NO. LT FDR FM NLY INS.630KVA TR. AT G 1B FRIENDS CLY.INDL.AREA IN GTR DIVN.	15.37
103	KW10LT4088	Laying of 3 Nos. LT Feeders 4CX300MM2 XLPE at A Block. Bhagirathi Vihar in division Karawal Ngr	2.11
104	MV12LT4047	T/O 3 NOS. LT FDRS.FM AUG. 990 KVA AT SSNO. 6 PKT C MVR-II:ID	17.99
105	MV12LT4048	T/O 3 NOS. LT FDRS.FM AUG. 990 KVA AT S/S NO. 8 PKT. C MVR-II:ID	17.90
106	JM13LT4041	Taking out 2 no of LT Feeders from D-Block (Ram Mandir) Vivek Vihar S/stn in division Karkardooma.	21.76
107	JM13LT4043	Taking out 2 no of LT Feeders from D-Block (Parkwala) Vivek Vihar S/stn in division Karkardooma.	22.75
108	LN09LT4329	PROVIDING 4 NOS NEW LT FEEDER 4X300 SQMM AT WB BLOCK SHAKAR PUR	20.37
109	LN12LT4079	LAYING OF 1 NO LT CABLE FROM J PARK PANDAV NAGAR TO B-BLOCK IN DIVLNRT	10.68
110	LN12LT4084	LAYING OF 2 NO LT CABLE FROM KRISHNAPURI MANDWALI IN DIV LNR.	14.07
111	LN12LT4165	LAYING OF 01 NO LT FEEDER FROM DALL MILL SUBSTATION TO WA BLOCKIN DIVISION LAXMI	19.11
112	NN09LT4052	LAYING LT CABLE AT ASHOK NAGAR SAMUDAYA BHAWAN, DIST.-NNG	5.47
113	PN11LT4055	Taking out 2 no of additional LT feeders from J block S/stn in division Patel Nagar.	8.46
114	YV09LT4148	LAYING 3 NOS LT CABLE AT KABOOTAR MKT. WELCOME	11.30
115	YV10LT4060	PROVIDE NEW LT CABLE AT GHONDA CHOWK	2.72
116	YV11LT4020	PROVIDING 2 NOS. LT CABLE AT ADHURA MANDIR	3.85
117	CC12AT4046	Installation of new Package S/stnat Charhat in division Chandni Chowk.	35.48
118	YV12AT4057	Installation of Additional 630 KVA Transformer at Shastri Park Red Light S/stn in divn Yamuna Vihar.	2.73
119	CC12NF4029	LAYING OF NEW 11 KV HT FEEDER 3X300 MM2 XLPE FROM FOUNTAIN GRID TO BARSABULLA D-CCK	63.65
120	DG12NF4048	Laying of new HT 11KV Feeder from DDU Marg Grid to Vikas Bhawan S/stn in division Daryaganj.	29.44
121	KN13NF4184	Providing new HT 11kv Feeder from Preet Vihar Grid to F block Jagatpuri S/stn in divn Krishna Nagar.	20.91
122	LN12NF4156	PROVIDING NEW HT 11KV FEEDER FROM GURU ANGAD ngr GRID TO KISHAN KUNJKIOSK SS	26.13
123	CC13LT4056	Stringing of 4 No. Additional LT feeders from Moll. Shah Ganj S/stn in division Chandni Chowk.	4.76
124	CC13LT4064	Stringing of 4 No. Additional LT feeders from Gali Qasim Jan S/stn in division Chandni Chowk.	4.43
125	DG11LT4004	Laying of LT feeders from new Dujjana house S/stnto Gali Shyam Lal, Gokul Shah, Haveli Azam & Madersa Hussain Baksh in Daryaganj.	1.73
126	DG12LT4013	LAYING OF NEW LT UG FEEDER FROM BACHOO KA GHAR S/STN TO DAYA NAND ROADIN DIV DRG	3.41
127	DG12LT4039	Laying of 4 No. Additional UG LT feeders from NEW PROPOSE TRANSFORMER AT Vikram Nagar S/stn to Vikram Nagar Colony in Div Darya Ganj	7.72
128	DG13LT4014	Laying of 5 nos new LT feeder from old Dujana House S/stn in Division Darya Ganj.	24.81
129	SR10LT4014	Laying of 2 nos LT feeder 4CX300SQMM XLPE from Ajmal Khan Park PL/M S/STN in divn Shankar Rd	5.20
130	DL11LT4209	Taking out 5 Nos LT U/G Feeders from East Rohtas Nagar in division Dilshad garden.	11.19
131	LN10LT4017	LAYING OF 02 NO LT FEEDER FM SABZI MANDI MANDAWALI SUB/STN	13.01
132	LN12LT4001	LAYING OF LT FEEDER FROM MAIN VIKAS MARG VEERSAVERKAR BLOCK(SHAKAR PUR)	15.27
133	LN12LT4160	LAYING OF 4 NO LT FDR FM KISHAN KUNJ KIOSK	18.02
134	NN11LT4016	Laying of LT Cable 4CX300MM2 from Durga puri extension to Gali No-8 Durga puri extension in division Nand Nagri.	7.44
135	PN10LT4053	PROP NEW LT FDR FR 12 BLK S/S TO 4/3 EAST PATEL NGR.AGT NEW LOAD OF 90KW	6.00
136	YV11LT4028	PROVIDING LT 2 NOS. LT CABLES AT MOHANPURI INSIDE SCHOOL	1.39
137	KW13FA4006	Replacement of 3CX240MM2 Cable into 3CX300MM2 XLPE cable from Ghonda Grid to	76.68

Sl. No.	Scheme No.	Scheme Description	Estimated Cost (Lacs)
		Ashoka Paper Mill Jawahar Nagar in division Karawal Nagar.	
138	DL13NF4014	LAYING OF New HT 11kv XLPE 3Cx300mm2 cable from Shamshan Ghat DP to Meena Bazar Sub Station No.3 in division Dilshad Garden	14.3
139	DL14NF4003	LAYING OF NEW HT 11 KV U/G FEEDER OF SIZE 3X300SQM FROM S/STN SHAMBHU NATH COMPOUND TO GALI NO. 4&5 FRIENDS COLONY IND AREA IN DIV GTR	7.3
140	KW13NF4046	Estimate of Inter Connector between Panchal vihar S/stnto MTNL S/stn in division Karawal Nagar.	10.2
141	KW14NF4010	Newfeeder from Bhagirathi to Sampat Ngr	62.6
142	KW14NF4011	Newfeeder from Bhagirathi to eblkbhagviah	62.6
143	KW14NF4019	Newfeeder from Bhagirathi to tundangr	87.5
144	KW14NF4039	Newfeeder from Bhagirathi to Chaman Park	73.2
145	KW14NF4041	Newfeeder from Bhagirathi to ablbrijpur	46.8
146	KW13NF4093	New feeder fr BHG grid to Shiv Vr ph1 DP	73.2
147	KW13NF4094	New feeder from Sonia Vihar Grid to Delhi Police center	45.8
148	KW13NF4096	INTERCONNECTOR BETWEEN C-2 BLOCK TO 3RD PUSTA SONIA VIHAR	43.4
149	KW13NF4095	Interconnector Part-3 to Part-4	13.8
150	KW14NF4049	Interconnector between Khajoori and mayur Hotel	62.6
151	JM14NF4062	Providing interconnector by laying HT 11 KV, 3CX300, XLPE cable from EAST ARJUN NAGAR S/stnto CHITRAKOOT S/stn in division Karkardooma.	14.0
152	JM14NF4063	Providing interconnector by laying HT 11 KV, 3CX300, XLPE cable from PATHANPURA S/stnto BHOLANATH NAGAR S/stn in division karkardooma.	16.0
153	JM14NF4052	NEW HT FEED FROM KANTI NAGAR GRID TO BIHARI COLONY	91.3
154	LN14NF4060	PROVIDING SECOND SOURCE AT PRIMARY SCHOOL GAZIPUR S/STN OF HT 11KV FEEDER FROM SFS S/STN GAZIPUR.	59.1
155	NN12NF4034	Laying of HT cable of size 3CX300sqmm XLPE from RMU at Rajeev Nagar to RMU at Pocket A-3 Rajeev Nagar Harsh Vihar in division Nand Nagri.	51.0
156	NN12NF4029	Laying of new HT feeder of size 3CX300 sqmm XLPE Bank cly S/stnto D.P Budh Vihar in Nand Nagri.	15.5
157	NN12NF4014	Laying of new HT cable 3CX300mm2 XLPE from MTNL s/stneast of Loni road to Harnam place S/stn in division Nand Nagri.	9.6
158	NN14NF4062	LILLO FROM EAST OF LONI RD GRID TO AMBEDKAR COLLEGE S/S	5.5
159	NN14NF4058	LAYING OF NEW FEEDER Fr MANDOLI JAIL RMU TO PWD PUMP HOUSE S/S WAZIRABAD RD	8.1
160	NN14NF4060	LAYING OF NEW FEEDER FROM KACHIPURA VILL S/S TO A-2 NNG CORNER	12.9
161	NN14NF4059	LAYING OF NEW FEEDER FROM SHANTILAL S/S TO PANI KI TANKI MANDOLI	7.6
162	PG14NF4012	New Inter Connector 11 KV HT Feeder From Sheela cinema S/Stn To Hotel Kabir S/Stn Pahar Ganj	3.3
163	PN14NF4063	New 11 KV Feeder laying 3x300mm2 XLPE from Aggarwal swt to Baljeet Ngr khatta s/stn in D-PNR	46.4
164	YV14NF4034	Providing second source to Taj colony from H Blk Seelampur in D-YVR	22.6
165	YV14NF4035	Providing second secource to Janta Colony Shastri Park S/stn from JMC Seelampur-1 S/tn	25.9
166	YV14NF4111	Laying of new feeder from Nanaksar S/stn to Garhi Mandu S/stn	66.5
167	DL14NF4065	PROV.HT 11 KV XLPE Feeder from CNG pump to Tahir pur Village in division Dilshad Garden.	5.9
168	KW13NF4047	Interconnector between Dilshad Masjid to Babu Ram S/Stn No. 2 in division Karawal Nagar.	8.0
169	M309FA4029	CON.OF O/H INTO U/G HT CBL 3X300 MM FROM SABJI MANDI HARIJAN BASTI TO VILL. GHAROLI	24.0
170	YV14NF4061	Providing second source to CIFS lady Hostel	51.5
171	YV13FA4056	Conversion of 11 KV O/H systems to U/G from DSIDC S/stnto SBI Welcome S/stn in Yamuna Vhr.	30.8
172	DL14NF4038	Laying of new HT 11KV XLPE feeder of size 3x300sqmm from Dwarka Puri Grid to Zafra Bad Construction office S/Stn No.2in D iv G T Road.	31.0
173	DL13NF4033	LAYING OF New HT 11kv XLPE 3Cx300mm2 cable from Sewage Pump Loni Road to Nova Sub Station via Tikona Park Loni Road in division Dilshad Garden	16.8
174	DL14NF4013	Laying of new HT 11KV XLPE feeder of size 3x300sqmm from Dilshad Garden grid to F Block New seema puri in D iv G T Road.	42.5
175	DL14NF4039	Laying of new HT 11KV XLPE feeder of size 3x300sqmm from Dilshad Garden Grid to	33.5

Sl. No.	Scheme No.	Scheme Description	Estimated Cost (Lacs)
		C Block Dilshad Colony in Div G T Road	
176	LN14NF4053	NEW 11 KV FDR.FOR BHARTI ARTIST COLONY,PREET VIHAR ,LNR	44.2
177	LN14NF4033	NEW 11 KV FEEDER FOR MOHAN PARK S/S FROM GURU ANGAD NAGAR GRID STN.	13.8
178	PN14NF4021	Laying of New 11 KV Feeder 3x300mm2 XLPE from Anand Parbat Grid to Kamal Hotel s/stn in D-PNR	59.0
179	PN14NF4019	Laying of New 11 KV Feeder 3x300mm2 XLPE from Anand Parvat Gird to Post Office in D-PNR	33.1
180	YV14NF4030	Laying of new HT 11 KV feeder from Seelampur Grid to E Blk Seeampur	41.4
181	M314NF4023	PROVISION OF INTERCONNECTOR OF 11KV CABLE FROM E1 BLK NEW ASHOI NAGAR FOR C4 BLK NEW ASHOK NAGAR	9.3
182	DG14NF4028	Laying of new HT 11KV feeder from Delhi Gate Grid to 14th Story S/stn in Div. Daryaganj.	111.4
183	DG14NF4029	Laying of New HT 11KV feeder from Delhi Gate Grid to Hotel Broadway S/stn in Div. Daryaganj.	49.1
184	DG12NF4043	LAYING OF NEW HT 11KV FEEDER FROM DDU MARG GRID TO DDA TURKMAN GATE S/STN.	30.6
185	LN14NF4064	NEW FEEDER FOR D BLOCK WEST VINOD NAGAR FROM GH-1 GRID STN.	29.2
186	LN14NF4018	PROVIDING NEW HT 11KV FEEDER FROM GH-1 GRID TO S/S NO 4CGHS	44.2
187	NN14NF4011	Laying of 11KV 3X300 SQMM xlpe cable from East of Loni Road Grid To East Jyoti Nagar S/Stn.	36.3
188	PN14NF4032	Laying of New 11 KV Feeder 3x300mm2 XLPE from Parsad Ngr Grid to 11 B Dev ngr s/stn in D-PNR	64.0
189	LN14NF4004	NEW 11KV FEEDER FROM GH-1 TO KHATA NO .1	30.4
190	JM12NF4059	NEW HT FEED FROM G BLOCK CBD TO A BLOCK ANAND VIHAR	94.7
191	DL12NF4059	PROVIDING NEW HT 11 KV XLPE CABLE 3X300 SQ MM FROM D POCKET DISHAD GARDEN TO TAHIRPUR SARAI	19.46
192	CC13AT4023	Installation of additional 990 KVA Package S/stnat Hasimuddin S/stn in division Chandni Chowk	19.70
193	CC13AT4024	Installation of additional 990 KVA Package S/stnat Mother Dairy S/stn in division Chandni Chowk	19.70
194	DG14AT4032	INSTALLATION OF ADDITIONAL630 KVA TRANSFORMER AT TELEPHONE EXCHANGE P/ M S/STN IN DIV. DARYAGANJ	15.89
195	DG14UT4018	AUG OF 400 KVA OIL TYPE DTR WITH 990 KVA OIL TYPE AT MATA SUNDARI GURUDWARA S/STN	17.75
196	DG13AT4036	Installation of additional 990 KVA Package S/stnand Laying of 4 no of LT Feeders at Ganjmeer Khan S/stn in division Daryaganj.	21.77
197	DG14UT4019	AUG OF 630 KVA OIL TYPE DTR WITH 990 KVA OIL TYPE AT NEW DUJANA S/STN IN DIV DARYAGANJ	11.12
198	DT14AT4018	INST.OF ADDITIONAL 630 KVA TR. AT S/STN NO.1 ZULFE BANGAL IN DIV GTR	2.37
199	DL13UT4048	Transformer augmentationfrom 630KVA to 990KVA at Subhash marg New Modern Shahadara in division Dilshad Garden.	12.81
200	DL14UT4017	AUGMENTATION OF 630 TRF TO 990KVA AT S/STN A BLOCK (MTD) Jhilmil IND AREA IN DIV. G T ROAD	12.81
201	DL12AT4018	Installation of 630KVA additional Transformer at Gali No.-1B Friends Colony in divn Dilshad garden.	3.78
202	DL13AT4045	Installation of additional 630Transformer at K-Block (Parkwala) Shahadara S/stn in Dilshad Garden.	5.30
203	DL13AT4050	Installation of additional 630KVA Transformer at New Seemapuri DDA Flat S/stn in Dilshad Garden.	5.19
204	DL13AT4060	Installation of additional 630KVA Transformer at B block Dilshad Colony in division Dilshad Garden.	7.02
205	DL14UT4009	Transformer augmentationfrom 630KVA to 990KVA at GALI NO1 RAILWAY LINE FRIENDS COLONY in division Dilshad Garden.	12.89
206	DL14UT4061	Transformer augmentationfrom 630KVA to 990KVA at DAMODHER PARK in division Dilshad Garden.	13.01
207	KW09AT4220	Installation of additional 400KVA Transformer at Chandu Nagar in division Karawal Nagar.	2.82
208	KW12AT4056	Providing additional 630KVA Distribution Transformer at Biharipur Ext. S/stn-2 in Karawal Nagar.	2.39

Sl. No.	Scheme No.	Scheme Description	Estimated Cost (Lacs)
209	KW12AT4059	Providing additional 630KVA Distribution Transformer at Rajeev Gandhi Nagar Gali No.-3 S/stn in division Karawal Nagar.	4.22
210	KW14AT4027	Add of 630KVA at shakti vihar gali 8	4.10
211	KW13UT4078	Transformer augmentationfrom 400KVA to 630KVA at Chauhan Patti Sonia Vihar in Karawal Ngr.	2.08
212	KW14UT4018	Aug of 630 to 990 KVA at mustafabad 3	15.26
213	KW14UT4029	Aug of 630 to 990kva tr at jeevan jyoti	15.17
214	JM14UT4009	AUG OF DTR 630 TO 990KVA AT JANATA QTRS	7.61
215	JM14PS4012	NEW PKG 990 AT D BLOCK NALA S/STN	26.24
216	JM14AT4001	ADD . 630 AT BIHARI COLONY EXTN	6.21
217	KN13AT4172	Installation of Additional 630 KVA DTR at Old Govind Pura S/STN	5.97
218	KN13UT4121	Transformer augmentationfrom 630to 990KVA at Jitar Nagar S/stn in division Krishna Nagar.	11.30
219	KN12UT4081	Augmentation of 630 KVA DTR to 990 KVA DTR at Silver Park S/STN	11.52
220	KN14SS4106	New S/stn at Radhey Shyam Park	32.00
221	KN13AT4169	Installation of Additional 630 KVA DTR at Bedi Market S/STN	5.97
222	KN13UT4090	Augmentation of 630 KVA DTR to 990 KVA DTR at 7 Block Geeta Colony S/STN	11.52
223	KN14SS4074	New ESS at F Block Krishna Nagar Park in Division Krishna Nagar	38.00
224	KN14AT4081	Installation of Additional 630 KVA DTR at Vivekanand	5.97
225	LN14AT4009	PROVIDING ADDITIONAL 630 KVA DTR AT S/STN NO-18 FIE INDUSTRIAL AREA	13.32
226	LN14UT4026	AUGMENTATION OF 630 KVA DTR TO 990KVA AT S/STN NO-9 FIE INDUSTRIAL AREA	13.41
227	LN14UT4012	AUGMENTATION OF 630 KVA DTR TO 990KVA AT S/STN NO-9 CGHS	12.71
228	MV14UT4012	AUGMENTATION OF EXISTING 630 KVA DT INTO 990 KVA AT MUNNI BORDER S/S PANDAV NAGAR	11.48
229	MV13AT4057	INSTALLATION OF ADDL. 630 KVA DT AT S/S-1 PKT.-1 MVR PH-1	7.01
230	M313UT4027	Augumentation of 1X630 KVA Transformer into 1X990 Transformer along with Two number new LT feeders at A Block, New Ashok Nagar S/stn in Division MVR-III	16.51
231	M314UT4001	Augmentation of 400 Transformer to 990 Transformer along with new LT feeders at S/Stn-3 GD Clny	14.85
232	NN11UT4030	Augmentation of 630KVA Transformer into 990KVA at S/stnno-3 Janta Flat Nand Nagri.	9.10
233	NN11UT4029	Augmentation of 630KVA Transformer into 990KVA at S/stnno-1 Janta Flat in division Nand Nagri.	9.10
234	NN14AT4001	Installation of additional 630 KVA trf. At Durgapuri Ext in Div.NNG	1.82
235	NN14AT4082	INST OF ADDL 630KVA DTR AT HARDEVPURI NO. 2 IN DIV NN	9.49
236	PG13UT4025	Transformer augmentation630 KVA to 990KVA DT at New Qusab Pura S/Stn Pahar Ganj	4.80
237	PN14UT4013	Conversion of 630 KVA into 990 KVA at Zonal office Kala Pahar S/Stn indl Area Anand Parbat in D-PNR	11.85
238	SR14AT4031	Installation 400 KVA D/T at 8 C Jassa Ram s/s (Shastri park grid).	5.70
239	YV14SS4036	Installatio of new S/stn at Gautampuri in D-YVR	46.49
240	YV14UT4013	Aug. Of 630 KVA to 990 KVA DT at Bhismwala S/stn in D-YVR	12.41
241	YV14UT4017	Transformer augmentationfrom 630kva to 990kva at Gali No.19 Brahmpuri in division Yamuna Vihar.	12.67
242	YV14UT4019	Transformer augmentationfrom 2x630kva to 2x990kva at Vijay Park Gali No.14 in Yamuna Vhr.	22.28
243	YV14UT4027	Transformer augmentationfrom 630kva to 990kva at E Blk Shastri parks/stn in division Yamuna Vihar.	18.75
244	YV14UT4037	Transformer augmentationfrom 400 KVA to 990 KVA at South Gamri in D-YVR.	12.40
245	YV14UT4071	Transformer augmentationfrom 630 KVA to 990 KVA at Mohanpuri School Inside in D-YVR.	17.16
246	YV14UT4094	Transformer augmentationfrom 630 KVA to 990 KVA at Garhi Mandu in D-YVR.	12.40
247	YV14UT4095	Transformer augmentationfrom 630 KVA to 990 KVA at Noor-E Elahi s/stn in D-YVR.	12.40
248	YV14AT4020	Addl. Of 630 KVA DT at Ambedkar Basti S/stn in D-YVR.	6.25
249	YV14AT4073	Addl. 630 KVA DT at Khatta X Blk Brahmpuri S/stn in D-YVR	8.95
250	YV14AT4076	Addl. 630 KVA DT at D Blk Gamri Nala S/stn in D-YVR	9.64
251	YV14AT4040	Addl. 630 KVA DT at Abdul Hameed Marg S/stn in D-YVR	6.38
252	MV14AT4064	NEW INSTALLATION OF ADDL. 630 KVA TR AT S/S 17 BLK TRILOK PURI	6.52

Sl. No.	Scheme No.	Scheme Description	Estimated Cost (Lacs)
253	MV13SS4003	Establishment of New S/stnwith 630 KVA Transformer at 32 Block Trilokpuri, in Mayur Vihar Ph-1&2.	7.01
254	M314UT4004	Augumentation of 2X400 KVA Transformer into 2X630 Transformer along with Two number new LT feeders at S/Stn-4 GD Colony	14.60
255	M310AT4011	PROVISION OF ADDITIONAL TRANSFORMER OF 400KVA AT S/STN-10,A3,MVR-3	3.24
256	M314AT4030	PROVISION OF 1*630 DT AT ADDITIONAL DT AT DURGAPARK DALLUPURA	6.75
257	M314UT4035	Augmentation of 1X400 Transformer into 1X990 KVA Transformer at CNG Petrol Pump, IFC, Ghazipur	10.56
258	M314AT4034	PROVISION OF 1*630 DT AT ADDITIONAL DT AT SSTN-3 A1 LIG	5.85
259	JM14AT4002	ADD. 630 KVA AT MANIRAM MANDIR S/STN	36.40
260	KN14UT4007	Transformer augmentationfrom 400KVA into 630KVA at Zero Gali Kanti nagar Extension S/stn in division Krishna Nagar.	2.38
261	KN13UT4117	Transformer augmentationfrom 630KVA into 990KVA at Jheel 3 & 5 S/stn in division Krishna Nagar.	11.19
262	DG14AT4017	INSTALLATION OF ADDITIONAL630 TRANSFORMER AT MATA SUNDARI I/D S/ST N. IN DARYAGANJ	15.89
263	M314AT4029	PROVISION OF 1*630 DT AT ADDITIONAL DT AT HARIJAN BASTI DALLUPURA	6.50
264	JM14LT4042	02 LT FEEDER FROM PRATAPKHAND EXT. S/STN	21.20
265	KN13LT4035	Laying of 03 No LT Feeder at F Block Jagat Puri S/STN	12.12
266	KN13LT4038	Laying of 02 No LT Feeder at 7 Block Geeta Colony S/STN	5.84
267	KN13LT4039	Laying of 03 No LT Feeder at 17 Block Geeta Colony S/STN	10.20
268	KN13LT4041	Laying of 05 No LT Feeder at Subhash Road Tikona Park S/STN	16.25
269	KN13LT4053	Laying of 04 No LT Feeder from BTS Multani Mohalla S/STN	17.69
270	KN13LT4065	Laying of 04 No LT Feeder from Shastri Park S/STN	10.06
271	KN13LT4074	Laying of 03 No LT Feeder from S/Stn Kailash Nagar School	12.03
272	KN13LT4116	Laying of 2 no of LT Feeder from Jheel 3&5 S/stn in division Krishna Nagar.	8.21
273	KN13LT4147	Laying of 3 no of LT Feeder from at Meera Mandal B Block S/stn in division Krishna Nagar.	9.86
274	KN13LT4158	Laying of 04 No LT Feeder from H Block Krishna Nagar	8.52
275	KN14LT4035	Providing of 02 No LT Feeder from A Block Jagatpuri S/STN to Chandu Park Chakki Wala	13.48
276	KN14LT4063	Laying of 03 No LT Feeders from Kanti Nagar Extension (Nala) S/STN in Division Krishna Nagar	15.54
277	KN14LT4065	Laying of 03 No LT Feeders from Kanti Nagar Extension Gali No:-9 S/STN in Division Krishna Nagar	15.84
278	LN14LT4038	Laying of 2no lt feeder from east guru angad nagar s/stn	13.39
279	NN09LT4057	LAYING LT CABLE , AT JYOTI COLONY, DISTT.-NNG	8.84
280	PN14LT4038	Laying of New LT Feeders Nagarwala S/stn to Gali no.1 (Pole no.H842) Than Singh Nagar Gadodia Road in D-PNR	8.22
281	PN14LT4041	Stringing of New LT Feeder from Tauliwala S/Stn to Tin Mkt side near H.No.T-22 Gali no.10,Indl Area Anand Parbat in D-PNR	1.68
282	YV14LT4086	Taking out 1 No. LT feeder from Jamalu Ka Bagh S/stn to Nahar Bajar.	9.47
283	YV14LT1089	Taking out 2 Nos LT feeder from Subji Mandi S/stn	21.05
284	YV11LT4021	Taking Out 2 nos. LT Feeder between inside kothi s/stnto Gali No.-45, Jafrabad, Yamuna Viah.	4.53
285	YV11LT4026	Laying of 2 Nos 4x300 sq mm LT feeders from Sandhya Public School s/stn in D-YVR.	21.28
286	CC13LT4028	Stringing of 3 No. Additional LT feeders from Kinari Bazar S/stn in division Chandni Chowk.	3.88
287	CC13LT4029	Laying of 5 No. Additional LT feeders from Diwan Hall S/stn in division Chandni Chowk.	30.50
288	CC13LT4039	Laying of 6 No. New LT feeders from NewPackage S/stn near Katra Ashrff S/stn in Chandni Chowk.	9.49
289	CC13LT4040	Laying of 3 No. Additional LT feeders from Kacha Bagh S/stn in division Chandni Chowk.	16.76
290	CC13LT4042	Laying of 3 No. Additional LT feeders from Jubli Cinema Package S/stn in division Chandni Chowk.	20.06
291	CC13LT4049	Stringing of 5 No. Additional LT feeders from Police Station Hauz Qazi S/stn in Chandni Chowk.	6.41
292	CC13LT4059	Stringing of 6 No. Additional LT feeders from Mother Dairy S/stn in division Chandni	14.62

Sl. No.	Scheme No.	Scheme Description	Estimated Cost (Lacs)
		Chowk.	
293	CC13LT4062	Stringing of 4 No. Additional LT feeders from Katra Bariyan PL S/stn in division Chandni Chowk.	6.88
294	CC13LT4063	Stringing of 6 No. Additional LT feeders from Gali Hasmuddin S/stn in division Chandni Chowk.	11.60
295	DG14LT4009	Laying of 04 No LT feeder from Sheesh Mahal S/Stn	12.07
296	DG14LT4010	Laying of 4 nos LT feeder from DDA Housing Complex Turkman Gate	12.54
297	DG14LT4011	Laying of 05 No LT feeder from 990 KVA transformer at Jama Masjid Grid S/Stn	13.86
298	DG13LT4027	Taking out 2 nos LT feeders from Sarak Prem Narayan S/stn in Division Darya Ganj.	3.38
299	DG13LT4048	Taking out 6 nos LT feeders from Penal No.3 New Dujana House S/stn in Division Darya Ganj.	22.69
300	KW11LT4011	Taking out one no LT feeder from existing 630KVA Transformer at Jeevan Jyoti School S/stnto Pole No.- L-654 in division Karawal Nagar.	12.07
301	KW09LT4184	Taking out 2 nos LT feeders from Kaushalpuri Shabapur in division Karawal Nagar.	9.88
302	KW12LT4042	Taking out 3 No of LT Feeders from Man Singh Nagar S/stn in division Karawal Nagar.	12.77
303	KW12LT4071	Laying of 3 No of LT Feeders from Biharipur Extension to Gali 1,2,3 in division Karawal Nagar.	11.78
304	KW13LT4116	Laying LT 4X300 SQMM cable Anpurna mandi	5.50
305	KW13LT4118	Laying LT 4X300 SQMM cable chauhan patti	4.29
306	KW13LT4136	Laying of ltfeeder Ganga V-2 to H033	5.67
307	KW13LT4145	Layinglt feeder from G&H Block Gali-18	6.59
308	KW13LT4150	Layinglt feeder from bblkbrijpuri toe622	5.50
309	DL14LT4019	LAYING OF 04 NO. LT FEEDER OF SIZE 4X300SQMM FROM S/STN NO. 1 ZULFE BANGAL IN DIV GTR.	14.77
310	DL14LT4010	LAYING OF 03 NO. LT FEEDER OF SIZE 4X300SQMM FROM S/STN E BLOCK NEW SEEMAPURI IN GTR.	14.83
311	DL12LT4025	3 no of LT Feeders from Proposed Transformer at Motiram Rd Peerwala S/stn in Dilshad Garden.	5.69
312	DL12LT4026	Taking out 3 no of LT Feeder from Proposed Transformer at Gali No.-1A near Metro S/stnunder fly over Friends Colony in division Dilshad Garden.	9.81
313	DL12LT4076	Taking out 3 no of LT Feeders from Proposed Transformer at B&D Block S/stn in Dilshad Garden.	7.25
314	DL11LT4019	Taking out 3 Nos LT Feeders from Zafrabad S/stnno-2 in division dilshad Garden	11.29
315	MV12LT4042	Taking Out 3 Nos. LT Feeders from Sub-Station-B Pocket-2 Mayur Vihar Ph-1.	17.28
316	MV13LT4017	Taking out 3 nos LT Feeders from newly Installed 630KVA Transformer at Sub-Station- 1, Pocket-1 in division Mayur Vihar Ph-1&2.	14.11
317	MV13LT4018	Taking out 3 nos LT Feeders from newly Installed 630KVA Transformer at Sub-Station- 2, Pocket.-1 in division Mayur Vihar Ph-1&2.	28.93
318	MV13LT4026	Taking out 3 nos LT Feeders from newly Installed 630KVA Transformer at 28 Block S/stntrilokpuri in division Mayur Vihar Ph-1&2.	15.26
319	MV13LT4050	Taking out 2 nos LT Feeders from newly augmented 990 KVA DT at S/stn-4 Chilla Village near DDA Flat in division Mayur Vihar Ph-1&2.	12.24
320	MV13LT4051	T/O 3 NO. LT FEEDERS FROM NEWLY INSTALLED 630 KVA DT AT S/S 17-BLK KALYAN PURI	16.03
321	PG14LT4049	Taking out 3 nos LT Feeder from proposed 630KVA to 990KVA (Augmentation) Transformer at Hanuman Mandir S/stn in division Paharganj.	17.60
322	PG14LT4050	Taking out 2 nos LT Feeder from proposed 630KVA to 990KVA (Augmentation) Transformer at Khanna Cinema S/stn in division Paharganj.	15.00
323	PG14LT4051	Taking out 3 nos LT Feeder from proposed 630KVA to 990KVA (Augmentation) Transformer at Old Quasbpura S/stn in division Paharganj.	12.31
324	PG14LT4053	Taking out 2 nos LT O/H Feeder from proposed 630KVA additional Transformer at B G Road Dispensary S/stn in division Paharganj.	3.47
325	PG14LT4055	Taking out 5 nos LT O/H Feeder from proposed 630KVA additional Transformer at Kabristan chamelian Road S/stn in division Paharganj.	8.02
326	PG14LT4062	Taking out 2 nos LT O/H Feeder from proposed 630KVA additional Transformer at Loha Mandi S/stn in division Paharganj.	9.50
327	PG14LT4066	Taking Out One No LT Feeder From Sub- Station Nehru Bazar In Div Pahar Ganj	6.92
328	PG14LT4067	TAKING OUT TWO NOS LT FEEDER FROM SUB- STATION PAHAR GANJ DISPENSARY IN PAHARGANJ	14.93

Sl. No.	Scheme No.	Scheme Description	Estimated Cost (Lacs)
329	PG14LT4073	TAKING OUT 1 NO LT FEEDERS FROM SUB- STATION C BLK MOTIA KHAN IN DIV PAHAR GANJ	16.22
330	PG14LT4079	Taking Out 1 No LT Feeders From Sub- Station Khurshid Market In Div Pahar Ganj	17.47
331	SR14LT4010	Laying two Nos LT Feeder From 26 Beedan Pura s/s	14.50
332	MV14LT4045	T/O 2 NOS LT FEEDERS FROM 990 KVA TR. AT S/S 16 BLK TRILOK PURI.	5.18
333	MV13LT4013	Taking out 4 nos LT Feeders from newly installed 630KVA Transformer at 32 Block S/stn trilokpuri in division Mayur Vihar Ph-1&2.	15.41
334	JM14LT4072	01 LT FEEDER FROM A BLOCK S/STN CBD GROUND	17.28
335	JM13LT4039	02 LT FEEDER FROM SAI MANDIR	23.07
336	KN13LT4178	Laying of 01 No LT feeder from 14 Block Geeta Colony S/STN	3.14
337	KN13LT4191	Laying of 3 no of LT Feeder from Chander Nagar S/stn in division Krishna Nagar.	14.48
338	KN14LT4064	Laying of 03 No LT Feeders from Seelampur Double Storey S/STN in Division Krishna Nagar	15.83
339	KN14LT4068	Laying of 03 No LT Feeders from RLG Kehar Singh S/STN in Division Krishna Nagar	23.02
340	KN13LT4058	Laying of 04 No LT Cable from 8A Block Geeta Colony S/STN	15.41
341	KN13LT4034	Laying of 03 No LT Feeder at Gopal Park S/STN	15.56
342	DG13LT4053	Replacement of old sick LT cable from Minto Road Complex s/stn to A Block Minto Road complex S/stn in Division Darya Ganj.	14.17
343	DG12LT4017	Laying of 2 no additional LT U/G Feeder from Mata Sundari Road S/stnto DDA Flat Mata Sundari in division daryaganj.	17.61
344	DG13LT4028	Taking out 4 nos LT feeders from Seema Lodge S/stn in Division Darya Ganj.	5.07
345	CC12RM4026	Replacement of Old 7 Panel board into 2*4+1*1 Way RMU at Barsabulla S/stn in Chandni Chowk.	9.89
346	CC12RM4023	Replacement of Old HT Panel into 2*4+2*1 Way RMU SF6 Type at Mother Dairy S/stn in Chandni Chk.	16.84
347	CC14RM4013	REPLACEMENT OF 3 PANEL BOARD WITH 3 WAY ID RMU AT DOI KASMERE GATE S/STN IN DIV CCK	3.79
348	DG14FA4003	Replacement of sick 11KV feeder from Kamla Market Grid to Sheesh Mahal Substation in Daryaganj.	96
349	DG12RM4024	Replacement of old HT 4 Panel Board with 4 Way I/D SF6 RMU at Bharat General S/stn in Daryaganj.	3.93
350	DG12RM4031	Replacement of old HT 4 Panel Board with 4 Way I/D SF6 RMU at Mass Mailing S/stni Daryaganj.	3.75
351	DL10RM4026	REP. OF OLD HT 3 PANEL AT PUNEET IND. STATION S/S	3.58
352	DL12RM4056	Replacement of bypassed 3 Panel bd with 3 Way I/D RMU at CEPT Jhilmil Ind area in Dilshad Garden	3.68
353	DL10FA4013	REPL. OF PILCA CABLE FROM A-BLK MTD S/S A BLK JLM TO A-BLK FLATTED	7
354	DL14FA4006	Rep of 3x300sqmm PILCA cable into 3x300sqmm HT1KV xlpe cable from s/stn B&E Market to s/stn no.1 New R Block Dilshad garden in Div GTR	24
355	DL13RM4004	Replacement of 3 Way I/D Oil ty Panel with 3 Way I/D RMU at Telephone Ex S/stn in Dilshad Garden	3.74
356	KW09FA4145	Replacement of Existing 11 KV 3CX240MM2 XLPE into 3CX300 MM2 XLPE from B-2 Nehru Vihar S/stnto B-1 Nehru Vihar S/stn in division Karawal Nagar	16
357	KW09FA4150	Replacement of Existing 11 KV 3CX240MM2 XLPE into 3CX300 MM2 XLPE from E-2 Nehru Vihar S/stnto E-1 Nehru Vihar S/stn in division Karawal Nagar	39
358	KW09FA4160	Replacement of Existing 11 KV 3CX240MM2 XLPE into 3CX300 MM2 XLPE from E-Block Bhagirathi Vihar to D-Block Bhagirathi Vihar in division Karawal Nagar.	20
359	KW12FA4010	Replacement of existing 11KV, 3CX240MM2 PILCA cable into 3CX300MM2 XLPE from F-Block Dayalpur S/stnto D-3 Block Nehru Vihar in division Karawal Nagar.	22
360	KW09FA4136	Replacement of existing 11KV, 3CX240MM2 PILCA cable into 3CX300MM2 XLPE from B-Block Mukund Vihar S/stnto D Block Mukund Vihar in division Karawal Nagar.	18
361	KW13FA4101	Replacement of cable from Bhagirathi grid to Brijpur	36
362	KW13FA4104	Replacement of 2Nos cable from Bhagirathi grid	46
363	KW14FA4050	Replacement of cable from Bhagirathi grid to khajuri khas	8
364	KW11RM4112	Replacement of oil type damaged Panel into 4 Way I/D RMU at Bhagat Vihar in div Karawal Nagar.	4.30
365	KW13RM4016	Replacement of 4 Panel board with 4 Way I/D RMU at Shanti Nagar S/stn in division Karawal Nagar.	6.13
366	KW13RM4019	Replacement of 5 Panel board with 4+1 I/D Way RMU at E Block Khajoori S/stn in div	8.49



Sl. No.	Scheme No.	Scheme Description	Estimated Cost (Lacs)
		Karawal Ngr.	
367	KW13RM4018	Replacement of 4way I/D at Mahalaxmi Enc	6.99
368	KW13RM4020	Replacement of 3way I/D at C Blk dayalpu	3.83
369	KW13RM4021	Replacement of 3way I/D at E Blk Chand B	3.83
370	KW13RM4053	Replacement of 3wi/d at Ganga V-1 by 4W	6.99
371	KW13RM4054	Replacement of 4wi/d at Ganga V-2 by 4W	6.99
372	KW13RM4055	Replacement of 3wo/d at Matawali by 4W	7.95
373	KW13RM4057	Replacement of 3wi/d at A&B bhagirathiv	3.83
374	KW13RM4063	Replacement 3w o/d by 4w at rammohalla j	7.79
375	KW13RM4064	Replacement 4w i/d at Gokalpuri Complain	6.99
376	KW13RM4065	Replacement 3w i/d at B Blk Brijpuri	3.83
377	KW13RM4067	Replacement 3w o/d at F Blk Bhagirathi Vihar	5.06
378	KW13RM4072	Rep of 3 way RMU at G1,G2 5th pusta	4.77
379	KW13RM4073	Rep of 3 way RMU at pocket-5 A blk	6.99
380	KW14RM4012	Replacement of 3Wo/D RMU atanazgodown	5.06
381	KW14RM4015	Replacement of 4 w I/D RMU at moonga ngr	6.99
382	KN15RM4015	Replacement of existing old and Defective CB with 4+1*1 way I/D RMU at Police Stn Krishna ngr	7.20
383	LN09RM4497	REP. OF OLD/ DAMAGED 11KV PANEL AT VIKAS DEEP S/S DISTT.CENTRE LAXMI NAGAR	4.46
384	LN14RM4055	REPLACEMENT OF DP AT MAIN ROAD NEAR MAIN GATE OF CENTRAL WARE HOUSING GAZIPUR WITH 1X3 WAY O/D RMU IN DIVISION LAXMI NAGAR	4.19
385	LN14RM4056	REPLACEMENT OF DP AT DP ON ROAD NO-56 NEAR OFFICE OF MLA SH NASEEB SINGH GAZIPUR WITH 1X3 WAY O/D RMU IN DIVISION LAXMI NAGAR	3.71
386	LN14RM4063	REPLACEMENT OF DP AT DP AT PRIMARY SCHOOL, GAZIPUR WITH 3+1 WAY O/D RMU IN DIVISION LAXMI NAGAR	6.03
387	LN09RM4011	REPLACEMENT OF OLD & DAMAGED 11 KV PANELS AT KURUMANCHAL CGHS S/STN.	4.50
388	LN09RM4026	REPLACEMENT OF OLD & DAMAGED 11 KV PANELS AT MOONLIGHT CGHS S/ST	4.50
389	LN09RM4027	REPLACEMENT OF OLD & DAMAGED 11 KV PANELS AT KANOONGO CGHS S/ST	4.50
390	LN11RM4024	REP. OF BYPASSED 4 P.B.WITH 4 WAY I/D RMU AT RAS VIHAR IN DIVISION LAXMI NAGAR.	4.50
391	LN13RM4093	Replacement of damaged 4 Panel board with 4 Way I/D RMU at Paradise CGHS S/stn in Laxmi Nagar.	4.50
392	LN13RM4095	Replacement of damaged 4 Panel bd with 4 Way I/D RMU at LSC-2 CGHS near S/stn.-7 in Laxmi Ngr.	4.50
393	LN13RM4113	Replacement of 3 way Panel Board with 3 Way I/D RMU at Tata Motors Gazipur S/stn in Laxmi Nagar.	3.60
394	MV09MS4136	REP. OF OIL TYPE TR. INTO DRY TYPE TR AT FINE HOME CGHS MVR-I	25.0
395	MV09MS4140	REP. OF OIL TYPE TR. INTO DRY TYPE TR AT NAV BHARAT CGHS MVR-I	25.0
396	MV09MS4147	REP. OF OIL TYPE TR. INTO DRY TYPE TR AT SUPREME CGHS MVR-I	65.7
397	MV09MS4153	REP. OF OIL TYPE TR. INTO DRY TYPE TR AT UPKAR CGHS MVR-I	25.1
398	MV09MS4154	REP. OF OIL TYPE TR. INTO DRY TYPE TR AT SADAR CGHS MVR-I	25.1
399	MV14FA4056	Conversaion of existing HT O/H into u/g HT XLPE cable of 3x300 sq.mm. From M-15 Rainy Well S/Stn. To DP No.1 Chilla Village	19
400	MV14FA4003	Replacement of HT 11 KV cable from S/Stn No.5 KHP Cly(Mat Mkt.) To S/Stn. 1 KHP Cly.	32
401	MV14MS4047	PROVIDING ADDL 400 KVA DRY TYPE TR. AT CGHS VASANT SOCIETY IN MVR-1&2 S-DIVISION.	11.2
402	M309RM4001	REPLACEMENT OF 11 KV 4 WAY PANEL BOARD AT NAGAJUNA APPTS S/S 1	5.56
403	M309MS4122	REP. OF OIL TYPE TR. INTO DRY TYPE AT MANAV STHALI CGHS MVR-III	24.4
404	M312RM4034	Provision of 3 Way O/D RMU at Kondli Bridge Chowk in division Mayur Vihar Ph-III.	4.35
405	M311RM4012	Replacement of 4 Panel Board with 4 Way RMU at Capital Appartment in div Mayur Vihar Ph-3.	5.41
406	M311RM4015	Replacement of 4 Panel Board with 4 Way RMU at City Appartment in div Mayur Vihar Ph-3.	5.39
407	M311RM4022	Replacement of 4 Panel Board with 4 Way RMU at Highland Appt in div Mayur Vihar Ph-3.	5.41
408	M313RM4012	Replacement of 4 Panel Board with 1X4 way I/D RMU at S/Stn. No.6, Mix Housing in Division Mayur Vihar Ph-3.	5.31



Sl. No.	Scheme No.	Scheme Description	Estimated Cost (Lacs)
409	M313RM4015	Replacement of 4 Panel Board with 1X4 way I/D RMU at Niraj (Prayag) in div Mayur Vihar Ph-3.	5.31
410	M313RM4017	Replacement of 3 Panel Board with 1X4 way I/D RMU at Habitat CGHS in divn Mayur Vihar Ph-3	5.31
411	M313RM4018	Replacement of 4 Panel Board with 1X4 way I/D RMU at S/Stn. No.11, East End Apptt. In Division Mayur Vihar Ph-3	5.31
412	M309FA4027	CON.OF O/H INTO U/G HT CBL3X300 MM XLPE FROM SABZI MANDI HARIJAN BASTI TO INDAL PUBLIC SCHOOL KONDLI VILL.	36
413	M313RM4014	Replacement of 3 Panel Board (RBL Make) with 1X4 way I/D RMU at Puneet CGHS in Div MVR-III	5.14
414	M313RM4046	Replacement of 3 Panel Board (MYSORE ELECT Make) with 1X3 way I/D RMU at S/STN-3 PKT A1 LIG in Division MVR-III	4.71
415	M314RM4011	Replacement of 7 Panel Board (RBL Make) with 1X4 way I/D RMU at S/Stn 4 Mix Housing in MVR-III	6.86
416	M314RM4012	Replacement of 4 Panel Board (Biecco Make) with 1X4 way I/D RMU at S/Stn 3 East End Apt in MVR-III	6.86
417	M314RM4013	Replacement of 4 Panel Board with 4 Way RMU at S/stnno.-2 Deluxe Apartment in Mayur Vihar Ph-3.	6.41
418	M309MS4120	REP. OF OIL TYPE TR. INTO DRY TYPE TR. AT ABUL FAZAL CGHS MVR-III	24.4
419	M309MS4123	REP. OF OIL TYPE TR. INTO DRY TYPE AT DOCTORS CGHS MVR-III	24.4
420	M309MS4124	REP. OF OIL TYPE TR. INTO DRY TYPE AT NEW DELHI CGHS MVR-III	24.4
421	M309MS4125	REP. OF OIL TYPE TR. INTO DRY TYPE AT AIIMS CGHS MVR-III	24.7
422	M309MS4126	REP. OF OIL TYPE TR. INTO DRY TYPE AT ALLAHBAD BANK CGHS MVR-III	24.6
423	M309MS4128	REP. OF OIL TYPE TR. INTO DRY TYPE AT PARVATYA CGHS MVR-III	24.6
424	M309MS4129	REP. OF OIL TYPE TR. INTO DRY TYPE AT PARYATAN VIHAR CGHS MVR-III	14.0
425	M309MS4130	REP. OF OIL TYPE TR. INTO DRY TYPE AT DANIK JANYOUG CGHS MVR-III	24.6
426	M309MS4131	REP. OF OIL TYPE TR. INTO DRY TYPE AT ILA CGHS MVR-III	24.6
427	M309MS4132	REP. OF OIL TYPE TR. INTO DRY TYPE AT CEL CGHS MVR-III	13.9
428	M309MS4133	REP. OF OIL TYPE TR. INTO DRY TYPE AT INDIAN EXPRESS CGHS MVR-III	24.6
429	M309MS4134	REP. OF OIL TYPE TR. INTO DRY TYPE AT INDIAN NAVAL CGHS MVR-III	24.6
430	M309MS4141	REP. OF OIL TYPE TR. INTO DRY TYPE AT SOOCHANA CGHS MVR-III	24.6
431	M309MS4142	REP. OF OIL TYPE TR. INTO DRY TYPE AT VISHAL CGHS MVR-III	24.6
432	NN13RM4026	Replacement of oil type 4 panel board into 4 Way RMU at MIG Loni Road Sub-Station-4 in Nand Nagri.	3.60
433	PG14RM4010	Replacement of burnt panel with 4 Way RMU at New Sarai Khalil S/stn in division Paharganj.	5.29
434	PG14RM4045	Replacement of burnt RMU with 3 Way RMU at AZAD MARKET ID Substation in division Paharganj.	3.80
435	PG14FA4014	Replacement Of Part Of HT 11KV Feeder From Motia Khan Grid To Ram Nagar Complaint Center (Pole Existing Behind Mazar At Qutub Road)	46
436	PG14MS4087	Conversion of 630 KVA Oil type DTR to 630 KVA Dry type DTR at D-Block (D) PHG	15.9
437	PG14MS4089	Conversion of 400 KVA Oil type DTR to 400 KVA Dry type DTR at MS-5 Motia Khan (D) PHG	11.4
438	PG14MS4090	Conversion of 630 KVA Oil type to 630 KVA Dry type DTR at Police Station paharganj PHG	16.0
439	PN12FA4002	Replacement of 3CX300SQMM PILCA Cable into 3CX300SQMM into XLPE cable from Nagarwala to Tikona Park via Subji Mandi in division Patel Nagar.	42
440	PN13RM4031	Conversion of O/H DD unit into 3way RMU SF6 type at Duggal No 1 P/M Gali 4 Anand Prt in Div. PNR	6.44
441	PN13RM4032	Conversion of O/H DD unit into 3way RMU SF6 type at P/M Gali no 10 Anand Parvat in Div. PNR	6.44
442	PN13RM4033	Conversion of O/H DD unit into 3way RMU SF6 type at Road No 3 S/stn P/M Dev Nagar in Div. PNR	6.44
443	PN14RM4045	Conversion of DD unit into 3 way O/D RMU at Post Office Gali no.2 Anand Parbat P/M in D-PNR	5.26
444	SR12FA4003	Replacement of 11 kv 3CX300MM2 PILCA Cable to 3CX300MM2 XLPE Cable from Chhaperwala S/stnto Dev Nagar S/stnp/M in division Shankar Road.	69
445	SR13RM4047	Replacement of 5 Panel Board into 4 way I/D type RMU at 53 Block (K) Ramjash Road in shankar Rd.	4.87

Sl. No.	Scheme No.	Scheme Description	Estimated Cost (Lacs)
446	M314RM4009	Provision of 1 X 3Way I/D RMU at S/Stn. C4, New Ashok Nagar for already laid HT cable from Dallupura Grid in Division Mayur Vihar Ph-3.	3.74
447	M310RM4007	Installation of 3 way RMU at S/stnno-10 A3 Mayur Vihar Ph-3 division.	3.13
448	JM14RM4027	INSTALLATION OF 3 WAY RMU AT C BLOCK ANAND VIHAR	4.64
449	JM14FA4017	REPLACEMENT OF PILCA TO XLPE FROM VIVEK VIHAR GRID TO DRAIN V.VIHAR	17
450	JM12RM4062	Installation of 4 Way I/D RMU at Hargovind Enclave S/stn in division Karkardooma.	5.65
451	JM12RM4056	Installation of 3-Way O/D RMU at Mahila College S/stn in division Karkardooma.	4.02
452	JM10OH4055	REPLACEMENT OF HT O/H TO HT AB FROM ITI TO DP KASTURBA NAGAR	19
453	YV10FA4099	Augmentation OF HT PILCA CABLE BETWEEN K BLK SEELAMPUR O/H TO CHAUHAN BANAGER GALI 10	74
454	KN14FA4021	Repl. Of HTAB into U/G Cable from Guru Angad Grid to 16 Block Geeta Colony	48
455	KN13RM4011	Replacement of Old and Defective 3 Way Oil Type with 1*3 W I/D RMU au Old Govind Pura S/STN	4.51
456	KN14FA4122	REPL of HTAB to U/G Cable from Vivekanand to Ruby Dhaba	27
457	KN13RM4085	Installation of (1*3+1*1) WAY O/D RMU at Police Station Gandhi Nagar	7.83
458	KN13RM4137	Installation of 2*1 WAY O/D RMU at Seelampur Phatak	6.86
459	DG10FA4017	REP. OF OLD SICK PILCA CABLE INTO 3CX300MM2 XLPE CABLE FROM MINTO RD GRID S/STN TO SHANKER GALI S/STN IN DIV. DARYA GANJ	40
460	DG12FA4003	REPLACEMENT OF OLD PILCA CABLE FROM I.P.H S/STN TO RAJENDRA BHAWAN S/STN VIA HINDI BHAWAN & PANJABI BHAWAN IN DIV DARYA GANJ	9
461	KN15SS4026	New Sub Station at Anandpur Trust Hospital	23.52
462	KW14NF4002	INTERCONNECTOR BETWEEN SHERPUR ch & BIHARIPUR VILLAGE IN KARAWALNAGAR DIV	39.26
463	KW14SS4004	ESTABLISHMENT OF NEW S/STN IN SABHAPUR IN KARAWAL NAGAR DIV	19.95
464	KW15AT4030	Installation of 400KVA DT for releasing 95 KW Connection at Kamal Vihar	3.00
465	KW15MS4001	STRENGTHING OF HTAB IN E BLOCK, A POCKET-6, C BLOCK 3RD PUSTA SONIA VIHAR	19.99
466	KW15MS4002	STRENGTHING OF HTAB IN G-1,G-2,G-4,G-5 & E BLOCK HARDAN PUBLIC SCHOOL IN SONIA VIHAR	19.99
467	KW15MS4003	STRENGTHING OF HTAB IN SHIV VIHAR IN KWN	19.99
468	KW15MS4004	STRENGTHING OF HTAB IN BHAGATVIHAR, PREM VIHAR, ANKUR ENC/DIVIN KARAWAL NAGAR S	19.99
469	KW15MS4005	STRENGTHING OF HTAB IN G&E BLK WEST KARAWAL NAGAR, KAMAL VIHAR IN KARAWAL NAGAR	19.99
470	KW15MS4006	STRENGTHING OF HTAB TUKMIRPUR, CBLK DAYALPUR, MOONGA NAGAR IN DAYALPUR S/DIV	19.99
471	KW15MS4007	STRENGTHING OF HTAB AMBEDKAR VIHAR, JOHRIPUR EXT., ZIAUDDINPUR IN GOKALPURI S/DIV	19.99
472	M309MS4140	REP. OF OIL TYPE TR. INTO DRY TYPE AT OVERSEASE CGHS MVR-III	15.00
473	NN14EL4056	Electrification of LOP at Mandoli Industrial Area	19.82
474	NN15AT4001	INSTALLATION OF ADDITIONAL DTR - 25 KVA IN HVDS AREA OF DIVISION - NNG	9.65
475	NN15AT4002	ADDL DT'S 25 KVA IN HVDS IN DIV - NNG	9.65
476	NN15AT4003	ADDL DT'S 25 KVA IN HVDS IN- NNG	9.65
477	NN15AT4004	ADDL DT'S 25 KVA IN HVDS IN- NNG	9.65
478	NN15EL4093	Electrification of New Mandoli Industrial Area In NNG	19.83
479	NN15FA4016	REPLACEMENT OF 3 PHASE HTAB CABLE IN	11.79
480	NN15FA4017	RPLACEMENT OF DEFECTIVE HTAB 95 SQ MM IN HVDS AREA	16.06
481	NN15RM4019	INSTALLATION OF SINGLE WAY RMU AT SANSKAR ASHRAM	2.43
482	NN15RM4023	INSTALLATION OF SINGLE WAY RMU (ABB MAKE) AT 960 MIG S/S NO.3 PKT F GTB ENCLAVE:ID	2.43
483	NN15UT4087	TRANSFORMER AUGMENTATION FROM 630 TO 990 KVA AT DURGA PURI EXTN. NEAR KALA NIKETAN IN DIVISION NAAND NAGRI	9.85
484	PG14AT4017	ADDITIONAL 630KVA TRANSFORMER AT B G ROAD DISPENSARY S/ STN S/STN IN PAHARGANJ.	4.65
485	PG14PS4001	ADDITIONAL PACKAGE SUBSTATION OF 990KVA AT CHUNA MANDI S/STN IN PAHARGANJ.	39.92
486	NN14AT4082	INST OF ADDL 630KVA DTR AT HARDEVPURI NO. 2 IN DIV NNG	9.49
487	KW14NF4007	NEW 11KV FEEDER Fr 66KV SONIA VIHAR GRID TO SHERPUR CHOWK IN KARAWALNAGAR DIV	68.88
488	JM15LT4015	LAYING OF LT FEEDER IN JAGRITI FOR KCC	9.14



Sl. No.	Scheme No.	Scheme Description	Estimated Cost (Lacs)
489	NN11LT4034	TAKING OUT 2NOS LT FEEDERS FROM AUG. 990KVA TR.AT S.STN-3 JANTA FLAT NAND NAGARI	5.90
490	LN14SS4002	ESTABLISHMENT OF NEW SUB/STN AT MADHU VIHAR(OPPOSITE MAURYA CGHS)SUB/STN	43.36
491	JM15AT4016	ADD OF 630 KVA AT EAST ARJUN NAGAR WITH LT FEEDER	12.50
492	DL15SS4018	INSTALLATION OF NEW S/STN WITH 630KVA TRF AT B-BLOCK JHILMIL INDUSTRIAL AREA NEAR PLOT NO-B-42 , DIV- DILSHAD GARDEN	10.56
493	DL15SS4014	INSTALLATION OF NEW S/STN WITH 630KVA TRF NEAR B-17 JHILMILLIND IN DIV GTR	7.44
494	KW15NC4033	NEW CONNECTION OF 140KW LT SYSTEM OF SUPPLY IN F/O PRINCIPAL POLICETRAINING SC	1.25
495	LN13PS4034	PROVIDING 990 KVA DTR PACKAGE SUB STATION OPPOSITE F & G BLOCK PREET	41.62
496	KW14UT4042	TRANSFORMER AUGMENTATIONFROM 100 TO 400KVA AT TELEPHONE EXCHANGE S/STN.	5.40
497	PN15FA4013	REPLACEMENT OF EXISTING OLD SICK PILCA CABLE FROM DMS GIRD TO DMS PLANT S/STN OF DMS NO-2 FEEDER IN D-PNR	12.86
498	JM09MS4171	REPLACEMENT OF OIL TYPE TRANSFORMER WITH DRY TYPE AT GHARONDHA APART S/STN	30.80
499	JM09MS4172	REPLACEMENT OF OIL TYPE WITH DRY TYPE TRANSFORMER AT VIVEKAPARTS/STN	30.92
500	JM09MS4173	REPLACEMENT OF OIL TYPE WITH DRY TYPE TRANSFORMER AT HANSAAPARTMENT S/STN	61.79
501	LN09UT4425	CONVERSION OF OIL TYPE DTR INTO DRY TYPE DTR AT PRESS APPT CGHS SS	31.67
502	MV09MS4156	REP. OF OIL TYPE TR. INTO DRY TYPE TR AT SAHYOG CGHS MVR-I	62.59
503	MV09MS4158	REP. OF OIL Ty TR. INTO DRY TYPE TR AT MANU CGHS MVR-I	62.59
504	NN15NF4115	PROPOSED 11KV CABLE 3X300 SQMM XLPE FEEDER FROM NNG GRID TO D-1 HARSHVIHAR S/STN VIA GAGAN CINEMA STREET LIGHT S/STN	144.00
505	NN15NF4116	PROPOSED 11KV CABLE 3X300 SQMM PROPOSED 11KV CABLE 3X300 SQMM XLPE FEEDER FROM NNG GRID TO MANDOLIKIOSK	69.50
506	DL15NF4041	Laying of New HT 11KV XLPE 3CX300mm2 Cable from Dilshad Garden Grid to Old Seema Puri Bus Stand in Division Dilshad Garden.	48.34
507	DL15NF4042	Laying of New HT 11KV XLPE 3CX300mm2 Cable from Dilshad Garden Grid to B-Blk Dilshad Colony in Division Dilshad Garden.	48.33
508	DL15LT4019	LAYING OF 05 NOS. LT FEEDER NEWLY INSTALLED 630 KVA DT AT B-BLOCK JHILMIL INDUSTRIAL AREA NEAR PLOT NO-B-42 , DIV- DILSHAD GARDEN	14.46
509		DMS Implementation at Mayur Vihar -1	200
		Total	11707.5

SUMMARY OF SCHEMES SUBMITTED UNDER IPDS BY BYPL

Sl. No.	Category	Scheme Description	Cost Estimate in Rs. Lacs
1	New 66/11KV and 33/11KV Grid Station	Establishment of 33/11 KV Indoor GIS Grid Sub-Station with 2X25MVA, Power Transformer and associated equipments at D.B Gupta Road	1570
		Establishment of 33/11 KV Indoor GIS Grid Sub-Station with 2X25MVA, Power Transformer and associated equipments at Geeta Colony-2	1570
		Establishment of 66/11 KV Grid Sub-Station with 2X25MVA, Power Transformer and associated equipments at Mandoli Jail Complex.	1843
2	Addition of Power Transformer	Addition of one no. 25 MVA Transformer with associated equipments at 66/11KV VivekVihar Grid Sub-Station.	417
	Augmentation of Power Transformer	Augmentation of one Power Transformer from 16 MVA to 25 MVA at Karawal Nagar Sub station.	231
		Augmentation of one Power Transformer from 16 MVA to 25 MVA at Shankar Road Sub station.	231
3	Laying of new 33KV Infeeds including Road Restoration	from 220KV Park Street Grid to Proposed 33KV Grid at D.B Gupta Road	249
		LILO of Faiz Road - Motia Khan Ckt at D.B Gupta Road.	63
		From 220KV Geeta Colony Grid to Proposed Grid at Geeta Colony Grid.	75
		from 220 KV Preetvihar Grid to 33 kV PreetVihar Grid.	63
		from 220 KV Preetvihar Grid to 33 KV CBD II Grid.	187
		LILO of 33KV Ckt from Shakarpur -Guru Angad Nagar at 220kV Preet Vihar.	311
	66kv infeed	from 220 KV Preetvihar Grid to 33 kV CBD I Grid	
4	Road restoration charges for laying of cables	from 220KV Harsh Vihar Grid to Proposed Grid at Mandoli Jail Complex.	
		from 220KV Park Street Grid to Proposed 33KV Grid at D.B Gupta Road	228
		LILO of Faiz Road - Motia Khan Ckt at D.B Gupta Road.	54
		From 220KV Geeta Colony Grid to Proposed Grid at Geeta Colony Grid.	54
		from 220 KV Preetvihar Grid to 33 kV PreetVihar Grid.	264
		from 220 KV Preetvihar Grid to 33 KV CBD II Grid.	12
		LILO of 33KV Ckt from Shakarpur -Guru Angad Nagar at 220kV Preet Vihar.	60
		from 220 KV Preetvihar Grid to 33 kV CBD I Grid	126
		from 220KV Harsh Vihar Grid to Proposed Grid at Mandoli Jail Complex.	156
5	Solar Panel	220KV Park Street Grid to Proposed 33KV Grid at D.B Gupta Road	228
		Installation of Roof Top Solar Panel at D.B Gupta Road	21
		Installation of Roof Top Solar Panel at Geeta Colony	21
		Installation of Roof Top Solar Panel at Mandoli Jail Complex	21
		Total	9022.76

List of new 66 & 33kV Infeeds in BYPL having transmission constraints

S No	Substation	N-1 Loading (%)	N-1 Compliance	DTL Constraint
1	Shankar Road	184	No	New Infeed required from 220kV Grid in Central Delhi
2	Fountain	143	No	Provision for double cable connection at 220kV Kashmere gate
3	Prasad Nagar	141	No	New Infeed required from 220kV Grid in Central Delhi
4	DMS	128	No	New Infeed required from 220kV Grid in Central Delhi
5	Yamuna Vihar	119	No	New Infeed required from 220kV Seelampur
6	Delhi Gate	118	No	New Infeed required from 220kV Rajghat to Delhi Gate
7	GT Road	116	No	New Infeed required from 220kV Seelampur
8	Dwarkapuri	112	No	New Infeed required from 220kV Seelampur
9	Kondli	110	No	New Infeed required from 220kV Ghazipur to Kondli
10	Shastri Park Central	108	No	New Infeed required from 220kV Grid in Central Delhi
11	Bhagirathi	107	No	New Infeed required from 220kV Seelampur
12	Anand Parbat	100	No	New Infeed required from 220kV Grid in Central Delhi

Annexure-IX**SUMMARY OF SCHEMES SUBMITTED UNDER IPDS BY TPDDL**

Sl.No	Scheme	Unit	Qty	Value Proposed Rs. In Crore
1	AMI & Smart Meters Ph-1	Nos.	253950	234.32
2	33/11 kV New Grid Substation	Nos.	2	30.32
	Additional Transformers in 33/11 kV Grid Station	Nos.	3	10.74
	33 kV Line Bay Extension at EHV Station	Nos.	4	1.74
3	11 kV Line : New Feeder / Feeder Bifurcation	kms.	26	1.21
	11 kV Line : Augmentation / Reconductoring	kms.	2	0.11
	Installation of Distribution Transformer	Nos.	1478	35.4
	Provisioning of solar panel	Lot	120	1.2
	RMU, Sectionaliser, Auto reclosures, FPI etc.	Lot	200	8.98
4	Arial Bunched Cable	kms.	33	4.3
	Under Ground Cable	kms.	166	59.93
	GRAND TOTAL			388.25

TPDDL CAPEX. PLAN FOR FY 2015-16 TO FY 2018-19
Submission under CAPEX under Financial year 2014-15

CIRCLE - TOWN

Sl. No.	District	ZONE	SCHEME DESCRIPTION	Scheme No. PR/	Total cost (In Crs)
1	SKN	425	new feeder from Gulabi Bagh PTR-3 to Ganda Nala S/Stn.2 to Shift Load of PTR-2 to PTR-3.	S0425/00019	1.07
2	SKN	421	Installation of 990KVA Dry Type Tx at CSA to mitigate the overloading of DT-1. & for safety reason as VT centre is running from the stn.	S0421/00012	0.22
3	SKN	422	new feeder fr Gulabibagh PTR-3 to Subdhara Clny Ram leela Grnd for N-1 of PTR-3 Shahzadabagh	S0422/00022	0.76
4	SKN	425	new feeder from Gulabi Bagh PTR-3 to A-Blk Petrol Pump to shift load from PTR-2 to PTR-3.	S0425/00017	0.17
5	SKN	425	new feeder from Gulabi Bagh PTR-3 to E-2 Metro (Shastri Nagar) for N-1 of PTR-3 of Shahzadabagh.	S0425/00018	0.38
6	SKN	425	New feeder from Gulabi Bagh PTR 3 to Petrol Pump Sindhora Kalan.	S0425/00020	0.38
7	SKN	421	Replacement of Sick Pilca BG Road to CSA	K0421/00017	0.63
8	SKN	421	Replacement 630 KVA DT-2 with Dry Type tx at CSA for safety reason	S0421/00011	0.20
9	SKN	421	Replacement 630 KVA DT-1 & DT-2 with Dry Type Transformer at VN PURI for safety reason as Zone-421 & 423 is running from the s/stn.	S0421/00013	0.40
10	SKN	425	Replacement 630kva DT-2 with Dry Ty tx at Sindhora Kalan for safety reason as Zonal office -417	S0425/00016	0.20
11	CVL	411	Reconductoring of cable between Narmada & National Cold Store S/Stns.	S0411/00020	0.36
12	CVL	411	Reconductoring of cable between Battery Lane & LG House S/Stns via 8-Raj Niwas Marg S/Stn.	S0411/00021	0.59
13	CVL	411	New feeder from proposed Swiss Apartment grid to St. Stephens Hospital S/Stn.	S0411/00024	1.32
14	CVL	411	New feeder from proposed Swiss Apartment grid to New Court S/Stn.	S0411/00023	0.99
15	CVL	418	Interconnector between Hindu College & Delhi School of Economics S/Stns.	S0418/00026	0.53
16	CVL	416	New feeder from GTK grid to RUB S/Stn.	S0416/00040	1.39
17	CVL	416	Sick cable replacement C. C. Colony I/D to Khatik Basti	K0416/00017	0.05
18	CVL	417	New feeder from Gulabi Bagh grid to ESI S/Stn.	S0417/00022	1.17
19	CVL	417	LILO of cable between E Blk Mother Dairy, Kamla Nagar (K) at E Blk Kamla Ngr MCD School (K).	S0417/00019	0.27
20	CVL	417	New feeder from proposed Swiss Apartment Grid to Narmada O/D S/Stn.	S0417/00019	0.27
21	CVL	417	New feeder from proposed Swiss Apartment Grid to Parag Ice Factory S/Stn.	S0417/00024	1.54
22	CVL	416	Existing DISPENSARY OM NAGAR P/M S/STN 250 KVA is to be augmented to 630 kVA DT along with 3 Way RMU to mitigate OLD SANGAM PARK DT1 and R.P. BAGH MOTHER DAIRY (K) DT2. Proposal revised with Dhobhi Ghat Dt Augmentation	S0416/00042	0.33
23	CVL	411	Installation of 4 way RMU near Flag Staff Road PSS for reliability	S0411/00022	0.10
24	MDT	402	Interconnector between CNG Pumping Station & FCI S/Stns.	S0402/00042	0.42
25	MDT	402	Additional 250 kVA P/M DT near Hans Cinema to mitigate the over loading of HANS CINEMA (PL/M) DT1. Scheme Revised for 400 kVA P/M DT	S0413/00044	0.22
26	MDT	413	LILO of Trunk section of C Block Radio Colony-6 feeder at 317 Bhai Parmanand S/Stn.	S0413/00048	0.33
27	MDT	413	Reconductoring of cable between BBM Depot & Hakikat Nagar (K) S/Stns via Nulife and Hakikat Nagar P/M S/Stns.	S0413/00049	0.47
28	MDT	413	Reconductoring of cable between Dashmesh and Shah Alam S/Stns.	S0413/00050	0.06
29	MDT	413	New 630 kVA DT is to be installed at inside TB Hospital Substation and spare braeker to mitigate the over loading of T.B. HOSPITAL	S0413/00047	0.31
30	MDT	413	New 630 kVA DT along with 3 way RMU is to be installed at	S0413/00045	0.37

Sl. No.	District	ZONE	SCHEME DESCRIPTION	Scheme No. PR/	Total cost (In Crs)
			MUKHERJEE NGR - 2 to mitigate the over loading of MUKHERJEE NGR - 2 DT2		
31	MDT	413	The existing 315 kVA DT of 78 WEST MUKHARJI NAGAR is to be augmented to 630 kVA along with 3 way RMU to mitigate over loading of 78 WEST MUKHARJI NAGAR & Dhaka (K)	S0413/00042	0.29
32	MDT	413	Additional 250 kVA P/M DT near MUKERJEE NG.P/M BUS STAND to mitigate the over loading of MUKERJEE NG.P/M BUS STAND. Revised	S0413/00046	0.21
33	MDT	413	New 630 kVA DT along with 3 way RMU is to be installed near DUSHERA GROUND M NAGAR to mitigate the over loading of DUSHERA GROUND M NAGAR	S0413/00043	0.50
34	MDT	415	New 630 kVA DT is to be installed at D BLOCK SUBZI MANDI to mitigate the over loading of D BLOCK SUBZI MANDI DT-1	S0415/00018	0.32
35	MDT	412	New feeder from MDT grid to Z Block S/Stn.	L0412/00035	0.52
36	MDT	402	Shifting of M2K, CETP, B Block GTK from 4 way RMU to Bus 3	L0402/00043	0.05
37	MDT	402	L0402/00012	L0402/00012	0.20
38	MDT	402	L0402/00013	L0402/00013	0.15
39	MDT	412	L0412/0007	L0412/0007	0.19
40	MDT	412	L0412/0008	L0412/0008	0.16
41	MDT	413	L0413/0014	L0413/0014	0.17
42	MDT	413	L0413/0015	L0413/0015	0.19
43	MDT	413	L0413/0016	L0413/0016	0.13
44	CVL	417	HT feeder from Swiss apartment grid to Narmada O/D S/stn.	S0417/00023	1.85
45	CVL	417	HT feeder from Swiss apartment grid to Palace cinema S/stn.	S0417/00025	0.77
46	CVL	417	HT feeder from Swiss apartment grid to Kabir Basti S/stn.	S0417/00026	0.21
47	CVL	417	HT feeder from Malkaganj to DU grid	S0417/00027	0.93
48	CVL	417	HT feeder from Swiss apartment grid to indra market S/stn	S0417/00028	1.77
49	CVL	417	HT feeder from DU grid to HR hospital S/stn	S0417/00030	0.78
50	CVL	417	HT feeder from DU grid to deena ka talab S/stn	S0417/00031	1.74
51	MDT	413	HT feeder old bhai parmanad feeder from 220KV GPL to be shifted to Dheerpur grid.	S0413/00052	0.62
52	MDT	413	HT feeder Mukherjee nagar complex feeder from 220KV GPL to be shifted to Dheerpur grid.	S0413/00053	0.62
53	CVL	418	HT feeder Wazirabad water works no 1 feeder from 220KV GPL to be shifted to Dheerpur grid.	S0418/00027	0.70

CIRCLE - METRO

Sl. No.	District	ZONE	SCHEME DESCRIPTION	Scheme No. PR/	Total cost (In Crs)
1	KPM	520	Installation of 400 KVA DT at Chander Nagar to mitigate the overloading of DT-1	S0520/00008	0.35
2	KPM	520	Pilca Approx.1500 mtr between Tri Nagar Talab & Chaudhary Sweets is Sick so instead of replacing this Pilca New Feeder is Proposed from Tri Nagar to Tri Nagar Talab. Existing XLPE Section to be diverted to Telu Ram for	K0520/00014	0.47
3	KPM	520	Replacement of Sick Pilca from SAHAZADABAGH TO NEW SHANTINAGAR	K0520/00015	0.39
4	KPM	502	Replacement of E-Blk Ph-I(AV)from Pilca to XLPE for N-1 mitiofation of E-Blk,Ph-I(WZP-2).	S0502/00036	0.65
5	KPM	502	I/C between Mother Dairy to Deep Bandhu Hospital -- replacement of 3 way RMU with 4 way RMU at JJ colony mother dairy along with one interconnector between JJ colony mother dairy to deep bandhu hopital.site visit form attached.	S0502/00037	0.54
6	KPM	501	Replacement of Rampura to C-1 fdr from Pilca To XLPE of B-3 fdr From Ashok Vihar	S0501/00055	0.32
7	KPM	509	Replacement of cable between Aryabhatt to SL Jain	K0509/00021	0.22
8	KPM	520	Installation of 630 KVA DT at Mam Chand Park to mitigate the overloading of DT-2	S0520/00009	0.16



Sl. No.	District	ZONE	SCHEME DESCRIPTION	Scheme No. PR/	Total cost (In Crs)
9	KPM	501	Augmentation of 400 KVA to 630KVA at C-4(Mandir wala) to mitigate the overloading.DT to be Swapped with B-2,DT-2	S0501/00056	0.16
10	PPR	504	New feeder from Rani Bagh CC Grid to Community Centre	S0504/00029	1.06
11	PPR	504	Replacement of 3 way RMU at Rama Market substation with 4 way RMU O/D RMU and installation of this 3 way RMU at Madhuban Aptt (Old Panel)	S0504/00031	0.07
12	PPR	504	Interconnector from section 'Community Centre to C Blk Saraswati Vihar' to 'Shivaji Market substation'	S0504/00030	0.13
13	PPR	530	Additional 630 kVA DT along with one 4 way O/D RMU at Sabzi Mandi Road (Near pole no. HT 530-14/11) . HT - Trunk section of E Blk JJ Colony feeder. Some load from J Blk JJ Colony can also be shifted. - To mitigate overloading of G&H Block - PSS	S0530/00031	0.40
14	PPR	530	Additional 400 kVA DT with 3 way RMU at near Ram Mandir, Raj Nagar. - To mitigate overloading of Raj Nagar DT 2	S0530/00032	0.17
15	PPR	510	New feeder from Rani Bagh CC Grid to Siri Nagar Guruwara S/stn	S0510/00033	0.80
16	PPR	510	Additional 630 kVA DT along with 3 way RMU at 'Phoolaram II to Phoolaram I) at Phoolaram Park. - To mitigate overloading of Phoolaram Park 2 DT 1	S0510/00034	0.23
17	PPR	510	Interconnector from M blk Shakurpur S/stn to Shakurpur Village S/stn	S0510/00035	0.44
18	PPR	510	Additional 630 KVA PSS near School - To Mitigate overloading of Shakurpur Village DT 3 and other DTs	S0510/00036	0.26
19	PPR	508	Additional 400 kVA DT with 3 way RMU at WP S/stn - To mitigate overloading at WP DT 2	S0508/00017	0.23
20	PPR	504	Rectification/alteration of existing consumer owned Distribution Network to make it to the TPDDL standards for releasing individual electricity connections to the residents of MILAN Apartments, Zone-504,Dist.-Pitampura	S0504/00028	0.21
21	PPR	510	New feeder from RBCC to Rani Bagh Complaint Centre	S0510/00038	0.42
22	PPR	510	New feeder from Rani Bagh CC Grid to Road No. 43 via Rajdhani Market	S0510/00037	1.34
23	PPR	508	Swapping of 11 KV feeder DP POLICE-QUARTERS S/S from Panel no.30 with Local T/R of Panel no.20	S0508/00018	0.11
24	MGP	515	One No. 4-WAY(O/D) RMU required at L- BLK (PL/M) S/S to provide proper switching and control to three outgoing from DP No-HT515-31/3-4 at L- BLK (PL/M) S/S and for Controlling of one No 315 KVA DT and one No. 990KVA DT from breaker.	S0515/00047	0.07
25	MGP	523	One No. 3-WAY(O/D) RMU required near Pole No-HT523-19/15-16-17	S0523/00034	0.08
26	MGP	515	Replacement of PILCA-300 cable from S/STN-15 to S/STN -17(954M)	K0515/00013	0.11
27	MGP	518	3 Way O/D RMU proposed at UT BLK PSS	S0518/00029	0.06
28	MGP	523	Proposed new 160KVA DT near Ramesh enclave DT(400KVA PSS)	S0523/00043	0.08
29	MGP	515	One 3 way O/D RMU Required near HT515-45/21 for Back feeding purposes of S/S No-22 feeder	S0515/00046	0.41
30	MGP	523	Proposed new 250KVA DT near to Inder enclave no-2 DT(400KVA)	S0523/00042	0.10
31	MGP	515	Replacement of PILCA-300 cable from S/STN. NO-32 to S/STN. NO-30 (155m)	K0515/00014	0.08
32	MGP	518	New Interconnector proposed from T-OFF from Sub feeder A-2 SULTANPURI TO PSS C-8 DSIDC SHED (LILIO will be done near LT Pole no-518-43/7) to Work Center-1 Sultanpuri I/D Substation with one 3 way I/D and one 3 way O/D RMU.(Approx. 1000 m route length)	S0518/00030	0.62
33	MGP	523	Proposed new 250KVA DT at Hari enclave SPD(630kva dt)	S0523/00041	0.11
34	MGP	518	Proposed new 250KVA DT near to SULTANPUR MAJRA-5 DT S/S location to mitigate Sultanpur majra no-5(990KVA DT) & Sultanpur majra no-6 (630KVA DT) overloading simultaneously	S0518/00032	0.12
35	MGP	523	Replacement of 3 way O/D RMU to 4 way O/D RMU at Inder Encalve No-1 O/D S/S to control the to DT'S (1X400 KVA+1X630 KVA) through separate breaker.	S0523/00037	0.08
36	MGP	515	Proposed Additional 160KVA P/M DT to be installed near C-BLOCK NO-2 P/M(250KVA DT)	S0515/00048	0.11
37	MGP	523	Spared 3 way O/D RMU from Inder Encalve No-1 O/D will be utilized at	S0523/00038	0.03

Sl. No.	District	ZONE	SCHEME DESCRIPTION	Scheme No. PR/	Total cost (In Crs)
			Hari Enclave-II to Control 630 KVA DT		
38	MGP	519	3-WAY(O/D) RMU required for PKT-11 SECT-21 FDR-1	S0519/00061	0.06
39	MGP	523	Proposed new 250KVA DT near Bittu wala-1 S/S(630KVA DT)	S0523/00039	0.11
40	MGP	519	New Interconnector along with 3-WAY(I/D) RMU proposed from D-4 SEC-20 S/S to POOTHKALAN S/S NO-5 (O/D).(Approx. 600 m 3x400 XLPE)	S0519/00063	0.42
41	MGP	523	One 3 way O/D RMU has been proposed to separate Ramesh wala-1 & RST Block DT	S0523/00035	0.07
42	MGP	519	3-WAY(O/D) RMU required for controlling of Rajiv Nagar D-BLK HVDS.	S0519/00059	0.15
43	MGP	523	One Interconnector from Y-BLK chandela to Singh Enclave 630 KVA DT. Approx. 160 m section length with one 3 way O/D RMU	S0523/00036	0.12
44	MGP	519	Proposed additional 250KVA DT in Krishan vihar no-5 S/S	S0519/00062	0.17
45	MGP	523	Proposed new 250KVA DT near to this location Gaurav nagar-2	S0523/00040	0.11
46	MGP	519	One No. 3-WAY(I/D) RMU required at Begumpur S/S (Approx. 33 amps of Load will be shifted to RMU near RG-22 Grid feeder from BEGUMPUR S/S SEC-22 RHN feeder)	S0519/00060	0.08
47	MGP	518	Sick cable replacement (3CX150 sqmm PILCA) B-3 blk mangal bazar pss to C-9 s. puri	K0518/00028	0.62
48	KPM	502	NEW INTERCONNECTOR BETWEEN DP S/STN AND A-96 S/STN	S0502/00035	0.27
49	MGP	518	REPLACEMENT OF SICK CABLE FROM C-9 TO PSS MANGAL BAZAR, ZONE-518, D-MGP.	K0518/00027	0.30
50	KPM	501	CAPEX15-16:Replacement of Fault prone and damaged cable from A-14 S/Stn to Jolly S/Stn with XLPE 3CX400 sq.mm in Zone 501 KPM.	K0501/00013	0.12
51	KPM	501	CAPEX15-16: Replacement of sick Cable from Community CenterS/Stn to A-11 S/Stn with XLPE 3CX400 sq.mm in Zone 501, District KPM	K0501/00012	0.09

CIRCLE - CITY

Sl. No.	District	ZONE	SCHEME DESCRIPTION	Scheme No. PR/	Total cost (In Crs)
1	MTN	1301	Additional 630 kVA PSS to be installed between Indoor MTN & BC Block MTN along with 3 way O/D RMU	S1301/00043	0.14
2	MTN	1301	Interconnector between F Block Motinagar & Indoor Motinagar with replacement of 3 way with 4 way RMU at F Block Motinagar & new 3 way RMU at Indoor Motinagar. Pumping station trunk section PILCA to be replaced + (ABC + PILCA) to be replaced	S1301/00039	0.46
3	MTN	1301	Interconnector between 10 Blk MTN to Kailash park via Natraj. (10 Blk MTN-Natrj to be disconnected at Natraj and connected with cable to be laid till Kailash Park)	S1301/00040	0.13
4	MTN	1301	New feeder from Kirti Nagar Grid to Premier substation (BUS 1)	S1301/00041	0.32
5	MTN	1302	Sick cable replacement from Y Block I/D to Y Block Park	K1302/00023	0.16
6	MTN	1302	Sick cable replacement from G-blk to Z-blk loha mandi	K1302/00022	0.36
7	MTN	1303	Additional 400 kVA DT along with 3 way O/D RMU to be installed near park (opposite Kanya Vidyalaya) by LILO of 40 Block Ramesh Nagar to Kanya Vidyalaya P/M Substation in Zone-1303, D-MTN, under CAPEX 15-16	S1303/00038	0.22
8	MTN	1303	New 400 kVA DT along with 3 way O/D RMU to be installed near Old Quarters double story near 1 B Block by LILO of SD Mandir- Bander Wali Kui Substation in Zone-1303, D-MTN, under CAPEX 15-16	S1303/00039	0.28
9	MTN	1303	Additional 250 kVA DT to be installed near Park (1303-18/13/4) by LILO of 2 A Block to Chacha Nehru Park Substation in Zone-1303, D-MTN, under CAPEX 15-16	S1303/00040	0.26
10	MTN	1303	New 400 kVA DT along with 3 way O/D RMU to be installed behind Govt School near 7 Block Ramesh Nagar by LILO of 7 Block Ramesh Nagar- B1 Rajouri Garden Substation in Zone-1303, D-MTN, under CAPEX 15-16	S1303/00041	0.32
11	MTN	1303	Additional 630 kVA DT along with 3 way O/D RMU to be installed	S1303/00042	0.19



Sl. No.	District	ZONE	SCHEME DESCRIPTION	Scheme No. PR/	Total cost (In Crs)
			near E Block MS Garden School by LILO of E Block MS Garden to WZ-29 Bank Enclave Substation in Zone-1303, D-MTN, under CAPEX 15-16		
12	MTN	1303	Additional 400 kVA DT along with 3 way O/D RMU to be installed near A1 Block WHS Substation by LILO of Richi Rich to A-1 Block WHS Substation in Zone-1303, D-MTN, under CAPEX 15-16	S1303/00043	0.23
13	MTN	1303	Additional 400 kVA DT to be installed adjacent to Ramesh Nagar Post Office P/M s/stn by laying cable from Ramesh Nagar Post Office P/M Substation in Zone-1303, D-MTN, under CAPEX 15-16	S1303/00050	0.16
14	MTN	1303	Sick cable replacement from Raja Garden - Rajdhani	K1303/00024	0.15
15	MTN	1303	Additional 400 kVA DT to be installed near D Block School by LILO of D Block Sudarshan Park to A block Chole Bhature Substation in Zone-1303, D-MTN, under CAPEX 15-16	S1303/00045	0.31
16	MTN	1303	Additional 630 kVA DT along with 3 way O/D RMU to be installed inside park near A Blk WHS Substation (behind LT Pole No. 1303-1/35/5) by LILO of A-1 Block WHS to A Block WHS Substation in Zone-1303, D-MTN, under CAPEX 15-16	S1303/00046	0.24
17	MTN	1303	<i>Additional 250 kVA DT to be installed near Park (1303-1/38/7) by LILO of A 1 Block WHS to A Block WHS Substation in Zone-1303, D-MTN, under CAPEX 15-16</i>	S1303/00047	0.23
18	MTN	1303	New 400 kVA DT along with 3 way I/D RMU to be installed at B2 WHS I/D Substation by LILO of B2 Block WHS to A1 Block WHS Substation in Zone-1303, D-MTN, under CAPEX 15-16	S1303/00048	0.16
19	MTN	1303	Additional 630 kVA DT along with 3 way O/D RMU to be installed between HT 1303-5/4 and HT 1303-5/4/1 by LILO of WHS 2 to Jal Borad Pumping Substation in Zone-1303, D-MTN, under CAPEX 15-16	S1303/00049	0.19
20	MTN	1303	Replacement of HT ABC section between 6 Block Mother Dairy and Shardapuri Substation	K1303/00025	0.16
21	MTN	1304	Sick cable replacement from INDER PURI GRID to KVS S/S	K1304/00029	0.18
22	MTN	1304	Sick cable replacement from 6 Block Mother Dairy to Mafatlal S/S	K1304/00030	0.13
23	MTN	1304	New Feeder from Inderpuri Grid to Police Colony Todapur Substation along with installation of one 3 Way I/D RMU. This scheme is linked with Scheme No. S1304/00038 of CAPEX(14-15). If CAPEX(14-15) scheme shall be dropped then the scheme needs to be revised for new feeder at AIR Substation	S1304/00042	0.54
24	MTN	1301	New feeder from Kirti Nagar Grid to Tobu substation of Cold Hold Feeder along with replacement of 3 way RMU with 4 way I/D RMU (BUS 1)	S1301/00042	0.48
25	MTN	1303	Shifting of feeder B Block Sudarshan Park & proposed 7 Block Ramesh Nagar & ESI Hospital from Bus 2 to Bus 3 at Sudarshan Park Grid. Shifting of Gadariya from Bus 1 to Bus 3 of Sudarshan Park Grid	S1303/00054	0.44
26	MTN	1303	New feeder from A 21 Grid to F Block Shopping Centre with replacement of 3 way RMU with 4 way RMU	S1303/00052	1.08
27	MTN	1303	New feeder from A 21 Grid to B-1 Blk WHS Protection Substation making use of existing section between DSIDC-3 substation to WHS No. 2 Substation + RMU	S1303/00053	1.23
28	MTN	1303	S1303/00051	S1303/00051	0.10

CIRCLE - URBAN

Sl. No.	District	ZONE	SCHEME DESCRIPTION	Scheme No. PR/	Total cost (In Crs)
1	RHN	561	New interconnector from 9/25 s/s feeder to 4/24 outdoor s/s feeder through 4 way RMU at pocket 11 sector 24 s/s For overload mitigation of 4/24 outdoor s/s from Rg-24 grid.	S0561/00063	0.03
2	RHN	561	3 WAY RMU A/W 630 KVA TRF AT 12/11 S/S DUE TO OVERLOADING DT-1	S0561/00061	0.33
3	RHN	561	250 KVA TRF REQD DUE TO OVER LOADING OF 13/24 S/S	S0561/00054	0.14



Sl. No.	District	ZONE	SCHEME DESCRIPTION	Scheme No. PR/	Total cost (In Crs)
4	RHN	561	4 WAY RMU A/W 630 KVA TRF REQD DUE TO OVERLOADING OF 2/5 S/S DT-3	S0561/00055	0.34
5	RHN	561	250 KVA TRF REQD DUE TO OVER LOADING OF 22/24 DT-2	S0561/00065	0.35
6	RHN	561	250 KVA TRF REQD DUE TO OVER LOADING 24/24 S/S	S0561/00064	0.19
7	RHN	561	3 WAY RMU A/W 630 KVA TRF REQD AT 3/6 S/S DUE TO OVERLOADING OF DT-1	S0561/00062	0.32
8	RHN	561	3 WAY RMU A/W 400 KVA TRF REQD AT 5/11 S/S DUE TO OVER LOADING DT-1	S0561/00056	0.32
9	RHN	561	3 WAY RMU A/W 400 KVA TRF REQD AT 5/5 S/S DUE TO OVERLOADING OF DT-2	S0561/00057	0.33
10	RHN	561	3 WAY RMU A/W 630 KVA TRF REQD AT 9/11 S/S DUE TO OVER LOADING OF DT-2	S0561/00058	0.33
11	RHN	561	400 KVA TRF REQD AT AKASHGANGA AAPT(4/24, SECT-24)	S0561/00059	0.22
12	RHN	561	4 WAY RMU A/W 630 KVA TRF REQD DUE TO OVERLOADING OF G-7/11 DT	S0561/00060	0.35
13	RHN	551	NEW 11 KV FEEDER FROM RG-1 TO 3/4 S/S to provide full load N-1 mitigation to "RG-4 grid to 1/4 s/stn feeder"	S0551/00062	0.78
14	RHN	551	INTERCONNECTOR FROM CHOONA BHATI S/S TO 3/4 S/S To provide full load N-1 mitigation of "RG-2 grid to DDA Flat s/stn No. 1" & "RG-2 grid to Gopal Vihar No.1 feeders", with new feeder from "RG-1 to 3/4 s/stn"	S0551/00063	0.22
15	RHN	551	INTERCONNECTOR FROM NDPL OLD DISPENSARY(SPARAE P-4)TO 6/3 S/S FOR SHARING LOAD ON RG-1 TO NDPL OLD DISPENSARY TO AVOID O/L OF PP-2	S0551/00064	0.22
16	RHN	551	ONE NO 4 WAY RMU PROPOSED AT 6/3 S/S FOR SHIFTING ONE NO OF TRF ON NEW RMU AND ONE NO OF 400 KVA TRF REQD TO MITIGATING OVERLOADING OF 6/3 DT-2	S0551/00065	0.21
17	RHN	551	4 WAY RMU A/W 630 KVA TR REQD AT 10/3 S/S DUE TO OVERLOADING OF DT-1	S0551/00066	0.25
18	RHN	551	3 WAY RMU WITH 400 KVA TRF REQD DUE TO OVER LOADING OF 12/3 S/S DT-2	S0551/00067	0.18
19	RHN	551	400 KVA TRF REQD DUE TO OVER LOADING OF 6/2 S/S DT-1 DUE TO LOAD GROWTH	S0551/00068	0.15
20	RHN	551	3 WAY RMU WITH 400 KVA TRF REQD DUE TO OVER LOADING OF 7/3 S/S DT-1	S0551/00069	0.18
21	RHN	551	3 WAY RMU WITH 400 KVA TRF REQD DUE TO OVER LOADING OF A-00 AVANTIKA DT-2	S0551/00070	0.26
22	RHN	551	3 WAY RMU WITH 630 KVA TRF OF B-BLOCK AVANTIKA DT-1, 3	S0551/00071	0.24
23	RHN	551	250 KVA TRF REQD DUE TO OVER LOADING OF B- BLOCK MASJIDWALA	S0551/00072	0.16
24	RHN	551	4 WAY RMU , Additional 630 KVA DUE TO OVER LOADING OF TALAB WALA DT-2	S0551/00073	0.27
25	RHN	551	3 WAY RMU A/W 630 KVA TRF REQD DUE TO OVER LOADING OF TEMPO STAND WALA MANGOLPUR KALAN DT	S0551/00076	0.28
26	RHN	551	SECOND SOURCE FOR VIJAY VIHAR PHASE-2 S/S(HVDS G-3)	S0551/00077	
27	RHN	551	Shift Gopal Vihar HVDS load from Trunk Vijay Vihar Ph-2 feeder section to proposed outgoing section from C-Blk Vijay Vihar. (XLPE-400/ 425 MTRS) & 1 NO. 3-Way RMU.	S0551/00061	0.20
28	RHN	571	INTERCONNECTOR FROM LANCER CONVENT TO LSCNO-1(SPARE P-6) REQD , CABLE OF RMU OUTSIDE RG-3 GRID TO BE SHIFTED ON OTHER BKR PANNEL TO TAKE FULL CAPACITY OF CABLE FOR N-1 OF E BLK PRASHANT VIHAR FROM HYDERPUR GRID AND PART LOAD OF NORTHEX-MALL TO BE SHIFTED ON RG-3 TO RMU OUTSIDE RG-3 GRID)	S0571/00078	0.29
29	RHN	571	CONVERSION OF P-1 TO X-0 FROM S/S -1/9 TO NEW INDIA AND X-4 TO X-0 FROM NEW INDIA TO NAVEENTAM TO VINOBA KUNJ FOR MITIGATING OVER LOADING OF SECTION WHEN NORMAL CURRENT FLOWING THROUGH RG-3 TO 1/9 FDR-1	S0571/00074	#VALUE!
30	RHN	571	CONVERSION OF X-4 TO X0 FROM S/S 1/9 TO SAIBABA FOR N-1	S0571/00075	0.09

Sl. No.	District	ZONE	SCHEME DESCRIPTION	Scheme No. PR/	Total cost (In Crs)
			BACKFEEDING OF 2/9 FDR-2 WHEN S/S 2/9 TO RG MALL FAULTY		
31	RHN	571	CONVERSION OF P-4 TO X0 FROM B BLK MATA MANDIRA PRASHANT VIHAR TO LSCNO-2 FOR N-1 OF HYDERPUR TO E BLK PRASHANT VIHAR	S0571/00076	0.24
32	RHN	571	Additional 315 kVA TRF RAJAPUR MATKE WALA (P/M)	S0571/00077	0.21
33	RHN	551	ONE NO OF 3 WAY RMU WITH 400 KVA DT REQD DUE TO OVER LOADING OF 1/8 S/S DT-2	S0551/00074	0.21
34	RHN	551	3 WAY RMU WITH 400 KVA TRF REQD DUE TO OVER LOADING OF 5/3 S/S DT-3	S0551/00075	0.29
35	RHN	561	Interconnector between 3/6 s/stn to SPS Haiderpur s/stn with 3 way RMU at SPS Haiderpuri to achieve N-1 of Feeder SPFA.NO-2 FDR-1 by utilizing the feeder "RG-1 to Haiderpuri SPS" which is running on no load. S0561/00033	S0561/00033	0.68
36	BDL	507	3-WAY RMU(O/D) near Pole no.HT507-10/18/13 to split the HVDS load of GALI NO.4-2 and laying interconnector of approx.350 meters from Pole no.HT507-10/18/1 to new 3-WAY RMU at GALI NO.3 to connect with NEW GALI 3 FEEDER for shifting approx.90 amps.load from GALI NO.4-2 feeder to NEW GALI NO.3 feeder for N-1 of New GALI NO.4-2 feeder,	S0507/00057	0.21
37	BDL	507	3-WAY RMU(O/D) near Pole no.HT507-14/16 to connect RAILWAY ROAD PARKWALA feeder with TEACHER COLONY feeder near HVDS ckt. and 1-WAY RMU at HT507-14/4 for load splitting of approx.157 amps at that point to be backfed with TEACHER COLONY for N-1 of RAILWAY ROAD PARKWALA feeder.	S0507/00058	0.13
38	BDL	507	3-WAY RMU(O/D) near Pole no.HT507-15/31/14/1 to segregate HVDS ckt.of feeder SAMAYPUR-9 for N-1 of SAMAYPUR-9.	S0507/00059	0.16
39	BDL	507	NEW FEEDER FROM SIRASPUR GRID TO new 4-WAY I/D RMU at AMBEY GARDEN for N-1 of Rajiv Nagar Ambey Garden and LIBASPUR COMPLEX.	S0507/00060	0.53
40	BDL	507	NEW Interconnector from AMBEY GARDEN NEW RMU TO NEW 3-WAY O/D RMU near HT Pole no. HT507-23/9 to connect NEW FEEDER FROM SIRASPUR to AMBEY GARDEN with LIBASPUR COMPLEX for N-1 of LIBASPUR COMPLEX and also by reducing the load of LIBASPUR COMPLEX feeder .	S0507/00061	0.45
41	BDL	507	3-WAY I/D RMU at GOONGAWALA to Segregate GOONGA WALA TO GALI NO-14 HVDS ckt.through separate RMU and connecting with nearby ckt.of SHIV DHARAM KANTA for backfeeding with SHIV DHARAM KANTA and 3-WAY RMU at REGAL KIOSK	S0507/00062	0.10
42	BDL	507	3-way O/D RMU required at SHIV MANDIRWALA PL/M S/S at Pole no.HT507-29/37-38 to feed 990 KVA DT through Breaker which is currently through GO.	S0507/00063	0.06
43	BDL	507	4-way O/D RMU required at 4 Pole Structure at JAIN WALA RAILWAY ROAD PL/M S/S at Pole no.HT507-14/44-45-46-47 to feed 990 KVA DT through Breaker which is currently through GO and to segregate HVDS ckt.	S0507/00064	0.15
44	BDL	507	4-way O/D RMU required at DP Structure at E-BLOCK YADAV NGR. P/M S/S at Pole no.HT-507-28/5-6 to feed 630 KVA DT and 400 KVA through Breakers which is currently through GO and to segregate HVDS ckt.	S0507/00065	0.09
45	BDL	507	3-way O/D RMU required near GURUDWARA NH-1 at Pole no.HT-507-33/13 to segregate HVDS ckt.s & SPD terminated area.	S0507/00066	0.11
46	BDL	507	ADDITIONAL 630 KVA PACKAGE DT to be installed near Pole no.HT507-19/31-33 To mitigate overloading of POOJA ELEC.SPD, DHARMO DEVI SPD,INDRARAJ SPD,DINESH SPD,POOJA ELECTRICAL	S0507/00067	0.29
47	BDL	507	ADDITIONAL 315 KVA PL/M DT to be installed near Pole no.HT507-14/16 to mitigate overloading of 990 KVA DT JAIN WALA (RAILWAY ROAD).	S0507/00068	0.20
48	BDL	516	4-WAY O/D RMU required in front of primary school , barwala village for controlling and segregating the HDVS ckt.which are bunched near	S0516/00041	0.12

Sl. No.	District	ZONE	SCHEME DESCRIPTION	Scheme No. PR/	Total cost (In Crs)
			Pole no.HT516-1/38-39.		
49	BDL	516	3-WAY O/D RMU at T-Off for KRISHNA COLONY at Feeder PANSALI for controlling KRISHNA COLONY HVDS ckt.+Pappu Colony 400 KVA DT through separate breaker.	S0516/00042	0.09
50	BDL	516	3-WAY O/D RMU at T-Off of PRAHLADPUR chowk near HT516-61/2 for reliability/connectivity of SEC-290/D and B.S.Chemical feeders and to segregate the industrial load of prahladpur ind.area from Residential load.	S0516/00043	0.08
51	BDL	516	4-way O/D RMU required at 4 Pole Structure no.HT516-10/33-36 at PANSALI feeder for controlling and segregating the HVDS ckt,2 no.s of 400 KVA DT and 1 no.315 KVA DT through separate breaker for reliability of the feeder.	S0516/00044	0.09
52	BDL	516	3-way O/D RMU required at POOTH KALA ROAD PL/M S/S at Pole no.HT516-5/63/1-4 to control 630 KVA DT + 250 KVA DT through Breaker which is currently through GO.	S0516/00045	0.25
53	BDL	516	AUGMENTATION of 400 KVA to 630 KVA DT WITH 3-WAY O/D RMU at ANIMAL HOSPITAL P/M S/S to mitigate overloading of ANIMAL HOSPITAL P/M S/S	S0516/00046	0.21
54	BDL	516	Sick cable replacement S/S BADLU WALA TO S/S POOTH ROAD	S0516/00047	0.20
55	BDL	581	ADDITIONAL 250 KVA P/M DT to be installed near A-3 PARK CORNER by LILO of cable from 2/16 S/S to 14/16 S/S with approx.200 m U/G cable to mitigate overloading of 2/16 DT-2	S0581/00077	0.20
56	BDL	581	Additional 400 KVA with 3-WAY I/D RMU at 12/16(VACANT S/S) 14/16 DT-1	S0581/00078	0.25
57	BDL	581	ADDITIONAL 400 KVA DT at 15/16 S/S SPARE ISOLATOR available which is to be swapped with Breaker Panel for utilizing Breaker for DT to mitigate overloading of 15/16.	S0581/00079	0.17
58	BDL	581	Additional 990 kva Dt at 16/16 sub station with Additional 3-WAY RMU to mitigate the overloading of 16/16 and 19/16 DT-1 and DT-2	S0581/00080	0.33
59	BDL	581	Additional 400 KVA DT with 3-WAY-I/D RMU AT 18/16 DT-1 18/16 DT-1.	S0581/00081	0.17
60	BDL	581	NEW FEEDER FROM RG-6 TO S/S-1/16 with 3-WAY INDOOR RMU at S/S-1/16 1. To achieve N-1 of Feeder-14/16.2. To achieve N-1 of Feeder 17/16.	S0581/00082	0.41
61	BDL	507	ADDITIONAL DT 250 kVA to be installed at already existing DP: HT507-11/2/6/1-2 to mitigate overloading of G.NO-13 RLY. SAMAYPUR OPP. RADHAKRISHN TAMPLE.	S0507/00069	0.08
62	BDL	516	ADDITIONAL 250 KVA DT P/M near PHIRNI ROAD NO-2 (P/M) to mitigate overloading of PHIRNI ROAD NO-2 (P/M)	S0516/00048	0.09
63	SMB	414	Additional 400KVA DT at PEPSI GODOWN HIMGIRI (P/M) S/S	S0414/00091	0.14
64	SMB	414	Additional 400KVA DT at TOMAR COLONY NO-1 (PL/M) S/S	S0414/00092	0.15
65	SMB	414	Additional 400KVA DT at KAMAL VIHAR-2 (PL/M) S/S	S0414/00093	0.18
66	SMB	414	Additional 400KVA DT at BABA COLONY NO-1 A-BLOCK (P/M) S/S	S0414/00120	0.13
67	SMB	414	Additional 250KVA DT at BABA COLONY NO-2 A-BLOCK (P/M) S/S	S0414/00123	0.14
68	SMB	414	Additional 400KVA DT at CHANDAN VIHAR NO-5 PL/M S/S	S0414/00095	0.13
69	SMB	414	Additional 400KVA DT at GARHI (PL/M) S/S	S0414/00096	0.21
70	SMB	414	Additional 250KVA DT at COMPLAINT CENTRE (PL/M) S/S	S0414/00097	0.11
71	SMB	414	Additional 400KVA DT at I.P COLONY-1 (PL/M) S/S	S0414/00098	0.19
72	SMB	414	Additional 400KVA DT at AMRIT VIHAR-2 (P/M) S/S	S0414/00099	0.14
73	SMB	414	Additional 400KVA DT at I.P COLONY-2 (PL/M) S/S	S0414/00100	0.14
74	SMB	414	Additional 400KVA PSS at CHANDAN VIHAR-1 (PL/M) S/S	S0414/00101	0.13
75	SMB	414	Additional 400KVA DT at KAUSHIK ENCLAVE A-BLK-2 (P/M) S/S	S0414/00102	0.12
76	SMB	414	Additional 400KVA DT at KAUSHIK ENCLAVE B-BLK-2 (P/M) S/S	S0414/00103	0.11
77	SMB	414	Additional 250KVA DT at SATYA VIHAR (PL/M) S/S	S0414/00104	0.45
78	SMB	414	Additional 630KVA DTat HARIT VIHAR (PL/M) S/S	S0414/00105	0.17
79	SMB	414	Additional 250KVA DT at PRADHAN ENCLAVE no-2	S0414/00106	0.05
80	SMB	414	Additional 400KVA DT at TOMAR COLONY NO-2 (P/M) S/S	S0414/00107	0.12
81	SMB	414	Additional 400KVA DT at SABUN FACTORY (P/M) S/S	S0414/00108	0.12

Sl. No.	District	ZONE	SCHEME DESCRIPTION	Scheme No. PR/	Total cost (In Crs)
82	SMB	414	Additional 400KVA DT at BHAGAT COLONY (PL/M) S/S	S0414/00109	0.14
83	SMB	414	Additional 400KVA DT at KAMAL VIHAR NO-4 S/S	S0414/00110	0.12
84	SMB	414	Additional 400KVA DT at KAMAL VIHAR-3 (PL/M) S/S	S0414/00111	0.12
85	SMB	414	Additional 400KVA DT at CHANDAN VIHAR-2 (P/M) S/S	S0414/00112	0.12
86	SMB	414	Additional 400KVA DT at AMRIT VIHAR-1 (P/M) S/S	S0414/00113	0.12
87	SMB	414	Additional 400KVA DT at CHANDAN VIHAR-3 (P/M) S/S	S0414/00114	0.12
88	SMB	414	Additional 400KVA DT at PRADHAN ENCLAVE no-1	S0414/00115	0.14
89	SMB	414	Additional 400KVA DT at LAXMI VIHAR	S0414/00116	0.18
90	SMB	414	Additional 400KVA DT at TOMAR COLONY NO-3	S0414/00117	0.13
91	SMB	503	Additional transformer of 630KVA at RADHA VIHAR with a 3W o/d rmu	S0503/00060	0.23
92	SMB	503	Additional transformer of 630KVA at E- BLK. GALI NO-7	S0503/00061	0.37
93	SMB	503	Additional 630KVA DT at Ishu vihar no. 2	S0503/00063	0.15
94	SMB	503	Feeder BURARI ROAD SWAROOP NAGAR and "D BLK SWAROOP NGR GALI 3", is not having full back up. As the only back up feeder "D block gali no3" an Interconnector from kalandar colony (Pushta road to rainbow) to mitigate n-1 of the feeder.	S0503/00067	0.30
95	SMB	503	Additional 630KVA DT at Rainbow wala	S0503/00064	0.18
96	SMB	505	Additional transformer at H-block 400 KVA.	S0505/00026	0.17
97	SMB	506	Additional 400KVA DT at 5 A DT2	S0506/00024	0.17
98	SMB	506	Interconnector from 5a S/stn to AL Block substaion N-1 of 3A feeder.	S0506/00025	0.57
99	SMB	531	Additional 400KVA DT at BHUSE WALA	S0531/00031	0.19
100	SMB	531	Additional 400KVA DT at 7B S/S	S0531/00032	0.18
101	SMB	532	Additional 400KVA DT at JHARODA DAIRY-2 (P/M) S/S	S0532/00053	0.13
102	SMB	532	Additional 400KVA DT at GHANTESHWAR MAHADEV PL/M S/S	S0532/00054	0.12
103	SMB	532	Augmentation from 400KVA to 630KVA DT at BHAGWAN PARK (P/M) S/S	S0532/00055	0.22
104	SMB	532	Augmentation from 315KVA to 400KVA DT at PANCHSHEEL ASHRAM PL/M S/S	S0532/00056	0.15
105	SMB	532	Augmentation from 400KVA to 630KVA DT Over loading of DT at SURENDER COLONY PART-2 (P/M) S/S	S0532/00057	0.20
106	SMB	532	Augmentation from 400KVA to 630KVA DT at JAGAT PUR EXT-1 (P/M) S/S	S0532/00058	0.18
107	SMB	532	Additional 630KVA DT at SANGAM VIHAR NO-1 (PL/M) S/S	S0532/00059	0.13
108	SMB	532	Additional 400KVA DT at Customer Care	S0532/00060	0.19
109	SMB	414	New feeder from bhalswa grid to JOHARWALA O/D S/Stn to mitigate the overloading and N-1 of KATARIA ENCLAVE feeder.	S0414/00118	0.99
110	SMB	414	New feeder from bhalswa grid to baba colony S/Stn N-1 of JINDAL FARM feeder.	S0414/00119	0.99
111	SMB	414	Replacement of Conductor from rabbit to DOG (700mtrs route length) on the transport authority feeder (from Bangali colony O/D to 630KVA Harit Vihar.)	S0414/00121	0.07
112	SMB	414	Replacement of Conductor from rabbit to DOG (700mtrs route length) on the IP colony feeder no.1 (from Ram Kishore T/W S/stn to IP colony No 1 S/Stn.)	S0414/00122	0.22
113	SMB	503	Feeder JAHANGIRABAD VILLAGE is not having full back up. Backup feeders are also loaded hence a new feeder rom DJB Burari Grid to Ishu Vihar S/Stn along with 4 way RMU.	S0503/00065	1.05
114	SMB	532	Seprate panels at bahlswa grids are required for newly laid feeders of arrora farms and burari school. As the feeder is not able to take full load due to bottle neck at grid station.	S0532/00070	0.08
115	SMB	532	2 New feeder from DJB burari grid to mitigate the overloading of takia chouk feeder. Feeder is to be terminated to HP petrol pump. LILO of takia chowk feeder.	S0532/00077	0.57
116	SMB	532	New feeder from DJB Burari grid to OPP HINDUSTAN PETROLIUM S/Stn to mitigate the overloading at N-1 of rainy well feeder.	S0532/00078	0.79
117	SMB	532	Rainy well feeder has a cable XLPE240 at trunk feeder which is restricting the full usage of feeders.	S0532/00076	0.13

Sl. No.	District	ZONE	SCHEME DESCRIPTION	Scheme No. PR/	Total cost (In Crs)
118	SMB	532	Interconnectors required Pansheel S/stn to sangam vihar no2 S/stn. for connectivity b/w rainywell feeder to shah alam band feeder.	S0532/00050	0.31
119	SMB	503	Safety proposal - DOG conductor from MCD compost plant to swaroopnagar is under the nallah and are not safe and difficult to maintain. Hence shifting of the same is proposed.	S0503/00066	0.69
120	SMB	531	Additional 400KVA DT at 12 B S/S	S0531/00033	0.19
121	SMB	532	Agumentaton of 630KVA to 990KVA tranformer to be installed . Pocket 5-6 Sant Nagar	S0532/00061	0.22
122	SMB	532	agumentaton of 630KVA to 990KVA tranformer to be installed . Arora farm	S0532/00062	0.22
123	SMB	532	agumentaton of 630KVA to 990KVA tranformer to be installed shivkunj no-1	S0532/00063	0.22
124	SMB	532	agumentaton of 630KVA to 990KVA tranformer to be installed hardev nagar	S0532/00064	0.22
125	SMB	532	Additional 315 DT to be installed wazirabad gali no 6 s/stn 2	S0532/00065	0.13
126	SMB	532	agumentaton of 400KVA to 630KVA tranformer to be installed sant nagar P/M	S0532/00066	0.12
127	SMB	532	agumentaton of 400KVA to 630KVA tranformer to be installed wazirabad gali no 12	S0532/00067	0.18
128	SMB	532	agumentaton of 400KVA to 630KVA tranformer to be installed .harijan basti no. 1	S0532/00068	0.18
129	SMB	414	Augumentation from 315 KVA to 400 KVA and load shifting to DT - JOHAR WALA PL/M	S0414/00124	0.18
130	SMB	414	New feeder from Burari grid to Hans Apartment, This feeder is proposed to shift the load from Bhalswa grid This is required to deload the bhalswa grid.	S0414/00125	0.65
131	SMB	414	Additional 400KVA DT at KAMAL VIHAR-1(PL/M) S/S	S0414/00094	0.53
132	SMB	414	S0414/00090	S0414/00090	0.06
133	SMB	531	3 way RMU Shalamar Kiosk	S0531/00034	0.05
134	SMB	531	3 way RMU at Gali No-6	S0531/00035	0.05
135	SMB	531	4 way RMU at Pragya Mall	S0531/00036	0.06
136	SMB	532	Additonal 400KVA DT at WAZIRABAD GALI NO-14 (P/M) S/S	S0532/00069	0.15
137	SMB	532	New feeder from Burari grid to Burari School, This feeder is proposed to shift the load from Bhalswa grid This is required to deload the bhalswa grid.	S0532/00079	0.65
138	SMB	532	New 3 way RMU near pole no. HT532-62/32-32A at jama masjid for reliabilty improvement of jagatpur Ext 1 feeder	S0532/00072	0.05
139	SMB	532	New 3 way RMU near pole no. HT 532-58/30 at jagatpur village o/d for reliabilty improvement of jagatpur Ext 2 feeder.	S0532/00073	0.05
140	SMB	532	3way RMU at Parvati anchal s/stn to control 990 KVA DT.	S0532/00071	0.05
141	SMB	532	3way RMU at jharoda school s/stn to control 630 KVA DT.	S0532/00074	0.05
142	SMB	532	2 no's of 3 way RMU required outside wazirabad grid for Jagatpur Extn no 1 & 2.	S0532/00075	0.10
143	SMB	503	SMA-4 to SMA-5	K0503/00020	0.11
144	SMB	503	SSI-2 to Shakti bhog	K0503/00021	0.07
145	SMB	505	Scheme for mitigation of overloaded single phase HVDS DTs		15.00
146	RHN	571	REPLACEMENT OF PILCA CABLE(P1 - 505M)FROM HAIDER PUR GRID TO HAIDER PUR W.W NO-2 TO XLPE-300 FOR N-1 OF HAIDERPUR.FDR-3.	S0571/00068	0.44
147	BDL	581	INTERCONNECTOR BY LILO OF SEWAGE PUMP STN SEC-19 FEEDER NEAR SHIV CHOWK TO KHADDEWALA S/S BY INSTALLING 4-W RMU I/D AT KHADDEWALA S/S FOR N-1 OF FEEDERS BADLI-1 & BADLI-2	S0581/00072	0.37
148	SMB	506	4A TO AD MKT	S0506/00020	0.34
149	BDL	516	S0516/00032	S0516/00032	0.13
150	RHN	551	S0551/00061	S0551/00061	0.20
151	RHN	551	INSTALLATION OF ADDITIONAL 400KVA DT & 4 WAY RMU AT GOPAL VIHAR, ZONE 551.	S0551/00059	0.50
152	SMB	503	Addition of 1 NO. 4 -WAY(O/D) near C BLK MUKUNDPUR PART-1 to	S0503/00045	0.31

Sl. No.	District	ZONE	SCHEME DESCRIPTION	Scheme No. PR/	Total cost (In Crs)
			control 2 Nos 630kVA DT at D BLK MUKUNDPUR and C BLK MUKUNDPUR PART-1 PART-1 through breaker.		
153	BDL	581	Rectification of Arya Apt,Z-581,Dist.-Badli S0581/00076	S0581/00076	0.46
154	RHN	551	Interconnector from Spare panel No-1 of Clear water booster pump to 3-way O/D RMU at Omprakashwala to Mangolpur khurd-7 O/H (Cut point) HT 551-1/4. S0551/00058	S0551/00058	0.53
155	BDL	516	CAPEX-14-15-Z-516-Shifting load of DTU-4Feeder from BADLI-GRID to GRID-RG-28with new RMU at S/S-MIG S/S NO.2SEC-28.	S0516/00029	0.53
156	BDL	516	CAPEX-14-15-Z-516-Shifting Load of B.S.Chemical Feeder from Badli Grid to RG-28Grid with new 3-way Outdoor RMU atS/S-KANKAD KHERA.	S0516/00030	0.42
157	SMB	532	Re -routing of conductor from jagatpur O/D to Milan Vihar O/D s/stn	S0532/00045	0.37
158	RHN	551	S0551/00079	S0551/00079	0.22
159	TPDDL		Installation of 237 nos of SMART STREET LIGHT MGMT SYSTEM ENG-LV-75, in Sub-Urban Circle (in 08 zones).	S0000/00102	0.66
160	TPDDL		CYME LICENSE - 2 NOS		0.20
161	SMB	532	HT feeder Jagatpur feeder from 220KV GPL to be shifted to Dheerpur grid.	S0532/00084	0.70

CIRCLE - SUB URBAN

Sl. No.	District	ZONE	SCHEME DESCRIPTION	Scheme No. PR/	Total cost (In Crs)
1	BWN	512	One New Feeder to Tikona Park near GAS AGENCY NARELA ROAD DT from BWN-1 GRID	S0512/00100	0.72
2	BWN	512	New feeder to Ishwar colony I/D S/S from BWN-1 GRID	S0512/00101	1.13
3	BWN	512	Augmentation from 250 KVA to 630 KVA DT with 3 way I/D RMU Proposed in Capex-15-16 of COMPLAINT OFFICE QUTUBGARH , with HT Extension of approx. 50 Meter XLPE	S0512/00098	0.22
4	BWN	512	Augmentation from 400 KVA to 630 KVA DT without RMU (No space available for 3 way O/D RMU) Proposed in Capex-15-16 of AUCHANDI VILLAGE-1 P/M S/S [Due to space constant at AUCHANDI VILLAGE-1 P/M S/S, additional 250 KVA DT proposed near this S/S]	S0512/00088	0.14
5	BWN	512	Capex-15-16, proposals for additional 250 KVA DT, With HT Extention of approx. 300M O/H for KATEWARA VILLAGE NO-2 P/M S/S [Low VoltageProblem]	S0512/00089	0.14
6	BWN	512	Additional 400 KVA DT Proposed in Capex-15-16 for MAIN BUS STAND BAWANA , with HT Extension of approx. 50 Meter ABC it will mitigate the Over loading of Vijay Nagar-2	S0512/00091	0.21
7	BWN	512	Augmentation from 250 KVA to 630 KVA DT with 3 way I/D RMU Proposed in Capex-15-16 of MUNGESH PUR NO-5 Community CENTRE P/M S/S , with HT Extension of approx. 50 Meter XLPE [Zone has augmented 250 KVA to 400 KVA, Due to space constraint additional 250 KVA DT proposed near this S/S]	S0512/00090	0.17
8	BWN	512	Additional 100 KVA DT Proposed in Capex-15-16 of PARK WALA NANGAL THAKRAN PL/M S/S , with HT Extension of approx. 70 ABC Meter	S0512/00096	0.12
9	BWN	512	Additional 100 KVA DT Proposed in Capex-15-16 of SOS BAWANA , with HT Extension of approx. 50 ABC Meter	S0512/00099	0.14
10	BWN	512	Additional 400 KVA DT Proposed in Capex-15-16 for SUBZI MANDI KANJHAWALA ROAD PL/M S/S , with HT Extension of approx. Meter	S0512/00095	0.24
11	BWN	512	Additional 100 KVA DT Proposed in Capex-15-16 for VILLAGE NO-3 BAJIT PUR DADA MALDEV PL/M S/S , with HT Extension of approx 40 Meter ABC	S0512/00097	0.12
12	BWN	512	S0512/00079	S0512/00079	0.12
13	BWN	512	S0512/00080	S0512/00080	0.07
14	BWN	512	S0512/00081	S0512/00081	0.32



Sl. No.	District	ZONE	SCHEME DESCRIPTION	Scheme No. PR/	Total cost (In Crs)
15	BWN	512	S0512/00082	S0512/00082	0.08
16	BWN	512	S0512/00083	S0512/00083	0.08
17	BWN	512	S0512/00084	S0512/00084	0.09
18	BWN	512	S0512/00085	S0512/00085	0.22
19	BWN	513	One New Feeder to Rambir Wala DT from RG-22 grid 4 w RMU O/D		0.80
20	BWN	513	Additional 100 KVA DT Proposed in Capex-15-16 at ANAND PUR DHAM PL/M S/S, with HT Extn of approx. 200 ABC Meter (Rating revised from 100 to 250 KVA during site visit).	S0513/00103	0.18
21	BWN	513	Additional 100 KVA DT Proposed in Capex-15-16 at BHAGYA VIHAR, with HT Extension of approx. 200 ABC Meter	S0513/00109	0.19
22	BWN	513	Additional 400 KVA DT Proposed in Capex-15-16 at C-BLOCK RAMA VIHAR P/M S/S, with HT Extension of approx. 200 ABC Meter (Rating revised from 400 to 2X250 KVA)-DT-I.	S0513/00121	0.15
23	BWN	513	Additional 400 KVA DT Proposed in Capex-15-16 at C-BLOCK RAMA VIHAR P/M S/S, with HT Extension of approx. 200 ABC Meter (Rating revised from 400 to 2X250 KVA)-DT-II.	S0513/00122	0.13
24	BWN	513	Additional 100 KVA DT Proposed in Capex-15-16 at CHOUHAN WALA PL/M S/S, with HT Extension of approx. 100 ABC Meter (Rating revised from 100 to 250 KVA during site visit).	S0513/00104	0.14
25	BWN	513	Additional 250 KVA DT Proposed in Capex-15-16 at DADA MANDU NO-1 KARALA, with HT Extension of approx. 300 ABC Meter		0.18
26	BWN	513	Additional 250 KVA DT Proposed in Capex-15-16 at DURGA MANDIR, with HT Extension of approx. 150 ABC Meter	S0513/00105	0.16
27	BWN	513	Additional 160 KVA DT Proposed in Capex-15-16 at GULAB WALA NO-1, with HT Extension of approx. 100 ABC Meter	S0513/00115	0.14
28	BWN	513	Additional 250 KVA DT Proposed in Capex-15-16 at INDER ENCALVE P/M S/S, with HT Extension of approx. 150 ABC Meter	S0513/00107	0.20
29	BWN	513	Additional 160 KVA DT Proposed in Capex-15-16 at KARALA NO. 3 P/M S/S, with HT Extension of approx. 250 ABC Meter	S0513/00116	0.21
30	BWN	513	Additional 250 KVA DT Proposed in Capex-15-16 at MADAN PUR FIRNI RAOD P/M S/S, with HT Extension of approx. 300 ABC Meter	S0513/00106	0.16
31	BWN	513	Additional 100 KVA DT Proposed in Capex-15-16 at MEER VIHAR, with HT Extension of approx. 500 ABC Meter	S0513/00110	0.17
32	BWN	513	Additional 100 KVA DT Proposed in Capex-15-16 at RANI KHERA BUS STAND, with HT Extension of approx. 150 ABC Meter	S0513/00111	0.13
33	BWN	513	Additional 100 KVA DT Proposed in Capex-15-16 at RANI KHERA SCHOOL P/M S/S, with HT Extension of approx. 100 ABC Meter	S0513/00112	0.11
34	BWN	513	Additional 160 KVA DT Proposed in Capex-15-16 at RANI KHERA SCHOOL P/M S/S, with HT Extension of approx. 400 ABC Meter	S0513/00118	0.26
35	BWN	513	Additional 160 KVA DT Proposed in Capex-15-16 at SARDARAY WALA KARALA PL/M S/S, with HT Extension of approx. 50 ABC Meter	S0513/00117	0.16
36	BWN	513	Replacement of 95 Sq. mm HT ABC on ABC Rani Khera with 150 Sq mm HT ABC [Proposal converted to New Feeder to Bhagya Vihar from Poposed Karala Gird due to less cost]	S0513/00120	0.99
37	BWN	513	Additional 100 KVA DT Proposed in Capex-15-16 at SAHEED BHAGAT SINGH NAGAR P/M S/S, with HT Extension of approx. 300 ABC Meter	S0513/00113	0.18
38	BWN	513	Additional 100 KVA DT Proposed in Capex-15-16 at VIDYA PATI NAGAR PL/M S/S, with HT Extension of approx. 100 ABC Meter	S0513/00114	0.16
39	BWN	533	Proposed New feeder from proposed grid Karala to HT 533-18/3F		1.06
40	BWN	533	Additional 100 KVA DT Proposed in Capex-15-16 at Chandpur Kalan, with HT Extension of 100 ABC approx. Meter [Zone has requested for 250 KVA DT instead of 100 KVA]	S0533/00045	0.24
41	BWN	533	Additional 250 KVA DT Proposed in Capex-15-16 at Ghevra Village Main Stand DT, with HT Extension of approx. 50 o/h Meter	S0533/00038	0.18
42	BWN	533	Additional 400 KVA DT Proposed in Capex-15-16 at Kanjhawla Village No-1 DT, with HT Extension of approx. 200 ABC Meter	S0533/00042	0.22
43	BWN	533	Additional 400 KVA DT Proposed in Capex-15-16 at Kanjhawla	S0533/00039	0.18

Sl. No.	District	ZONE	SCHEME DESCRIPTION	Scheme No. PR/	Total cost (In Crs)
			Chowk DT , with HT Extension of approx. 50 Meter ABC, it will reduce overloading of kanjahwal package1		
44	BWN	533	Additional 250 KVA DT Proposed in Capex-15-16 at Mandir Wala Ghevra DT , with HT Extension of approx. 50 ABC Meter	S0533/00040	0.19
45	BWN	533	Additional 400 KVA DT Proposed in Capex-15-16 at Bus Stand Nizampur , with HT Extension of approx. 150 ABC Meter		0.20
46	BWN	533	Additional 100 KVA DT Proposed in Capex-15-16 at Garhi Rindhala DT , with HT Extension of approx. 300 UG Meter	S0533/00043	0.23
47	BWN	513	New feeder to pole no- HT513-9/1 from Karala Grid	S0513/00125	0.58
48	BWN	533	S0533/00034	S0533/00034	0.16
49	BWN	533	S0533/00035	S0533/00035	0.17
50	BWN	533	S0533/00036	S0533/00036	0.08
51	BWN	533	S0533/00037	S0533/00037	0.13
52	BWN	521	One New Feeder to J-BLK- SEC-3 near pole no-HT521-50/36/16/19A-19B(Approx. 3.5 km xlpe) with auto-reclosure and sectionaliser		0.44
53	BWN	533	New feeder to Kanjhawla Chowk By LILO of U/G Kanjhawla Feeder from Karala Grid	S0533/00049	0.52
54	BWN	513	New feeder to Karala Zonal office By LILO of Majri Karala O/D Feeder from Karala Grid	S0513/00124	0.40
55	BWN	513	New feeder to pole no- HT513-1/29B-29C near (MUBARAKPUR RMU from Karala Grid	S0513/00126	1.40
56	BWN	533	New feeder to Kanjhawla chowk By LILO of Majri Karala O/D Feeder	S0533/00050	0.55
57	BWN	513	S0513/00102	S0513/00102	0.15
58	NARELA	514	One New feeder proposed from A-7 grid .	S0514/00100	1.44
59	NARELA	511	3 Way RMU proposed with 50meter Cable near toTivoli Grand.	S0511/00097	0.11
60	NARELA	511	New Feeder Proposed from new SIRASPUR grid to Nangli Kiosk via underground cable.	S0511/00098	1.43
61	NARELA	511	Conductor Replacement at Govt tubewell wala T-off. & Hazariwala T-off.	S0511/00094	0.14
62	NARELA	511	Conductor Replacement atGovind wala T-off. Anjana Tyagi wala T-off. 400KVA Kushak Wala T-off.	S0511/00095	0.14
63	NARELA	511	Installation of Sectionaliser On JIndpur Phirni Road PL/M S/S T-Off(Tripping details required from zone due to this section)	S0511/00087	0.07
64	NARELA	511	Installation of Sectionaliser On Chattarfaran Wala T-Off(Tripping details required from zone due to this section)	S0511/00088	0.07
65	NARELA	511	Installation of Sectionaliser at Rajdhani Dharam Kanta T-Off (Tripping details required from zone due to this section)	S0511/00089	0.07
66	NARELA	511	Installation of Sectionaliser at Govt Tubewell wala T-off(Tripping details required from zone due to this section)	S0511/00090	0.07
67	NARELA	511	Installation of Sectionaliser at DCM colony T-Off(HVDS)(Tripping details required from zone due to this section)	S0511/00091	0.07
68	NARELA	511	Installation of Sectionaliser at Kripal ashram T-Off(Tripping details required from zone due to this section)	S0511/00092	0.07
69	NARELA	511	Installation of Auto-Reclosure On Alipur-4 feeder near Grid.	S0511/00093	0.07
70	NARELA	511	New scheme required with Bare Conductor(outside the seed farm)	S0511/00096	0.11
71	NARELA	522	Interconnector proposed b/w s/stn no-6A TO 1A feeder(from pole no HT522-25/30/9/9).Total length of cable is 650mtr.	S0522/00097	0.32
72	NARELA	522	New feeder rom proposed DSIDC-3 grid to s/stn no-15.Total length of aprx 900 mtr.	S0522/00088	0.47
73	NARELA	522	New interconnector proposed between s/stn 11c-block to s/stn no-9 ,Total length of UG cable is 180mtr & HT ABC is 50 mtr	S0522/00093	0.09
74	NARELA	522	1no of 3 Way RMU+40 mtr cable is proposed near opp pole no-HT522-25/27/50(F-1790)	S0522/00091	0.07
75	NARELA	522	1 no of 3 Way RMU+30 mtr cable is proposed near pole no-HT522-69/3(B2/1 FEEDER)	S0522/00086	0.07
76	NARELA	522	1no of 3 Way RMU+30 mtr cable is proposed near pole no-HT522-69/3(B2/2 FEEDER)	S0522/00087	0.07
77	NARELA	522	1 no of 3 Way RMU+40 mtr cable is proposed near pole no-HT522-	S0522/00090	0.07

Sl. No.	District	ZONE	SCHEME DESCRIPTION	Scheme No. PR/	Total cost (In Crs)
			5/43(CT-1 & 58H-1)		
78	NARELA	522	10 no's of 1 way RMUs proposed in Z-522 to avoid jumpering at various location's(Near G-1091,Near F-2021,Near J-2811,Near E-638,Near D-1501,Near C-420,Near A-172,H-1331,H-1419,H-1452).	S0522/00083/0084,S0522/00089	0.42
79	NARELA	522	1 no of 3 Way RMU+45 mtr cable is proposed b/w 7A to 9A	S0522/00092	0.07
80	NARELA	517	Not possible due to prsesence of 4 Way RMU .So,in place of autoreclosure one no of 4 Way RMU proposed for maling & controlling first switching station	S0517/00101	0.10
81	NARELA	517	New feeder proposed(for N-1 mitigation of singhola feeder)from A-7 GRID to singhu village 630kVA DT.	S0517/00102	1.60
82	NARELA	511	Add 160kVA for overload mitigation of SHASTRI PARK PHOOL BAGH with 250 mtr HT ABC & 250 LT ABC as per site requirement -- <i>Space not available at site for installation of new DT ,Augmentation of 400kVA DT is proposed from 630kVA DT</i>	S0511/00083	0.19
83	NARELA	511	Add 160kVA with D BLOCK NATHUPURA P/M S/S with 200 LT ABC as per site requirement	S0511/00078	0.12
84	NARELA	511	Add 100kVA HHAJUSAINI ALIPUR P/M S/S with 35 mtr HT ABC & 200LT ABC	S0511/00079	0.11
85	NARELA	511	Add 250kVA HIRANKI BUS STAND NO-1 PL/M S/S with 50 mtr HT ABC & 250 LT ABC as per site requirement	S0511/00080	0.22
86	NARELA	511	Add 250kVA for PHOOL BAGH NO-2 PL/M S/S oveload mitigation of with 350mtr HT ABC & 250mtr LT ABC as per site requirement. <i>Space not available at site for installation of new DT ,Augmentation of 315kVA DT is proposed from 630kVA DT</i>	S0511/00084	0.19
87	NARELA	511	Add 160kVA for overload mitigation of ICE FACTORY P/M S/S with 50 mtr HT ABC & 250 mtrLT ABC as per site requirement. <i>Installation of new DT is not possible due to ROW issue.augmentation of DAL MILL is proposed from 400kVA to 630kVA .</i>	S0511/00085	0.19
88	NARELA	511	Add 400kVA MOHAMAD PUR PL/M S/S of with 200 mtr HT ABC & 350 mtr LT ABC	S0511/00077	0.19
89	NARELA	511	Add 250kVA for overload mitigation of BANIWALA KHERAGARHI PL/M S/S with 200mtr HT ABC & 200LT ABC as per site requirement	S0511/00082	0.11
90	NARELA	511	Add 160kVA NEHRUENCLAVE ALIPUR P/M S/S with 200 mtr HT ABC & 250 LT ABC as per site requirement	S0511/00081	0.10
91	NARELA	511	Add 63kVA AMAN VIHAR with 50 mtr HT ABC & 350 mtr LT ABC as per site requirement	S0511/00086	0.07
92	NARELA	522	Augmentation proposed to 630 for overload mitigation Main RD WALA SHAHPUR P/M S/S	S0522/00085	0.17
93	NARELA	514	DT augmentation required from 400 to-630kVAof Park Wala DT) lt,abc-500,3 way rmu	S0514/00082	0.22
94	NARELA	514	Add DT 400kVA DT required with LT ABC 50M,HT ABC-350MTR <i>Add DT 250kVA DT(installation of 400kVA DT is not possible due to space issue) is proposed for overload mitigation of MCD OFFICE NO-1 NARELA PL/M S/S with LT ABC 350 Mtr</i>	S0514/00085	0.13
95	NARELA	514	Aug proposed from 400 to 630kVA ,With 3 Way RMU & 500mtr LT-ABC. <i>Add 250kVA DT is proposed near to Chowk with 15 mtr HT ABC & 700mtr LT ABC extension(for overload mitigation of Firni Wala Khera Khurd).</i>	S0514/00089	0.14
96	NARELA	514	Aug proposed from 400 to 630kVA ,With 3 Way RMU & 500mtr LT-ABC(OLD SCHOOL WALA NO-3 ,KHERA KHURD ,PL/M S/S	S0514/00097	0.22
97	NARELA	514	Add DT 250KVA required with , LT ABC 500M,HT ABC-50MTR. <i>Add DT 315KVA DT for overload mitigation of SHIV MANDIR HOLAMBI with 4 way RMU to control proposed DT & existing 630kVA DT , LT ABC 500M.</i>	S0514/00086	0.19

Sl. No.	District	ZONE	SCHEME DESCRIPTION	Scheme No. PR/	Total cost (In Crs)
98	NARELA	514	Augmentation required from 100 to 400 kVA & Load shift on Khera Khurd School DT 1 after Augmentation & 700mtr LT ABC is proposed with this augmentation. <i>Additional 250kVA new DT is proposed near to 630kVA DT(augmentation of 100kVA is not possible in same fencing because 2 more augmentation proposals in same fencing is also exists,for overload mitgation of NEW SCHOOL WALA KHERA KHURD.).</i>	S0514/00090	0.12
99	NARELA	514	Augmentation(for overload mitigation of OLD SCHOOL WALA KHERA KHURD P/M S/S) required from 315 to 630 kVA & Load shift on School Wala DT -3 after Augmentation & 500mtr LT ABC is proposed with this augmentation	S0514/00096	0.21
100	NARELA	514	Add 400KVA DT(Shiv Mandir GHOGA PL/M S/S) , LT ABC 400M & HT ABC-100mtr	S0514/00087	0.14
101	NARELA	514	Augmentation of Katta Wala 315kVA DT to 630KVA DT with 3 Way RMU & 500mtr LT-ABC is proposed for overload mitigation of Dayanand Wala DT.	S0514/00095	0.22
102	NARELA	514	Additional Transformer of 250 KVA DT is proposed for overload mitigation of MOHANDAS MANDIR PL/M S/S with ,10mtr HT ABC,700mtr LT ABC	S0514/00088	0.15
103	NARELA	514	Aug to from BUTTON FACTORY P/M S/S/400kVA to 630kVA is proposed with 3 Way RMU & 400mtr LT-ABC	S0514/00083	0.20
104	NARELA	514	Aug to from 400kVA to 630kVA- PULIYA WALA P/M S/S with 3 Way RMU & 300mtr LT-ABC	S0514/00084	0.20
105	NARELA	514	Aug to from ROSHAN WALA P/M S/S 400 to 630kVA with 3 Way RMU & 300mtr LT-ABC	S0514/00099	0.20
106	NARELA	514	Augmentation 400 KVA to 630 KVA- METRO VIHAR HOLAMBI KHURD P/M S/S is proposed with 3 Way RMU+200 mtr LT-ABC	S0514/00098	0.19
107	NARELA	514	Add 100kVA DT proposed near KL khatri farm for overload mitigation of PEMA WALA P/M S/S with 60mtr HT ABC & 500mtr LT- Cable(4C*25 sq mm)	S0514/00094	0.07
108	NARELA	514	ADD 250kVA DT proposed near Ber Wala Bagh for overlaod mitigation of CHURCH WALA KHEDA KHURD P/M S/S +LT ABC 800MTR +HT ABC 100MTR	S0514/00091	0.17
109	NARELA	514	ADD 250KVA DT is proposed near Jhod without LT extension (Existing LT needs to be shifted on proposed DT,for overload mitigation of Jhod Wala DT).	S0514/00092	0.09
110	NARELA	514	Add 250KVA DT is proposed near to NAI BASTI MAMUR PUR DT for overload mitigation of NAI BASTI MAMUR PUR with 600MTR LT ABC+25 MTR HT ABC	S0514/00093	0.13
111	NARELA	514	S0514/00079	S0514/00079	0.06
112	NARELA	517	S0517/00095	S0517/00095	0.06
113	NARELA	517	Installation of new DT is not possible due to ROW issue,so augmentation from 400kVA(AMAR SINGH BAKLOI-400KVA DT) to 630 proposed with a 3 Way RMU	S0517/00100	0.22
114	NARELA	517	Add 160kVA DT for SHIV MANDIR WALA (P/M) overload mitigation of with LT(400mtr LT ABC 4*150sq mm & 350mtr HT BARE) extension as per site requirement	S0517/00097	0.12
115	NARELA	517	Installation of new DT is not possible due to ROW issue,so augmentation from 400kVA(TAJPUR MANDIR-400KVA DT) to 630 proposed with a 3 Way RMU	S0517/00099	0.22
116	NARELA	517	Add 63kVA DT for RUBBER FACTORY (P/M)overload mitigation of with LT(300mtr LT ABC 4*150sq mm + & 350mtr HT BARE)extension as per site requirement	S0517/00096	0.08
117	NARELA	517	Add 63kVA DT for CHATAR SINGH WALA (P/M) overload mitigation of with LT(300mtr LT ABC 4*150sq mm + 700mtr 4C*25sq mm & 300mtr HT BARE) extension as per site requirement	S0517/00098	0.08
118	NARELA	522	DSIDC-3 Grid to New Feeder-1 (to relieve DSIDC-1 Grid)	S0522/00094	0.80
119	NARELA	522	DSIDC-3 Grid to New Feeder-2 (to relieve DSIDC-1 Grid)	S0522/00095	0.69
120	NARELA	522	DSIDC-3 Grid to New Feeder-3 (to relieve DSIDC-1 Grid)	S0522/00096	0.88

Sl. No.	District	ZONE	SCHEME DESCRIPTION	Scheme No. PR/	Total cost (In Crs)
121	NARELA	514	Installation of autorecloser and sectionalizers at different locations in zone 514	S0514/00080	0.28
122	NARELA	514	Installation of autorecloser and sectionalizers at different locations in zone 514	S0514/00081	0.28
123	BWN	521	INSTALLATION OF 1 WAY O/D RMU at diff. locations IN ZONE-521,DSIDC BAWANA.	S0521/00053	0.19
124	BWN	521	INSTALLATION OF 1 WAY O/D RMU at diff. locationsIN ZONE-521,DSIDC BAWANA.	S0521/00054	0.19
125	BWN	521	INSTALLATION OF 1 WAY O/D RMU at diff. locationsIN ZONE-521,DSIDC BAWANA.	S0521/00056	0.14
126	BWN	521	INSTALLATION OF 1 WAY O/D RMU at diff. locationsIN ZONE-521,DSIDC BAWANA.	S0521/00057	0.09
127	NARELA	522	S0522/00080	S0522/00080	0.19
128	NARELA	522	S0522/00081	S0522/00081	0.19
129	NARELA	522	S0522/00082	S0522/00082	0.19
130	NARELA	514	REPLACEMENT OF 11KV SICK CABLE REPLACEMENT DP TO BOOSTER PUMP STN,HOLAMBI KALAN FEEDER FROM DSIIDC-2 GRID, Z-514 (D) NRL.	K0514/00003	0.34
131	NARELA	511	REPLACEMENT OF UNDERSIZED 3X70SQMM CABLE AT RAILWAY CROSSING KHERA KALAN	S0511/00076	0.82
132	BWN	513	HT feeder from Karala grid to Karala water supply S/stn.	S0513/00129	0.49
133	BWN	533	S0533/00026	S0533/00026	0.06
134	BWN	513	SHIFTING OF O/H RANI KHERA FEEDER FROM 220 KV DTL KANJHAWLA GRID TO GHEVRA SAVDA GRID FOR LOAD BALANCING OF PTR-1 OF 220 KV DTL KANJHAWLA GRID.	S0513/00101	1.53
135	NARELA	514	S0514/00064	S0514/00064	0.07

ANNEXURE -XB

Sl. No.	EHV Proposals	Sysytem	Cost (Cr)
FY 15-16			
1	33/11 kV 16 MVA 3rd PTR at GTK Grid	North	1.94
2	33/11 kV 20 MVA 3rd PTR at Sudarshan Park Grid	North	2.04
3	25 MVA 3rd PTR at SMB FC Grid & LILO of 33 kV 220 SMB-WZP2 Ckt-1 at SMB FC Grid	North	14.52
4	Augmentation of 33/11 kV PTR-1 from 16 MVA to 25 MVA at Rampura Grid	North	1.652
5	33 kV twin cable circuit between 220 kV Peeragarhi & RBCC Grid	North	8.21
6	Conversion of both 33kV Ckt-1&2 from single cable to twin cable between 220 kV Shalimarbagh & Ranibagh Grid	North	6.82
7	33 kV twin cable 3rd Circuit between WZP-3 & Ashok Vihar Grid	North	3.52
8	33 kV twin cable Circuit between Naraina & Pandav Nagar Grid	North	8.56
9	Strengthening of 33KV single cable circuit to XLPE 400 sq mm twin cable to feed Tri Nagar Grid Station (Two portions from Wazir pur to Tri Nagar and Tri Nagar to Ram pura)	North	0.4
10	Construction of a 66/11 KV, 2 x 25 MVA capacity Grid S/S alongwith the in-feed arrangement SGTN, Sanjay Gandhi Transport Nagar	North-West	28.8
11	66/11 kV 25 MVA 3rd PTR at Bhalaswa Grid	North-West	4.6
12	66/11 kV 25 MVA 3rd PTR at RG-22 Grid	North-West	4.14
13	33/11 kV 16 MVA 3rd PTR at Haiderpur Grid	North-West	2.09
FY 16-17			
14	33/11 kV 25 MVA 3rd PTR at Gulabi Bagh Grid & Conversion of 33kV single cable to twin cable between G.Bagh & S.Bagh Grid	North	5.793
15	New 33/11 kV with 2x25 MVA PTR Swiss Apartment Grid & LILO of 33 kV 220 Subzimandi-SKN Ckt at Swiss Apartment Grid Installation of 33kV GIS Panels at ShaktiNagar Grid & Conversion of 33kV single cable to twin cable between 220 Subzimandi & Shaktinagar Grid	North	30.931
16	New 33kV ESI Grid (Deposit) & 33kV twin cable Circuit from 220 PeeraGarhi Grid to ESI Grid & ESI Grid to Sudarshan Park Grid	North	13
17	Conversion of 33kV single cable to twin cable between RWL & Payal Grid	North	1.371
18	33 kV twin Cable circuit between S.Garden & Sudarshan Park Grid	North	4.79
19	Construction of a 66/11 KV, 2 x 25 MVA capacity Grid S/S alongwith the in-feed arrangement Siraspur Grid	North-West	32.4
20	Construction of a 66/11 KV, 2 x 25 MVA capacity Grid S/S alongwith the in-feed arrangement, Karala Grid,	North-West	30.46
21	Construction of a 66/11 KV, 2 x 25 MVA capacity Grid S/S alongwith the in-feed arrangement, Burari	North-West	66.53
22	New 66/11 kV with 2x25 MVA PTR Dheerpur Grid & LILO of 66 kV Gopalpur-Jahangirpuri Ckt-1&2 at Dheerpur Grid	North-West	18.4
23	Construction of a 66/11 KV, 2 x 25 MVA capacity Grid S/S alongwith the in-feed arrangement DSIDC-3 Grid, Narela	North-West	30.56
24	Construction of a 66/11 KV, 2 x 25 MVA capacity Grid S/S alongwith the in-feed arrangement Bawana 2, Phase II, Bawana	North-West	24.78
25	Construction of a 66/11 KV, 2 x 25 MVA capacity Grid S/S alongwith the in-feed arrangement, Narela Sub City, G8	North-West	40
26	Rearrangement of 33 KV Circuits at Wazirpur-1 grid	North	0.15
27	Rearrangement of 33 KV Circuits at Rampura Grid	North	0.23
28	Replacement of power transformer 20 MVA at wazirpur1 grid with a new 25 KVA PTR.	North	2.436
29	Replacement of power transformer 20 MVA at Pitampura1 grid with a 20 KVA PTR (repaired).	North	1.33
30	Installation of 66/33 KV, 50 MVA repaired power transformer at A-7 Narela.	North-West	5.214
31	Additional 31.5 MVA PTR at Bawana no 1.	North-West	4.89
32	Replacement of old battery banks at A7 NRL.	North	0.392
FY 17-18			
33	Construction of a 66/11 KV, 2 x 25 MVA capacity Grid S/S alongwith the in-feed arrangement Rohini 6 (2nd), Rohini (Sec-16 Rohini)	North-West	40
34	Construction of a 66/11 KV, 2 x 25 MVA capacity Grid S/S alongwith the in-feed	North-West	31.03



Sl. No.	EHV Proposals	Sysytem	Cost (Cr)
	arrangement BWN 4, Bawana (Pooth Khurd-2)		
35	66kV Circuits - 2 Nos for Siraspur Grid from 220kV SGTN Grid	North-West	10
36	Construction of a 66/11 KV, 2 x 25 MVA capacity Grid S/S alongwith the in-feed arrangement Rohini 2 (2nd), Rohini (Budh Vihar 1 & 2)	North-West	40
37	Construction of a 66/11 KV, 2 x 25 MVA capacity Grid S/S alongwith the in-feed arrangement Narela Sub City, G4	North-West	40
38	Construction of a 66/11 KV, 2 x 25 MVA capacity Grid S/S alongwith the in-feed arrangement Narela Sub City, G6	North-West	40
39	25 MVA 3rd PTR at Saraswati Garden Grid	North	3.5
40	New 33/11 kV with 1x25 MVA PTR LRIA Grid & LILO of 33 kV AshokVihar-Rampura Ckt at LRIA Grid	North	11
41	New 33/11 kV with 3x25 MVA PTR DCM Grid & 33 kV twin cable circuit between 220 kV Karampura & DCM Grid and LILO of 33 kV WZP3-S.Bagh Ckt at DCM Grid (Deposit)	North	32
42	33 kV twin cable circuit between 220 kV Karampura & GulabiBagh Grid	North	3
43	66 kV 02 Nos of twin cable Ckts between MGP-2 & PP-3 Grid.	North	21
44	Replacement of sick PILCA cable by 33 kV twin 3c*400 sqmm cable between Inderpuri & Pandav Nagar Grid	North	5.5
45	Conversion of 33kV single cable to twin cable between Inderpuri & Pusa Grid	North	2
46	33/11 kV 25 MVA 3rd PTR at Tripolia Grid	North	3.5
47	Strengthening of 33kV infeed Ckts to DIFR Grid by removal of LILO arrangement at Tower No-26 & laying 33kV twin cable ckt from CVL to Tower no-26	North	2
48	33 kV Twin Cable circuit between Tripolia & ShaktiNagar Grid & LILO of 33 kV proposed Tripolia-ShaktiNagar Ckt at 220 kV Chandrawal Grid	North	12
49	Conversion from single to twin cable of 33kV I.Vihar-DIFR Ckt & LILO of 33 kV IndraVihar-DIFR Ckt at 220 kV Chandrawal Grid	North	8
50	33 kV Twin Cable circuit between Civil Line & Wazirabad Grid & LILO of 33 kV proposed Civil Line - Wazirabad Ckt at 220 kV Chandrawal Grid	North	5
51	LILO of 33 kV H.Lane-DU Ckt at 220 kV Chandrawal Grid	North	8
52	LILO of 33 kV proposed Azadpur - GTK Ckt-1 at 220 kV Chandrawal Grid	North	12
53	LILO of 33 kV proposed ModelTown - Azadpur Ckt-1 at 220 kV Chandrawal Grid	North	12
54	Construction of a 66/11 KV, 2 x 25 MVA capacity Grid S/S alongwith the in-feed arrangement, DSIIDC 4, Narela	North-West	40
55	Addition of a new 66/11 KV, 25 MVA Capacity PTR, RG24 Grid	North-West	4
56	Construction of a 66/11 KV, 2 x 25 MVA capacity Grid S/S alongwith the in-feed arrangement, Bawana 3, Phase II, Bawana	North-West	40
57	Construction of a 66/11 KV, 2 x 25 MVA capacity Grid S/S alongwith the in-feed arrangement, RU Nagar, Rajasthan Udyog Nagar	North-West	40
58	Addition of a new 66/11 KV, 25 MVA Capacity PTR BWN 4 Grid (Pooth Khurd-2)	North-West	4
59	Construction of a 66/11 KV, 2 x 25 MVA capacity Grid S/S alongwith the in-feed arrangement BWN 8, Bawana	North-West	40
60	Construction of a 66/11 KV, 2 x 25 MVA capacity Grid S/S alongwith the in-feed arrangement, Burari-2 Grid	North-West	40
61	Construction of a 66/11 KV, 2 x 25 MVA capacity Grid S/S alongwith the in-feed arrangement, Narela Sub City, G7	North-West	40
62	33/11 kV 25 MVA 3rd PTR at Wazirabad Grid	North	3.5
63	33/11 kV 20 MVA 3rd PTR at ModelTown Grid	North	3.5
64	Strengthening of both 33kV WZP3-Azadpur Ckt-1&2 after replacing Wolf conductor with 33kV twin 3c*400 sqmm cable.	North	9
65	Addition of a new 33/11 KV, 25 MVA Capacity PTR, SMB Khosla Grid, Shalimar Bagh	North	3.5
66	Augmentation of 33/11 kV PTR-1 from 16 MVA to 25 MVA at ShahzadaBagh Grid	North	2
67	Removal of T-Off Rama Road from 33kV 220 Subzimandi-ShahzadaBagh Ckt-2 and connected through 33kV twin cable circuit from 220 kV Karampura Grid	North	1.5
68	LILO of 33kV Rohtak Road - Kirti Nagar Ckt at 220 kV Karampura Grid	North	3
69	Conversion of 33kV single cable to twin Cable between Rohtak Road & ShahzadaBagh Grid with LILO at 220 kV Karampura Grid	North	3.5
70	New 66/11 kV with 2x25 MVA PTR Netaji Subash Palace Grid & LILO of 66 kV PP-1-PP3 Ckt-1&2 at Netaji Subash palace Grid	North	27
71	Construction of a 66/11 KV, 2 x 25 MVA capacity Grid S/S alongwith the in-feed arrangement RG-5 Grid-2	North-West	40



Sl. No.	EHV Proposals	Sysytem	Cost (Cr)
FY 19-20			
72	Construction of a 66/11 KV, 2 x 25 MVA capacity Grid S/S alongwith the in-feed arrangement Kirari Grid	North-West	40
73	Construction of a 66/11 KV, 2 x 25 MVA capacity Grid S/S and the in-feed arrangement BWN 3, Bawana	North-West	40
74	Construction of a 66/11 KV, 2 x 25 MVA capacity Grid S/S alongwith the in-feed arrangement Alipur Grid	North-West	40
75	Construction of a 66/11 KV, 2 x 25 MVA capacity Grid S/S alongwith the in-feed arrangement B-4 Narela Grid	North-West	40
76	Construction of a 66/11 KV, 2 x 25 MVA capacity Grid S/S alongwith the in-feed arrangement, Narela Sub City, G2	North-West	40
77	Augmentation of both 33/11 kV PTR-1&2 from 16 MVA to 25 MVA at Trinagar Grid	North	4
78	66/11 kV 25 MVA 3rd PTR at Dheerpur Grid	North	4
79	New 33/11 kV with 2x25 MVA PTR L.B.College Grid & LILO of 33kV WZP3-Ashok Vihar Ckt-3 at L.B.College Grid	North	22
80	Strengthening of both 33kV Trinagar-Rampura Ckt and WZP3-Rampura after replacing Wolf conductor with 33kV twin 3c*400 sqmm cable.	North	2.5
81	33 kV twin cable Circuit between Ridge Valley (BSES) & Pusa Grid	North	8
82	LILO of 33 kV SudarshanPark-Saraswati Garden Ckt at 220 kV Punjabi bagh Grid	North	7
83	LILO of 33 kV Rewari Line-A-21 Naraina Ckt at 220 kV Punjabi bagh Grid	North	12
84	33/11 kV 25 MVA 3rd PTR at SMB Khosla Grid	North	3.5
85	Augmentation of 33/11 kV PTR-2 from 16 MVA to 25 MVA at GulabiBagh Grid	North	2
86	33/11 kV 16 MVA 3rd PTR at Pusa Grid.	North	3.5
87	New 66/11 kV with 2x25 MVA PTR Azadpur-2 (Police Colony) Grid & 66 kV 02 Nos of twin cable Ckts between 220 kV Gopalpur & Azadpur-2 Grid and LILO of 66 kV Dheerpur-Jahangirpuri Ckt-1&2 at 66/11 kV Azadpur-2 Grid.	North	40
88	New 66/11 kV with 2x25 MVA PTR IndraVihar-2 (Ambedkar University) Grid & 66 kV 02 Nos of twin cable Ckts between 220 kV Gopalpur & IndraVihar-2 Grid Grid and LILO of 66 kV 220 GPL-Dheerpur-Ckt-1&2 at 66/11 kV IndraVihar-2 Grid.	North	40
89	Construction of a 66/11 KV, 2 x 25 MVA capacity Grid S/S alongwith the in-feed arrangement Rohini-15	North-West	40
90	Construction of a 66/11 KV, 2 x 25 MVA capacity Grid S/S alongwith the in-feed arrangement RG-4 Grid-2	North-West	30
91	Addition of a new 66/11 KV, 25 MVA Capacity PTR-7 Narela Grid, Narela	North-West	4
92	Addition of a new 66/11 KV, 25 MVA Capacity PTR, MP-2 Grid	North-West	4
TOTAL :		1513.48	

11 KV, DT & LT FY 2017-19

Sl. No.	Proposal year	Proposals	Count
1	FY 17	11 KV New Feeders	36
2		11 KV new Interconnector	53
3		DT	520
4		New LT Feeders	911
5	FY 18	11 KV New Feeders	32
6		11 KV new Interconnector	50
7		DT	412
8		New LT Feeders	719
9	FY 19	11 KV New Feeders	33
10		11 KV new Interconnector	47
11		DT	431
12		New LT Feeders	666

Sl. No.	Year	2017	2018	2019
1	DT Rating	DT Count		
2	63KVA	37	30	42
3	100 KVA	94	60	98
4	160 KVA	149	129	151
5	250 KVA	126	107	64
6	400 KVA	85	58	57
7	630 KVA	25	28	19
8	990 KVA	4	0	0
	Total	520	412	431


Amount required for Distribution (Rs. In Crores)

Proposal	2017	2018	2019	TOTAL
Feeder	43	39	40	122
Interconnector	33	31	29	93
DT & LT	61	49	45	155
TOTAL :	137	118	114	370





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XX GENERATION


 765/400KV substation

 Existing 400/220 KV Substation


 Proposed 400/220 KV Substation


 Existing 220 KV Substation

 220 KV Substation with Split bus


 12th plan spill over projects to be implemented under 13th plan


 Proposed 220 KV Substation under 13th plan

 Existing 400KV Double Circuit


 Proposed 400KV Double Circuit


 Existing 220KV Double Circuit (Overhead)

 Proposed 220KV Double Circuit (Overhead)

 Existing 220KV Double Circuit (cable)

 Proposed 220KV Double Circuit (cable)

 Existing 220KV single Circuit (cable)

 Existing 220KV Single Circuit (Overhead)

This map is not to scale and representative only.