ENERGY

Delhi's electricity consumption has increased from 19666 million units in 2002 to 25349 million units in 2012. Power sector reforms and unbundling of Delhi Vidyut Board in 2002 has reduced the aggregate transmission and distribution losses from 60% to about 17%. Prior to 2002, Delhi saw extensive power cuts and generation, transmission and distribution sector of Delhi was not in a healthy state.

However, the situation has changed dramatically and the system could deliver a peak load of 5642 MW last summer 2012 without any power cut. The per capita consumption of electricity of Delhi is much higher than the national average. Government prepared a proposal for islanding of Delhi, which was approved by Government of India. The project is under implementation.

On the generation side, Pragati Power Station of 330MW was commissioned in a record period of 2 years in 2003. The performance of this plant is among the best power plants of the country. The first phase of Bawana power plant with a capacity of 750 MW was commissioned in 2010-11. The second phase of this 1500MW plant is almost ready for commissioning. However, there are issues with the supply of requisite quantum of gas for this power plant, which has been taken up with Ministry of Petroleum & Natural Gas.

The year wise position of Approved Outlay, Revised Outlay and Expenditure under this sector is as under:

[` in crore]

S. No.	Year	Approved Outlay	Revised Outlay	Exp.
1.	2007-08	1250.00	1263.13	1256.75
2.	2008-09	1015.65	585.75	567.08
3.	2009-10	461.00	10.00	3.39
4.	2010-11	110.80	256.00	250.84
5.	2011-12	1576.00	1842.36	1833.26
6.	2012-13	859.61	1275.00	1275.00 Anticipated
7.	2013-14	513.00		

A. Generation

1. 1500 MW Gas based Pragati-III Power Plant at Bawana

Plan Outlay

Annual Plan 2013-14 : ₹ 24500 Lakh

Loan : ₹ 24500 Lakh

During the year 2013-14 remaining units of 1371 MW Gas based Pragati-III project at Bawana shall be commissioned. Its nominal capacity shall be 1371 MW.

Cost of the Project

The Cabinet vide decision No.1412 dated 02.06.2008 accorded approval for the total approved project cost of the plant of `5195.81 crore and funding of 30% of the project cost as equity amounting to `1558.74 crore (100% equity share of Delhi Government released).

`245 crore is being proposed as Loan for Pragati- III Plant at Bawana for project cost which includes release of Retention Liabilities on completion and performance to BHEL.

Present status of the project

- Two Gas Turbines of 250 MW each of Bawana Gas based plant have been commissioned in Oct.,10 & Feb., 2011
- GT-1 declared for Commercial Operation on 27.12.2011
- GT-2 achieve full load on 17.02.2011
- GT-2 declared COD on 16.07.2012
- STG-1 Synchronized on 03.10.2011
- STG-1 (50%) declared COD on 01.04.2012
- GT-3 achieved full load on 27.06.2012.
- GT-4 and STG-2 to be commissioned in 2013-14
- Delhi will be getting 70% of power generation from this project.
- The project is to be fully commissioned in 2013-14

2. New Gas Based Projects (IP, RPH, GTPS)

Plan Outlay

Annual Plan 2013-14 : ₹ 50 Lakh
Capital : ₹ 50 Lakh

2.1 Replacement of existing 270 MW Indraprastha Gas Turbine Power Station with 350-375 MW Advanced Class Machines

To be set up with advanced Class Machines near IP Metro station with an estimated cost of ` 1320 crore.

Likely to be commissioned by 2016-17.

2.2 Establishing a 750 MW Gas Based Power Plant at the site of Rajghat Power House

Proposed to be set up subsequent to its decommissioning in a module of 750 MW. Estimated project cost is ` 1320 crore.

Likely to be commissioned by 2016-17.

2.3 350 MW Gas Based Combined cycle Power Plant at the Site of Indraprastha Power Station

It Consist two Gas Turbine and one Steam turbine.

Estimated project cost is `1400 crore.

Likely to be commissioned by 2016-17.

3. Renewable Energy (earlier known as DREPC)

Plan Outlay

Annual Plan 2013-14 : ₹ 450 Lakh
Capital : ₹ 450 Lakh

Target

- To generate 47 MW from Renewable Energy Sources.
- To establish 260 Kwp Solar PV plants on the roof top of IPGCL / PPCL.
- To generate 5 MW from Solar PV Plants on Ash Pond Area of RPH.

B. TRANSMISSION

Plan Outlay

Annual Plan 2013-14 : ₹ 22800 Lakh
Loan : ₹ 22800 Lakh

In order to transmit the power being procured from other States to Delhi distribution, the transmission network is also being strengthened. At present, we have 29 sub-stations at 220KV level and 03 sub-stations at 400KV level with the total transformation capacity of around 12,000 MVA. In order to fulfill the increasing demand, new sub-stations are being added at Harsh Vihar, Peeragarhi, Wazirpur, Rohini and Lodhi Road along with the augmentation and modernization of existing sub-stations. It is proposed to increase the transformation capacity to 16,000 MVA by the end of the year. The distribution network is also being strengthened by the respective DISCOMS and many substations at 66KV and 33KV have been added in last one year at Jasola, Mundka, Guru Gobind Singh Nagar, Rohini, Sonia Vihar and Ridge Valley to ensure the reliable power supply during peak period. Further new substations are being added at Mohan Garden, Harsh Vihar etc.

DETAILS OF PROPOSED TRANSMISSION NETWORK

a) SUBSTATION PROJECTS

1. CONVERSION OF AIS INTO GIS

A number of 220kV substations of DTL which were commissioned in the late 70s, have out-lived their useful life as per the norms specified by the Commission. As such, the following substations are proposed to be converted from AIS to GIS in the phased manner.

a) Conversion of existing 220 & 66 kV yard into GIS at Lodhi Road
b) Conversion of IP 220/33 kV Switch yard at IP Station
c) Conversion of 220 kV Switch yard into GIS at Subzi Mandi
d) Conversion of 220/66/33 kV Switch yard into GIS at Okhla
e) Conversion of 220/66/33 kV Switch yard into GIS at Patparganj
f) Conversion of 33 kV Switch yard into GIS at Gopalpur

2. 220/66 KV S/STN. AT PAPPANKALAN III

The scheme has been prepared to meet the growing load demand of West and South-West Delhi areas; especially the Dwarka sub-city; to ensure the uninterrupted and quality power to the people of that area. The cost of the scheme with installed capacity of 2 x 160 MVA Power Transformers is `57.45 crore (approx.). Land for this Substation is already available and will be completed in the year 2013-14.

3. 220/66 KV GIS S/STN. AT TUGHLAKABAD

To relieve the critically loaded sub station at Okhla as well as to meet the load requirements of Air Force Station/MES in Tughlakabad and South Delhi areas, a new S/Stn. at Tughlakabad/Sangam Vihar has been proposed, having the transformation capacity of 2 x 100 MVA. The tentative cost of the scheme is `80 crore (approx.). This project is scheduled to be completed in the year 2013-14.

4. 220/33 KV GIS S/STN. AT RAJGHAT POWER HOUSE (RPH)

To control the pollution level, Govt. of NCT of Delhi has decided to close the Rajghat Power House. This closure of Rajghat Power House will lead to a reduction of about 100 MW in the power availability. At present, the Walled city area along with Kamla Market, Indoor Stadium and the Delhi Sachivalaya are being fed from RPH. In order to maintain the continuity of supply to these areas, a 220/33 kV GIS S/Stn., having the transformation capacity of 3 x 100 MVA has been proposed at Rajghat Power House. The cost of the scheme is `85 crore and will be completed in the year 2013-14.

b) TRANSMISSION LINK PROJECTS

1. D/C U/G CABLE FROM HARSH VIHAR (EAST OF LONI ROAD) TO SOUTH OF WAZIRABAD

To evacuate the power at 220 kV voltage level from proposed 400 kV Harsh Vihar S/Stn., a D/C U/G cable from Harsh Vihar S/Stn. to South of Wazirabad S/Stn. has been proposed. The estimated cost of the scheme is `131.65 crore. The scheme will be completed in the year 2013-14.

2. D/C BAWANA TO ROHINI II BY U/G CUM O/H LINES

Earlier, a scheme was prepared of O/H transmission Line to Rohini II S/Stn. In some portion DDA has not allowed over head transmission line, as such this scheme has been revised, taking the disputed portion in under ground mode. The cost of the scheme is `17.43 crore and will be completed in the year 2013-14.

3. S/C U/G FROM OKHLA TO MASJID MOTH

At present, 220 kV S/Stn. Okhla is at radial mode as well as Masjid Moth S/Stn. To give the additional feeds to these S/Stns. a single circuit U/G link has been proposed between Okhla and Masjid Moth. The estimated cost of the scheme is `55.46 crore. The scheme will be completed in the year 2013-14.

4. S/C U/G CABLE FROM KASHMERE GATE TO SUBZI MANDI

At present, 220 kV S/Stns at Kashmere Gate and Subzi Mandi are at radial mode. To give the second feed to these S/Stns. a single circuit U/G interlink has been proposed between Kashmere Gate and Subzi Mandi. The estimated cost of the scheme is `27.99 crore. The scheme will be completed in the year 2013-14.

5. D/C LOOP IN BY U/G CABLE OF NAJAFGARH – KANJAWALA AT MUNDKA

For evacuation of the power at 220 kV voltage level from 400 kV S/Stn. Mundka, earlier a scheme was prepared for Loop In Loop Out of O/H Najafgarh – Kanjawala Line at Mundka. The work of Loop out portion is under execution. However the scheme of one portion i.e. Loop in could not be implemented due to ROW constraint by DDA, as such this scheme was prepared for Loop in by U/G cable. The estimated cost of the scheme is `65 crore and will be completed in the year 2013-14.

6. S/C U/G CABLE FROM PAPPANKALAN-I TO PAPPANKALAN-II

At present, 220 kV S/Stn. Pappankalan I is at radial mode as well as Pappankalan II. To give the second feed to these S/Stns. a single circuit U/G circuit has been proposed between Pappankalan I to Pappankalan II. The estimated cost of the scheme is `46.55 crore. The scheme will be completed in the year 2013-14.

7. LILO(Line In Line Out) MEHRAULI – BTPS AT TUGHLAKABAD (MES)

The scheme for LILO Mehrauli – BTPS at Tughlakabad (MES) has been prepared to feed the Tughlakabad (MES) S/Stn. The estimated cost of the scheme is `20 crore. The scheme will be completed in the year 2013-14.

8. S/C U/G PARK STREET TO ELECTRIC LANE

At present, 220 kV S/Stn. Park Street is at radial mode as well as Electric Lane S/Stn. To give the additional feeds to these S/Stns. a single circuit U/G link has been proposed between Park Street and Electric Lane. The estimated cost of the scheme is `26.81 crore. The scheme will be completed in the year 2013-14.

9. S/C U/G FROM KASHMIRI GATE TO RPH

The scheme for S/C U/G XLPE cable from Kashmiri Gate to RPH has been prepared to feed the RPH S/Stn. from Kashmiri Gate. The estimated cost of the scheme is `28 crore. The scheme will be completed in the year 2013-14.

10. LILO of Bamnauli- Naraina T/L at PPK-III

The scheme for LILO of Bamnauli- Naraina T/L at PPK-III has been prepared to feed the Pappankalan III S/Stn. The estimated cost of the scheme is `5 crore. The scheme will be completed in the year 2013-14.

c) AUGMENTATION PROJECTS AT 400KV AND 220 KV SUBSTATIONS

CEA has recommended N-1 redundancy in the Transmission System however, in DTL system N-1 criteria has not been achieved yet. Main reason for this is the non availability of space in the existing substations for installing additional transformers. Accordingly, new substations have been proposed to overcome this situation in such areas. However, considering the critical loadings of existing transformers and availability of space, augmentation of Transformation capacity at following sub-stations has been proposed.

1. 1x315 MVA 400/220kV Transformer at 400kV Mundka S/Stn

At present, there are two 315MVA, 400/220kV Transformers at Mundka. However, in order to have desired redundancy in the system taking into consideration N-1 criteria, a scheme for 3rd 315 MVA Transformer has been prepared, to be commissioned in the year 2012-13. The estimated cost of the scheme is `11 crore.

2. GAZIPUR

In order to meet the load requirement of the area as well as taking into consideration N-1 criteria, a scheme for one no. 160 MVA additional transformer is proposed, to be commissioned in the year 2013-14. The estimated cost of the scheme is `11 crore.

3. RIDGE VALLEY

Considering the loadings of the existing 66/33kV transformers at Ridge Valley, it has become essential to provide additional capacity at 33kV level. Accordingly, a 220/33kV, 100 MVA Transformer has been considered, to be commissioned in the year 2013-14. The estimated cost of the scheme is `11 crore.

4. GOPALPUR

In order to meet the load requirement of the area as well as taking into consideration N-1 criteria, a scheme for 4th 160 MVA Transformer is being prepared, to be commissioned in the year 2013-14. The estimated cost of the scheme is `11 crore.

5. Replacement of exiting porcelain disc insulators with polymer insulators

NRPC in its meeting have recommended the replacement of exiting porcelain disc insulators with polymer insulators in high pollution area to avoid tripping during foggy conditions. Accordingly scheme of replacement of exiting porcelain disc insulators in the 220kV Transmission line with polymer insulators have been included in this

Business plan in phased manner to be commissioned in the year 2013-14. The estimated cost of the work is `13 crore.

C. POWER DEPARTMENT:

1. Payment towards land premium / land acquisition for subsequent leasing to DISCOMS:-

Plan Outlay

Annual Plan 2013-14 : ₹ 2000 Lakh
Capital : ₹ 2000 Lakh

The three Distribution Companies viz. NDPL, BRPL and BYPL have been pressing for allotment of land at concessional rate for creation of new infrastructure including Grid Stations, installation of Transformer etc. The Ministry of Urban Development, Government of India has decided followings:-

a. DDA will allot land to Government of NCT of Delhi (GNCTD) at Zonal Variant Rates for setting up of electric sub-stations, etc. by Power Distribution Companies.

b. GNCTD may in turn allow the Power Distribution Companies to set up electric sub-stations etc. on "right to use" basis and on such terms and conditions as GNCTD may enter into with Power Distribution Companies.

c. The land should be put to use only for the specific purpose of setting up of electric sub-stations etc. and in no way put up to any other use or commercially exploited. This should be specified in the allotment letter by DDA.

d. DDA will allot only the minimum required land as per norms.

Subsequently, it has been decided by the Government of Delhi that GNCTD would make payment to DDA at Zonal Variant Rate along with ground rent, as applicable. Thereafter, GNCTD would sign a license/lease agreement with the Distribution companies and would charge appropriate annual rent/ license fees from the Distribution companies. The license deed would, inter alia, involve allowing the Distribution companies to use the land on "right to use" basis and on the basis condition that the land would be used only for the purpose of expansion of the distribution network and erection of related infrastructure and not for any other work.
As the land would be initially obtained from DDA by GNCTD, initial payment has to be made by Government of Delhi. A provision of `20 crore is approved for 2013-14 for this scheme.

2. Shifting of HT / LT Transmission Lines:-

Plan Outlay

Annual Plan 2013-14 : ₹ 1500 Lakh
Revenue : ₹ 1500 Lakh

This scheme was initiated for shifting of HT (11000V) and LT (400V) Electricity Lines posing Threat to human lives. A decision was taken by the Council of Ministers vide cabinet decision no. 1310 dated 20.11.2007 to shift such lines where it poses danger to human life and property.

A provision of `15 crore is approved for 2013-14 for this scheme.