दिल्ली ट्रांस्को लिमिटेड
**DELHI TRANSCO LIMITED**
पंजीकृत कायालय :शि□त सदन, कोटला रोड़, □यू □द□ल□110002
(Regd. Office Shakti Sadan, Kotla Road, New Delhi-110002)
कायालय उपमहा□बंधक (एस.ओ.)
**Office of Dy. General Manager (SO)**
एस एल डी सी □बि□डंग, □मंटो रोड़, □यू □द□ल□110002
SLDC Building, Minto Road, New Delhi-110002
Ph: 23221149 FAX No.23221012

**No. F./DTL/207/2016-17/DGM(SO)/26** **Dated : 21.04.2016**

**Subject: Agenda of the 14th meeting of Grid Coordination Committee.**

Dear Sir, / महोदय

The 14th meeting of the Grid Coordination Committee (GCC) is scheduled to be held on 26.04.2016 at 10.30hrs at Hotel Park Plaza, CBD, Shahdra, Near Metro Mall Karkardooma, Delhi-110095.

The agenda of the meeting has been uploaded on SLDC, Delhi website (www.delhisldc.org).

You are requested to make it convenient to attend the meeting

Thanking you,

**Y**ours faithfully

Encl : As above

**(S. K. SINHA)**
Dy. G. M. (System Operation)
Convener (GCC)

To

01 **Sh. Prem Prakash, Chairperson, GCC**
Director (Operations), Delhi Transco Ltd, 1st floor, Shakti Sadan Building, Kotla Road, New Delhi-110002, Office-Phone- 011-23232715, Fax : 23232721
02 **Sh. Harjiwan Vyas, Executive Director (T), SLDC**, Delhi
03 **Sh. V. Venugopal, G. M. (Planning)**, Delhi Transco Ltd.
04 **Sh. A. C. Agrawal, G.M. (Commercial & Regulatory Affairs),** Delhi Transco Ltd.
05 **Sh. Mukesh Kumar Sharma, G. M. (Corporate Monitoring & SEM),** DTL
06 **Sh. Suresh Nimwal, G. M. (Project)-I & General Manager (Civil),** DTL
07 **Sh. Suresh Kumar Sharma, G. M. (O&M)-II,** Delhi Transco Ltd,
08 **Ms. Kiran Saini, G. M. (Project)-II,** Delhi Transco Ltd.
09 **Sh. Lovleen Singh, G. M. (C&MM),** Delhi Transco Ltd.
10 **Sh. Birender Prasad, G.M. (O&M)-I, DTL**
11 **Sh. Ved Mitra Chief Engineer, DMRC,** Inderlok Metro Station, Delhi, 9871165812
12 **General Manager (NRLDC),**
18-A, SJSS Marg, New Delhi-110016, Office Ph: 011-26537351, Fax:011-26852747
13 **Sh. Jagdish Kumar, Director(Tech), IPGCL / PPCL**
Himadri Building, RPH, New Delhi-110002. Phone:011-23273544, Fax: 011-23270590
14 **Sh. A.K. Sharma, Head (O&M), BYPL**
Shakti Kiran Building, Karkardooma, Delhi
15 **Sh. Mukesh Dadhichi, G.M. (SO),** BYPL, Shankar Road, New Delhi

16 **Sh. Sunil Kakkar, Head (PMG),** BYPL, Shakti Kiran Building, Karkardooma, Delhi
17 **Chief Engineer (Transmission System)**, BBMB
SLDC Complex, Sector-28, Industrial Area Phase-I, Chandigarh.
18 **Superintending Engineer (O&M) Circle, BBMB**
400kV S/Stn, BBMB Complex, Panipat-132107,Mob. 09416017711, Fax .0180-2662992
19 **Sh. Sanjay Kumar Banga, Head (PEC, PM&BD), TPDDL**
SCADA Building, Near Netaji Place Subash Place Metro Station, Pitampura, Delhi 34
Phone Office: 011- 27468027, Fax: 011-27468023
20 **Sh. Ajay Kumar, VP (PMG), BRPL,**
Building No 20, Nehru Place**,** New Delhiï 110019. Off. 39996052 Fax: 011- 3999605
21 **Sh. Satinder Sondhi, VP,BRPL**
22 **Sh. Sanjay Srivastava, AVP (PMG), BRPL**
23 **Sh. D. Sarkar , General Manager,**
NTPC, BTPS, New Delhi-110044 Office Phone: 011- 26949523, Fax: 011- 26949532
24 **Sh. A.K. Joshi, Chief Engineer (Elect)-II, NDMC**
Room No. 1706, 17th Floor, Palika Kendra, Sansad Marg, New Delhi-110001
25 **Sh. V.K. Pandey, Chief Engineer (Elec)-I, NDMC**
Room No. 1701, 17th Floor, Palika Kendra, Sansad Marg, New Delhi-110001
26 **Sh. Mahender Singh, Executive Director (Tariff), DERC**
DERC Viniyamak Bhawan, C-Block, Shivalik, New Delhi-17
27 **Sh. U.K. Tyagi, Executive Director (Engineering), DERC**
DERC Viniyamak Bhawan, C-Block, Shivalik, New Delhi-17
28 **General Manager (Commercial)**, NTPC
NCR Headquarters, R&D Building, A8A, Setor-24, Noida-201301. Fax no. 0120-2410192
29 **Sh. Neelesh Gupta**
Whole Time Director, Timarpur ï Okhla Waste Management Company Ltd
Jindal ITF Center, 28 Shivaji Marg New Delhi-110015, Ph. 45021983, Fax 45021982
30 **General Manager,** Indira Gandhi Super Thermal Power Station, Jharli, Jhajjar Distt. Haryana Pin-124141, Fax no. 01251-266202, Ph. 01251-266265
31 CWE (U), MES, MES Palam Road, Delhi Cantt, New Delhi-110010
32 **GE (U),** Electric Supply, Kotwali Road, Delhi Cantt, Delhi-110010
33 G. M. (Finance), DTL, Shakti Sadan, New Delhi 110002
34 Dy. G. M. (Fin-II), DTL Rajghat Power House New Delhi -110002
35 **Sh. Pradeep Katiyar, Dy. G.M. (SCADA), SLDC**
36 **Sh. Darshan Singh,** Manager (System Operation), Delhi SLDC
37 **Sh. Susheel Gupta,** Manager (Energy Accounting), Delhi SLDC
38 **Manager (SO)-Shift,** Delhi SLDC
39 **Ms. Mukesh Dagar,** Dy. Manager (Finance), SLDC
40 Ms. Parul Kapadia, Manager (HW), SLDC
41 Ms. Anjali Das, Manager (Software), SLDC
42 Dy. Manager (Finance), SLDC

Copy for favour of kind information to :-

1. Principal Secretary (Power), Govt. of NCT of Delhi,
2. Secretary, DERC, Viniyamak Bhawan, C-Block, Shivalik, New Delhi-110017
3. Managing Director, DTL
4. Chairperson, NDMC, Palika Kendra, Sansad Marg, New Delhi-110001
5. Member Secretary, NRPC, Katwaria Sarai, New Delhi-110016
6. Director (Operations), NTPC, Scope Complex, 7 Institutional Area, Lodhi Road, New Delhi-110003

7. Managing Director, IPGCL / PPCL, Himadri, Rajghat Power House, New Delhi-02
8. Director (Operations), DMRC, Metro Bhawan, Fire Brigade Lane, Barakhamba Road, New Delhi-110001.
9. Director (Finance) DTL
10. CEO, BSES Rajdhani Power Ltd, BSES Bhawan, Nehru Place, New Delhi-110019
11. CEO, BSES Yamuna Power Ltd, Shakti Kiran Building, Karkardooma, New Delhi-92
12. CEO, TPDDL, 33kV Grid S/Stn, Hudson Lane, Kingsway Camp, Delhi-110009
13. Chief Engineer, Delhi Zone,(CEDZ), MES Palam Road, Delhi Cantt, New Delhi-10
14. Addl. Secretary (Power), Govt. of NCT of Delhi, Delhi Secretariat, New Delhi.

# DELHI TRANSCO LTD.

(Regd. Office : Shakti Sadan, Kotla Road, New Delhi 110002)

**[Office of Dy. General Manager (SO)]**

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## AGENDA FOR 14th MEETING OF GRID CO-ORDINATION COMMITTEE

**Time & Date of GCC meeting : 10.30 Hrs. on 26.04.2016**

**Venue :**

## 1 CONFIRMATION OF THE MINUTES OF 13TH MEETING OF GCC HELD ON 30.11.2015.

The minutes of the 13th meeting of GCC held on 30.11.2015 have been circulated vide letter no. **F./DTL/207/15-16/DGM(SO)/388** dated 23.03.2016. No comments have been received so far.

**GCC may hereby confirm the minutes of the 13th meeting of GCC held on 30.11.2015.**

## 2 FOLLOWUP ACTION ON THE DECISIONS TAKEN IN THE PREVIOUS GCC MEETINGS

### 2.1. PROVSIONS OF HOT RESERVE OF TRANSFORMERS.

The updated status of the issues discussed in the 13th meeting of GCC held on 30.11.2015 is as under:-

| S. N | Capacity | Present population in nos. | Original planning for hot reserve | Present Status |
|---|---|---|---|---|
| 1 | 400/220kV 500MVA ICT | 2 | One ICT of 315MVA at 400kV Mundka would be hot reserve. | With the commissioning of 2X500MVA ICTs at Bamnauli, 2X315MVA ICTs spared from Bamnauli. Out of two units 315MVA ICT, one unit has been shifted to Mundka for utilizaiton as hot reserve and another is being shifted to Bawana to replace the damaged 315MVA ICT-IV. |
| | 400/220kV 315MVA ICT | 14 | | |
| 2 | 220/66 kV, 160MVA Tx | 21 | 160MVA Tx earmarked for 220kV Pappan Kalan-II would be the hot reserve. | One 220/66kV 160MVA Tx commissioned on 23.12.2015, the same shall be used as Hot reserve. |

| S. N | Capacity | Present population in nos. | Original planning for hot reserve | Present Status |
|---|---|---|---|---|
| 3 | 220/66kV, 100MVA Tx | 42 | One 220/66/33kV 100MVA Tx as hot reserve at Patparganj | The transformer meant as hot reserve available at Patparganj has been diverted to replace the damaged 220/66kV 100MVA Tx-I at Park Street. Procurement of new transformer is in progrress. During the OCC meeting held on 31.03.2016, DTL had informed that tender for supply and ETC of 220/66/33kV 100MVA Tx as hot reserve at 220kV Patparganj Substation got opened. Clarifications are being obtained from vendors. **DTL may update the status.** |
| 4 | 220/33kV, 100MVA Tx, | 37 | | |
| 5 | 66/11kV 20MVA Tx | 24 | The scheme for a 66/11kV and 33/11kV Tx as a hot reserve has been approved and transformer is under process for procurement. | In the last meeting, it was advised by GCC that DTL shall maintain the 11kV feeders till the loads are shifted by Discoms to avoid public inconveni- ces. It was also advised to Discoms for shifting of 11kV loads from DTL sub-stations as per directives of DERC as early as possible due to inabilties experessed by DTL to incur of any expenditure on the account of 11kV level equip- ments as directed by DERC in its letter no. F.DTL /Engg./DERC /2012-13/3496 dt.19.11.2013 **Discoms and DTL may update the status.** |
| | 33/11kV Tx. | 16 | | |

## 2.2 IMPLEMENTATION OF AUTOMATIC STATE-OF-THE–ART–LOAD MANAGEMENT SCHEME BY DISCOMS

In the last GCC meeting, Distribution Licensees updated the status as under:-

TPDDL informed that the automatic State-Of-The-Art Load Management Scheme as per the Grid Code provisions applicable from 17.02.2014 is envisaged in the upgradation of the SCADA system which is expected by 31.03.2016. In the present system, the provisions linked with frequency are functioning. However, they are observing the load management as per the Grid Code conditions. They informed that the changes cannot be defined in the existing system. New order has been placed to incorporate changed which is expected by March 2016.

BRPL informed that their system is also being upgraded and ADMS provisions as per the prevailing Grid Code in the provision could be implemented along with the upgradation of SCADA system i.e. 31.03.2016.

BYPL informed that their SCADA system has already having the ADMS provisions except the polarity changes in the 12 fifteen minutes time blocks. Their system is linked with over drawal of Delhi. They are trying to update the software of ADMS linked with overall over drawal of Delhi as a whole to avoid unnecessary load shedding in any part of Delhi when Delhi (as a State) does not over draw from the Grid. They further informed that some issues are left with vendor. It is expected to sort out the issue by April 2016.

NDMC informed that they have awarded work to TCS for software development in SCADA with reference to ADMS.

MES has been exempted from ADMS as per the earlier decisions of GCC considering the strategic importance load to be catered by the utility beside total consumption of utility is less than 1% of the Delhi.

**BRPL, BYPL, TPDDL and NDMC may update the status.**

## 2.3 OUTSTANDING DUES

In the last GCC meeting, GCC advised BSES utilities to clear the dues of DTL and IPGCL / PPCL. It was also advised to clear atleast current dues in line with Hon'ble Supreme Court and APTEL orders. The status of dues is as under:-

### i) Outstanding dues of DTL

(For bills raised w.e.f. Jan. 2014 to Feb. 2016 as on 31.03.2016)

All figures in Rs. Crores

| Discom | Billed Amount | TDS deducted by Discom | Rebate deducted | Nett Receivable | Payment received | Balance |
|---|---|---|---|---|---|---|
| BYPL | 436.41 | 43.64 | 0 | 392.77 | 49.69 | 343.07 |
| BRPL | 686.89 | 68.69 | 0 | 618.20 | 146.59 | 471.61 |
| Total | 1020.55 | 102.06 | 0.00 | 918.49 | 196.28 | 814.69 |

**BSES utilities may update the liquidation plan.**

### ii) Non-payment of Energy Bills by BRPL and BYPL since October, 2010 (Agenda by IPGCL / PPCL).

Since the re-assignment of the PPA signed with DTL, energy is being billed by IPGCL and PPCL to all the Distribution Companies as per the Energy Account issued by the State Load Dispatch Centre, Delhi (SLDC) and the payments for the bills raised were being realized within the stipulated period in the past, as per the PPA/ Regulations issued by the DERC.

However, payments are not being released in full by BRPL and BYPL from the month of October, 2010. The details of which are as under:

| **Indraprastha Power Generation Company Limited** | | | | | |
|---|---|---|---|---|---|
| Summary of outstanding dues as on 07.04.2016 | | | | | |
| | | | | | (Fig. in Cr.) |
| **Name of utility** | **Outstanding for energy supplied upto 31.08.2011** | **Billing for Energy supplied from Sept.11 onwards** | **Payment received since 01.09.2011** | **Surcharge up to 31.03.2016** | **Total** |
| BRPL | 255.09 | 1588.28 | 492.15 | 1056.38 | **1279.14** |
| BYPL | 167.18 | 926.44 | 383.81 | 573.24 | **904.19** |
| **Total** | **422.27** | **2514.72** | **875.96** | **1629.62** | **2183.33** |

| Pragati Power Corporation Limited | | | | | |
|---|---|---|---|---|---|
| Summary of outstanding dues as on 07.04.2016 | | | | | |
| (Fig. in Cr.) | | | | | |
| | Outstanding for energy supplied upto 31.08.2011 | Billing for Energy supplied from Sept.11 onwards | Payment received since 01.09.2011 | Surcharge up to 31.03.2016 | Total |
| BRPL | 165.73 | 2859.34 | 647.41 | 1544.66 | **2127.82** |
| BYPL | 120.85 | 1726.71 | 506.03 | 722.92 | **1630.67** |
| Total | **286.58** | **4586.05** | **1153.44** | **2267.58** | **3758.49** |

**Members of the Grid Coordination Committee are requested to deliberate the issue and impress upon BYPL and BRPL to make the payment of outstanding dues with applicable surcharge at the earliest.**

**iii). Opening of LC for Bulk Power Supply to BRPL and BYPL by IPGCL and PPCL Power Stations.** (Agenda by IPGCL / PPCL)**.**

Various correspondences have been made by IPGCL and PPCL in respect of opening of LC for securing Bulk Power Supply. However, BRPL and BYPL in spite of number of reminders have not established LC in respect of IPGCL and PPCL since April, 2011.

**The members of Grid Coordination Committee are requested to deliberate the issue and impress upon BYPL and BRPL to establish the LCs of appropriate amount without any further delay.**

**iv). Non-payment of energy bills by TPDDL**(Agenda by IPGCL / PPCL)**.**

TPDDL is defaulting in making the payment of IPGCL & PPCL energy bills since October, 2015. In this regard, IPGCL/PPCL vide letter dt.09.10.2015 objected the unilateral decision of recovery of TPDDL not to indulge in such illegal activity by unilaterally finding alternate source of recovery of regulatory assets from IPGCL / PPCL rather than approaching to DERC. Even while exercising such illegal option of recovering un allowed portion of energy charges TPDDL has arbitrarily chosen to stop the payment of bills of IPGCL & PPCL only and not other generators and transmission companies. Further, TPDDL is continuing to default in payment of current energy bills. Due to continuous default IPGCL & PPCL have reached in acute financial crunch and not able meet out its day to day fund requirement to carry out generation business and meet out payment of statutory dues like Income tax, sales tax, service tax etc. Earlier on personal visits and request by MD, IPGCL & PPCL, TPDDL agreed to release Rs.52.12 Cr. in three monthly installments of Rs.17.37 Cr. starting from 2nd fortnight of February, 2016. TPDDL released 1st installment of Rs.17.37 Cr. in 3rd week of February, 2016. However, instead of honoring its own commitment TPDDL has not released another two installments of Rs.17.37 Cr. The total outstanding accumulated outstanding dues are as under:

**Figures in Rs. Crores**

| Company | TPDDL |
|---|---|
| IPGCL | 67.02 |
| PPCL | 176.39 |
| **Total** | **243.41** |

**The members of Grid Coordination Committee are requested to deliberate the issue and impress upon TPDDL make the payment of above amount without any further delay.**

v). **Opening of LC for Bulk Power Supply from IPGCL and PPCL Power stations to TPDDL.** (Agenda by IPGCL / PPCL)**.**

The LC for power supply from power stations of IPGCL & PPCL established by TPDDL expired on 31.03.2014. Various correspondences have been made by IPGCL & PPCL in respect of renewing of LC for securing Bulk Power Supply. A petition was also filed by IPGCL & PPCL with DERC for suitable directions to TPDDL in this matter. DERC had various hearings on the matters and in final order dt. 18.12.2015 DERC directed TPDDL to establish LC in favour of IPGCL & PPCL to secure bulk power supply from its power stations. However, TPDDL in spite of number of reminders have not established LC in respect of IPGCL & PPCL.

The Members of Grid Coordination Committee are requested to deliberate the issue and impress upon TPDDL to honour above order of DERC for smooth functioning of state grid and establish the LCs of appropriate amount without any further delay.

**The Members of Grid Coordination Committee are requested to deliberate the above issue and decide accordingly.**

**vi). Furnishing of UI credit details by SLDC**(Agenda by IPGCL / PPCL)**.**

SLDC is crediting the amount of UI charges to IPGCL & PPCL and other constituents of intra state UI, without giving details of week-wise amount credited / paid with further bifurcation of UI amount and related interest. The matter was raised on 13th Grid Coordination Committee Meeting wherein SLDCôs Finance Deptt. agreed to give the details of pending charges of Rs.4.39 lacs payable by IPGCL within a week time. However, the same has not been done till date. SLDC is, therefore, required to give details of amount of Rs.4.39 lacs and reconcile the payments for FY 15-16 without further delay.

**The members of the Grid Coordination Committee are requested to deliberate the issue and impress upon SLDC to give details of the amount, interest and UI week as and when the credit is given to constituents of intra state UI**

**vii). Compensation to the generators for account of deterioration in Heat rate and APC due to part load operation on account of less schedule.** (Agenda by IPGCL / PPCL)**.**

Central Electricity Regulatory Commission vide order dt.06.04.2016 has issued 4th Amendment in Indian Electricity Grid Code Regulation, 2010. Further, as per Clause 6.3B ï all ISGS and CGS are to be operated at 55% of MCR loading or installed capacity of the unit of at generating station. Further, provisions of the amendment as notified above are as under :

*"2. The CGS or ISGS may be directed by concerned RLDC to operate its unit(s) at or above the technical minimum but below the normative plant availability factor on account of grid security or due to the fewer schedules given by the beneficiaries. 3. Where the CGS or ISGS, whose tariff is either determined or adopted by the Commission, is directed by the concerned RLDC to operate below normative plant availability factor but at or above technical minimum, the CGS or ISGS may be compensated depending on the average unit loading duly taking into account the forced outages, planned outages, PLF, generation at generator terminal, energy sent out ex-bus, number of start-stop, secondary fuel oil consumption and auxiliary energy consumption, in due consideration of actual*

*and normative operating parameters of station heat rate, auxiliary energy consumption and secondary fuel oil consumption etc. on monthly basis duly supported by relevant data verified by RLDC or SLDC, as the case may be. ---------- (iii) Where the scheduled generation falls below the technical minimum schedule, the concerned CGS or ISGS shall have the option to go for reserve shut down and in such cases, start-up fuel cost over and above seven (7) start / stop in a year shall be considered as additional compensation ---------- compensation shall be decided based on the characteristic curve provided by the manufacturer and after prudence check of the actual operating parameters of Station Heat Rate, Auxiliary Energy Consumption, etc. (v) Compensation for the Station Heat Rate and Auxiliary Energy Consumption shall be worked out in terms of energy charges. (vi) The compensation so computed shall be borne by the entity who has caused the plant to be operated at schedule lower than corresponding to Normative Plant Availability Factor up to technical minimum based on the compensation mechanism finalized by the RPCs. (vii) No compensation for Heat Rate degradation and Auxiliary Energy Consumption shall be admissible if the actual Heat Rate and / or actual Auxiliary Energy Consumption are lower than the normative Station Heat Rate and / or normative Auxiliary Energy Consumption applicable to the unit or the generating station. (viii) There shall be reconciliation of the compensation at the end of the financial year in due consideration of actual weighted average operational parameters of station heat rate, auxiliary energy consumption and secondary oil consumption. (ix) No compensation for Heat Rate degradation and Auxiliary Energy Consumption shall be admissible if the actual Heat Rate and / or actual Auxiliary 10 Energy Consumption are lower than the normative station Heat Rate and / or normative Auxiliary Energy Consumption applicable to the unit or the generating station in a month or after annual reconciliation at the end of the year. (x) The change in schedule of power under the provisions of Central Electricity Regulatory Commission (Ancillary Services Operations) Regulations, 2015 shall not be considered for compensation. 4. In case of a generating station whose tariff is neither determined nor adopted by the Commission, the concerned generating company shall have to factor the above provisions in the PPAs entered into by it for sale of power in order to claim compensations for operating at the technical minimum schedule. 5. The generating company shall keep the record of the emission levels from the plant due to part load operation and submit a report for each year to the Commission by 31st May of the year. 6. NLDC shall prepare a Detailed Operating Procedure in consultation with the generators and beneficiaries at RPC forums within 2 months' time and submit to the Commission for approval. The Detailed Operating Procedure shall contain the role of different agencies, data requirements, procedure for taking the units under reserve shut down and the methodology for identifying the generating stations or units thereof to be backed down upto the technical minimum in specific Grid conditions such as low system demand, Regulation of Power Supply and incidence of high renewable etc., based on merit order stacking. 7. The RPCs shall work out a mechanism for compensation for station heat rate and auxiliary energy consumption for low unit loading on monthly basis in terms of energy charges and compensation for secondary fuel oil consumption over and above the norm of 0.5 ml/kWh for additional start-ups in excess of 7 start-ups, in consultation with generators and beneficiaries at RPC forum and its sharing by the beneficiaries."*

**Accordingly, members of GCC are requested to deliberate the effect of above regulation in case of Delhi state as PPS-1, PPS-III and GTPS power stations also get partial scheduling resulting in increased Heat Rate and APC.**

**viii) Regulation of Power by NHPC and SJVN to BYPL**

in the last GCC meeting, on the issues of regulation of power by NHPC & SJVNL to BYPL, it was informed by BYPL that the issue of regulation of power by NHPC would be resolved soon. However, NHPC has extended the regulations on power supply to BYPL till 17.09.2016 and has also included the regulations of power on remaining power stations of NHPC such as Dulhasti, Uri-II and Parbati-III. As on date, the regulation of power to BYPL is as under:-

| Sr. No. | Name of the station | Installed Capacity in MW | Share of BYPL | | Regulation w.e.f. |
|---|---|---|---|---|---|
| | | | In %age | In MW | |
| 1 | Baira Suil | 180 | 2.79 | 5 | 28.03.2015 |
| 2 | Salal | 690 | 2.95 | 20 | 28.03.2015 |
| 3 | Tanakpur | 94 | 3.25 | 3 | 28.03.2015 |
| 4 | Chamera-I | 540 | 2.01 | 11 | 28.03.2015 |
| 5 | Uri-I | 480 | 2.80 | 13 | 28.03.2015 |
| 6 | Chamera-II | 300 | 3.39 | 10 | 28.03.2015 |
| 7 | Dhauliganga | 280 | 3.36 | 9 | 28.03.2015 |
| 8 | Sewa-II | 120 | 3.39 | 4 | 28.03.2015 |
| 9 | Chamera-III | 231 | 3.23 | 7 | 28.03.2015 |
| 10 | Dulhasti | 390 | 3.26 | 13 | 22.03.2016 |
| 11 | Uri-II | 240 | 3.42 | 8 | 22.06.2016 |
| 12 | Parbati-III | 520 | 3.23 | 17 | 22.03.2016 |
| 13 | SJVNL | 1500 | 2.40 | 36 | 28.03.2015 |
| | Total | 5565 | 2.70 | 156 | |

Summer has already approached Delhi and peak demand is increasing day by day, BYPL should take up the matter with NHPC authorities to clear the regulation issue.

**BYPL is also requested to update the issue of regulation of power by NHPC and SJVNL.**

## 2.4 STATUS OF IMPLEMENTATION OF RECOMMENDATIONS OF EXPERT COMMITTEE ON GRID DISTURBANCES OCCURRED ON 30.07.2012 AND 31.07.2012 IN THE GRID.

**The position was updated as under**

<table>
<tr><th>Clause</th><th>RECOMMENDATIONS</th><th>STATUS AS ON DATE</th></tr>
<tr><td>9.1.1</td><td>Periodical 3RD Party Protection Audit – Time frame – within one year</td><td>The Protection Audit was completed before CWG-2010. The deficiencies pointed out and the latest status on the issue of removal of deficiencies is as under :-
<table>
<tr><th>SN</th><th>Description of Issue</th><th>Sub-Stn</th><th>Action taken/proposed</th></tr>
<tr><td>1</td><td>DR and Event Logger to be provided or to be kept in order</td><td>Bamnauli</td><td>The 400 kV EL is in place. EL for 220kV under procurement and installation expected to be completed by December 2016. DR already available with 400kV system. DR for 220kV system is the inbuilt feature of Numerical Relays which have already been installed.</td></tr>
</table>
(Basic Protection Audit carried out on 400kV S/Stn Bamnauli before CWG)</td></tr>
</table>

| Clause | RECOMMENDATIONS | STATUS AS ON DATE |
|---|---|---|
| | | It was also advised by NRPC that DTL should go for fresh third party protection audit of entire DTL system. In 95th OCC meeting held on 21.01.2014 at NRPC, DTL submitted the list of 25 numbers of 220kV Grids S/Stns identified for third party audit. Out of these, TPA of 400kV Mundka, 220kV Shalimar Bagh, 220kV Rohini-I and 220kV Mehrauli S/Stn were completed by 25.05.2014. The main observation was regarding replacement of static relays by Numerical relays. All the relays of 220kV lines have been replaced and relays of transformers and 33kV & 66kV feeders have been replaced partially and rest of the relays will be completed by Dec 2016. **DTL may update the status.** |
| 9.1.2 | Philosophy of Zone-3 trippings to be reviewed to avoid indiscriminate and load encroachment and faults – **Time Frame - immediate** | The recommendation stands implemented. |
| 9.1.4 | Complete independent audit of time synchronization of DRs, EL and PMs should be carried out **- Time frame – within one month** | |

| Name of Utility | Time synchronization | | |
|---|---|---|---|
| | DR | EL | PMU |
| DTL | Implemented | Implemented | Not installed in DTL system |
| RPH | Not required on 33kV feeders | The process of installing numerical relays on 33kV feeders is under process which has the inbuilt EL feature | |
| PPCL | Implemented | The process of installing numerical relay is under process on unit-2 & STG | |
| GT | Not implemented | Out of nine machine, 6 nos. Of unit have numerical relay and installation of numerical relay for rest of the units and 66kV feeders are under progress. | |
| Bawana | Implemented | Not required as generators have inbuilt feature of EL | |

**RPH, GT, Bawana, PPCL to update the status.**

9.2.1 Tightening of Frequency band and be brought very close to 50Hz.

CERC has already issued the amended Grid Code to be implemented from 17.02.2014 in which the allowable frequency band is 49.90Hz to 50.05Hz. The Deviation Settlement Mechanism has also been introduced according to the tightening to the frequency band. The main thrust of the amended Grid Code is the utilities should always strict to its scheduled drawal. Further, the following are the main issues:-

a) No over drawal by Delhi if frequency is below 49.90Hz.
b) No under drawal by Delhi if the frequency is more than 50.05Hz.
c) Every (12) time blocks the polarity of drawal should change.

In the regular OCC meetings of NRPC, the adherence of the above provisions is monitored. As far as Delhi is concerned, the main violation is occurring in respect of non change of polarity in 12 time blocks.

The details of the violations for Delhi are as under:-

| Duration | 17.02.14 to 11.05.14 | 12.05.14 to 22.06.14 | 23.06.14 to 27.07.14 | 28.07.14 to 24.08.14 | 25.08.14 to 28.09.14 | 29.09.14 to 02.11.14 | 01.11.14 to 30.11.14 |
|---|---|---|---|---|---|---|---|
| Violation of drawal limit 150MW if freq ≥49.7Hz and above | OD ï 4 UD-19 | OD ï 9 UD-24 | OD ï 7 UD-30 | OD ï 5 UD-19 | OD ï 9 UD-1 | OD-4 UD-17 | OD-2 UD-21 |
| Violation of non polarity change of drawal | 405 | 198 | 56 | 116 | 34 | 158 | 135 |

| Duration | 01.12.14 to 31.12.14 | 01.01.15 to 31.01.15 | 01.02.15 to 28.02.15 | 01.03.15 to 31.03.15 | 01.04.15 to 30.04.15 | 01.05.15 to 31.05.15 |
|---|---|---|---|---|---|---|
| Violation of drawal limit 150MW if freq ≥49.7Hz and above | OD-8 UD-NA | OD-5 UD-15 | OD-3 UD-14 | OD-13 UD-6 | OD-9 UD-4 | OD-7 UD-18 |
| Violation of non polarity change of drawal | -- | 91 | 124 | 127 | 115 | 126 |

| Duration | 01.06.2015 to 30.06.15 | 01.07.15 to 31.07.15 | 01.08.15 to 31.08.15 | 01.09.15 to 30.09.15 | 01.10.15 to 31.10.15 |
|---|---|---|---|---|---|
| Violation of drawal limit 150MW if freq ≥49.7Hz and above | OD-11 UD-14 | OD-8 UD-13 | OD-2 UD-44 | OD-2 UD-17 | OD-9 UD-10 |
| Violation of non polarity change of drawal | | | 157 | 94 | 124 |

| Clause | RECOMMENDATIONS | STATUS AS ON DATE |
|---|---|---|

| Duration | 01.11.15 to 30.11.15 | 01.12.15 to 30.12.15 | 01.01.16 to 31.01.16 | 01.02.16 to 29.02.16 |
|---|---|---|---|---|
| Violation of drawal limit 150MW if freq ≥49.7Hz and above | OD-11 UD-14 | OD-4 UD-4 | OD-3 UD-10 | OD-9 UD-4 |
| Violation of non polarity change of drawal | | 64 | 110 | 100 |

In the last meeting, GCC advised SLDC to publish the violations details in respect of Discoms in line with above. It was informed by SLDC that due to shortage of staff, the Discomwise violations could not be computed. The same would be done as early as possible.

**9.2.2** — Review of UI mechanism. Frequency control through UI maybe faced out in a time bound manner and generation reserves and ancillary services may be used for frequency control

**Time frame – 3 months**

UI Regulation has been replaced with DSM Regulations from 17.02.2014. CERC has notified Ancillary Services Operations) Regulations, 2015 on 13.08.2015.
Detailed procedure for operationalization of Ancillary services has been finalized and approved by CERC vide communication no. 1/10/2012-Reg.Aff.(REC-Gen)/CERC dt. 10.03.2016.

As per the procedures, Delhi SLDC has to submit requisite information as per prescribed format AS4 regarding block wise daily forecast of demand on daily basis on day ahead basis which is to be sent to NRLDC. The same has already been communicated to all concerned utilities vide SLDC letter no. F/DTL/207/2016-17/DGM(SO)/14 dated 12.042016. Format AS4 is enclosed as Annexure-I.

**Discoms are advised to provide information to SLDC by 13.00hrs. for succeeding day so that consolidated data may be sent to NRLDC by 15.00hrs.**

**9.3** — All STUs should immediately enable Under Frequency and df/dt under frequency scheme. Central Commission should explore ways and means for implementation of various regulations issued under the Electricity Act 2003. Any violation of these regulations can prove to be costly

**- Time frame - immediate**

In Delhi, there are 34 panels of Under Frequency Relays and each panel has 4 numbers of UFR/*df/dt* Relays. Apart from this, 14 panels of Flat Under Frequency Relays have been installed at various Sub-Stations which are the part of Delhi Islanding Scheme and each panel has two relays.
The National Power Committee (NPC) in its 2nd meeting held on 16.07.13 has decided to adopt four stages automatic load shedding scheme for NEW Grid. The scheme was decided to be implemented within 3 months i.e. by the end of October 2013. The details are as under :-

**Scheme for the NEW Grid**

| Freq (Hz) | Required Load Relief (MW) (based on max load on feeders) NR | WR | ER | NER | Total |
|---|---|---|---|---|---|
| 49.2 | 2160 | 2060 | 820 | 100 | 5140 |
| 49.0 | 2170 | 2070 | 830 | 100 | 5170 |
| 48.8 | 2190 | 2080 | 830 | 100 | 5200 |
| 48.6 | 2200 | 2100 | 840 | 100 | 5240 |
| Total | 8720 | 8310 | 3320 | 400 | 20750 |

| S. N | State | Peak met during 2012-13 (MW | Load Shedding target for four stages (MW) ï Based on maximum load on the feeders | | | |
|---|---|---|---|---|---|---|
| | | | 49.2 | 49.0 | 48.8 | 48.6 |
| 1 | Chandigarh | 340 | 16 | 16 | 16 | 16 |
| 2 | Delhi | 5642 | 258 | 259 | 262 | 263 |
| 3 | Haryana | 6725 | 308 | 309 | 312 | 314 |
| 4 | HP | 1672 | 77 | 77 | 78 | 78 |
| 5 | J&K | 1817 | 83 | 84 | 84 | 85 |
| 6 | Punjab | 8751 | 400 | 402 | 406 | 408 |
| 7 | Rajasthan | 8515 | 390 | 392 | 395 | 397 |
| 8 | UP | 12048 | 551 | 554 | 559 | 561 |
| 9 | Uttrakhand | 1674 | 77 | 77 | 78 | 78 |
| | Total | 47184 | 2160 | 2170 | 2190 | 2200 |

O&M Department of DTL has informed that the revised settings for Grid Security and Islanding for Delhi have been implemented in Delhi as per the advise of NRPC. The details are as under:-

| Frequency set at | Load relief in MW |
|---|---|
| 49.2Hz | 297 |
| 49.0Hz | 353 |
| 48.8Hz. | 428 |
| 48.6Hz | 1048 |
| Total | 2126 |
| df/dt | |
| 49.9Hz. with slope 0.1Hz. | 261 |
| 49.9Hz with slope 0.2Hz | 282 |
| 49.9Hz with slope 0.3Hz | 290 |
| Total df/dt | 833 |

| Clause | RECOMMENDATIONS | STATUS AS ON DATE |
|---|---|---|
| | | With regard to the suggestion of providing under frequency relayôs at Discoms end, it was advised that to ensure proper load relief and to avoid confusion in operation of relays in coordinated ways, the relays be installed in DTLôs Grid S/Stns.<br><br>Further, to ensure healthiness of defence mechanism, DTL is regularly conducting mock exercise for healthiness of UFR and submitting quarterly report to NRPC and SLDC Delhi is posting the same in its website. |
| 9.4 | All out efforts should be made to implement the provisions of IEGC with regard to Governor Action - POSOCO to take up the matter with Central Commission **- Time frame – 3 months** | CERC in its order dated 31.12.2012 reiterated the need for compliance by generators and directed as to why they may not be held responsible for non-implementation of RGMO / FGMO mode of operation. A task force has been constituted by CEA under Member (Thermal), CEA to develop a procedure for testing of primary response of Generating units. **Activity in progress.**<br><br>As far Delhi Gencos are concerned, PPCL informed that the generating stations in Delhi mainly gas based stations are exempted from FGMO/RGMO. They quoted section 5.2(f)(iii) of IEGC indicating ñ*all other generating units including the pondage upto 3 hours gas turbine / combined cycle power plants, wind and solar generators, and nuclear power plants are exempted from operation of RGMO / FGMO till the Commission review the situation. However, all the 200MW and above thermal machines, should have the RGMO / FGMO.*ò<br><br>BTPS representative intimated that clause is applicable to the capacity above 200MW units. As far as BTPS is concerned, the units are fitted with mechanical governors as BTPS has old LMZ make Russian turbines with no electro hydro governing system. However to meet the grid code stipulations, 210MW machines would be provided with RGMO facilities in the proposed R&M activities to be approved by CERC.<br><br>In the last meeting, BTPS representative informed that they had already filed a Petition in CERC vide Petition No.MP/65/2014 in the month of September 2014 and admitted by the CERC for exemption till R&M activities are carried out in the 210MW machines. BTPS further informed that a committee has been formed by CERC for examining the issue.<br><br>**BTPS may update the status.** |
| 9.6 | Coordinated outage planning of transmission elements | DTL is adhering to the procedure with regard to shutdown of Transmission lines. |
| 9.7 | In order to avoid frequent outages / opening of lines under over voltages and also providing voltage support under steady state and dynamic conditions, installation of adequate reactive power compensators should be planned.<br>Action : CTU/STUs and CEA<br>ï Time frame 6 months | The study for requirement of capacitors and reactors at 220kV Level for NCR Delhi was got carried out by CPRI which indicated that the reactive power compensation in Delhi is more than adequate. The report was accepted by all the stake holders of Delhi. However, as far as installation of reactors is concerned, the validation of network has been done by Planning Department of DTL and submitted to power grid which will carry out the requirement of reactors based on the validated network data.<br><br>**Planning Department of DTL may update the status.** |
| *9.8* | The powers of load dispatch centers, regulatory commissions related to non compliance to statutory / regulatory provision including that for non compliance for direction for non payment of UI charges needs review. Appropriate amendments need to be carried out in Electricity Act 2003 after such review.<br>**Action MoP, GoI Time frame: 6 months.** | Amended Electricity Bill has been introduced in the Parliament. At present, a Standing Committee on Energy has examined the bill which is yet to be passed by Parliament. |

<table>
<tr><th>Clause</th><th>RECOMMENDATIONS</th><th>STATUS AS ON DATE</th></tr>
<tr><td>9.9.1</td><td>Regulatory provisions regarding absorption of Reactive Power by generating units need to be implemented :<br>Posoco Time frame : immediate</td><td>In 79th NRPCôs OCC meeting, NRLDC informed that they have taken up the matter with Regional Generators to absorb reactive power as per the capability during high voltage conditions. They advised SLDCs to do the same. In 84th Operation Coordination Committee meeting of NRPC held on 19.02.2013. It was decided to monitor the reactive power generation on real time basis at RLDC / SLDC level through SCADA. The relevant portion of the MoM is reproduced hereunder :-<br><br>Monitoring of reactive support from generating units.<br>Representative of NRLDC stated that critical high voltage is being experienced in the Northern Grid during night off peak hours. Available shunt reactors at the Sub-stations are being taken into service, power order on HVDC bi-pole is being reduced, instructions are being given to generators to absorb reactive power to the extent possible and under exceptional conditions under-loaded/redundant EHV transmission lines are being manually opened for voltage regulation. Para 13.6 of the revised Transmission Planning Criteria envisages that during operation, following the instructions of the System Operator, the generating units shall operate at leading power factor as per their respective capability curves. Further as per regulation 5.2 (k) of the Indian Electricity Grid Code, all generating units shall normally have their automatic voltage regulators (AVR) in operation. It is proposed that the reactive power absorption/injection by the generating units may be monitored in the format given under
<table>
<tr><td colspan="6">GENERATOR REACTIVE POWER MONITORING TEMPLATE</td></tr>
<tr><td colspan="3">Name of the Power Station</td><td colspan="3"></td></tr>
<tr><td colspan="3">Date</td><td colspan="3"></td></tr>
<tr><td>Generating unit</td><td>Time</td><td>MW at Generator terminals</td><td>MVAr Lead/Lag at Generator terminals</td><td>Generator transformer Tap Position</td><td>Voltage at the HV Bus</td></tr>
<tr><td rowspan="3">#1</td><td>hh.mm</td><td></td><td></td><td></td><td></td></tr>
<tr><td>hh.mm</td><td></td><td></td><td></td><td></td></tr>
<tr><td>é .</td><td></td><td></td><td></td><td></td></tr>
<tr><td rowspan="3">#2</td><td>hh.mm</td><td></td><td></td><td></td><td></td></tr>
<tr><td>hh.mm</td><td></td><td></td><td></td><td></td></tr>
<tr><td>é .</td><td></td><td></td><td></td><td></td></tr>
<tr><td rowspan="3">#3</td><td>hh.mm</td><td></td><td></td><td></td><td></td></tr>
<tr><td>hh.mm</td><td></td><td></td><td></td><td></td></tr>
<tr><td>é .</td><td></td><td></td><td></td><td></td></tr>
<tr><td>é .</td><td></td><td></td><td></td><td></td><td></td></tr>
</table>
SCADA circle of SLDC has already integrated the reactive power position of RPH, Pragati Stage-I and GT Station. The data integration is in progress in Bawana CCGT Station which has to be done through SAS by PPCL PPCL intimated that the matter is being persued with Siemens ï the OEM of SAS and GCC advised PPCL to expedite.<br>In the last meeting, PPCL had informed that Siemens could not integrate the same so far. However, it is expected that the issues would be resolved soon. PPCL to update the status.</td></tr>
<tr><td>9.12</td><td>Efforts should be made to design islanding scheme based on frequency sensing relays so that in case of imminent Grid failure, electrical island can be formed. These electrical islands not only help in maintaining essential services but would also help in faster restoration of Grid.<br>Action : CEA, RPCs, CTU, STUs, SLDCs and generators<br>Time Frame : six months</td><td>It was informed by representative of DTL that the Islanding Scheme has already been commissioned. However, for the healthy operation of the Islanding Scheme, the communication system needs to be strengthened.<br>M/s CPRI was entrusted the job of dynamic simulation study of Delhi Islanding Scheme. The final report has been submitted by CPRI. Officers from DTL had attended the office of M/s CPRI at Bangalore wherein they were apprised and explained about the findings about dynamic simulation study of Islanding Scheme.<br>The gist of study says that chances of stability of Islanding increases in case of single bigger island instead of smaller islands due to better load generation matching. It was also advised that due to large change of network configuration, the Islanding Scheme needs to be revised regularly.<br>In the last GCC meeting, DTL was advised to conduct a meeting with all stakeholders to discuss and decide the case of single bigger island instead of smaller islands due to better load generation matching in line with CPRI report. In this regard, meetings are being conducted under Chairmanship of G.M. (Planning), DTL for finalizing the revised islanding scheme.<br><br>Planning Department to update the status.</td></tr>
<tr><td>9.13.1</td><td>System Operation needs to be entrusted to independent system operator. In addition, SLDCs should be reinforced for ring fences for ensuring function autonomy.<br>Action : Govt. of India, time frame : one year</td><td>Though Delhi SLDC is operated by DTL it has full autonomy with regard to grid operation. Further it has separate ARR approved by DERC for financial autonomy. Further a committee constituted for creation for SLDC as a separate company has already given its report to State Government. Decision is likely in line with the decision of Govt. of India on Independent System Operator (ISO).<br><br>The same is being taken up with Delhi Govt. for implementation in line with the report submitted by the committee.</td></tr>
</table>

<table>
<tr><th>Clause</th><th>RECOMMENDATIONS</th><th>STATUS AS ON DATE</th></tr>
<tr><td>9.13.2</td><td>Training and certification of system operators need to be given focused attention. Sufficient financial incentives need to be given to certified system operators so that system operation gets recognized as specialized activity.<br>Action : Govt. of India State Govt. Time frame : 3 months</td><td>Discussed in the 1st meeting of the National Power Committee held on 15.04.2013. Maharashtra has already started an incentive scheme for System Operators in the State. States were requested to expedite training of system operators and it was recommended that only certified operators should man the Load Despatch Centers.<br><br>PSTI has organized basic system operator certificate examination on 01.11.2015 for which 13 nos. Executives from SLDC have been nominated to appear in the said examination out of them, 8 executives have passed certificate examination.<br><br>SLDC emphasized the need for certified system operators for better handling of system operation activities. SLDC further informed that incentives are being given to certified system operators in various states including POSOCO.<br><br>CERC has also notified `Fee and Charges Regulation of RLDCôon 18.05.2015 for grant of incentives to the personals working in System Operation. The relevant clause is reproduced hereunder:-<br><br>30. Certification linked incentive to the employees of RLDCs and NLDC: (1) The employees of Regional Load Despatch Centres and National Load Despatch Centre who acquire the certificate of basic level and specialist level in their respective areas of specialization and are deployed in system operation or market operation shall be allowed a fixed incentive during the currency of such certificate period as per the following parameters:
<table>
<tr><td>Sr. No</td><td>Certification level</td><td>Fixed Incentive (Amount in Rs) (Monthly)</td></tr>
<tr><td>1</td><td>Basic level</td><td>5000</td></tr>
<tr><td>2</td><td>Specialist level</td><td>7500</td></tr>
</table>
In line the decision taken in the last meeting of GCC, though SLDC had already submitted a comprehensive note for award of incentive to the certified system operators, however, it is again being sent.</td></tr>
<tr><td>9.14</td><td>Intrastate transmission system needs to be planned and strengthened in a better way to avoid problems of frequent congestion.<br>Action : STU<br>Time Frame : 2 Years</td><td>The strengthening of intrastate transmission and distribution system has been given highest priority by the Govt. of India and Delhi Govt.. The ambitious plans for system improvement have been drawn out to be implemented by 2016-17 for stable and reliable supply for Delhi. The implementation of scheme is being monitored at the higher levels of State and Central Govt.<br><br>Planning Department of DTL may update the status.</td></tr>
<tr><td>9.15.1</td><td>Appropriate amendments should be carried out in Grid connectivity standards to restrain connectivity of a generating station or a transmission element without required communication and telemetry facilities</td><td>SLDC is adhering the same as decided in the GCC.</td></tr>
<tr><td>9.15.2</td><td>The communication network should be strengthened by putting fiber optic communication system. Further, the communication network should be maintained properly to ensure reliability of data at Load Despatch Centers.</td><td>PGCIL have informed that requirement of Fibre Optic link for effective communication is being worked out by them with STUs through different RPCs and its implementation is being done in a progressive manner. The work of laying Fibre Optic cables in all the regions is being awarded progressively from December 2012 and is likely to be completed by the year end of 2014.<br><br>DTL has also given the requisition to PGCIL for laying of 286 Kms of OPGW for strengthening of communication system across Delhi under the above contract.<br><br>In the last meeting DTL had informed that the material has arrived and work is likely to be completed by June 2016.<br><br>DTL may update the status</td></tr>
<tr><td>9.18</td><td>There is need to reinforce system study groups in power sector organizations to analyze the system behaviour under different network status / tripping of lines /outage of generators. Where these do not exist, these should be created.<br>Action by : CEA, STU, CTU<br>Time frame : one year</td><td>The first meeting of System Study Group has already been conducted on 17.04.2015. Due to shortage of executives, system study group has been started by constituting a part-time team from the executives working in the real time operation which needs to be strengthened by regular system study group for better performance and results. Inspite of all best efforts, the proper study of System could not possible due to shortage of executives.<br><br>In the last meeting, GCC advised to put up for manpower for System Study Group.<br>Planning Department may update the status.</td></tr>
</table>

| Clause | RECOMMENDATIONS | STATUS AS ON DATE |
|---|---|---|
| 9.20 | For smooth operation of Grid system, it is absolutely important that all the power generating and distribution stations are connected on a very reliable telecom network.<br>i) A proper network may be built up preferably using MPLS (Multi Protocol Label Switching) which is simple, cost effective and reliable. In remote place where connectivity is a problem, the stations can use dedicated fibber cable from the nearest node.<br>ii) Since POWER GRID has its own fibber optic cables, practically covering all major nodes and power stations, a proper communication / IT network may be built using dedicated fibres to avoid any cyber attack on the power system. | CTU have informed that they already have a dedicated independent communication network in place. Further, they are in the process of developing a Grid Security Expert System (GSES) at an estimated cost of about Rs.1300 Crore which involves laying of optical fiber network costing about Rs.1100 Crore for reliable communication and control of under-frequency & *df/dt* relay based load shedding, etc. System will include substations of 132kV level and above.<br><br>DTL has already upgraded most of their communication network by fibre optic link except for few small lengths which are also under progress through Power Grid.<br><br>**DTL may update the status.** |

# 3 OPERATIONAL ISSUES

## 3.1 POWER SUPPLY POSITION

The anticipated power supply position of Summer 2016 is as under:-

**DELHI AS A WHOLE** ALL FIGURES IN MW

| MONTH | 1st Fortnight | | | | | 2nd fortnight | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **APRIL 2016** | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 |
| DEMAND | 2700 | 3150 | 3500 | 3500 | 3700 | 4300 | 3500 | 4250 | 4700 | 4600 |
| AVAILABILITY | 4923 | 4923 | 4923 | 5065 | 5243 | 4923 | 4923 | 4923 | 5065 | 5243 |
| SURPLUS (+) / SHORTAGE (-) | **2223** | **1773** | **1423** | **1565** | **1543** | **623** | **1423** | **673** | **365** | **643** |
| **MAY 2016** | | | | | | | | | | |
| DEMAND | 4700 | 4400 | 4700 | 5400 | 5000 | 5300 | 4700 | 5100 | 5650 | 5500 |
| AVAILABILITY | 5721 | 5721 | 5721 | 5899 | 6006 | 6071 | 6028 | 6071 | 6249 | 6356 |
| SURPLUS (+) / SHORTAGE (-) | **1021** | **1321** | **1021** | **499** | **1006** | **771** | **1328** | **971** | **599** | **856** |
| **JUNE 2016** | | | | | | | | | | |
| DEMAND | 5500 | 5000 | 5200 | 6000 | 5800 | 5850 | 5200 | 5400 | 6100 | 6100 |
| AVAILABILITY | 6240 | 6073 | 6116 | 6525 | 6560 | 6197 | 6073 | 6073 | 6482 | 6517 |
| SURPLUS (+) / SHORTAGE (-) | **740** | **1073** | **916** | **525** | **760** | **347** | **873** | **673** | **382** | **417** |
| **JULY 2016** | | | | | | | | | | |
| DEMAND | 5800 | 5000 | 5200 | 6000 | 5800 | 5300 | 5000 | 4900 | 5800 | 5700 |
| AVAILABILITY | 6512 | 6388 | 6388 | 6797 | 6832 | 6512 | 6388 | 6388 | 6822 | 6857 |
| SURPLUS (+) / SHORTAGE (-) | **712** | **1388** | **1188** | **797** | **1032** | **1212** | **1388** | **1488** | **1022** | **1157** |
| **AUG 2016** | | | | | | | | | | |
| DEMAND | 5200 | 4600 | 4700 | 5500 | 5600 | 5500 | 4500 | 5250 | 5600 | 5700 |
| AVAILABILITY | 6363 | 6363 | 6363 | 6673 | 6708 | 6363 | 6363 | 6363 | 6648 | 6683 |
| SURPLUS (+) / SHORTAGE (-) | **1163** | **1763** | **1663** | **1173** | **1108** | **863** | **1863** | **1113** | **1048** | **983** |
| **SEP 2016** | | | | | | | | | | |
| DEMAND | 4800 | 4300 | 5000 | 5550 | 5200 | 4900 | 4500 | 5000 | 5400 | 5600 |
| AVAILABILITY | 6338 | 6338 | 6338 | 6516 | 6623 | 6153 | 6153 | 6153 | 6331 | 6438 |
| SURPLUS (+) / SHORTAGE (-) | **1538** | **2038** | **1338** | **966** | **1423** | **1253** | **1653** | **1153** | **931** | **838** |

**BRPL** **ALL FIGURES IN MW**

| MONTH | 1st Fortnight | | | | | 2nd Fortnight | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **APRIL 2016** | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 |
| DEMAND | 1132 | 1311 | 1446 | 1448 | 1547 | 1811 | 1425 | 1723 | 1917 | 1918 |
| AVAILABILITY | 1916 | 1916 | 1916 | 1979 | 2057 | 1916 | 1916 | 1916 | 1979 | 2057 |
| SURPLUS (+) / SHORTAGE (-) | **784** | **605** | **470** | **531** | **510** | **105** | **491** | **193** | **62** | **139** |
| **MAY 2016** | | | | | | | | | | |
| DEMAND | 1981 | 1842 | 1911 | 2212 | 2095 | 2235 | 1941 | 2064 | 2310 | 2310 |
| AVAILABILITY | 2119 | 2119 | 2119 | 2197 | 2244 | 2294 | 2294 | 2294 | 2372 | 2419 |
| SURPLUS (+) / SHORTAGE (-) | **138** | **276** | **208** | **-15** | **149** | **59** | **352** | **230** | **62** | **109** |
| **JUNE 2016** | | | | | | | | | | |
| DEMAND | 2327 | 2071 | 2103 | 2444 | 2416 | 2467 | 2154 | 2186 | 2492 | 2552 |
| AVAILABILITY | 2320 | 2320 | 2320 | 2445 | 2461 | 2320 | 2320 | 2320 | 2445 | 2461 |
| SURPLUS (+) / SHORTAGE (-) | **-7** | **249** | **217** | **1** | **45** | **-148** | **166** | **134** | **-48** | **-91** |
| **JULY 2016** | | | | | | | | | | |
| DEMAND | 2449 | 2059 | 2096 | 2442 | 2411 | 2225 | 2060 | 1965 | 2363 | 2367 |
| AVAILABILITY | 2320 | 2320 | 2320 | 2445 | 2461 | 2320 | 2320 | 2320 | 2445 | 2461 |
| SURPLUS (+) / SHORTAGE (-) | **-129** | **261** | **224** | **3** | **50** | **95** | **260** | **354** | **82** | **93** |
| **AUG 2016** | | | | | | | | | | |
| DEMAND | 2185 | 1884 | 1891 | 2238 | 2315 | 2317 | 1840 | 2124 | 2268 | 2367 |
| AVAILABILITY | 2312 | 2312 | 2312 | 2437 | 2453 | 2312 | 2312 | 2312 | 2437 | 2453 |
| SURPLUS (+) / SHORTAGE (-) | **126** | **428** | **421** | **199** | **138** | **-5** | **472** | **188** | **168** | **85** |
| **SEP 2016** | | | | | | | | | | |
| DEMAND | 2030 | 1763 | 2038 | 2280 | 2181 | 2069 | 1849 | 2038 | 2214 | 2333 |
| AVAILABILITY | 2287 | 2287 | 2287 | 2365 | 2412 | 2225 | 2225 | 2225 | 2303 | 2350 |
| SURPLUS (+) / SHORTAGE (-) | **257** | **523** | **249** | **85** | **231** | **156** | **376** | **187** | **90** | **17** |

**BYPL** ALL FIGURES IN MW

| MONTH | 1st Fortnight | | | | | 2nd fortnight | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **APRIL 2016** | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 |
| DEMAND | 655 | 758 | 836 | 837 | 895 | 1047 | 824 | 997 | 1108 | 1109 |
| AVAILABILITY | 1173 | 1173 | 1173 | 1209 | 1254 | 1173 | 1173 | 1173 | 1209 | 1254 |
| SURPLUS (+) / SHORTAGE (-) | **518** | **415** | **337** | **372** | **360** | **125** | **349** | **176** | **101** | **145** |
| **MAY 2016** | | | | | | | | | | |
| DEMAND | 1146 | 1066 | 1105 | 1279 | 1212 | 1292 | 1123 | 1194 | 1336 | 1336 |
| AVAILABILITY | 1420 | 1420 | 1420 | 1465 | 1492 | 1463 | 1420 | 1463 | 1508 | 1535 |
| SURPLUS (+) / SHORTAGE (-) | **275** | **355** | **315** | **186** | **281** | **171** | **297** | **269** | **172** | **199** |
| **JUNE 2016** | | | | | | | | | | |
| DEMAND | 1346 | 1198 | 1216 | 1414 | 1397 | 1427 | 1246 | 1264 | 1441 | 1476 |
| AVAILABILITY | 1468 | 1425 | 1468 | 1541 | 1550 | 1425 | 1425 | 1425 | 1498 | 1507 |
| SURPLUS (+) / SHORTAGE (-) | **123** | **228** | **252** | **127** | **153** | **-2** | **179** | **161** | **56** | **31** |
| **JULY 2016** | | | | | | | | | | |
| DEMAND | 1416 | 1191 | 1212 | 1412 | 1394 | 1287 | 1191 | 1137 | 1367 | 1369 |
| AVAILABILITY | **1425** | **1425** | **1425** | **1498** | **1507** | **1425** | **1425** | **1425** | **1523** | **1532** |
| SURPLUS (+) / SHORTAGE (-) | **9** | **234** | **213** | **85** | **112** | **139** | **234** | **289** | **156** | **163** |

| AUG 2016 | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 |
|---|---|---|---|---|---|---|---|---|---|---|
| DEMAND | 1264 | 1090 | 1093 | 1294 | 1339 | 1340 | 1064 | 1228 | 1312 | 1369 |
| AVAILABILITY | 1425 | 1425 | 1425 | 1523 | 1532 | 1425 | 1425 | 1425 | 1498 | 1507 |
| SURPLUS (+) / SHORTAGE (-) | **161** | **336** | **332** | **228** | **193** | **85** | **361** | **197** | **186** | **138** |
| **SEP 2016** | | | | | | | | | | |
| DEMAND | 1174 | 1020 | 1179 | 1319 | 1261 | 1196 | 1070 | 1179 | 1280 | 1350 |
| AVAILABILITY | 1425 | 1425 | 1425 | 1470 | 1498 | 1395 | 1395 | 1395 | 1441 | 1468 |
| SURPLUS (+) / SHORTAGE (-) | **251** | **405** | **247** | **152** | **236** | **199** | **326** | **217** | **160** | **118** |

**TPDDL** ALL FIGURES IN MW

| MONTH | 1st Fortnight | | | | | 2nd fortnight | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **APRIL 2016** | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 |
| DEMAND | 791 | 916 | 1010 | 1012 | 1081 | 1265 | 996 | 1204 | 1339 | 1339 |
| AVAILABILITY | 1514 | 1514 | 1514 | 1557 | 1612 | 1514 | 1514 | 1514 | 1557 | 1612 |
| SURPLUS (+) / SHORTAGE (-) | **723** | **598** | **504** | **546** | **531** | **248** | **518** | **310** | **218** | **272** |
| **MAY 2016** | | | | | | | | | | |
| DEMAND | 1384 | 1287 | 1335 | 1545 | 1463 | 1561 | 1356 | 1442 | 1614 | 1614 |
| AVAILABILITY | 1862 | 1862 | 1862 | 1917 | 1950 | 1994 | 1994 | 1994 | 2049 | 2082 |
| SURPLUS (+) / SHORTAGE (-) | **479** | **575** | **528** | **371** | **486** | **433** | **638** | **552** | **435** | **468** |
| **JUNE 2016** | | | | | | | | | | |
| DEMAND | 1625 | 1447 | 1469 | 1707 | 1687 | 1724 | 1505 | 1527 | 1741 | 1783 |
| AVAILABILITY | 2132 | 2008 | 2008 | 2219 | 2230 | 2132 | 2008 | 2008 | 2219 | 2230 |
| SURPLUS (+) / SHORTAGE (-) | **507** | **561** | **539** | **512** | **543** | **408** | **503** | **481** | **478** | **448** |
| **JULY 2016** | | | | | | | | | | |
| DEMAND | 1710 | 1438 | 1464 | 1706 | 1684 | 1554 | 1439 | 1373 | 1651 | 1654 |
| AVAILABILITY | 2447 | 2323 | 2323 | 2534 | 2545 | 2447 | 2323 | 2323 | 2534 | 2545 |
| SURPLUS (+) / SHORTAGE (-) | **737** | **885** | **859** | **829** | **861** | **893** | **884** | **950** | **884** | **892** |
| **AUG 2016** | | | | | | | | | | |
| DEMAND | 1527 | 1316 | 1321 | 1563 | 1617 | 1618 | 1285 | 1483 | 1585 | 1654 |
| AVAILABILITY | 2306 | 2306 | 2306 | 2393 | 2404 | 2306 | 2306 | 2306 | 2393 | 2404 |
| SURPLUS (+) / SHORTAGE (-) | **779** | **990** | **985** | **830** | **787** | **688** | **1020** | **823** | **809** | **751** |
| **SEP 2016** | | | | | | | | | | |
| DEMAND | 1418 | 1232 | 1424 | 1593 | 1523 | 1445 | 1292 | 1424 | 1546 | 1630 |
| AVAILABILITY | 2306 | 2306 | 2306 | 2361 | 2393 | 2259 | 2259 | 2259 | 2313 | 2346 |
| SURPLUS (+) / SHORTAGE (-) | **888** | **1074** | **882** | **768** | **870** | **813** | **967** | **835** | **767** | **716** |

**NDMC** ALL FIGURES IN MW

| MONTH | 1st Fortnight | | | | | 2nd fortnight | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **APRIL 2016** | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 |
| DEMAND | 100 | 140 | 180 | 180 | 150 | 150 | 220 | 290 | 300 | 200 |
| AVAILABILITY | 288 | 288 | 288 | 288 | 288 | 288 | 288 | 288 | 288 | 288 |
| SURPLUS (+) / SHORTAGE (-) | **188** | **148** | **108** | **108** | **138** | **138** | **68** | **-2** | **-12** | **88** |
| **MAY 2016** | | | | | | | | | | |
| DEMAND | 160 | 170 | 310 | 325 | 200 | 180 | 250 | 360 | 350 | 210 |
| AVAILABILITY | 288 | 288 | 288 | 288 | 288 | 288 | 288 | 288 | 288 | 288 |
| SURPLUS (+) / SHORTAGE (-) | **128** | **118** | **-22** | **-37** | **88** | **108** | **38** | **-72** | **-62** | **78** |

| JUNE 2016 | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 |
|---|---|---|---|---|---|---|---|---|---|---|
| DEMAND | 170 | 250 | 370 | 390 | 260 | 200 | 260 | 380 | 380 | 250 |
| AVAILABILITY | 288 | 288 | 288 | 288 | 288 | 288 | 288 | 288 | 288 | 288 |
| SURPLUS (+) / SHORTAGE (-) | **118** | **38** | **-82** | **-102** | **28** | **88** | **28** | **-92** | **-92** | **38** |
| **JULY 2016** | | | | | | | | | | |
| DEMAND | 190 | 270 | 380 | 390 | 270 | 200 | 270 | 380 | 380 | 270 |
| AVAILABILITY | 288 | 288 | 288 | 288 | 288 | 288 | 288 | 288 | 288 | 288 |
| SURPLUS (+) / SHORTAGE (-) | **98** | **18** | **-92** | **-102** | **18** | **88** | **18** | **-92** | **-92** | **18** |
| **AUG 2016** | | | | | | | | | | |
| DEMAND | 190 | 270 | 350 | 360 | 290 | 190 | 270 | 370 | 390 | 270 |
| AVAILABILITY | 288 | 288 | 288 | 288 | 288 | 288 | 288 | 288 | 288 | 288 |
| SURPLUS (+) / SHORTAGE (-) | **98** | **18** | **-62** | **-72** | **-2** | **98** | **18** | **-82** | **-102** | **18** |
| **SEP 2016** | | | | | | | | | | |
| DEMAND | 150 | 250 | 320 | 320 | 200 | 160 | 250 | 320 | 320 | 250 |
| AVAILABILITY | 288 | 288 | 288 | 288 | 288 | 255 | 255 | 255 | 255 | 255 |
| SURPLUS (+) / SHORTAGE (-) | **138** | **38** | **-32** | **-32** | **88** | **95** | **5** | **-65** | **-65** | **5** |

**MES** ALL FIGURES IN MW

| MONTH | 1st Fortnight | | | | | 2nd fortnight | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **APRIL 2016** | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 |
| DEMAND | 22 | 25 | 28 | 23 | 28 | 26 | 35 | 36 | 36 | 34 |
| AVAILABILITY | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 |
| SURPLUS (+) / SHORTAGE (-) | **10** | **7** | **4** | **9** | **4** | **6** | **-3** | **-4** | **-4** | **-2** |
| **MAY 2016** | | | | | | | | | | |
| DEMAND | 30 | 35 | 40 | 38 | 30 | 32 | 30 | 40 | 40 | 30 |
| AVAILABILITY | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 |
| SURPLUS (+) / SHORTAGE (-) | **2** | **-3** | **-8** | **-6** | **2** | **0** | **2** | **-8** | **-8** | **2** |
| **JUNE 2016** | | | | | | | | | | |
| DEMAND | 32 | 35 | 42 | 45 | 40 | 32 | 35 | 43 | 45 | 40 |
| AVAILABILITY | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 |
| SURPLUS (+) / SHORTAGE (-) | **0** | **-3** | **-10** | **-13** | **-8** | **0** | **-3** | **-11** | **-13** | **-8** |
| **JULY 2016** | | | | | | | | | | |
| DEMAND | 35 | 42 | 48 | 50 | 41 | 35 | 40 | 45 | 40 | 40 |
| AVAILABILITY | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 |
| SURPLUS (+) / SHORTAGE (-) | **-3** | **-10** | **-16** | **-18** | **-9** | **-3** | **-8** | **-13** | **-8** | **-8** |

| MONTH | 1st Fortnight | | | | | 2nd fortnight | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| AUG 2016 | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 |
| DEMAND | 34 | 40 | 45 | 45 | 40 | 35 | 40 | 45 | 45 | 40 |
| AVAILABILITY | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 |
| SURPLUS (+) / SHORTAGE (-) | **-2** | **-8** | **-13** | **-13** | **-8** | **-3** | **-8** | **-13** | **-13** | **-8** |
| **SEP 2016** | | | | | | | | | | |
| DEMAND | 28 | 35 | 40 | 38 | 35 | 30 | 39 | 40 | 40 | 37 |
| AVAILABILITY | 32 | 32 | 32 | 32 | 32 | 19 | 19 | 19 | 19 | 19 |
| SURPLUS (+) / SHORTAGE (-) | **4** | **-3** | **-8** | **-6** | **-3** | **-11** | **-20** | **-21** | **-21** | **-18** |

From the above, it is seen that BRPL, NDMC and MES have shortages during the peak summer months though Delhi as a whole, there is no shortage.

**BRPL, NDMC and MES to ensure for meeting out the shortages.**

## 3.2 SYSTEM IMPROVEMENT WORKS PLANNED FOR ENSURING RELIABLE SUPPLY TO DELHI.

To ensure the reliable supply, various plans have been drawn out by DTL and Discoms. The details are as under:-

### a) Transmission System

**Transmission System Improvement projects to be completed to meet the peak demand of Delhi**

| S. N. | Details of System Improvement projects | Reason for requirement | Timeline fixed by MoP, GoI / DTL | Executing Agency | Current status | Revised Timeline |
|---|---|---|---|---|---|---|
| 1 | Commissioning of 220kV Bawanaï Rohini-II Double Ckt line (O/H) | To reduce loading of 220kV Rohini-I S/Stn | Before summer 2014. | DTL | Load on the Rohini-II Substation is only 40-50MVA against the installing capacity of 320MVA which is met through the present T-off arrangement. The regular supply through 220kV D/C line through 220kV Bawana-Rohini II D/C line delayed due to one reason or other which were beyond the control of DTL. Out of 38 tower foundations, the foundations of 34 are completed and stringing works are also on full swing. Now the project is likely to be completed by 31st May, 2016. | 31-05-2016 |

| S. N. | Details of System Improvement projects | Reason for requirement | Timeline fixed by MoP, GoI / DTL | Executing Agency | Current status | Revised Timeline |
|---|---|---|---|---|---|---|
| 2 | LILO of one circuit of 220kV Bamnauli ï Najafgarh link at Pappankalan-II | To provide alternate source at Pappankalan-II | By end of March 2015 | DTL | The scheme was envisaged to provide the duplicate source to Papankalan II. Now the 400 kV S/Stn. is being established under ISTS at Dwarka from where direct feed is envisaged. ROW problem can also not be ruled out in bringing Overhead circuit. Till 400kV S/Stn. is established, BRPL was advised to regulate the load in their area by properly adjusting the load from existing 220kV S/Stn. Pappankalan I & II, Najafgarh, 400kV Mundka. However, as per the decision of the Steering Committee meeting held on 10-3-16, the scheme has been revived. The Steering Committee advised DTL to complete the project before peak summer 2016 to ensure second source to PPK-II. | 30-6-2016 |
| 3 | LILO of one circuit of 220kV Bamnauli ï Naraina Ckt-I at Pappankalan-I | To provide alternate source at Pappankalan-I | By end of March 2015 | DTL | The scheme was envisaged to provide the duplicate source to Pappankalan I. Now the 400 kV S/Stn. is being established under ISTS at Dwarka from where direct feed is envisaged. However, till the establishment of 400kV Dwarka S//Stn. one circuit of 220kV Bamnauli-Naraina will be LILOed at Pappankalan-I through PGCIL. | 30.06.16 |
| 4 | LILO of first circuit of double circuit of 220kV Pragati ï Sarita Vihar Ckt. at 400kV Maharani Bagh | To avoid over-loading of existing circuits and to enhance reliability of supply | 31.03.15 | DTL | One circuit of Sarita Vihar Pragati (IP Extn.) would be LILOed at Maharanai Bagh by 31-5-2016 by using the connection of 220kV Maharani Bagh- Gazipur Double Cricuit line. By the time Maharani Bagh Gazipur circuit would be connected through 1200sq.mm cable as only two spare bays are available at Maharani Bagh. The 2nd circuit would be LILOed after the extension of Maharani Bagh GIS for which BOD of DTL has already given the approval of the scheme.<br>The completion of this project is expected to be 31-3-2018 by then the 2nd circuit would also be LILOed. It may also be noted that the transformation capacity of 400/220kV level at 400kV Maharani Bagh is only 1630MVA out of which maximum load of 1300MVA has already been catered. The proposal for augmentation of Maharani Bagh S/Stn. to 2000MVA was put up in the standing committee of CEA meeting held on 20.01.2016 wherein the proposal was | 31.05.16 |

| S. N. | Details of System Improvement projects | Reason for requirement | Timeline fixed by MoP, GoI / DTL | Executing Agency | Current status | Revised Timeline |
|---|---|---|---|---|---|---|
| | | | | | turned down and advised to expedite the already approved the scheme of ISTSs in Delhi. However, following the HTLS reconductoring of 220kV Wazirabad ï Geeta Colony, 220kV Pragati Sarita Vihar and 220kV Naraina ï Bamnauli no transmission constraint is anticipated on normal source. However, the entire system would be strengthened after the completion of 400kV ISTS at RPH(IP) and at Tughlakabad which is expected to take at least 2 years. | |
| 5 | Commissioning of 220kV Harsh Vihar ï Patparganj D/C | To ensure maximum evacuation from Harsh Vihar and ease loading on Mandola system and to ease loading of 220kV Mandola ï Wazirabad Ckts and 220kV Geeta Colony ï Patparganj Ckt-I & II | 31.03.15 | PGCIL | Work is being carried out by PGCIL and is likely to be completed by May 2016. | 31.05.16 |
| 6 | Augmentation of 4X315MVA ICTs to 4X500MVA ICTs at Mandola (PGCIL S/Stn) | To ease the loading of existing transformers and to enhance reliability of supply. With enhanced capacity, the load of Narela would be kept on 400kV Mandola S/Stn thereby giving relief on highly stressed 220kV Bawana ï DSIDC Ckt-I & II. | Two ICTs before summer 2014 and two before summer 2015 | PGCIL | Two ICTs have already been augmented with 500MVA and augmentation of 3rd ICT is in progress. | - |
| 7 | Augmentation of 4X315MVA ICTs to 4X500 MVA ICTs at Ballabh Garh (PGCIL S/Stn) | To ease the loading of existing transformers and to enhance reliability of supply. | Before summer 2015 | PGCIL | One Tr. has already been augmented and commissioned on 29-2-16 and 2nd Tr. is likely to be augmented by 30-4-16. Though the 3rd Tr. is not received at site and that also is planned by 30-4-16. The 4th Tr. is schedule for June, 2016 depending upon shutdown of the existing Tr. | - |
| 8 | Additional 220/33kV 100MVA Tx at Masjid Moth | To enhance reliability of supply | Before summer 2014 | DTL | Due to contractual problem, the contract could not be awarded so far. | Revised date can be brought out after decision in this tender |
| 9 | Establishment of 33kV GIS at Lodhi Road with additional 220/33kV 100MVA Tx at Lodhi Road | To reduce the loading on the existing transformers | Aug. 2014 | DTL | 33kV GIS works completed. 220kV GIS work and additional transformer work to be completed by October 2016 | 31.10.16 |

| S. N. | Details of System Improvement projects | Reason for requirement | Timeline fixed by MoP, GoI / DTL | Executing Agency | Current status | Revised Timeline |
|---|---|---|---|---|---|---|
| 10 | Addl. One No. 220/33kV 100MVA Tr. at Peeragarhi | To enhance reliability of supply | Before summer 2016 | DTL | Due to contractual problem, the contract could not be awarded so far. | Revised date can be brought out after decision in this tender |
| 11 | Addl. One No. 220/33kV 100MVA Tr. at Patparganj | Hot reserve | Before summer 2016 | DTL | Due to contractual problem, the contract could not be awarded so far. | Revised date can be brought out after decision in this tender |
| 12 | i) Gopalpur<br>ii) Najafgarh<br>ii) Okhla<br>iii) Lodhi Roadï Fully loaded<br>iv) Park Street<br>v) Masjid Moth ï Fully loaded<br>vi) Peeragarhi<br>vii) Rohini | The power transformers at these sub stations were not meeting (N-1) criteria during the summer 2015 peak. | -- | DTL/ Discoms | **Gopalpur :** With the commissioning of 220kV SGTN Grid, loading on Gopalpur S/Stn would ease. Till the time, TPDDL may divert load on alternate sources to have optimum loading on transformers at Gopalpur.<br>**Najafgarh**: With the commissioning of 160MVA Tx at Pappankalan-I & II, BRPL has more options to shift load from Najafgarh. In addition, BRPL may shift load on Mundka through 66kV Munkda ï Nangloi Ckt and 66kV Mundka ï Nangloi Water works Ckt. in case of any exigency.<br>**Lodhi Road :** Already covered at Sr. No.9 above. However, NDMC should shift their load to Electric Lane<br>BRPL to arrange for second feed to 33kV IHC Ckt-I & II.<br>**Park Street :-** NDMC to divert maximum load to Electric Lane to east loading on Park Street as Electric Lane is exclusively established to cater NDMC load.<br>**Masjid Moth & Okhla**<br>With the commissioning of 400kV Tuglakabad S/Stn, loading on these sub-stations would ease. Till the time, BRPL may divert load on alternate sources such as Sarita Vihar, Mehrauli and Ridge Valley to have optimum loading on transformers at Masjid Moth and Okhla.<br>Rohini-I<br>TPDDL to divert maximum loading to Rohini-II and Wazipur.<br>**Peera Garhi**<br>Already covered at Sr. No.10 | |

For ensuring reliability of Delhi system four ISTS with 8000MVA capacity were planned to be commissioned by the year 2017. Due to land related issues the projects were delayed. The present status of four ISTS is as under.

| S.N. | Name of the new sub station | Voltage (KV) | Sub station Owner ship | Land status | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Land available | Land identified | DDA TC approved | Land in possession | Remarks |
| 1 | Rajghat | 400 | PGCIL | Available | | | | The area for the substation has been jointly identified. PGCIL has awarded the contract for the substation. However, the premises being the flood plain of river Yamuna alternate site has been identified at IP Complex before proceeding further other statutory clearances are required to be obtained. |
| 2 | Tughlaka -bad | 400 | | | YES | YES | NO | All formalities of Land allotment by DDA to GNCTD have been completed. Working permission is likely to be given shortly. |
| 3 | Karam Pura | 400 | | | YES | YES | NO | Severe ROW problem for 400kV line as such the project is likely to be stalled for the time being. |
| 4 | Dwarka | 400 | | Available | YES | YES | NO | All formalities of Land allotment by DDA to GNCTD have been completed. Working permission is likely to be given shortly. |

In view of the delay of ISTS, the associated 220 kV systems also got delayed. On 14.03.16, a Special Steering Committee meeting was held wherein the following schemes were finalised in consultation with DISCOMS for the period 2016-17 to 2021-22 as part of Business Plan for DTL.

**Spill Over Projects of 12th Plan**

| S. N. | Name of Scheme | Completion Period | Remarks |
|---|---|---|---|
| 1. | Lodhi Road 220/33 kV GIS. (CENTRAL DELHI) | 2016-17 | 33kV GIS work completed. 220kV GIS work and additional transformer work to be completed by October 2016. |
| 2. | 220/33 kV GIS at Preet Vihar (East DELHI) | 2016-17 | Under execution and likely to be completed by May 2016. |
| 3. | Double ckt from Harsh Vihar to Patparganj & LILO at Preet Vihar | 2016-17 | Under execution and likely to be completed by May 2016. |
| 4. | 220/66 kV GIS at Papankalan -III (Dwarka sub city -West DELHI) | 2016-17 | Work awarded by PGCIL and likely to be completed by Summer 2017. |
| 5. | LILO of double circuit Bamanuli-Naraina at PPK-III | 2016-17 | Work awarded by PGCIL and likely to be completed by Summer 2017. |
| 6. | Single Ckt underground cable (IP -Park street-Electric Lane-IP) | 2016-17 | Work under execution. |

| S. N. | Name of Scheme | Completion Period | Remarks |
|---|---|---|---|
| 7. | Double circuit underground from Lodhi road to IP Power | 2016-17 | Contract awarded. Likely to be completed by 2017. |
| 8. | S/C LILO of 220kV Bamnauli-Najafgarh D/C at PPK-II on M/C O/H | 2016-17 | The scheme was envisaged to provide the duplicate source to Papankalan II. Now the 400 kV S/Stn. is being established under ISTS at Dwarka from where direct feed is envisaged. ROW problem can also not be ruled out in bringing Overhead circuit. Till 400kV S/Stn. is established, BRPL was advised to regulate the load in their area by properly adjusting the load from existing 220 kV S/Stn. Pappankalan I, Papankalan II, 400kV Mundka and upcoming Papankalan III S/Stn. However, as per the decision of the Steering Committee meeting held on 10-3-16, the scheme has been revived. The Steering Committee advised DTL to complete the project before peak summer 2016 to ensure second source to PPK-II. |
| 9. | S/C LILO of 220kV Bamnauli-Naraina at PPK-I | 2016-17 | The scheme was envisaged to provide the duplicate source to Pappankalan I. Now the 400 kV S/Stn. is being established under ISTS at Dwarka from where direct feed is envisaged. However, till the establishment of 400kV Dwarka S//Stn. one circuit of 220kV Bamnauli-Naraina will be LILOed at Pappankalan-I through PGCIL. |
| 10. | First circuit OH+UG LILO of Pragati-Sarita Vihar at Maharanibagh | 2016-17 | One circuit of Sarita Vihar Pragati (IP Extn.) would be LILOed at Maharanai Bagh by 31-5-2016 by using the connection of 220kV Maharani Bagh- Gazipur Double Cricuit line. By the time Maharani Bagh Gazipur circuit would be connected through 1200sq.mm cable as only two spare bays are available at Maharani Bagh. The 2nd circuit would be LILOed after the extension of Maharani Bagh GIS for which BOD of DTL has already given the approval of the scheme. The completion of this project is expected to be 31-3-2018 by then the 2nd circuit would also be LILOed. It may also be noted that the transformation capacity of 400/220kV level at 400kV Maharani Bagh is only 1630MVA out of which maximum load of 1300MVA has already been catered. The proposal for augmentation of Maharani Bagh S/Stn. to 2000MVA was put up in the standing committee of CEA meeting held on 20.01.2016 wherein the proposal was turned down and advised to expedite the already approved the scheme of ISTSs in Delhi. However, following the HTLS reconductoring of 220kV Wazirabad ï Geeta Colony, 220kV Pragati Sarita Vihar and 220kV Naraina ï Bamnauli no transmission constraint is anticipated on normal source. However, the entire system would be strengthened after the completion of 400kV ISTS at RPH(IP) and at Tughlakabad which is expected to take at least 2 years. |
| 11 | 2x160 MVA and 66 kV GIS at Gopalpur (North Delhi) | 2017-18 | The tender under evaluation and likely to be completed by 31.03.2018. |
| 12 | 220/66kV GIS at Tughlakabad (South EAST Delhi) | 2017-18 | All formalities completed w.r.t. Land allocation. Working permission is likely to be available soon.(The scheme is in align with Tuglakabad ISTS.) |
| 13 | LILO of Mehrauli-BTPS at Tughlakabad | 2017-18 | Work awarded. Execution along with establishment of Tuglakabad ISTS. |
| 14 | Multi circuit overhead from Tughlakabad to Masjid Moth | 2017-18 | Work awarded. Execution along with establishment of Tuglakabad ISTS. |
| 15 | Double circuit Okhla feeder termination at Tughlakabad | 2017-18 | Work awarded. Execution along with establishment of Tuglakabad ISTS. |
| 16 | 220 kV GIS at Rajghat (Central Delhi) (new location may be at IP) | 2017-18 | Location is likely to be shifted to IP subjected to statutory clearances, as such the scheme may not be required. |
| 17 | Multi circuit from Kashmiri gate to IP Power | 2017-18 | Work awarded. To be aligned with 400kV ISTS at RPH(IP) |
| 18 | 220/66 kV GIS at Tikri Khurd (North DELHI) | 2017-18 | Under tendering. |
| 19 | LILO of double ckt Narela-Mandola at Tikri khurd on MULTI CKT O/H | 2017-18 | Under tendering. |

| S. N. | Name of Scheme | Completion Period | Remarks |
|---|---|---|---|
| 20 | 220/66 & 220/33 kV GIS at R K Puram (South Delhi) | 2017-18 | Tender Evaluation under progress. |
| 21 | 220/66 kV GIS at Budella (CENTRAL WEST DELHI) | 2017-18 | DTL Board approved the scheme in its mtg. held on 04.11.2015 . Under Tendering. |
| 22 | S/C LILO of 220kV Bamnauli-Najafgarh at Budella on MULTI CKT O/H line | 2017-18 | |
| 23 | Double circuit underground cable from Dwarka to Budella | 2018-19 | DTL Board approved the scheme in its mtg. held on 04.11.2015 . Under Tendering. |
| 24 | 220/66kV GIS at SGTN (NORTH DELHI) | 2018-19 | DTL Board approved the scheme in its mtg. held on 04.11.2015. Under Tendering. |
| 25 | Double circuit overhead from Shalimarbagh to SGTN | 2018-19 | DTL Board approved the scheme in its mtg. held on 04.11.2015. Under Tendering. |
| 26 | 220/33kV GIS at Punjabi bagh (CENTRAL -WEST DELHI) (Vishal) | 2018-19 | Re modelling of 33kV Vishal S/Stn of BRPL is proposed to be up-graded by 2018-19. |
| 27 | Budella to Punjabi bagh Multi circuit O/H line (6kms O/H & 0.5 Km U/G) | 2018-19 | |
| 28 | 220/33 kV GIS at Karol Bagh (Dev Nagar)(CENTRAL DELHI) in lieu of Karmapura | 2018-19 | Land has been identified to be co-located with the BYPL 33 kV S/Stn. |
| 29 | Double circuit from IP to Karolbagh(Dev Nagar) | 2018-19 | To be commissioned along with 400 kV ISTS at IP. |
| 30 | 220/66 kV GIS at Chandrawal (CENTRAL DELHI) | 2018-19 | DTL Board approved the scheme in its mtg. held on 26.12.2015 . |
| 31 | Double circuit underground from Kashmirigate to Chandrawal | 2018-19 | DTL Board approved the scheme in its mtg. held on 26.12.2015 . |
| 32 | S/C O/H LILO of Gopalpur to Subzi Mandi D/C line at Chandrawal | 2018-19 | |
| 33 | 220/33 kV GIS at Maharanibagh (SOUTH DELHI) | 2018-19 | DTL Board has approved the scheme on 26.12.15. Under Tendering. |
| 34 | Second circuit overhead LILO of Pragati-Sarita Vihar at Maharanibagh | 2018-19 | |
| 35 | 220/33 kV GIS at Jasola (South EAST DELHI) | 2019-20 | Scheme is proposed but as per the requirement of BRPL , it is proposed to be completed in 2019-20. |
| 36 | Overhead (HTLS) LILO of Maharanibagh to Sarita Vihar D/C line at Jasola | 2019-20 | To be aligned along with 220kV GIS Extension at Maharani Bagh. |
| 37 | Double circuit underground cable from Tughlakabad to RK Puram | 2019-20 | To be aligned along with 400kV GIS at Tuglakabad. |
| 38 | 220/66 kV GIS at Mangolpuri (CENTRAL WEST DELHI) | 2019-20 | Proposed to be Co-allocated at 66kV Mangolpuri-2 S/Stn of TPDDL. S/Stn is proposed to be commissioned by 2019-20. |
| 39 | DC O/H+U/G Shalimarbagh-Mangolpuri - Budella | 2019-20 | |
| 40 | 220/66 kV GIS at Janakpuri (CENTRAL-WEST DELHI) | 2019-20 | Land is likely to be available by end of 2016. project has been postponed to 2020 |
| 41 | Dwarka to Janakpuri D/C U/G | 2019-20 | |
| 42 | Punjabi bagh to Janakpuri D/C U/G | 2019-20 | |
| 43 | 220/33kV GIS at Nehru Place (SOUTH DELHI) | 2020-21 | Land will be available and after vacation of casting yard by DMRC by Dec, 2017 and proposed to be completed by 2020-21. |

| S. N. | Name of Scheme | Completion Period | Remarks |
|---|---|---|---|
| 44 | 220kV D/C U/G cable LILO of Maharani Bagh-Masjid Moth at Nehru Place | 2020-21 | |
| 45 | 220kV GIS at Subzi Mandi (CENTRAL DELHI) | 2020-21 | To be considered after the commissioning of 220kV GIS at Chandrawal. |
| 46 | 220kV D/C underground cable from Karolbagh to Subzi Mandi | 2020-21 | To be considered after the commissioning of 220kV GIS at Chandrawal. |
| 47 | Ridge Valley to Narina D/C O/H cum U/G | 2020-21 | |
| 48 | Vasant kunj to DIAL D/C cable | 2020-21 | |
| 49 | Second circuit LILO of Kanjhawala-Najafgarh at Mundka on Multi ckt tower | 2020-21 | |
| 50 | LILO of AIIMS-Ridge valley at RK Puram | 2018-19 | |
| 51 | 220/66kV GIS at Mayur Vihar (EAST DELHI) | 2021-22 | BYPL has agreed to hand over the land and proposed to be completed by 2021-22. |
| 52 | O/H LILO of Maharanibagh to Gazipur D/C line at Mayur Vihar | 2021-22 | |

## New Works (400 kV Sub-station & Line Packages)

| S. N. | Name of Scheme | Completion Period | Remarks |
|---|---|---|---|
| 1. | 400 kV GIS at Shalimarbagh (NORTH -WEST DELHI) | 2020-21 | |
| 2. | Bawana to Shalimarbagh D/C line | 2019-20 | |
| 3. | 400 kV GIS at Gopalpur (CENTRAL DELHI) | 2021-22 | |
| 4. | LILO of Bawana to Rajghat 400KV D/C at Gopalpur | 2019-20 | |
| 5. | 400 & 220 kV GIS at Rangpuri (SOUTH DELHI) | 2022-23 | DMRC is being requested to accommodate DTL's land requirement under their 4th phase expansion. |
| 6. | LILO of 400kV D/C Bamnauli -Tughlakabad at Rangpuri through 400kV M/C O/H line | 2021-22 | |
| 7. | 400kV Gazipur site development | 2021-22 | |
| 8. | 765/400kV Mandi (South Delhi) site development | 2021-22 | |

## New Works (220 kV Sub-stations & Line Packages)

| S.N. | Name of Scheme | Completion Period |
|---|---|---|
| 1. | 220/66kV GIS at **Maidan Garhi/IGNOU (South Delhi)** | 2020-21 |
| 2. | LILO of Tughlakabad to Mehrauli D/C at Maidan Garhi | 2020-21 |
| 3. | 2 x 160 MVA and 66kV AIS at **Bamnauli (SOUTH -West Delhi)** | 2020-21 |
| 4. | 220/66 kV GIS at **Budhpur * (NORTH DELHI)** | 2021-22 |
| 5. | LILO of Mandola-Gopalpur D/C line at Budhpur/Nathupura | 2021-22 |
| 6. | 220/66kV GIS at **Dhansa/Jaffarpur/Jhatikalan (WEST DELHI)** | 2022-23 |
| 7. | 220kV M/C O/H line from Bamnauli to Dhansa | 2021-22 |
| 8. | 220/66kV GIS at **Barwala (ROHINI SUBCITY sector -34)** | 2022-23 |
| 9. | LILO of 220kV D/C Bawana - Kanjhawala O/H line at Barwala | 2022-23 |

Planning Department of DTL may update the status.

**b) Distribution System**

Details of Distribution System Improvement projects to be completed during 2014-15 to 2016-17 are as under:-

2014-15

**TPDDL**

| S N | Particulars / Name of the Project / Element | MVA Addition | Scheme Status | Present Status |
|---|---|---|---|---|
| 1 | Strengthening of 33kV Line between AIR Khampur and Tigi Pur Grid | 0 | WIP | Work completed on 31.03.15. Punch point is pending. |
| 2 | 66/11 kV Dheerpur (2 x 25MVA +1* 1000sq.mm. Cable LILO of 66kV line between 220kV Gopal Pur and Jahangir Puri) | 50 | DERC Approval received in Sep-2014 | Under execution. Likely to be completed by August 2016. |
| 3 | 66/11 kV Prashant Vihar (2x25MVA+ 1*1000sq.mm. cable LILO of 66kV line between Pitam Pura-1 and Rohini-3) | 50 | Work in progress | Grid charge with LILO of one circuit. LILO of other circuit will be completed on by 15.12.2015. |
| 4 | 66 / 11 kV RG-34 (2x25 MVA+D/C1 C *1000 sq.mm. cable from proposed 66kV RG-30+D/C 1C*1000 sq.mm. cable from proposed 220 kV Rohini34) | 50 | DERC Approval received | Under Execution. Will be completed by March 16 |
| 5 | 66 / 11 kV Bawana-1 Ph-2 Grid (2 x 25 MVA + D/C O/H line LILO between 220kV DSIIDC Bawana and 66kV DSIIDC-2 Narela) | 50 | DERC Approval received | Under Tendering. |

**TPDDL** **2015-16**

| S N | Particulars / Name of the Project / Element | MVA Addition | Scheme Status | Present Status |
|---|---|---|---|---|
| 1 | Augmentation of 16 MVA PTR-1 & 16 MVA PTR-2 to 25 MVA each in 33/11 KV Trinagar | **18** | DERC Approval received | Deferred by DERC. Will be reviewed later. Presently load is being met through 25MVA Pr. Tr-I augmented at Rampura |
| 2 | Additional 20MVA PTR-3 to be installed at Sudarshan Park Grid along with 33kV twin cable single ckt of 3*400sqmm from 220KV Peeragarhi to Sudarshan Park Grid | 20 | DERC Approval received | Under Execution. Cable part is under tendering. |
| 3 | Conversion of single cable of 220kV SMB to Rani Bagh Ckt- 1 & 2 to twin 3 X 400 XLPE cable | 0 | DERC Approval received | Under execution. |
| 4 | 66kV SGTN Grid (3 x 25MVA + D/C 1*1000sqmm from 220kV SGTN Grid + D/C 1*1000sqmm 66kV Jahangir Puri Grid) | 23 | DERC Approval received | Under Execution. Will be completed by 31.05.2016 |
| 5 | 66kV DSIIDC-3 Grid (2 x 25MVA + 66kV line 1*1000sqmm D/C LILO between 220kV Narela and Badli Grid) | 50 | DERC Approval received | Under Tendering. Payment awaited. |
| 6 | 66kV Bhalswa-2 Grid (2 x 25MVA + D/C 66kV 1*1000sqmm from 220 KV SGTN Grid + D/C 66kV 1*1000sqmm from Bhalswa-1 Grid) | 50 | DERC Approval received | Under Tendering. Payment awaited. |
| 7 | 66kV Siras Pur Grid (2 x 25MVA + D/C 66kV line 1*1000sqmm from 220kV SGTN + D/C 66kV line 1*1000sqmm from Badli Grid) | 50 | DERC Approval received in Sep-2014 | Under execution. Will be commissioned by June 2016. |

| S N | Particulars / Name of the Project / Element | MVA Addition | Scheme Status | Present Status |
|---|---|---|---|---|
| 8 | 66 / 11 kV RG-28 No-2 Grid (2 x 25 MVA + D/C 1C*1000 sq.mm. cable from 220kV Rohini-2 Grid + D/C 1C*1000 sq.mm. cable from 66kV RG-29 Grid + D/C 1C*1000 sq.mm. cable from 66kV RG-28 Grid) | 50 | DERC Approval awaited | Will be reviewed later based on occupancy of areas. |
| 9 | 66 / 11 kV RG-29 Grid (2 x 25 MVA + D/C 1C*1000 sq.mm. cable from 220kV Rohini-2 Grid + D/C 1C*1000 sq.mm. cable from 66kV RG-30 Grid + D/C 1C*1000 sq.mm. cable from 66kV RG-28 No-2 Grid) | 50 | DERC Approval awaited | Will be reviewed later based on occupancy of areas. |
| 10 | 66 / 11 kV RG-30 Grid (2 x 25 MVA + D/C 1C*1000 sq.mm. cable from 220kV Rohini-2 Grid + D/C 1C*1000 sq.mm. cable from 66kV RG-34 Grid + D/C 1C*1000 sq.mm. cable from 66kV RG-29 Grid) | 50 | DERC Approval awaited | Under Tendering. Landing Handing over is under process. |
| 11 | 66 / 11 kV NSC G-8 Grid (2 x 25 MVA + D/C twin 3*300 sq.mm. cable from proposed 220kV NSC-1 Grid + D/C twin 3*300 sq.mm. cable from 66kV NSC G2 G6 Grid-2 ) | 50 | DERC Approval awaited | DERC Approval awaited. Landing Handing over is under process. |
| 12 | 66 / 11 kV Pooth Khurd-2 Grid (2 x 25 MVA + D/C twin 3*300 sq.mm. cable from 66kV BCWW Grid + S/C twin 1*1000 sq.mm. cable LILO line between 66kV Bawana-6 and 66kV Pooth Khurd-1 Grid) | 50 | DERC Approval awaited | Under tendering. Payment awaited. |

**TPDDL 2016-17**

| S N | Particulars / Name of the Project | Scheme Status |
|---|---|---|
| 1 | Conversion of Sabzi Mandi to SKN CKT to Twin cable (3 x 400 sqmm) | To be submitted to DERC. |
| 2 | Twin 3*300sqmm S/C 66kV from Mundka to Mangol Puri-1 | Being the less priority item as Mangolpuri has sufficient infeed capacity, scheme to be reviewed later. |
| 3 | 33/11 kV Bhor Garh (2x25MVA + 33kV line LILO between 220kV Subzi Mandi and Shakti Nagar), twin cable 3 x 400 sqmm | Due to change in land location, this will be constructed at Ludlow castle, Civil Line. To be submitted to DERC. |
| 4 | 33/11kV WazirPur-4 (2 x 25 MVA + 33kV line LILO between Wazirpur-1 and Wazir Pur-2), twin cable 3 x 400 sqmm | Will be reviewed later. |
| 5 | 33/11 kV LRIA Grid (2 x 25 MVA + 33kV line LILO between Ram Pura and Ashok Vihar Grid), twin cable 3 x 400 sqmm | Will be submitted for 2017-18 |
| 6 | 66/11kV Rohini-6 No-2 Grid (2x25MVA+66kV line LILO between 220kV Rohini & Rohini-6), twin cable 3 x 300 sqmm | Will be submitted for 2017-18 |
| 7 | 66/11 kV Budh Vihar Grid (2 x 25 MVA + 66kV line LILO between Rohini-2 and Rohini-23 Grid), cable 1C*1000 sqmm | Will be submitted for 2017-18 |
| 8 | 33/11 kV NSP Grid (2x25MVA + 33kV line LILO between 220kV SMB and Wazirpur-1 Ckt-2), twin cable 3 x 400 sqmm | Will be reviewed later. |
| 9 | 66 /11kV NSC G2-G6 Grid-2 (2x25MVA + D/C twin 3*300 sq.mm. cable from proposed 220kV NSC-1 Grid + D/C twin 3*300 sq.mm. cable from 66kV NSC G8 Grid + D/C twin 3*300 sq.mm. cable from 66kV NSC G3-G4 Grid) | Will be reviewed later based on occupancy area. |
| 10 | 66 / 11 kV NSC G3-G4 Grid (2 x 25 MVA + D/C twin 3*300 sq.mm. cable from proposed 220kV NSC-2 Grid + D/C twin 3*300 sq.mm. cable from 66kV NSC G2-G6 Grid-2) | Will be reviewed later based on occupancy area. |
| 11 | Augmentation of 16MVA PTR-1 and 16MVA PTR-2 to 25MVA each in 33/11kV Trinagar Grid | Will be reviewed later. Presently load is being met through 25MVA PTR-I at Rampura |

BYPL

2014-15

| S. No. | Voltage Level | Scheme Description | Capacity Addition (MVA) | DERC approval Status | Work Status |
|---|---|---|---|---|---|
| 1 | 66/11kV | Addition of 20 MVA Power Transformer at 66/11 KV GH-1 Grid Sub-station | 20 | Approved | PTR damaged. Sent for repair |
| | | **Total** | **20** | | |

**BYPL**

**Additional feeders**

| S. No. | Voltage Level | Source Station | Scheme Description | DERC approval Status | Work Status |
|---|---|---|---|---|---|
| 1 | 33kV | 220kV RPH Grid | Providing Additional 33 KV feed 220kV RPH/IP Grid to 33/11kV Delhi Gate Grid | Yet to be Submitted | This feeder is possible after energization of 33kV GIS at RPH |
| 2 | 33kV | 220kV RPH Grid | Providing Additional 33 KV feed 220kV RPH/IP Grid to 33/11kV G.B Pant Grid | | |
| 3 | 33kV | 220kV Narayana Grid | Providing Additional 33 KV feed 220kV Narayana Grid to 33/11kV Prasad Grid Sub-Station. | Yet to be Submitted | This feeder is possible after the energization of 33kV Dev Nagar |
| 4 | 33kV | 220KV Geeta Colony Grid | Providing Additional 33 KV feed 220kV Patparganj to 33/11kV Preet Vihar Grid. | Yet to be Submitted | Scheme is under IPDS |
| 5 | 33kV | 220KV Geeta Colony Grid | Providing Additional 33 KV feed 220kV Patparganj Grid to 33/11kV CBD-1 Grid | Yet to be Submitted | Scheme is under IPDS |
| 6 | 66kV | 220kV Park Street Grid | Providing additional 66 KV feed doble circuit from 220kV Park Street Grid to 66/11kV Shastri Park Grid Sub-Station. | Yet to be Submitted | Scheme not approved |

**BYPL - Augmentation of existing feeders – Replacement of cable scheme**

| S. No. | Scheme Description | DERC Approval Status | Present Status |
|---|---|---|---|
| 1 | Conversion of Jama maszid -Kashmiri Gate O/H Line into underground circuit at Ring Road | Approved | RCP waited. Work to be completed by March 2016 |
| 2 | Shifting/Conversion of 33kV 'Kailash Nagar ï Seelampur O/H cum U/G feeder by laying 2 Nos. 33kV 3CX400sq.mm. XLPE cables. | Approved | |
| 3 | Part Replacement of 33 KV Shastri park - Seelampur & Shastri Park - Dwarka puri Circuit with 2 Nos. 3CX400Sqmm cables | Approved | |
| 4 | Conversion of O/H portion into U/G cable from 33 KV Narayana Grid to DMS Grid. | Under Approval | Planned in 2016-17 |

**Replacement of switchgears / additional bays**

| S. No. | Category | Scheme Description | DERC Approval Status | Present Status |
|---|---|---|---|---|
| 1 | Switchgear Schemes | Replacement of 66kV MOCB & Circuit Breaker at Various Grid in BYPL | Under Approval | Yet to Start |
| 2 | Switchgear Schemes | Replacement of 33kV Old Circuit Breaker with SF6 Circuit Breaker at Various Grid in BYPL | Under Approval | Yet to Start |
| 3 | Switchgear Schemes | Conversion of Outdoor Yard into Indoor Substation at Karawal Nagar Grid. | Approved | WIP, expected by March 2016 |
| 4 | Bays Schemes | Addition of 2 nos new Feeder Bays at Common Wealth Games Village Grid Sub-Station (Akshardham Grid). | Approved | |
| 5 | Bays Schemes | Addition of 2 nos new Feeder Bays at 66/33kV Shastri Park Grid | Under Approval | |

BYPL 2015-16

| S.No. | Voltage Level | Scheme Description | Capacity addition (MVA) | DERC Approval Status | Present Status |
|---|---|---|---|---|---|
| 1 | 66/11kV | Establishment of New 66/11 kV Grid Sub-Station at Mandoli Jail Complex | 50 | Approved | Under IPDS |
| 2 | 33/11kV | Establishment of New 33/11 kV Grid Sub-Station Krishna Nagar | 32 | Approved | Tender floated |
| 3 | 33/11kV | Establishment of New 33/11 kV Grid Sub-Station Gangaram Hospital Grid | 50 | Approved | Yet to Start |
| 4 | 33/11kV | Establishment of New 33/11 kV Grid Sub-Station at D.B Gupta Road near Naaz Cinema | 32 | Approved | Under IPDS |
| 5 | 66/11kV | Addition of Power Transformer of 25 MVA at 66/11 Khichripur Grid | 25 | Approved | WIP |
| 6 | 33/11kV | Addition of 16 MVA Power Transformer at 33/11 KV Motia Khan Grid Sub-station with GIS | 16 | Approved | Yet to Start |
| 7 | 66/11kV | Addition of 31.5 MVA Power Tx at 66/11 KV Vivek Vihar Grid Sub-station | 32 | Approved | Yet to Start |
| 8 | 66/33kV | Addition of one no 66/33kV, 50 MVA Power Tx with associated equipments Shastri park (East) Grid Sub-station. | 50 | Approved | Yet to Start |
| 9 | 33/11kV | Augmentation of Pr Tx-1 from 16 MVA to 25MVA at 33/11 KV Dwarkapuri Grid | 9 | Approved | Yet to start |
| 10 | 33/11kV | Augmentation of Pr. Tx-1 from 15 to 25 MVA at 33kV BG Road Grid | 10 | Approved | Yet to start |
| 11 | 33/11kV | Augmentation of Power Transformer No.-2 from 16 MVA to 25 MVA at 33/11 KV BG Road grid substation | 9 | Approved | Yet to start |
| 12 | 33/11kV | Augmentation of Pr.Tx-2 from 16 MVA to 25 MVA at 33/11 KV CBD-1 Grid | 9 | Approved | Yet to start |
| 13 | 33/11kV | Augmentation of Pr.Tx from 16MVA to 25MVA at 33/11 KV Geeta Colony Grid | 9 | Yet to be Submitted | Scheme for Geeta Colony-II is under IPDS |
| 14 | 66/11kV | Augmentation of Power Transformer No.2 from 20 MVA to 31.5 MVA at 66/11 KV Yamuna Vihar grid substation | 11 | Yet to be Submitted | Yet to start |
| 15 | 33/11kV | Augmentation of Power Transformer No-2 from 16 MVA to 25 MVA at 33/11 KV Dwarkapuri Grid Substation | 9 | Yet to be Submitted | Scheme not approved |
| 16 | 33/11kV | Augmentation of Pr. Tx from 16 MVA to 25 MVA at Karawal Nagar Grid | 9 | Yet to be Submitted | Scheme under IPDS |

**BYPL Additional feeders (2015-16)**

| S. No. | Voltage Level | Scheme Description | DERC Approval Status | Present Status |
|---|---|---|---|---|
| 1 | 66kV | Providing 66 KV infeed to newly proposed 66/11KV Indoor Grid at Mandoli Jail Complex by laying 6 nos. 66 KV 1CX1000 sq. mm cable for 400KV Harsh vihar | Approved | Scheme is under IPDS |
| 2 | 33kV | Laying of 33 KV 3Cx400 sq mm XLPE U/G cable from 220KV Geeta Colony Grid to proposed 33kV C Block Krishna Nagar Indoor Grid | Approved | Yet to start |
| 3 | 33kV | Laying of 33 KV 3Cx400 sq mm XLPE U/G cable from Shastri Park Grid and Shankar Road Grid to proposed 33kV Sir Ganga Ram Hospital Indoor Grid | Yet to be Submitted | Yet to start |
| 4 | 33kV | LILO of 33 KV cable betwwn Motia Khan to Faiz Road at newly proposed DB Gupta Road Grid near Naaz Cinema | Approved | Yet to start |

| S. No. | Voltage Level | Scheme Description | DERC Approval Status | Present Status |
|---|---|---|---|---|
| 5 | 33KV | Laying of one ckt of 33 KV 3Cx400 sq mm XLPE U/G cable from 220KV Park Street to Naaz Cinema | Yet to be Submitted | Yet to start |
| 5 | 66kV | Laying of New feeder from 220 KV Wazirabad(single circuit) to 66 KV Bhagirathi Grid | | |
| 6 | 33kV | Laying of new feeder from Rajghat Power House grid to 33 KV I G Stadium. | | |
| 7 | 66kV | LILO 66kV Cable of Wazirabad- Ghonda circuit at Sonia Vihar | | |
| 8 | 33kV | Laying of 33kV New feeder From RPH to 33/11kV Delhi Gate Grid Sub-Station | | |
| 9 | 33kV | Providing Additional 33 KV feed 220kV Subji Mandi Grid to 33/11kV B.G Road Grid | | |
| 10 | 33kV | Laying of additional 33kV Feeder from 220kV Naraina Grid to DMS Grid Substation | | |
| 11 | 33kV | Providing Additional 33 KV feed 220kV Narayana Grid to 33/11kV Prasad Grid Sub-Station. | | |
| 12 | 66kV | Providing additional 66 KV feed doble circuit from 220kV Park Street Grid to 66/11kV Shastri Park Grid Sub-Station. | | |
| 13 | 33kV | Providing Interconnector between Dwarkapuri to Kanti Nagar Grid. | | |

BYPL **Augmentation of feeders (2015-16)**

| S. No. | Category | Scheme Description | DERC Approval Status | Present Status |
|---|---|---|---|---|
| 1 | Replacement of Cable Schemes | Conversion of Ridge valley -Shanker Road Grid O/H Circuit no -1 Line into Under Ground. | Yet to be Submitted | Yet to start |
| 2 | | Conversion of Ridge valley -Shanker Road Grid O/H Circuit no -2 Line into Under Ground. | Yet to Submitted | Yet to start |
| 3 | | Re conductring with AAAC conductor Patparganj Grid Sub-Station to Khichripur Grid Sub-Station | Under Approval | Yet to start |

**BYPL** **Augmentation of switch gears / capacitors (2015-16)**

| S. No. | Category | Scheme Description | DERC approval Status | Present Status |
|---|---|---|---|---|
| 1 | LTAC DB Schemes | Provision of LT AC Distribution board at Minto Road, Delhi Gate, Jama Masjid, Prasad Nagar and DMS Grid | Under Approval | Yet to start |
| 2 | | Provision of yard lighting, LT AC distribution board and replacement of outdoor terminal kiosk at Gonda | | |
| 3 | Bays Schemes | Provision of double bus bar system at 33 kV Guru Angad Nagar Grid. | | |
| 4 | | Conversion Single Bus Bar to double bus bar system at 66kV Dilshad Garden Grid | | |
| 5 | | Provision of double bus bar system at 33 kV Seelampur Grid Sub-Station | | |
| 6 | CTs Schemes | Replacement of 81 nos of 33KV Current Transformers & 36 no of 66 KV Current Transformers at Various Grid in BYPL. | | |

| S. No. | Category | Scheme Description | DERC approval Status | Present Status |
|---|---|---|---|---|
| 7 | PTs Schemes | Replacement of 36 no of Potential Transformers at various Grid in BYPL | Under Approval | Yet to start |
| 8 | Battery Charger/Battery bank Schemes | Replacement of 50V Battery bank and Battery chargers at various 33 KV & 66KV Grid Sub-Station in central circle ( 5 nos -50V & 1 no.-220V) | | |
| 9 | RTCC Schemes | Installation of Digital RTCC Panels in BYPL Grid Sub-Station. | | |
| 10 | Fire Alarm Schemes | Installation of Fire Alarm System in BYPL Grid Sub-Station. | | |
| 11 | C&R Panel Schemes | Replacement of Old Control and Relay Panel at various Grids in BYPL | | |
| 12 | Capacitor bank Schemes | Installation of 11KV, 5.4 MVAR Capacitor Bank at 33 KV Town Hall Grid. | | |
| 13 | Capacitor bank Schemes | Installation of 11KV, 5.4 MVAR Capacitor Bank at 33 KV Shankar Road Grid. | | |
| 14 | Capacitor bank Schemes | Installation of 11KV, 5.4 MVAR Capacitor Bank at 33 KV Dwarkapuri Grid. | | |
| 15 | Capacitor bank Schemes | Installation of 11KV, 5.4 MVAR Capacitor Bank at 66KV Mayur Vihar-2 Grid. | Under Approval | Yet to start |
| 16 | Capacitor bank Schemes | Installation of 11KV, 5.4 MVAR Capacitor Bank at 33KV Preet Vihar Grid. | | |
| 17 | Isolator Schemes | Replacement of 57 nos of Isolator's at various 33KV grid in BYPL | | |
| 18 | Capacitor bank Schemes | Installation of 11KV, 5.4 MVAR Capacitor Bank at 33 KV DMS Grid. | | |
| 19 | Capacitor bank Schemes | Installation of 11KV, 5.4 MVAR Capacitor Bank at 33 KV Anand Parvat Grid. | | |
| 20 | Capacitor bank Schemes | Installation of 11KV, 5.4 MVAR Capacitor Bank at 33 KV Jama Masjid Grid. | | |
| 21 | Capacitor bank Schemes | Installation of 11KV, 5.4 MVAR Capacitor Bank at 33 KV Minto Road Grid. | | |
| 22 | Capacitor bank Schemes | Installation of 11KV, 5.4 MVAR Capacitor Bank at 33 KV B.G. Road Grid. | | |
| 23 | Capacitor bank Schemes | Installation of 11KV, 5.4 MVAR Capacitor Bank at 33 KV G.B Pant Grid. | | |
| 24 | Capacitor bank Schemes | Installation of 11KV, 5.4 MVAR Capacitor Bank at Shastri Park(Central Circle) Grid. | | |

**BRPL** **2014-15**

| S. No. | Type of Scheme | Description | DERC approval Status | Present Status |
|---|---|---|---|---|
| 1 | New Grid With Infeed | **G-4 Dwarka** | Approved | Work in progress. Mar-2016 |
| 2 | Additional Power Tx | Addition of 66/11 kV, 25 MVA PTR at **VSNL** | Approved | Electrical work in progress.Exp.Mar16 |

| 2015-16 | | | | |
|---|---|---|---|---|
| **S. No.** | **Type of Scheme** | **Description** | **DERC approval Status** | **Present Status** |
| 1 | New Grid With Infeed | 66/11 kV Grid Substation at **Mundka** | Approved | In feed work completed. |
| 2 | New Grid With Infeed | 66/11 kV Grid Substation at **G-7 Dwarka** | Approved | Under re-tendering |
| 3 | New Grid With Infeed | 66/11 kV Grid Substation at **Vasant Kunj Institutional Area** | Approved | Equipment installed and yard work in progress Mar-16 |
| 4 | New Grid With Infeed | 66/11 kV Grid Substation at **West of JNU** | Approved | Awarded bluestar, contractor refuse to work, re tender |
| 5 | New Grid With Infeed | 66/11 kV Grid Substation at **Meethapur** | Approved | Under award |
| 6 | New Grid With Infeed | 33/11 kV Grid Substation at **A-43 Mayapuri** + Infeed from 220 kV Naraina | Approved | Work in progress Target:Feb-16 |
| 7 | New Grid With Infeed | 66/11 kV Grid Substation at **Fatehpur Beri** | To be Approved | Work in progress Target:March-16 |
| 8 | New Feeder | Laying of 2 Nos. 33kV 3x400sq.mm. XLPE Cable from proposed 220/33kV **AIIMS Trauma Centre to IIT** Grid s/stn. | Approved | 50% work completed ,Work in progress Target:Feb-16 |
| 9 | New Feeder | Laying of 33 kV double circuit comprising 2x3Cx400 sq.mm XLPE Cables from **Paschim Vihar/Chaukhandi to DC Janakpur**i | To be Approved | Work to be take up |
| 10 | Additional Transformer | Additional Power Transformer at **Kilokari** | To be submitted | Scheme under revision |
| 11 | New Feeder | Laying of One 33 kV Circuit each to **Defence Colony, Lajpat Nagar, NDSE and Hudco** from AIIMS Trauma Centre | To be submitted | Bay to be allotted by DTL, In principal Itôs agreed |
| 12 | Additional Transformer | Additional Power Transformer at **A-4 Paschim Vihar** | To be submitted | Work to be take up |

| 2016-17 | | | |
|---|---|---|---|
| 1 | New Grid With Infeed | 33/11 kV Grid Substation at **Okhla Phase 3** | Approved |
| 2 | | 66/11 kV Grid Substation at **Jasola Media Centre** | Approved |
| 3 | | 33/11 kV Grid Substation at **Court Complex Saket** | Approved |
| 4 | Additional Power | Additional Power Transformer at **Malviya Nagar** | Approved |
| 5 | | Additional Power Transformer at **Andheria Bagh** | Approved |
| 6 | | Additional Power Transformer at **C-DOT** | Not approved |
| 7 | New Feeder | Laying of 12 Nos. D/C 1x630sq.mm. XLPE U/G Cable from 220kV s/stn. **Sarita Vihar to LILO 66kV tower opp. Asia Pacific Inst. Jasola.** | Approved |
| 8 | New Feeder | Laying of 2Nos. 33kV XLPE Cable of Size 3X400Sq.mm. Between **I.P. Stn. (Bay No.7) to 33kV Exhibition-I** Grid S/Stn. and balance from 1No. 33k 3CX400Sq.mm.(Existing) Railway Work shop to Exhibition-I S/Stn | Approved |

## 3.3 IMMEDIATE REVIVAL OF VARIOUS 400KV AND 220KV TRANSMISSION ELEMENTS.

For smooth operation of Delhi system, all elements in DTL should be in healthy position to cater any exigency and peak summer demand. At present, the following 400kV and 200kV elements are under break-down:-

| S. N | Name of the Circuit | Date of break-down | Remarks |
|---|---|---|---|
| 1 | 400kV Bamnauli ï Ballabhgarh Ckt-II | 17.03.2016 at 18.34hrs. | Cable faulty |
| 2 | 220kV Maharani Bagh ï Electric Lane Ckt-II | 17.04.2015 at 18.42hrs. | Cable faulty |
| 3 | 220kV Patparganj ï Gazipur Ckt. | 02.04.2016 at 11.22hrs. | Cable faulty |
| 4 | 220/33kV 100MVA Pr. Tr.-II at Geeta Colony | 02.02.2016 at 13.35hrs. | `RYBôphase bushing damaged. |
| 5 | 400/220kV ICT-IV at Bawana | 08.03.2016 at 12.01hrs. | ICT damaged. |

**DTL may update the revival programme of the above elements.**

## 3.4 CAPACITOR INSTALLATION PLAN

The present capacitor position in Delhi is as under:-

As on 31.03.2016

| **Utility** | **Installed capacity in MVAR (HT)** | **Installed in capacity in MVAR (LT)** | **Total** |
|---|---|---|---|
| BYPL | 890.79 | 102 | 992.79 |
| TPDDL | 826.18 | 119 | 945.18 |
| NDMC | 253.78 | 24.29 | 278.07 |
| DTL | 753.52 | 0.00 | 753.52 |
| BRPL | 1264.49 | 241.80 | 1506.29 |
| RPH | 20.00 | 0 | 20.00 |
| MES | 20.1 | 0 | 20.10 |
| Total | 4028.86 | 487.10 | 4515.95 |

The utilities updated the position of additional capacitors in the last meeting as under:-

| Utility | Planning for installation of additional capacity in MVAR (HT level) 2013-14 | Installed so far in MVAR | Position informed in 12th GCC meeting | Status as on date |
|---|---|---|---|---|
| TPDDL | 72.2 | 36 | 1. 9.6MVAR to be installed at Rani Bagh C.C. in FY 13-14 with new grid.<br>2. 4.8MVAR installed with new transformer at Rohini -23 but not yet energized<br>3. 4.8MVAR to be installed at Shalimarbagh FC in FY 13-14 with new transformer which is yet to be commission.<br>4. 10.08MVAR installed at RG-28 S/Stn but not yet energized.<br>5. 10.8MVAR to be installed at Bawana ï I in FY 13-14 with new grid.<br>6. 10.8MVAR to be installed at Bawana Phase -2 No. 1 in FY 13-14 with new grid | **2. At Ranibagh CC, RG-23, RG-28 SMB-FC:** To be connected later due to less load.<br>2. **At BWN-1:** will be connected in Dec 2015<br>3. Bawana Ph-II No.-1: Grid not commissioned yet. |

| Utility | Planning for installation of additional capacity in MVAR (HT level) | Installed so far in MVAR | Position informed in 12th GCC meeting | Status as on date |
|---|---|---|---|---|
| | 2013-14 | | | |
| BRPL | 167.4 | 10.8 | Additional 256.4MVAr capacity is planned to be added at LT level in 2013-14. Further 10.8MVAR added at GGSH S/stn on 13.02.2013 | DERC approval for LT Capacitor (256.4 MVAr) is awaited.<br>21.6 MVAr Capacitor commissioned at Hastsal Grid in June 2013. 21.6 MVAr Capacitor commissioned at DJB Najafgarh. 43.2 MVAr Capacitor is expected to be commissioned at G-4 Dwarka & Mundka by Oct ï 2016. |
| BYPL | 108 | 5.4 | Approval for 32.4MVAr has already been accorded by DERC. 5.4MVAR added at Jama Masjid S/stn on 12.06.12. | 10.8MVAr capacity has been added up at 66kV New Kondli S/Stn at 11kV side.<br>The following plan has already been drawn out to commission by March 2015 |
| MES | -- | -- | The installed capacity 21.1MVAR is sufficient to meet the load of MES. However for voltage regulation they have planned additional capacity at LT level for 2013-14. | |
| Total | **473.6** | **97.56** | | |

| SN | S/Stn | Capacity at 11kV in MVAR |
|---|---|---|
| 1 | DDU Marg | 10.8--commissioned |
| 2 | Kanti Nagar | 5.4-Commissioned |
| 3 | Khichripur | 5.4 |
| 4 | CBD-II | 5.4-Commisioned |
| 5 | Delhi Gate | 5.4 |
| 6 | GH-1 | 5.4 |
| 7 | Bhagirathi | 5.4 |
| | Total | 43.2 |

In the 13th GCC meeting, it was informed that the study for requirement of capacitors and reactors for Delhi was got carried out by CPRI which indicated that the reactive power compensation in Delhi is more than adequate. The report was accepted by all the stake holders of Delhi. However, as far as installation of reactors is concerned, the validation of network has been done by Planning Department of DTL and submitted to power grid which will carry out the requirement of reactors based on the validated network data and would plan for installing of reactors at 400kV level.

Further, attention is drawn towards the Weekly Reactive Energy Accounts issues by NRPC. SLDC has compiled the data w.r.t. MVAR drawal / injection for the year 2015-16. The week wise details are as under:-

| Week No. | Duration | | | MVARh Drawal | | Amount in Rs. Lacs | | Net Amount in Rs. Lacs |
|---|---|---|---|---|---|---|---|---|
| | | | | High Voltage | Low Voltage | High Voltage | Low Voltage | |
| 1 | 30-Mar-15 | -- | 5-Apr-15 | 6595.00 | 2.80 | -8.05209 | 0.00336 | -8.04873 |
| 2 | 6-Apr-15 | -- | 12-Apr-15 | 9025.80 | 2.80 | -11.28225 | 0.00350 | -11.27875 |
| 3 | 13-Apr-15 | -- | 19-Apr-15 | 11320.50 | 0.00 | -14.15063 | 0.00000 | -14.15063 |
| 4 | 20-Apr-15 | -- | 26-Apr-15 | 9928.90 | 26.10 | -12.41113 | 0.03263 | -12.37850 |
| 5 | 27-Apr-15 | -- | 3-May-15 | 10282.10 | 103.60 | -12.85263 | 0.12950 | -12.72313 |
| 6 | 4-May-15 | -- | 10-May-15 | -1743.80 | 179.00 | 2.17975 | 0.22375 | 2.40350 |
| 7 | 11-May-15 | -- | 17-May-15 | 8559.20 | 352.60 | -10.69900 | 0.44075 | -10.25825 |
| 8 | 18-May-15 | -- | 24-May-15 | 1894.50 | 113.60 | -2.36813 | 0.14200 | -2.22613 |
| 9 | 25-May-15 | -- | 31-May-15 | 780.60 | 287.70 | -0.97575 | 0.35963 | -0.61613 |
| 10 | 1-Jun-15 | -- | 7-Jun-15 | 2196.80 | 38.80 | -2.74600 | 0.04850 | -2.69750 |

| Week No. | Duration | | | MVARh Drawal | | Amount in Rs. Lacs | | Net Amount in Rs. Lacs |
|---|---|---|---|---|---|---|---|---|
| | | | | High Voltage | Low Voltage | High Voltage | Low Voltage | |
| 11 | 8-Jun-15 | -- | 14-Jun-15 | 1815.20 | 354.10 | -2.26900 | 0.44263 | -1.82638 |
| 12 | 15-Jun-15 | -- | 21-Jun-15 | 1279.40 | 236.40 | -1.59925 | 0.29550 | -1.30375 |
| 13 | 22-Jun-15 | -- | 28-Jun-15 | 3057.10 | 185.90 | -3.82138 | 0.23238 | -3.58900 |
| 14 | 29-Jun-15 | -- | 5-Jul-15 | 2535.30 | 53.50 | -3.16913 | 0.06688 | -3.10225 |
| 15 | 6-Jul-15 | -- | 12-Jul-15 | 14176.70 | 119.30 | -17.72088 | 0.14913 | -17.57175 |
| 16 | 13-Jul-15 | -- | 19-Jul-15 | 4126.70 | 65.90 | -5.15838 | 0.08238 | -5.07600 |
| 17 | 20-Jul-15 | -- | 26-Jul-15 | 3202.20 | 82.40 | -4.00275 | 0.10300 | -3.89975 |
| 18 | 27-Jul-15 | -- | 2-Aug-15 | 1493.00 | 0.00 | -1.86625 | 0.00000 | -1.86625 |
| 19 | 3-Aug-15 | -- | 9-Aug-15 | 39110.60 | 54714.20 | -48.88825 | 68.39275 | 19.50450 |
| 20 | 10-Aug-15 | -- | 16-Aug-15 | 5174.10 | 23.40 | -6.46763 | 0.02925 | -6.43838 |
| 21 | 17-Aug-15 | -- | 23-Aug-15 | 2052.30 | 142.20 | -2.56538 | 0.17775 | -2.38763 |
| 22 | 24-Aug-15 | -- | 30-Aug-15 | 637.80 | 88.40 | -0.79725 | 0.11050 | -0.68675 |
| 23 | 31-Aug-15 | -- | 6-Sep-15 | -680.30 | 70.10 | 0.85038 | 0.08763 | 0.93800 |
| 24 | 7-Sep-15 | -- | 13-Sep-15 | -542.00 | 38.60 | 0.67750 | 0.04825 | 0.72575 |
| 25 | 14-Sep-15 | -- | 20-Sep-15 | 9114.80 | 111.70 | -11.39350 | 0.13963 | -11.25388 |
| 26 | 21-Sep-15 | -- | 27-Sep-15 | 9052.60 | 27.90 | -11.31575 | 0.03488 | -11.28088 |
| 27 | 28-Sep-15 | -- | 4-Oct-15 | 2366.70 | 63.70 | -2.95838 | 0.07963 | -2.87875 |
| 28 | 5-Oct-15 | -- | 11-Oct-15 | 2106.60 | -36.40 | -2.63325 | -0.04550 | -2.67875 |
| 29 | 12-Oct-15 | -- | 18-Oct-15 | 5327.20 | 28.60 | -6.65900 | 0.03575 | -6.62325 |
| 30 | 19-Oct-15 | -- | 25-Oct-15 | 3678.40 | 53.60 | -4.59800 | 0.06700 | -4.53100 |
| 31 | 26-Oct-15 | -- | 1-Nov-15 | 43718.70 | 52952.80 | -54.64838 | 66.19100 | 11.54263 |
| 32 | 2-Nov-15 | -- | 8-Nov-15 | -7307.90 | 22.90 | 9.13488 | 0.02863 | 9.16350 |
| 33 | 9-Nov-15 | -- | 15-Nov-15 | -11633.80 | 2.40 | 14.54225 | 0.00300 | 14.54525 |
| 34 | 16-Nov-15 | -- | 22-Nov-15 | -10130.70 | 0.00 | 12.66338 | 0.00000 | 12.66338 |
| 35 | 23-Nov-15 | -- | 29-Nov-15 | -15325.10 | 2.70 | 19.15638 | 0.00338 | 19.15975 |
| 36 | 30-Nov-15 | -- | 6-Dec-15 | -13971.10 | 3.40 | 17.46388 | 0.00425 | 17.46813 |
| 37 | 7-Dec-15 | -- | 13-Dec-15 | -15086.70 | 4.90 | 18.85838 | 0.00613 | 18.86450 |
| 38 | 14-Dec-15 | -- | 20-Dec-15 | -19114.60 | 5.70 | 23.89325 | 0.00713 | 23.90038 |
| 39 | 21-Dec-15 | -- | 27-Dec-15 | -23206.30 | 2.20 | 29.00788 | 0.00275 | 29.01063 |
| 40 | 28-Dec-15 | -- | 3-Jan-16 | -22447.20 | 1.30 | 28.05900 | 0.00163 | 28.06063 |
| 41 | 4-Jan-16 | -- | 10-Jan-16 | -20804.80 | 3.50 | 26.00600 | 0.00438 | 26.01038 |
| 42 | 11-Jan-16 | -- | 17-Jan-16 | -23119.30 | -8.00 | 28.89913 | -0.01000 | 28.88913 |
| 43 | 18-Jan-16 | -- | 24-Jan-16 | -22867.00 | 1.90 | 28.58375 | 0.00238 | 28.58613 |
| 44 | 25-Jan-16 | -- | 31-Jan-16 | -26143.80 | -0.40 | 32.67975 | -0.00050 | 32.67925 |
| 45 | 1-Feb-16 | -- | 7-Feb-16 | -24100.40 | 0.00 | 30.12550 | 0.00000 | 30.12550 |
| 46 | 8-Feb-16 | -- | 14-Feb-16 | -27748.40 | 6.10 | 34.68550 | 0.00763 | 34.69313 |
| 47 | 15-Feb-16 | -- | 21-Feb-16 | -29437.90 | 0.00 | 36.79738 | 0.00000 | 36.79738 |
| 48 | 22-Feb-16 | -- | 28-Feb-16 | -27303.50 | 0.00 | 34.12938 | 0.00000 | 34.12938 |
| 49 | 29-Feb-16 | -- | 6-Mar-16 | -21732.50 | -0.10 | 27.16563 | -0.00013 | 27.16550 |
| 50 | 7-Mar-16 | -- | 13-Mar-16 | -21550.90 | 0.00 | 26.93863 | 0.00000 | 26.93863 |
| 51 | 14-Mar-16 | -- | 20-Mar-16 | -20538.70 | 0.00 | 25.67338 | 0.00000 | 25.67338 |
| 52 | 21-Mar-16 | -- | 27-Mar-16 | -26930.80 | 0.00 | 33.66350 | 0.00000 | 33.66350 |
| **Total** | | | | **-218858.70** | **110531.8** | **273.76504** | **138.1646** | **411.92965** |

In case of energy, (-)ve indicates injection and in case of amount (-)ve indicates receivable.

From the above table, it is seen that Delhi has been injecting reactive power to Grid at high voltage conditions leading to payment of Rs. 538 Lacs during the period 02.11.2015 to 27.03.2016 to reactive pool account by Delhi. Delhi SLDC is regularly issuing advisories to generators and Grid S/Stns on real time basis for correctives measures to avert high voltage conditions.

**Monthly reactive power drawal / injection by Discoms for the year 2015-16 (upto February 2016)**

| Month | TPDDPL | | | | |
|---|---|---|---|---|---|
| | MVARh Drawal | | Amount in Rs. Lacs | | Net Amount in Rs. Lacs |
| | High Voltage | Low Voltage | High Voltage | Low Voltage | |
| Apr-15 | 4464.3 | -1483.2 | -5.58038 | -1.85400 | -7.43438 |
| May-15 | 1116.5 | 2189.1 | -1.39563 | 2.73638 | 1.34075 |
| Jun-15 | -110.2 | -680.1 | 0.13775 | -0.85013 | -0.71238 |
| Jul-15 | 2369.5 | 431.2 | -2.96188 | 0.53900 | -2.42288 |
| Aug-15 | -1011.1 | 516.5 | 1.26388 | 0.64563 | 1.90950 |
| Sep-15 | 983.2 | 89.3 | -1.22900 | 0.11163 | -1.11738 |
| Oct-15 | 3621.6 | -1849.6 | -4.52700 | -2.31200 | -6.83900 |
| Nov-15 | -6085.8 | -2318.5 | 7.60725 | -2.89813 | 4.70913 |
| Dec-15 | -13712.4 | -4697.7 | 17.14050 | -5.87213 | 11.26838 |
| Jan-16 | -12792.4 | -4324.8 | 15.99050 | -5.40600 | 10.58450 |
| Feb-16 | -10162.0 | -3535.4 | 12.70250 | -4.41925 | 8.28325 |
| Mar-16 | | | 0.00000 | 0.00000 | 0.00000 |
| **Total** | **-31318.800** | **-15663.200** | **39.14850** | **-19.57900** | **19.56950** |

| Month | BRPL | | | | |
|---|---|---|---|---|---|
| | MVARh Drawal | | Amount in Rs. Lacs | | Net Amount in Rs. Lacs |
| | High Voltage | Low Voltage | High Voltage | Low Voltage | |
| Apr-15 | 9334.5 | 4596.8 | -11.66813 | 5.74600 | -5.92213 |
| May-15 | -2229.4 | 14174.0 | 2.78675 | 17.71750 | 20.50425 |
| Jun-15 | -498.7 | 16183.7 | 0.62338 | 20.22963 | 20.85300 |
| Jul-15 | 2331.4 | 7442.7 | -2.91425 | 9.30338 | 6.38913 |
| Aug-15 | 2042.4 | 3787.7 | -2.55300 | 4.73463 | 2.18163 |
| Sep-15 | 3038.1 | 2520.8 | -3.79763 | 3.15100 | -0.64663 |
| Oct-15 | 4029.5 | -2195.2 | -5.03688 | -2.74400 | -7.78088 |
| Nov-15 | 939.4 | -3532.5 | -1.17425 | -4.41563 | -5.58988 |
| Dec-15 | -10247.1 | -3877.9 | 12.80888 | -4.84738 | 7.96150 |
| Jan-16 | -14412.1 | -3896.6 | 18.01513 | -4.87075 | 13.14438 |
| Feb-16 | -13709.5 | -3953.1 | 17.13688 | -4.94138 | 12.19550 |
| Mar-16 | | | 0.00000 | 0.00000 | 0.00000 |
| **Total** | **-19381.500** | **31250.400** | **24.22688** | **39.06300** | **63.28988** |

| Month | BYPL | | | | |
|---|---|---|---|---|---|
| | MVARh Drawal | | Amount in Rs. Lacs | | Net Amount in Rs. Lacs |
| | High Voltage | Low Voltage | High Voltage | Low Voltage | |
| Apr-15 | 5937.6 | -7359.0 | -7.42200 | -9.19875 | -16.62075 |
| May-15 | -124.9 | 5372.6 | 0.15613 | 6.71575 | 6.87188 |
| Jun-15 | -1690.4 | 5986.3 | 2.11300 | 7.48288 | 9.59588 |
| Jul-15 | 1818.7 | 1694.5 | -2.27338 | 2.11813 | -0.15525 |
| Aug-15 | 1881.6 | 5944.4 | -2.35200 | 7.43050 | 5.07850 |

| BYPL | | | | | |
|---|---|---|---|---|---|
| Month | MVARh Drawal | | Amount in Rs. Lacs | | Net Amount in Rs. Lacs |
| | High Voltage | Low Voltage | High Voltage | Low Voltage | |
| Sep-15 | -563.8 | 7216.1 | 0.70475 | 9.02013 | 9.72488 |
| Oct-15 | 7513.7 | -3120.9 | -9.39213 | -3.90113 | -13.29325 |
| Nov-15 | 7848.7 | -7562.2 | -9.81088 | -9.45275 | -19.26363 |
| Dec-15 | -8055.0 | -1815.5 | 10.06875 | -2.26938 | 7.79938 |
| Jan-16 | -9025.5 | -6973.3 | 11.28188 | -8.71663 | 2.56525 |
| Feb-16 | -7715.4 | -7580.8 | 9.64425 | -9.47600 | 0.16825 |
| Mar-16 | | | 0.00000 | 0.00000 | 0.00000 |
| **Total** | **-2174.700** | **-8197.800** | **2.71838** | **-10.24725** | **-7.52888** |

| NDMC | | | | | |
|---|---|---|---|---|---|
| Month | MVARh Drawal | | Amount in Rs. Lacs | | Net Amount in Rs. Lacs |
| | High Voltage | Low Voltage | High Voltage | Low Voltage | |
| Apr-15 | 5540.6 | 1755.7 | -6.92575 | 2.19463 | -4.73113 |
| May-15 | 1085.2 | 9746.0 | -1.35650 | 12.18250 | 10.82600 |
| Jun-15 | 1148.2 | 7601.0 | -1.43525 | 9.50125 | 8.06600 |
| Jul-15 | 2142.5 | 5802.2 | -2.67813 | 7.25275 | 4.57463 |
| Aug-15 | 2774.4 | 5719.1 | -3.46800 | 7.14888 | 3.68088 |
| Sep-15 | 2751.1 | 5114.6 | -3.43888 | 6.39325 | 2.95438 |
| Oct-15 | 4583.3 | 156.1 | -5.72913 | 0.19513 | -5.53400 |
| Nov-15 | 6510.8 | -684.7 | -8.13850 | -0.85588 | -8.99438 |
| Dec-15 | 4400.4 | -1899.7 | -5.50050 | -2.37463 | -7.87513 |
| Jan-16 | 1961.8 | -2289.9 | -2.45225 | -2.86238 | -5.31463 |
| Feb-16 | 2258.5 | -1278.7 | -2.82313 | -1.59838 | -4.42150 |
| Mar-16 | | | 0.00000 | 0.00000 | 0.00000 |
| **Total** | **35156.800** | **29741.700** | **-43.94600** | **37.17713** | **-6.76888** |

| MES | | | | | |
|---|---|---|---|---|---|
| Month | MVARh Drawal | | Amount in Rs. Lacs | | Net Amount in Rs. Lacs |
| | High Voltage | Low Voltage | High Voltage | Low Voltage | |
| Apr-15 | 191.0 | 1141.0 | -0.23875 | 1.42625 | 1.18750 |
| May-15 | 7.3 | 2756.6 | -0.00913 | 3.44575 | 3.43663 |
| Jun-15 | 7.1 | 297.9 | -0.00888 | 0.37239 | 0.36351 |
| Jul-15 | 67.6 | 1925.8 | -0.08450 | 2.40725 | 2.32275 |
| Aug-15 | 42.5 | 1871.1 | -0.05313 | 2.33888 | 2.28575 |
| Sep-15 | 24.8 | 2270.6 | -0.03100 | 2.83825 | 2.80725 |
| Oct-15 | 109.7 | 1212.1 | -0.13713 | 1.51513 | 1.37800 |
| Nov-15 | 327.8 | 355.2 | -0.40975 | 0.44400 | 0.03425 |
| Dec-15 | 241.1 | 484.4 | -0.30138 | 0.60550 | 0.30413 |
| Jan-16 | 177.3 | 640.8 | -0.22163 | 0.80100 | 0.57938 |
| Feb-16 | 165.6 | 308.2 | -0.20700 | 0.38525 | 0.17825 |
| Mar-16 | | | 0.00000 | 0.00000 | 0.00000 |
| **Total** | **1361.800** | **13263.710** | **-1.70225** | **16.57964** | **14.87739** |

| Month | TOTAL DISCOMS | | | | |
|---|---|---|---|---|---|
| | MVARh Drawal | | Amount in Rs. Lacs | | Net Amount in Rs. Lacs |
| | High Voltage | Low Voltage | High Voltage | Low Voltage | |
| **Apr-15** | 25468.000 | -1348.700 | -31.83500 | -1.68588 | -33.52088 |
| **May-15** | -145.300 | 34238.300 | 0.18163 | 42.79788 | 42.97950 |
| **Jun-15** | -1144.000 | 29388.810 | 1.43000 | 36.73601 | 38.16601 |
| **Jul-15** | 8729.700 | 17296.400 | -10.91213 | 21.62050 | 10.70838 |
| **Aug-15** | 5729.800 | 17838.800 | -7.16225 | 22.29850 | 15.13625 |
| **Sep-15** | 6233.400 | 17211.400 | -7.79175 | 21.51425 | 13.72250 |
| **Oct-15** | 19857.800 | -5797.500 | -24.82225 | -7.24688 | -32.06913 |
| **Nov-15** | 9540.900 | -13742.700 | -11.92613 | -17.17838 | -29.10450 |
| **Dec-15** | -27373.000 | -11806.400 | 34.21625 | -14.75800 | 19.45825 |
| **Jan-16** | -34090.900 | -16843.800 | 42.61363 | -21.05475 | 21.55888 |
| **Feb-16** | -29162.800 | -16039.800 | 36.45350 | -20.04975 | 16.40375 |
| **Mar-16** | 0.000 | 0.000 | 0.00000 | 0.00000 | 0.00000 |
| **Total** | **-16356.400** | **50394.810** | **20.44550** | **62.99351** | **83.43901** |

GCC may deliberate the issue.

## 3.5 REPLACEMENT OF CONDUCTORS OF 220KV NARELA – ROHTAK ROAD DOUBLE CKT LINE.

It has been apprised in 11th GCC meeting that outlet from the 400kV ISTS at Inderlok (earlier Karampura) to 220kV Rohtak Road S/Stn. is proposed to be established by 2015-16. As such, the proposal of LILO of 220kV Wazirpur - Peeragarhi (one circuit) at Rohtak Road is dropped. BBMB was approached for re-conductoring of existing 220kV Narela - Rohtak Road D/C Line with HTLS conductors. However, BBMB representative informed that DTL may carry out re-conductoirng work of the line but the ownership of the line will remain under BBMB.

During last meeting, GCC had advised the Planning Department of DTL to take up the matter with CEA and explore the possibility of re-conducting of 220kV Narela ï Rohtak Road Ckt-I & II.

However, it is understood that the plan for 400kV Karampura ISTS has been shelved. As such, in the absence of any alternate source for Rohtak Road, DTL & Distribution Licensees should plan a comprehensive shut-down programme for reconductoring of 220kV Narela ï Rohtak Road Ckt-I & II during the period October to March so that there would not be any problem in shifting the entire load of Rohtak Road S/Stn. Discoms should also explore the possibility of providing alternate feeds to sub-stations having radial feed / single source from Rohtak Road S/Stn.

Planning Department to update the status.

## 3.6 NON USAGE OF BAYS ALLOTTD TO VARIOUS UTILITIES FROM DTL SUB-STATIONS.

The position of unutilized bays at various newly commissioned DTL sub-stations was updated by the utilities in the last meeting are as under:

| S N. | Name of 400/220kV S/Stns. | Details of non utilization of bays | | | | |
|---|---|---|---|---|---|---|
| | | Voltage level | Name of bay | Name of the utility to whom the bay is allocated | Original allocation date | Present status |
| 1 | 220kV Trauma Centre | 33kV | 1. Race Course<br><br>2 Jor Bagh (Ali Ganj) | NDMC<br><br>NDMC | 19.11.09<br><br>17.06.11 | 1.80% work has been completed. Work is held up due to non availability of cables which is being arranged on priority basis.<br>2. Deposit work of CPWD. Sub-station work has been completed almost. 50% of the cable has been laid but work held up due to non availability of cables which is being arranged on priority basis. |
| | | 33kV | 1.IIT | BRPL | | 3. 40% Cabling work completed. Work has been re-awarded and Road Cutting Permission is being pursued. |
| 2 | 220kV Electric Lane | 33kV | 1. Vidyut Bhawan<br>2 . Hanuman Road<br><br>3. Janpath Lane.<br><br>4 Church Road<br><br>5 Delhi High Court<br><br>**Total = 5 Bays** | NDMC | 19.11.09 | 1. Cabling work is held work for want of cable which is being arranged on priority basis.<br>2. The cable laying work almost completed.<br><br>3. Land allocation for Janpath Sub-station is still awaited. However, it has been proposed by NDMC to use this Bay for new proposed 33kV Sub-station at Parliament Annexe for which land has been allocated.<br>4. Bay allocated to DMRC by NDMC for their upcoming project in Ph-3<br><br>5. The land allocation for the S/stn at Delhi High Court premises has not been obtained so far. However, NDMC is planning to terminate the cable at some other S/stn which is under planning stage |
| 3 | 220kV DSIDC Bawana | 66kV | 1 Bawana-7<br>2 Bawana-7<br><br>**Total = 2 Bays** | TPDDL | 19.11.09 | DERC has approved the scheme in 2012. It is a deposit work of DSIIDC. Further, DSIDC has yet to deposit the amount for which demand note has already been raised. One of the Bays allotted for Bawana-7 S/stn has been allotted to the upcoming MSW plant. This bay would be established by the time of commissioning of Bawana-7 S/stn. |
| 5 | 400kV Mundka | 66kV | 1.66kV Bakar wala ckt-I<br>2.66kV Bakar wala ckt-II<br><br>3.66kV Paschim Vihar<br><br>**Total = 3 Bays** | BRPL | 19.11.09 | 1&2<br>Bakkarwala grid shall be a deposit work of DDA. Construction of Grid has not been taken up as development in the area is slow and hence the load requirement has not come up.<br>3. Scheme for 66kV circuit was dropped as the route length of the circuit is approx. 18 Km, which is considered to be non-maintainable.<br>This bay is being planned to utilise for upcoming Grid at Dichaun Kalan, for which the scheme is under approval by DERC. |
| | | | 1.66kV Mangolpuri-II<br><br>2.66kV Kirari Sultan Puri Ckt.-I<br>3.66kV Kirari Sultan Puri Ckt.-II<br>**Total = 3 Bays** | TPDDL | 19.11.09 | 1 Being the less priority item as Mangolpuri S/Stn. has Sufficient in feed capacity the scheme has been shifted for 2016-17 Capex schemes.<br>For 2&3 the Sub-stn is envisaged in 2015-16 and by the time the Ckt would be readied. The matter has been taken up with Delhi Govt for allocation of land for establishment of 66kV Grid S/Stn. As on date, land has not been allocated by Delhi Govt. |

| S N. | Name of 400/220kV S/Stns. | Details of non utilization of bays | | | | |
|---|---|---|---|---|---|---|
| | | Voltage level | Name of bay | Name of the utility to whom the bay is allocated | Original allocation date | Present status |
| 6 | 400kV Harsh Vihar | 66kV | **2 bays - DMRC** | DMRC | 12.04.10 | DMRC for Phase-III expansion. |
| 7 | 220kV Peeragarhi | 220/33 kV | 1 Sudarshan Park<br>**Total = 1 Bays**<br>1 Peeragarhi Ckt-I<br>2 Peeragarhi Ckt-II<br>**Total = 2 Bays** | TPDDL<br>BRPL | 12.04.10 | 1 Under tending process<br>1. Peeragarhi ï I & II shall be taken up with construction of 33kV Peeragarhi grid at the same plot by BRPL |

## 3.7 DISCOMS GRID SUB-STATIONS HAVING SINGLE SOURCE.

The following Grid Sub-Stations Discoms are having single source :-

| Sr. N. | Name of the Grid | Source | Utility |
|---|---|---|---|
| 1 | 33kV Janakpuri Dist Centre | Pankha Road | BRPL |
| 2 | 33kV SB Mills | 33kV Rohtak Road | BRPL |
| 3 | 33kV BG Road | 220kV Subzi Mandi | BYPL |
| 4 | 66kV Jafarpur | 220kV Najafgarh | BRPL |
| 5 | 33kV PUSA | 220kV Park Street via Shastri Park | TPDDL |
| 6 | 33kV India Habitat Centre | 220kV Lodhi Road | BRPL |

Concerned Discoms to make arrangements for giving second feed to these Grids.

## 3.8 LONG OUTAGE OF ELEMENTS OF DELHI POWER SYSTEM

The status of long outage of elements was perused as under:-

| Sr. No. | Name of feeder | Name of Utility | Date of outage | Time of outage | Reasons |
|---|---|---|---|---|---|
| 1 | 66KV VASANT KUNJ ï RIDGE VALLEY CKT-II | BRPL | 13.01.14 | 17:20 | Contract is to be awarded for laying new cable. Expected by 31.05.2016. |
| 2 | 33KV BAY -3 (IP - KILOKRI) | BRPL | 22.02.11 | 13:10 | Clearance from Railways for laying of Underground cables near Bhairon Road is pending. GCC advised BRPL to inform DTL after awarding of the said work. |
| 3 | 33KV NIZAMUDDIN ï EXHIBITION GROUND-I CKT. | BRPL | 20.01.15 | 14.00 | Put off due to frequent cable faults |
| 4 | 33KV RIDGE VALLEY ï KHEBAR LINE CKT-I | BRPL | 08.02.15 | 10.30 | Breaker faulty. To be revamped by including in GIS. Expected by 31.03.2016. |
| 5 | 20MVA PR. TR.-III AT C-DOT | BRPL | 12.11.15 | 06.53 | Under shut-down. Expected by 30.04.2016. |
| 6 | 33KV RIDGE VALLEY ï KHEBAR LINE CKT-I | BRPL | 31.01.2016 | 00:47 | `RõPhase cable faulty. |
| 7 | 66KV VASANT KUNJ ï RIDGE VALLEY CKT-I | BRPL | 25.02.16 | 15.10 | under shut-down |
| 8 | 33KV RIDGE VALLEY ï AIIMS CKT. | BRPL | 02.04.16 | 14.45 | single cable faulty |
| 9 | 66KV MUNDKA ï NANGLOI CKT. | BRPL | 09.05.15 | 1.17 | circuit put off on 18.01.2015. |
| 10 | 33KV ROHTAK ROAD ï VISHAL CKT-I | BRPL | 01.04.15 | 20.58 | |
| 11 | 66KV HASTHAL ï GGSH CKT-I | BRPL | 03.04.16 | 13.05 | `YõPHASE CABLE FAULTY |
| 12 | 66KV OKHLA (220KV) - OKHLA PHASE-I CKT-II | BRPL | 18.04.16 | 19.13 | `RõPHASE CT DAMAGED. |

**Discoms are requested to rectify the faults as summer has already been approached.**

## 4 BRPL AGENDA.

### 4.1 Drawl of Power by Alwer 220KV ckt from sharing BTPS.

DPCC has directed closure of 3x95 MW units of BTPS due to the unitsô inability to meet the pollution norms. In view of above, these units shall not be synchronized.

At present, 220 kV circuit is extended to Alwar from BTPS bus and it is drawing nearly 80 ï 100 MW during peak load (summer). BTPS bus is already having less availability of power to meet the summer load requirement. Therefore SLDC will take up with NRLDC to stop this drawl of power and pursue with Rajasthan to stop drawal of power from BTPS bus through this Alwar 220 Kv Feeder, as Gwalior - Fagi line is already commissioned and supplying sufficient power to Dausa area.

In order to relieve the transmission network around BTPS, it is propose that NRLDC to work out possibility for injection of 100 ï 150 MW via existing 220 kV Alwar line at BTPS bus. This shall help in relieving the transmission network around BTPS.

### 4.2 BTPS – BALLABHGARH CKT

This ckt is not used by BBMB for transferring any power as BTPS generation is no longer sufficient for supply power to Delhi area. Secondly BTPS purchase cost is also on very high side and even not meeting norms of DPCC.

Therefore this asset of BBMS is of no use to them at present or in future. In the national interest this ckt need to be transferred to PGCIL/DTL and augmented to HTLS. After augmentation this ckt can be used to draw power from Samaypur/Ballabhgarh to meet the requirement of Delhi from 400 KV network and around Delhi.

This will also helpful to draw more power from Jhatikara S/stn or Jajjar generation unit as their generation cost is going downwards in coming future and Jajjar generation can be fully utilized.

### 4.3 Jhatikara 735/400KV S/stn is in the outskirts of West Delhi where no other S/Stn of DTL is exist at 220KV level.

There is no plan of DTL to bring any S/stn of 220KV level soon in this area of West Delhi having highest growth and meeting the load of this area will be a challenge for BRPL and DTL.

One S/stn of PGCIL is at Jhatikara is having 735/400 KV level at present and it is at load centre of last stretch of West delhi.

The plan can be work out if 220KV level establish at this grid S/stn and DTL commission its grid by taking land from PGCIL and give supply at 66KV level to BRPL for future distribution.

## 4.4 DC restriction to 100% installed capacity of Plant.

REA for the month of Feb-2016 issued by NRPC where the plants have been given PAFM greater than 100% which implies that DC of these plants have been greater than 100% of their Installed Capacity.

| Power Station | PAFM % |
|---|---|
| Anta | 101.383 |
| DADRI GPP | 100.7 |
| DADRI TPS | 106.037 |
| DADRI TPS II | 105.164 |
| NATHPA JHAKRI HEP | 107.689 |
| Rihand-II | 101.68 |
| Rihand-III | 102.607 |
| UNCHAHAR-I TPS | 106.116 |
| UNCHAHAR-I I TPS | 105.704 |
| UNCHAHAR-I II TPS | 105.704 |

However as per clause 22 of CERC order- Petition No. 302/MP/2013 Dated 23.10.2015 states that the units of plant cannot be scheduled beyond the 100% of installed capacity & the same is reproduced below.

*"22. On the issue of keeping margins while scheduling of the units, we are of the view that the units should not be scheduled by RLDCs/SLDCs beyond ex-bus generation corresponding to 100% of the Installed Capacity. ……."*

Hence RLDC/SLDC should not allow declared capacity (DC) of a plant to be greater that 100% of installed capacity.

NRLDC has also endorsed this stand during the 117th OCC meeting, where in NRLDC has stated that a generator cannot declare DC greater than its installed capacity & the relevant clause is reproduced below.

*" ……. He conveyed that it may be seen that CERC directed that RLDC/SLDC shall not schedule generating units beyond 100% of installed capacity to keep margin for FGMO/RGMO. Henceforth, NRLDC requested all generating units to ensure that DC declared/scheduled should be within or equal to 100% of installed capacity……."*

In view of this we would request SLDC to take up this matter NRLDC to revise the DC of all plants which are greater than 100% of installed capacity to enable NRPC to revise those REAs as well.

## 5 DISASTER MANAGEMENT PLAN – Agenda by TPDDL

A proper disaster management mechanism needs to be developed at SLDC level for proper coordination to tackle power crisis situations.

### 5.1 Creation of Disaster Management Team:

During contingency period, all Load Dispatch Center (Control Room) of TRANSCO as well as DISCOM become busy in operation. Due to this chaotic

situation, necessary information flow (like actual tripping due to which our load is affected, persisting system constraints, restoration plan, expected time of restoration) stuck up. In TPDDL view, all constituents of Delhi Power Utility have to create a team consisting at least 2 persons from each utility, who will be responsible for exchanging necessary information. All members may suggest how to handle such situation in a better manner.

**5.2 Status of ERS:**

In order to have good Disaster Management Mechanism, one should have proper plan to restore or normalize the situation after disaster occur. In this regard TPDDL want to know status of ERS of DTL and how much time DTL will take to restore Tower either through ERS or any other means if any Tower collapse.

**5.3 Emergency Operation Plan**

In order to restore or normalize the situation in minimum possible time after disaster occur, Emergency Restoration Procedures and Back-feeding possibilities from 220kV Grids should be available in well documented manner. Earlier DTL had created such document in 2004 which needs to be updated due to change in Power Networks.

**5.4 Load Shedding on basis of assign quantum**

If any contingency occur due to which load has to shed, then normally some feeder is switched off till problem resolve. Multiple tripping due to heavy fog on dated 08.01.2016 can be taken as an example where some feeder from 220kV GPL has been shed for 3- 3.5 hrs. In this regard, our submission is that load restriction should be on assigned quantum basis (in case multiple utility is fed from that Grid) and load shedding should be on rotation basis (rotation for maximum one hour; No feeder should be switched off for more than one hour).

## 6 COMMERCIAL ISSUES.

### 6.1 INTRASTATE UI ACCOUNT

The latest position of payment of Intrastate UI/ DSM accounts (upto Week-41/ 15-16) is as under:-

Amount in Rs. Crores

| UTILITY | AMOUNT IN RUPEES CRORES RECEIVABLE BY UTILITIES | PAYABLE BY UTILITY (position as on 19.04.2016) |
|---|---|---|
| TPDDL | 0.6688037 | -- |
| BRPL | -- | 66.4403266 |
| BYPL | -- | 86.3627102 |
| NDMC | 0.4687928 | -- |
| MES | -- | 0.5572436 |
| IPGCL | -- | 0.0439335 |
| PPCL | -- | -- |
| BTPS | -- | -- |
| **TOTAL** | 1.1375965 | **153.4042139** |

Note: As on date, no payment is due from NRLDC in respect of weekly/ DSM accounts.

Substantial amount of dues are payable by BRPL and BYPL in the tune of Rs. 66.440 Cr and Rs 86.36 Cr respectively. Besides these, IPGCL is also having dues payable by it. All utilities are requested to pay the dues so that lengthy legal proceedings can be obviated.

Further, DERC in its order dated 29.12.2014 had directed SLDC to take appropriate action to recover dues from BRPL for which SLDC is left with no other option than to initiate legal proceedings.

The latest Interest Statement for Intrastate UI / DSM accounts (as on 31.03.2015) is as under:-

| **UI INTEREST STATEMENT AS ON 31.03.2015** | | | |
|---|---|---|---|
| **S.No.** | **UTILITY** | **Receivable by the Utility** | **Payable by the Utility** |
| 1 | IPGCL | 0.4651371 | 0 |
| 2 | PPCL | 1.3062076 | 0 |
| 3 | BTPS | 0 | 1.0411129 |
| 4 | BYPL | 19.9609236 | 0 |
| 5 | BRPL | 0 | 35.1101916 |
| 6 | NDPL | 1.1203549 | 0 |
| 7 | NDMC | 4.9652249 | 0 |
| 8 | MES | 1.2727743 | 0 |
| | Total | 29.0906224 | 36.1513045 |

GCC to deliberate the issue.

## 7 HOSTING OF NEXT MEETING OF GCC

Next meeting of GCC is scheduled to be held during August 2016. GCC may decide the host.

## 8 ANY OTHER ITEM SUBJECT TO APPROVAL OF THE CHAIR