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|  | **पंजीकृत कार्यालय :शक्ति सदन, कोटला रोड़, न्यू दिल्ली-110002**  (Regd. Office Shakti Sadan, Kotla Road, New Delhi-110002)  **कार्यालय उपमहाप्रबंधक (एस.ओ.)**  **Office of Dy. General Manager (SO)**  **एस एल डी सी बिल्डिंग, मिंटो रोड़, न्यू दिल्ली-110002**  SLDC Building, Minto Road, New Delhi-110002  Ph: 23221149 FAX No.23221012 | |
| **No. F./DTL/207/12-13/DGM(SO)/381** | | **Dated : 04.03.2013** | |

**Subject : Agenda of the 8th meeting of Grid Coordination Committee**

Dear Sir, / महोदय

The 8th meeting of the Grid Coordination Committee (GCC) is proposed to be held on 08.03.1013 at 11.00hrs. The meeting is to be hosted by Timarpur Okhla Waste Management Company, Pvt. Ltd (TOWMCL). The venue of the meeting is HOTEL PARKLAND, CC-30 & 31, Nehru Enclave Opp. Nehru Place, New Delhi-110019. For any further information Sh. Shivanand C Dadhich, Manager Electrical – Projects, JITF Urban Infrastructure Ltd., Ph. 9540952302 may be contacted.

The agenda of the meeting is enclosed herewith.

You are requested to make it convenient to attend the meeting

Thanking you,

भवदीय / Yours faithfully

Encl : As above

(**वी.वेणुगोपाल)/(V. Venugopal )**

**(उपमहाप्रबंधक (एस.ओ.)/**Dy. G. M. (SO)

Convener (GCC)

To

|  |  |
| --- | --- |
| 01 | **Sh. A. K. Halder, 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. Bhupinder Nath**  **General Manager (Stores)**, Delhi Transco Ltd.  RPH Complex, RPH, Delhi |
| 03 | **Sh. Roop Kumar**  **General Manager (Planning)**, Delhi Transco Ltd.  Shakti Deep Building, Jhandewalan, Delhi-110055 |
| 04 | **Sh. Prem Parkash,**  **General Manager (O&M)-I,** DTL, 220kVParkstreet S/stn Building, Opp. Talkatora Stadium, Near RML Hospital, Park Street, New Delhi-1, Office Phone - 011-23366462 Fax: 011-23366160 |
| 05 | **Sh. V.K.Garg**  **General Manager (Commercial & Regulatory Affairs),** Delhi Transco Ltd,  IP Estate Bldg, New Delhi-110002 |
| 06 | **Sh. R.K. Tola,**  **General Manager (O&M)-II,** Delhi Transco Ltd.  Shakti Deep Building, Jhandewalan, Delhi-110055 |

|  |  |
| --- | --- |
| 07 | **Sh. P.K.Gupta**  **General Manager (SLDC),** SLDC Delhi  SLDC Building, 33kV Grid S/Stn Building, Minto Road, New Delhi-110002, Phone Office:011-23221091, Fax:011-23221069 |
| 08 | **Sh. H. Vyas,**  **General Manager (Project)-I,** Delhi Transco Ltd.  Shakti Deep Building, Jhandewalan, Delhi-110055 |
| 09 | **Sh. V.K.Gupta,**  **General Manager (Project)-II,** Delhi Transco Ltd.  Shakti Deep Building, Jhandewalan, Delhi-110055 |
| 10 | **Sh. S.K.Mishra,**  **General Manager (Civil)**  Delhi Transco Limited, 220kV Grid S/Stn., Lodhi Road  CGO Complex, New Delhi |
| 11 | **Ms. Kiran Saini**  **Dy. General Manager (SCADA),** SLDC Delhi  SLDC Building, 33kV Grid S/Stn Building, Minto Road, New Delhi-110002 |
| 12 | **Sh. V. V. Sharma**  **General Manager (NRLDC),**  18-A, SJSS Marg, New Delhi-16, Office Phone : 011-26537351, Fax: 011-26852747 |
| 13 | **Sh. Jagdish,**  **Director(Tech), IPGCL / PPCL**  Himadri Building, Rajghat Power House, New Delhi-2. Office Phone : 011-23273544  Fax: 011-23270590 |
| 14 | **Sh. H.K. Chawla**  **Dy. G.M.(Market Operation), NRLDC**  18-A, SJSS Marg, New Delhi-16, Office Phone : 011-26537351, Fax: 011-26852747 |
| 15 | **Sh. A.K. Sharma**  **Head (O&M), BYPL**  Shakti Kiran Building, Karkardooma, Delhi |
| 16 | **Sh. Mukesh Dadhichi**  **Dy.G.M. (SO),** BYPL, Balaji Estate, New Delhi |
| 17 | **Sh. Sunil Kakkar**  **Asstt. VP,** BYPL, Shakti Kiran Building, Karkardooma, Delhi |
| 18 | **Sh. Chandra Mohan**  Sr. Consultant, BRPL, BSES Bhawan, Nehru Place, New Delhi |
| 19 | **Chief Engineer (Transmission System)**, BBMB  SLDC Complex, Sector-28, Industrial Area Phase-I, Chandigarh. |
| 20 | **Sh. Sanjay Banga,**  **HOD(PSC&A), TPDDL**  SCADA Building, Near Netaji Place Subash Place Metro Station, Pitampura, Delhi 34 Phone Office: 011- 27468027, Fax: 011-27468023 |
| 21 | **Sh. Ajay Kumar,**  **VP(PMG), BRPL,**  Building No 20, Nehru Place**,** New Delhi–110019. Off. 39996052 Fax: 011- 3999605 |
| 22 | **Sh. N. K. Kothari,**  **General Manager,**  NTPC, Badarpur BTPS, New Delhi-44 Office Phone: 011- 26949523, Fax: 011- 26949532 |
| 23 | **Col. Ballaney R.N., CWE,**  CWE (Utilities), MES, Delhi Cantt, New Delhi – 110010. Phone Office: 011- 25692364  Fax: 011- 25687850 |
| 24 | **Sh. N.S.Sagar**  **Chief Engineer (Elect),NDMC**  Room No. 1701, 17th Floor, Palika Kendra, Sansad Marg, New Delhi-110001 |
| 25 | **Ms. Anjuli Chandra, Executive Director (Engg.), DERC**  DERC Viniyamak Bhawan, C-Block, Shivalik, New Delhi-17 |
| 26 | **Sh. R.N. Pandey**  **General Manager (Commercial), Aravali Power Company Pvt Ltd. (APCPL)**  1st Floor, Pawan Hans Towers C-14, Sec-1, Noida-201301 |
| 27 | **Sh. Arvind Jhalani, Add. General Manager (Commercial)**, NTPC  NCR Headquarters, R&D Building, A8A, Setor-24, Noida-201301. Fax no. 0120-2410192 |
| 28 | **Sh. Pradeep Mittal**  General Manager, Timarpur – Okhla Waste Management Company Ltd  Jindal ITF Center, 28 Shivaji Marg New Delhi-110015, Ph. 45021983, Fax 45021982 |
| 29 | **Sh. R.K. Bhatnagar,**  **General Manager,** Indira Gandhi Super Thermal Power Station  Jharli, Jhajjar Distt. Haryana Pin-124141, Fax no. 01251-266202, Ph. 01251-266265 |
| 30 | **Sh. Surender Babbar** |
|  | Dy. General Manager (Finance-I), DTL, Shakti Sadan, New Delhi 110002 |
| 31 | **Sh. Harshender Singh**  Dy.G.M (Finance)-II, DTL |
|  |  |

Copy for favour of kind information to :-

* 1. Secretary, DERC, Viniyamak Bhawan, C-Block, Shivalik, New Delhi-17
  2. Chairman and Managing Director, DTL
  3. Chairperson, NDNC, Palika Kendra, Sansad Marg, New Delhi
  4. CEO, POSOCO, B-9, Qutab Institutional Area, Katwaria Sarai New Delhi-110016
  5. Member Secretary, NRPC, Katwaria Sarai, New Delhi-110016
  6. CEO, BSES Rajdhani Power Ltd, BSES Bhawan, Nehru Place, New Delhi-110019
  7. CEO, BSES Yamuna Power Ltd, Shakti Kiran Building, Karkardooma, New Delhi-92
  8. Managing Director, Tata Power Delhi Distribution Ltd.,33kV Grid S/Stn, Hudson Lane, Kingsway Camp, Delhi-110009
  9. Chief Engineer(Utilities),CWE, MES, Kotwali Road, Near Gopi Nath Bazar, Delhi Cantt New Delhi-10
  10. Managing Director, Indraprastha Power Generation Company Ltd (Genco) / Pragati Power Corporation Ltd (PPCL), Himadri, Rajghat Power House, New Delhi-02
  11. Director (Finance), DTL, Shakti Sadan, New Delhi 110002
  12. CEO, JUIL/TOWMCL, JITF Urban, Infrastructure Ltd. Jindal ITF Centre, 28, Shivaji Marg, new Delhi-110015
  13. CEO, Aravali Power Company Pvt. Ltd (APCPL), Pawan Hans Tower, C-14, Sector-1,Noida-201301
  14. Member (Power Regulation), BBMB, Sector-19-B, Madhya Marg, Chandigarh

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**DELHI TRANSCO LTD.**

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

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

SLDC Building, Minto Road, New Delhi – 110 002

Phone No.23221149, 23221175, Fax 23221012, 59

**AGENDA FOR 8th MEETING OF GRID CO-ORDINATION COMMITTEE**

**Time & Date of GCC meeting : 11.00 Hrs. on 08.03.2013**

**Venue : HOTEL PARKLAND, CC-30 & 31, Nehru Enclave Opp.**

**Nehru Place, New Delhi-110019**

**1 Confirmation of the minutes of 7th meeting of GCC held on 31.10.2012.**

The minutes of the 7TH meeting of GCC held on 31.10.2012 have been circulated vide letter no. F.DTL/207/12-13/DGM(SO)/312 dated 07.12.2012 No comments have been received so far.

**GCC may confirm the minutes of the 7th meeting of GCC held on 31.10.2012.**

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

**2.1 Phasing out of Stage-I units of BTPS (95MW X 3).**

BTPS to inform the latest progress in this regard. It has also to inform that the mode of purchase of power from the station either through competitive bidding or through PPA basis.

**ENHANCEMENT OF GRID SECURITY AT BTPS**

In the 31st meeting of Standing Committee of Transmission System Planning of CEA held on 2nd January 2013, the issue has been deliberated. The relevant extract of the minutes of the meeting is reproduced hereunder :-

**10 f) 220 kV BTPS – Ballabhgarh D/C**

POWERGRID explained that 220 kV Ballabhgarh-Badarpur D/c line is a vital link between BTPS and Ballabhgarh, which is used for inter-state power transfer. During summer/ monsoon months the line is overloaded due to heavy import by Delhi to feed South Delhi area. During winter off-peak period the line is overloaded due to export of surplus generation in Delhi. The line overloading has been highlighted by NLDC.

POWERGRID proposed that to take care of above, additional feed to South Delhi is required to be planned directly from 765/400 kV Jhatikara S/s or some other suitable source so as to reduce dependency of South Delhi load on 220 kV Ballabhgarh – Badarpur line. Accordingly, Powergrid proposed a Voltage Source converter station of 500MW connected through HVDC cable from 765/400 kV Jhatikara S/s. DTL proposed a 400kV substation at Mehrauli to feed south Delhi area. POSOCO stated that Samaypur-Mehrauli was planned earlier, but could not be implemented due to severe R-o-W constraints. POSOCO further stated that while carrying out the studies all old units of BTPS within Delhi should be considered as de-commissioned and studies may be carried out.

Member, CEA explained that Delhi has been requesting for evolving a composite scheme for supply of power up to 2022. Member, CEA directed DTL to provide the load, generation and system data on priority so that a comprehensive scheme is evolved.

NTPC informed that BTPS units trip due to unbalanced loading this may also be addressed in the studies.

It was decided that CEA, CTU and DTL would carry out further studies & identify the space availability and submit the detailed proposal in the next meeting.

**Keeping above (point 10 (a to f)) and para 6, 11 17, 36 & 41 in view, following transmission works were proposed as Northern Regional System Strengthening scheme :-**

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• Augmentation of transformation capacity at 400/220 kV Ballabhgarh substation by replacing existing 4x315 MVA ICTs with 4x500 MVA ICTs. The 4x315 MVA ICTs were agreed be kept as regional spares after refurbishment.

• Augmentation of Transformation capacity at Mandola by replacing 4x315MVA ICTs with 4x500 MVA ICTs. The dismantled 315 MVA ICTs were agreed to be maintained as regional spares after refurbishment.

**Planning Department of DTL may update the status on the decision taken in the 31st SEM.**

**2.2. PROVSIONS OF SPARE HOT TRANSFORMER CAPACITY.**

In the 7th meeting of GCC held on 31.10.2012, the position on the issue was informed as under :-

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S.N | Capacity | Present population in nos. | Status of the hot reserve | Acton plan and responsibility |
| 1 | 440/220kV, 315MVA ICT, | 12 | One Tx at 400kV Mundka would be hot reserve. | Provision of 3 transformers of 400/220kV 315MVA Transformers is envisaged at Mundka. It was decided that the 4th Transfomer would be commissioned as a hot reserve for which scheme would be devised by Planning Department of DTL within 1 month. |
| 2 | 220/66kV, 160MVA Tx | 7 | 160MVA Tx earmerked for 220kV Pappan Kalan-II would be the hot reserve. | At Papankalan-II the third transformer envisaged as hot reserve would be put in use to meet the load demand. For hot reserve a scheme would be devised by Planning Department for providing hot resverve at appropriate place within 1 month. |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.N** | **Capacity** | **Present population in nos.** | **Status of the hot reserve** | **Acton plan and responsibility** |
| 3 | 220/66kV, 100MVA Tx | 42 | New Tx. is required to be purchased for hot reserve | The new transformer to be purchased would be of duel ratio i.e. 220/66/33kV and would be placed at appropriate sub station after the site inspections and thereby preperation of scheme by Planning Departemnt of DTL within 1 month. G.M.(O&M)-II suggested Patparganj may be considered for this purposes. G.M.(Plg) assured that after site visit appropriate sub station would be finalized. |
| 4 | 220/33kV, 100MVA Tx, | 33 |
| 5 | 66/33kV 30MVA Tx, | 3 | The 33kV level at Narela is being dedicated for AIR Khampur feeder. Howerver, as per the decision of the Standing Committee, the load is propsed to be transferred to IFSL S/Stn of TPDDL. Thus, the existing Tx. would be hot reserve after the transfer of AIR Khampur load from Narela. | The scheme is with DERC. DERC representative was requested to expidite the scheme so that the transformer at Narela can be spared for Hot reserve. DERC representative agreed. |
| 6 | 66/11kV 20MVA Tx | 23 | One 66/11kV 25MVA got repaired at Mehrauli would be hot reserve. | The transformer reparired at Mehrauli has been utilized for 2nd transformer at Gazipur sub station. The scheme would be prepared by planning department within one month and would be placed at appropriate sub station. |
| 7 | 33/11kV 20/16MVA Tx | 16 | At present, there is no hot reserve. DTL was advised to provide at least one Tx as hot reserve at the earliest. Due to non availability of Hot Reserve, 220kV Shalimar S/Stn is left with only 33/11kV Tx.during the period | Scheme would be prepared by Planning Departemnt of DTL within one month. |

The Planning Department of DTL may update the status.

**2.3 Special Protection Scheme to take care of tripping of one ICT at 400kV Sub-Stations.**

In the 7th Meeting of GCC held on 31.10.12, information provided was as under :

At Bawana, 220kV Najafgarh & Kanjhawala Ckts. would be tripped affecting the load of 250MW to take care of tripping of one ICT. The intelligent system would automatically trip 220kV DSIDC Ckts in case total load relief is less than 250MW.

At Bamnauli, 220kV Najafgarh Ckt. I & II & Papankalan-I Ckt-I& II are covered under SPS to give the load relief of about 250MW to take care of tripping of one ICT. At first 220kV Najafgarh Ckt. I & II would trip and in case total load relief is less than 250MW then 220kV Papankalan-I Ckt. I & II would trip.

It was explained that the relays have been procured for Bawana & Bamnauli and wiring is under progress. Same would be implemented at Bawana & Bamnauli by end of December 2012.

The SPS at Mandaula has been envisaged to trip 220kV Narela & Gopalpur Ckts. and at Maharanibagh the load relief would be obtained through 220kV Lodhi Road Ckts. It was also informed that PGCIL has already implemented the scheme at Mandaula & Maharanibagh S/stns.

BYPL representative opined that such scheme should be implemented to take care of the tripping of any one of the Ckts. between Wazirabad - Geeta Colony-Patparganj - IP section to avoid the collapse of the generating stations of Delhi and load shedding in East and Central part of Delhi.

GM(O&M)-I, DTL intimated that they are already working on the suggestion of BYPL and the testing is likely to be conducted by 15th December, 2012.

G.M.(O&M)-I may update the status.

**2.4 IMPLEMENTATION OF STATE-OF-THE–ART–LOAD MANAGEMENT SCHEME & UNDER FREQUENCY RELAYS BY DISCOMS**

The State-Of-The-Art Load Management System is in place at TPDDL, BRPL & BYPL. NDMC has undertaken that the scheme is envisaged in the SCADA system being implemented by PGCIL. It is understood that the SCADA system has been formally inaugurated.

As such, NDMC may update the status of the scheme.

**2.5 EXECUTION OF CONNECTION AGREEMENT BY PPC FOR PRAGATI (1371MW CCGT)**

In the last GCC meeting held on 31.10.2012, Chairperson, GCC advised PPCL and DTL to sort out the issue and execute the connection agreement which is a statutory requirement without further delay.

PPCL and Commercial Department of DTL to inform the latest status in this regard.

**2.6 OUTSTANDING DUES**

In the last GCC meeting, it was informed that a substantial amount of payment is due to Transmission and Generation Utilities of Delhi. The details provided in the 13th Commercial Sub Committee Meeting held on 27th Feb. 2013 as under:-

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Utility** | **Paying utilities** | | **(Rs. in Crore)** | **Remarks** |
| BRPL | BYPL | Total |
| IPGCL | **556.46** | **462.11** | **1018.57** | **Position as on 26.11.2012 indicates surcharges as on 31.10.2013** |
| PPCL | **472.83** | **349.07** | **821.90** |  |
| Total | **1029.29** | **811.18** | **1840.47** |  |
| DTL | **492.55** | **308.47** | **801.02** |  |
| APCPL | **102.77** | **96.01** | **198.78** | **Surcharge upto 30.09.2012 for BYPL is Rs. 0.24 Crores and BRPL is Rs. 2.81 Crores.** |

The issue was discussed in the last GCC meeting wherein Chairperson, GCC requested DERC representative to apprise the Commission regarding the gist of the discussions and intervene the matter as the case has been remanded to the Commission by Appellate Tribunal for Electricity vide its judgement dated 06.09.2012 in appeal no. 23 of 2012 on the issue of out standing dues. This is urgently required for the sake of overall interest of the Power Sector of Delhi.

The issue was discussed in the 13th Commercial Sub-Committee meeting held on 25.02.2013 at BTPS. The defaulting utilities have intimated that the matter is withy DERC. The arrears could be cleared only if the financial position improves. They are finding it very difficult to pay even the current dues and hence the default occurs for payment of all utilities except NTPC. The power regulation is also going on due to non payment of dues by BRPL and BYPL as under :-

|  |  |  |  |
| --- | --- | --- | --- |
| **Name of Regulating utility** | **Name of the regulated utility** | **Quantum of regulation** | **Duration of Regulation** |
| NHPC | BRPL | 161MW | 22.02.2012 to 26.04.12 |
| From 22.06.2012 continuing |
| BYPL | 96MW | 22.02.2012 to 26.04.12 |
| 22.06.2012 to 28.06.12 |
|  | 100 | 01.11.12 to 14.01.2013 |
| Satluj Jal Vidyut Nigam Ltd. | BRPL | 62MW | 27.11.2011 to 26.04.2012 |
| BYPL | 39MW | 25.12.2011 to 26.04.2012 |
| NTPC | BRPL | 308MW | From 26.02.2013 continuing |
| BYPL | 313MW | From 26.02.2013 continuing |

GCC may deliberate.

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

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| --- | --- | --- |
| Clause | RECOMMENDATIONS | STATUS AS ON DATE |
| 9.1.1 | Periodical 3RD Party Protection Audit  **– Time frame – within one year** | In the last GCC meeting G.M.(O&M)-I, DTL informed that in Delhi, the Protection Audit is completed before CWG-2010. It was informed that the deficiencies pointed out in the Prot. Audit have been removed such as replacement of Static relay with numerical relays, provision of bus bar prot. etc. Further, mock exercise for healthiness of the scheme being carried out regularly. |

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| --- | --- | --- |
| Clause | RECOMMENDATIONS | STATUS AS ON DATE |
| 9.1.2 | Philosophy of Zone-3 trippings to be reviewed to avoid indiscriminate and load encroachment and faults  **– Time Frame - immediate** | As per the CEA status report of the recommendations on the issues as on 14.02.2013 the position is as under:  Earlier, Zone-3 settings were not considered as part of the line load ability criterion. However, after the grid disturbances, the Zone-3 settings have been collected and analysed to arrive at the safe line loading limits. In a meeting taken by Member (PS), CEA with CTU and POSOCO on 26th September 2012 regarding transmission line load ability, loading limits of transmission lines on all India basis were finalised and circulated vide letter dated 3rd October 2012. The report contains Zone-3 settings as well, wherever available. All concerned have been advised to check the settings where indicated / intimate the settings where not available. It was also decided at the meeting that Zone-3 settings need to be reviewed by POWERGRID in coordination with STUs, Generators and POSOCO so as to avoid load encroachment. POWERGRID has reviewed and verified all the implemented Zone-3 settings.  G.M. (O&M)-I may update the status. |
| 9.1.4 | Complete independent audit of time synchronization of DRs, EL and PMs should be carried out  **- Time frame – within one month** | In the last GCC meeting GM(O&M)-I intimated that at all inter state point the time synchronization have been done. Others will follow. The action taken by generators would be intimated in due course.  G.M.(O&M)-I and generators may update the status. |
| 9.2.1 | Tightening of Frequency band and be brought very close to 50Hz. | From 17.09.2012, following the vacation of stay order by Madras High Court, the frequency band has been tightened to 49.7Hz to 50.2Hz.  POSOCO has already filed petition before CERC for further tightening the frequency band to 49.9Hz. To 50.1Hz. |
| 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** | POSOCO has already filed a petition with CERC on 07.09.2012 in this regard. |
| 9.3 | All STUs should immediately enable Under Frequency and df/dt under frequency scheme. Central Commission should explore wage 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** | NRLDC has filed a petition in this regard on the checks carried out by PGCIL in DTL Grid S/Stns. Only 29% of relays were found functional. GM(O&M)-I informed that all relays are being changed in association with implementation of Delhi Islanding scheme. Further the healthiness of the existing relays is being ensured. DTL has already informed PGCIL that the field survey report of UFRs is not acceptable to DTL as the survey was conduced on the relays available through rotational load shedding and the scheme is being abandoned and the entire feeders would be put on flat mode UFR. |

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| Clause | RECOMMENDATIONS | STATUS AS ON DATE |
| 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** | A petition on frequency response characteristic filed before CERC on 12.03.2012. The hearing was held on 12.04.2012. Strengthening of provisions in the IEGC sought vide petition for amendment of IEGC filed on 10.09.2012. CEA is also taking up with generators to understand the problems of implementing FGMO and RGMO.  PPCL informed that the generating stations in Delhi mainly gas based stations are exempted from FGMO/RGMO. SLDC representative mentioned about the relevant provisions of IEGC wherein these stations are also covered under FGMO/RGMO. Director (T), IPGCL agreed to look into the matter and incase technically, it is not possible for implementation of the scheme CERC would be approached for getting the exemption. BTPS representative also echoed on same voice. |
| 9.5.1 | POSOCO should take up with Central Commission the issue of inconsistency between congestion regulation and detailed procedure framed there under so that congestion due to forced outage UI can be handled effectively.  **Action : Posoco within one month** | A petition in this regard has been filed.  CERC vide its order dated 13.12.2012 directed its staff to consider the petition as a proposal by NLDC and initiate amendment process. |
| 9.6 | Outage planning should be in coordinated manner | NRPC OCC has already decided all Interstate Transmission Element shut-down should be planned and forwarded to RPC by STUs by 5th of every month for the next month. In addition to above annual outage plan should also be drawn out. |
| 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.  **Action : CTU/STUs and CEA**  **– Time frame 6 months** | The order for the study has been placed on CPRI for complete the study within two months. All utilities are requested to give the input data. |
| 9.8 | The powers of load despatch 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.  **Action MoP, GoI Time frame : 6 months.** | A committee under CEA has been set up in this regard. Which is expected to give the recommendations shortly. |

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| Clause | RECOMMENDATIONS | STATUS AS ON DATE |
| 9.9.1 | Regulatory provisions regarding absorption of Reactive Power by generating units needs to be implemented :  **Posoco Time frame : immediate** | In the last GCC meeting it was decided all generators in Delhi would be operated at rated power factor lagging during day time and unity power factor during night time and off peak hours so that maximum reactive power can be delivered by the generator during peak time and minimum reactive power / absorption of reactive power can be possible during off peak hours especially during winter nights. SLDC subsequently requested all generators to implement the decisions. However, no improvement in absorption of reactive power by generators appears. NRPC also advised the monitoring of reactive power generation in SLDC through SCADA in the following format.   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | GENERATOR REACTIVE POWER MONITORING TEMPLATE | | | | | | | Name of the Power Station | | |  | | | | Date | | |  | | | | Generating unit | Time | MW at Generator terminals | MVAr Lead/Lag at Generator terminals | Generator transformer Tap Position | Voltage at the HV Bus | | #1 | hh.mm |  |  |  |  | | hh.mm |  |  |  |  | | …. |  |  |  |  | | #2 | hh.mm |  |  |  |  | | hh.mm |  |  |  |  | | …. |  |  |  |  | | #3 | hh.mm |  |  |  |  | | hh.mm |  |  |  |  | | …. |  |  |  |  | | …. |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |
| 9.9.2. | An audit of devices such as HVDC, TCSC, SVC and PSS should be done immediately to ensure that their stability features are enabled. Further exercise of PSS timing should be planned and implemented. Settings of these dynamic stabilizing devised should be reviewed at appropriate intervals.  **Action : CTUs STUs and Generators within six months** | All generating utilities of Delhi may update the status in the next meeting as it is presumed that PSS tuning is not provided in the generators available in Delhi |

|  |  |  |  |
| --- | --- | --- | --- |
| Clause | RECOMMENDATIONS | STATUS AS ON DATE | |
| 9.12 | 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.  **Action : CEA, RPCs, CTU, STUs, SLDCs and generators Time Frame : six months** | Scheme has been finalized.  PGCIL is the implementing agency. Expected to be in place by 31.03.2013. | |
| 9.13.1 | System Operation needs to be entrusted to independent system operator. In addition, SLDCs should be reinforced for ring fences for ensuring function autonomy.  **Action : Govt. of India, time frame : one year** | A committee constituted for creation for SLDC as a separate company has already given its report to State Government. Decision is likely soon in line with the decision of Govt. of India on Independent System Operator (ISO). | |
| 9.13.2 | 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.  **Action : Govt. of India State Govt. Time frame : 3 months** | SLDC engineers are being sent regularly for training to upgrade their knowledge. 12 Engineers have also acquired necessary certification for System Operation.  CEA’s website shows that Maharashtra has already implemented the scheme of incentives to System Operators. However, as per the information available from Maharashtra SLDC, though the regulator has passed the order for implementation of G.B. Pradhan Committee Report, Maharashtra STU has yet to take the decision.  **Chairperson, GCC advised that the engineers of ALDCs should also be trained to improve the quality of system operation as without the coordination of ALDCs secure and economic operation of the grid can not be ensured.** | |
| 9.14 | Intrastate transmission system needs to be planned and strengthened in a better way to avoid problems of frequent congestion.  **Action : STU**  **Time Frame : 2 Years** | In the meeting chaired by Director (Operations) on 05.02.2013 the transmission system and distribution system constrains have been identified and remedial measures have been suggested to overcome the constrains on long term and short term basis. It is expected that the major constraints would be resolved with in two years. | |
| 9.15.1 | 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 | GCC advised all utilities that efforts should be made to ensure the data flow to the control centers w.r.t. new installations as per the relevant provisions of connectivity standards of CEA. | |
| Clause | RECOMMENDATIONS | | STATUS AS ON DATE |
| 9.15.2 | 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. | | SLDC was advised to ensure the implementation of recommendations in coordination with all stake holders. |
| 9.15.3 | RTUs and communication equipment should have uninterrupted power supply with proper battery backup so that in case of total power failure, supervisory control and data acquisition channels do not fail. | | This should be ensured by O&M Department by all time so that uninterrupted data transfer can be taken place at SLDC and RLDC. It was also informed that the batteries have been changed for which GM(Plg) was requested to expedite the specifications as early as possible Planning Deptt. of DTL do update. |
| 9.18 | There is need to reinforce system study groups in power sector organizations to analyze the system behavior under different network status / tripping of lines /outage of generators. Where these do no exist, these should be created.  **Action by : CEA, STU, CTU**  **Time frame : one year** | | Planning, O&M and SLDC Department should coordinate. |
| 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.   1. 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 fiber cable from the nearest node. 2. Since POWERGRID has its own fiber 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. | | SLDC was advised to ensure the implementation of the recommendations. |

**NEW ISSUES**

**3 OPERATIONAL ISSUES**

**3.1 POWER SUPPLY POSITION**

The power supply position for summer 2013 has been anticipated as under :

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **BRPL** |  |  |  |  |  |  | ALL FIGURES IN MW | | | |
| **MONTH** | **1st Fortnight** | | | | | **2nd fortnight** | | | | |
| **APRIL 2013** | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 |
| DEMAND | 1368 | 1269 | 1578 | 1693 | 1554 | 1294 | 1260 | 1621 | 1767 | 1706 |
| AVAILABILITY | 1776 | 1779 | 1829 | 1882 | 1956 | 1755 | 1758 | 1758 | 1810 | 1884 |
| SURPLUS (+) / SHORTAGE (-) | **408** | **510** | **251** | **188** | **402** | **460** | **497** | **136** | **43** | **178** |
| **MAY 2013** |  |  |  |  |  |  |  |  |  |  |
| DEMAND | 1730 | 1500 | 1839 | 2024 | 1880 | 1960 | 1839 | 2056 | 2233 | 2142 |
| AVAILABILITY | 1903 | 1903 | 1903 | 1972 | 2014 | 1903 | 1903 | 1903 | 1972 | 2014 |
| SURPLUS (+) / SHORTAGE (-) | **173** | **403** | **64** | **-52** | **133** | **-57** | **64** | **-153** | **-261** | **-128** |
| **JUNE 2013** |  |  |  |  |  |  |  |  |  |  |
| DEMAND | 2079 | 1870 | 2057 | 2321 | 2142 | 2166 | 1979 | 2218 | 2406 | 2229 |
| AVAILABILITY | 1927 | 1927 | 1927 | 2037 | 2051 | 1976 | 1970 | 1927 | 2052 | 2075 |
| SURPLUS (+) / SHORTAGE (-) | **-152** | **56** | **-130** | **-283** | **-91** | **-190** | **-10** | **-292** | **-353** | **-154** |
| **JULY 2013** |  |  |  |  |  |  |  |  |  |  |
| DEMAND | 2166 | 2001 | 2305 | 2447 | 2264 | 2166 | 2001 | 2305 | 2336 | 2264 |
| AVAILABILITY | 2196 | 2190 | 1897 | 2070 | 2157 | 1897 | 1897 | 1897 | 2007 | 2021 |
| SURPLUS (+) / SHORTAGE (-) | **30** | **188** | **-409** | **-377** | **-107** | **-269** | **-105** | **-409** | **-328** | **-243** |
| **AUG 2013** |  |  |  |  |  |  |  |  |  |  |
| DEMAND | 2079 | 1916 | 2318 | 2340 | 2275 | 1861 | 1611 | 1970 | 2109 | 2018 |
| AVAILABILITY | 1886 | 1947 | 1886 | 1997 | 2011 | 1903 | 1903 | 1903 | 2014 | 2028 |
| SURPLUS (+) / SHORTAGE (-) | **-193** | **30** | **-432** | **-343** | **-264** | **42** | **292** | **-67** | **-96** | **10** |
| **SEP 2013** |  |  |  |  |  |  |  |  |  |  |
| DEMAND | 1913 | 1748 | 1887 | 2022 | 2022 | 1739 | 1578 | 1726 | 1811 | 1765 |
| AVAILABILITY | 1858 | 1858 | 1858 | 1927 | 1968 | 1858 | 1858 | 1858 | 1927 | 1968 |
| SURPLUS (+) / SHORTAGE (-) | **-56** | **109** | **-29** | **-95** | **-54** | **119** | **279** | **132** | **116** | **203** |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **BYPL** | ALL FIGURES IN MW | | | | | | | | | |
| **MONTH** | **1st Fortnight** | | | | | **2nd fortnight** | | | | |
| **APRIL 2013** | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 |
| DEMAND | 855 | 793 | 986 | 1058 | 971 | 809 | 788 | 1013 | 1105 | 1066 |
| AVAILABILITY | 1235 | 1235 | 1219 | 1253 | 1313 | 1221 | 1221 | 1205 | 1240 | 1299 |
| SURPLUS (+) / SHORTAGE (-) | **380** | **442** | **233** | **195** | **342** | **412** | **433** | **192** | **135** | **233** |
| **MAY 2013** |  |  |  |  |  |  |  |  |  |  |
| DEMAND | 1081 | 938 | 1150 | 1265 | 1175 | 1225 | 1150 | 1285 | 1396 | 1339 |
| AVAILABILITY | 1304 | 1304 | 1288 | 1331 | 1373 | 1304 | 1304 | 1288 | 1331 | 1373 |
| SURPLUS (+) / SHORTAGE (-) | **222** | **366** | **138** | **66** | **198** | **79** | **154** | **2** | **-65** | **34** |
| **JUNE 2013** |  |  |  |  |  |  |  |  |  |  |
| DEMAND | 1299 | 1169 | 1286 | 1451 | 1339 | 1354 | 1237 | 1387 | 1504 | 1393 |
| AVAILABILITY | 1318 | 1318 | 1301 | 1371 | 1396 | 1318 | 1318 | 1301 | 1371 | 1396 |
| SURPLUS (+) / SHORTAGE (-) | **19** | **149** | **16** | **-80** | **57** | **-36** | **81** | **-85** | **-133** | **3** |
| **JULY 2013** |  |  |  |  |  |  |  |  |  |  |
| DEMAND | 1354 | 1251 | 1441 | 1530 | 1415 | 1354 | 1251 | 1441 | 1460 | 1415 |
| AVAILABILITY | **1318** | **1318** | **1301** | **1371** | **1421** | **1318** | **1318** | **1301** | **1371** | **1396** |
| SURPLUS (+) / SHORTAGE (-) | **-36** | **67** | **-140** | **-159** | **6** | **-36** | **67** | **-140** | **-89** | **-19** |
| **AUG 2013** |  |  |  |  |  |  |  |  |  |  |
| DEMAND | 1299 | 1198 | 1449 | 1463 | 1422 | 1163 | 1007 | 1231 | 1318 | 1261 |
| AVAILABILITY | 1308 | 1349 | 1293 | 1362 | 1386 | 1319 | 1319 | 1304 | 1373 | 1397 |
| SURPLUS (+) / SHORTAGE (-) | **8** | **151** | **-156** | **-101** | **-36** | **156** | **312** | **72** | **55** | **136** |
| **SEP 2013** |  |  |  |  |  |  |  |  |  |  |
| DEMAND | 1196 | 1093 | 1179 | 1264 | 1264 | 1087 | 987 | 1079 | 1132 | 1103 |
| AVAILABILITY | 1322 | 1322 | 1307 | 1350 | 1391 | 1322 | 1322 | 1307 | 1350 | 1391 |
| SURPLUS (+) / SHORTAGE (-) | **126** | **229** | **127** | **86** | **127** | **235** | **335** | **228** | **218** | **288** |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| NDPL | ALL FIGURES IN MW | | | | | | | | | |
| **MONTH** | **1st Fortnight** | | | | | **2nd fortnight** | | | | |
| **APRIL 2013** | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 |
| DEMAND | 916 | 850 | 1056 | 1134 | 1040 | 867 | 844 | 1085 | 1183 | 1142 |
| AVAILABILITY | 1491 | 1491 | 1391 | 1428 | 1475 | 1477 | 1477 | 1377 | 1414 | 1461 |
| SURPLUS (+) / SHORTAGE (-) | **575** | **642** | **335** | **295** | **435** | **610** | **633** | **292** | **231** | **318** |
| **MAY 2013** |  |  |  |  |  |  |  |  |  |  |
| DEMAND | 1158 | 1004 | 1231 | 1355 | 1259 | 1313 | 1231 | 1377 | 1495 | 1434 |
| AVAILABILITY | 1534 | 1534 | 1534 | 1581 | 1608 | 1534 | 1534 | 1534 | 1581 | 1608 |
| SURPLUS (+) / SHORTAGE (-) | **376** | **530** | **303** | **225** | **349** | **222** | **303** | **158** | **85** | **174** |
| **JUNE 2013** |  |  |  |  |  |  |  |  |  |  |
| DEMAND | 1392 | 1252 | 1377 | 1554 | 1434 | 1450 | 1325 | 1485 | 1611 | 1493 |
| AVAILABILITY | 1548 | 1548 | 1548 | 1623 | 1632 | 1582 | 1582 | 1582 | 1657 | 1632 |
| SURPLUS (+) / SHORTAGE (-) | **157** | **296** | **171** | **69** | **198** | **132** | **257** | **97** | **46** | **139** |
| **JULY 2013** |  |  |  |  |  |  |  |  |  |  |
| DEMAND | 1450 | 1340 | 1544 | 1638 | 1516 | 1450 | 1340 | 1544 | 1564 | 1516 |
| AVAILABILITY | 1705 | 1705 | 1705 | 1780 | 1732 | 1585 | 1585 | 1585 | 1660 | 1612 |
| SURPLUS (+) / SHORTAGE (-) | **255** | **365** | **162** | **141** | **216** | **135** | **245** | **42** | **96** | **96** |
| **AUG 2013** |  |  |  |  |  |  |  |  |  |  |
| DEMAND | 1392 | 1283 | 1552 | 1567 | 1523 | 1246 | 1079 | 1319 | 1412 | 1351 |
| AVAILABILITY | 1454 | 1494 | 1454 | 1529 | 1538 | 1466 | 1466 | 1466 | 1540 | 1549 |
| SURPLUS (+) / SHORTAGE (-) | **63** | **211** | **-98** | **-38** | **15** | **220** | **387** | **147** | **127** | **198** |
| **SEP 2013** |  |  |  |  |  |  |  |  |  |  |
| DEMAND | 1281 | 1171 | 1263 | 1354 | 1354 | 1164 | 1057 | 1156 | 1212 | 1182 |
| AVAILABILITY | 1437 | 1437 | 1437 | 1483 | 1511 | 1557 | 1557 | 1557 | 1603 | 1631 |
| SURPLUS (+) / SHORTAGE (-) | **156** | **266** | **173** | **129** | **157** | **392** | **500** | **401** | **391** | **449** |

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| **NDMC** | ALL FIGURES IN MW | | | | | | | | | |
| **MONTH** | **1st Fortnight** | | | | | **2nd fortnight** | | | | |
| **APRIL 2013** | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 |
| DEMAND | 180 | 160 | 250 | 280 | 200 | 200 | 180 | 250 | 310 | 250 |
| AVAILABILITY | 284 | 284 | 300 | 300 | 284 | 284 | 284 | 300 | 300 | 284 |
| SURPLUS (+) / SHORTAGE (-) | **104** | **124** | **50** | **20** | **84** | **84** | **104** | **50** | **-10** | **34** |
| **MAY 2013** |  |  |  |  |  |  |  |  |  |  |
| DEMAND | 200 | 180 | 250 | 320 | 250 | 220 | 200 | 250 | 340 | 250 |
| AVAILABILITY | 284 | 284 | 300 | 300 | 284 | 284 | 284 | 300 | 300 | 284 |
| SURPLUS (+) / SHORTAGE (-) | **84** | **104** | **50** | **-20** | **34** | **64** | **84** | **50** | **-40** | **34** |
| **JUNE 2013** |  |  |  |  |  |  |  |  |  |  |
| DEMAND | 200 | 180 | 250 | 340 | 250 | 200 | 180 | 280 | 345 | 250 |
| AVAILABILITY | 284 | 284 | 300 | 300 | 284 | 284 | 284 | 300 | 300 | 284 |
| SURPLUS (+) / SHORTAGE (-) | **84** | **104** | **50** | **-40** | **34** | **84** | **104** | **20** | **-45** | **34** |
| **JULY 2013** |  |  |  |  |  |  |  |  |  |  |
| DEMAND | 200 | 180 | 280 | 350 | 270 | 200 | 180 | 280 | 355 | 270 |
| AVAILABILITY | 284 | 284 | 300 | 300 | 284 | 284 | 284 | 300 | 300 | 284 |
| SURPLUS (+) / SHORTAGE (-) | **84** | **104** | **20** | **-50** | **14** | **84** | **104** | **20** | **-55** | **14** |
| **AUG 2013** |  |  |  |  |  |  |  |  |  |  |
| DEMAND | 200 | 175 | 250 | 345 | 250 | 200 | 175 | 250 | 325 | 240 |
| AVAILABILITY | 260 | 284 | 275 | 275 | 260 | 259 | 259 | 274 | 274 | 259 |
| SURPLUS (+) / SHORTAGE (-) | **60** | **109** | **25** | **-70** | **10** | **59** | **84** | **24** | **-51** | **19** |
| **SEP 2013** |  |  |  |  |  |  |  |  |  |  |
| DEMAND | 180 | 160 | 240 | 325 | 230 | 180 | 150 | 210 | 310 | 220 |
| AVAILABILITY | 260 | 260 | 276 | 276 | 260 | 260 | 260 | 276 | 276 | 260 |
| SURPLUS (+) / SHORTAGE (-) | **80** | **100** | **36** | **-49** | **30** | **80** | **110** | **66** | **-34** | **40** |

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| **MES** | ALL FIGURES IN MW | | | | | | | | | |
| **MONTH** | **1st Fortnight** | | | | | **2nd fortnight** | | | | |
| **APRIL 2013** | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 |
| DEMAND | 30 | 28 | 30 | 35 | 35 | 30 | 28 | 30 | 35 | 35 |
| AVAILABILITY | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 |
| SURPLUS (+) / SHORTAGE (-) | **19** | **21** | **19** | **14** | **14** | **19** | **21** | **19** | **14** | **14** |
| **MAY 2013** |  |  |  |  |  |  |  |  |  |  |
| DEMAND | 30 | 28 | 30 | 35 | 35 | 32 | 30 | 32 | 35 | 35 |
| AVAILABILITY | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 |
| SURPLUS (+) / SHORTAGE (-) | **19** | **21** | **19** | **14** | **14** | **17** | **19** | **17** | **14** | **14** |
| **JUNE 2013** |  |  |  |  |  |  |  |  |  |  |
| DEMAND | 30 | 28 | 30 | 35 | 35 | 30 | 28 | 30 | 35 | 35 |
| AVAILABILITY | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 |
| SURPLUS (+) / SHORTAGE (-) | **19** | **21** | **19** | **14** | **14** | **19** | **21** | **19** | **14** | **14** |
| **JULY 2013** |  |  |  |  |  |  |  |  |  |  |
| DEMAND | 30 | 28 | 30 | 35 | 35 | 30 | 28 | 30 | 35 | 35 |
| AVAILABILITY | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 |
| SURPLUS (+) / SHORTAGE (-) | **19** | **21** | **19** | **14** | **14** | **19** | **21** | **19** | **14** | **14** |
| **AUG 2013** |  |  |  |  |  |  |  |  |  |  |
| DEMAND | 30 | 28 | 30 | 35 | 30 | 30 | 28 | 30 | 35 | 30 |
| AVAILABILITY | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 |
| SURPLUS (+) / SHORTAGE (-) | **19** | **21** | **19** | **14** | **19** | **19** | **21** | **19** | **14** | **19** |
| **SEP 2013** |  |  |  |  |  |  |  |  |  |  |
| DEMAND | 30 | 28 | 30 | 35 | 30 | 30 | 28 | 30 | 35 | 30 |
| AVAILABILITY | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 |
| SURPLUS (+) / SHORTAGE (-) | **19** | **21** | **19** | **14** | **19** | **19** | **21** | **19** | **14** | **19** |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **DELHI AS A WHOLE** | | |  | ALL FIGURES IN MW | | | | | | |
| **MONTH** | **1st Fortnight** | | | | | **2nd fortnight** | | | | |
| **APRIL 2013** | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 |
| DEMAND | 3350 | 3100 | 3900 | 4200 | 3800 | 3200 | 3100 | 4000 | 4400 | 4200 |
| AVAILABILITY | 4836 | 4839 | 4789 | 4913 | 5077 | 4786 | 4789 | 4689 | 4813 | 4977 |
| SURPLUS (+) / SHORTAGE (-) | **1486** | **1739** | **889** | **713** | **1277** | **1586** | **1689** | **689** | **413** | **777** |
| **MAY 2013** |  |  |  |  |  |  |  |  |  |  |
| DEMAND | 4200 | 3650 | 4500 | 5000 | 4600 | 4750 | 4450 | 5000 | 5500 | 5200 |
| AVAILABILITY | 5074 | 5074 | 5074 | 5233 | 5328 | 5074 | 5074 | 5074 | 5233 | 5328 |
| SURPLUS (+) / SHORTAGE (-) | **874** | **1424** | **574** | **233** | **728** | **324** | **624** | **74** | **-267** | **128** |
| **JUNE 2013** |  |  |  |  |  |  |  |  |  |  |
| DEMAND | 5000 | 4500 | 5000 | 5700 | 5200 | 5200 | 4750 | 5400 | 5900 | 5400 |
| AVAILABILITY | 5126 | 5126 | 5126 | 5380 | 5412 | 5209 | 5203 | 5160 | 5429 | 5436 |
| SURPLUS (+) / SHORTAGE (-) | **126** | **626** | **126** | **-320** | **212** | **9** | **453** | **-240** | **-471** | **36** |
| **JULY 2013** |  |  |  |  |  |  |  |  |  |  |
| DEMAND | 5200 | 4800 | 5600 | 6000 | 5500 | 5200 | 4800 | 5600 | 5750 | 5500 |
| AVAILABILITY | 5552 | 5546 | 5253 | 5570 | 5643 | 5133 | 5133 | 5133 | 5387 | 5362 |
| SURPLUS (+) / SHORTAGE (-) | **352** | **746** | **-347** | **-430** | **143** | **-67** | **333** | **-467** | **-363** | **-138** |
| **AUG 2013** |  |  |  |  |  |  |  |  |  |  |
| DEMAND | 5000 | 4600 | 5600 | 5750 | 5500 | 4500 | 3900 | 4800 | 5200 | 4900 |
| AVAILABILITY | 4958 | 5122 | 4958 | 5212 | 5244 | 4995 | 4995 | 4995 | 5250 | 5281 |
| SURPLUS (+) / SHORTAGE (-) | **-42** | **522** | **-642** | **-538** | **-256** | **495** | **1095** | **195** | **50** | **381** |
| **SEP 2013** |  |  |  |  |  |  |  |  |  |  |
| DEMAND | 4600 | 4200 | 4600 | 5000 | 4900 | 4200 | 3800 | 4200 | 4500 | 4300 |
| AVAILABILITY | 4926 | 4926 | 4926 | 5085 | 5180 | 5046 | 5046 | 5046 | 5205 | 5300 |
| SURPLUS (+) / SHORTAGE (-) | **326** | **726** | **326** | **85** | **280** | **846** | **1246** | **846** | **705** | **1000** |

In the summer preparedness meeting chaired by Principle Secretary (Power), GNCTD on 01.03.2013, while discussing the points “areas of cooperation and coordination” it was suggested by SLDC that to avoid load shedding in Delhi, the surplus power of any Discom should be passed on to the Discoms who are facing shortages on real time basis which was accepted. Necessary modality needs to be worked out by Delhi Power Procurement Group.

Further, it was suggested in the meeting that all utilities should make adequate arrangements of power in advance to avoid load shedding.

GCC may deliberate

**3.2 SUGGESTIONS TO OVERCOME THE TRANSMISSION CONSTRAINTS.**

The peak demand during summer months is expected 6000MW during June– July 2013. The transmission capacity as per the present information is 6100MW subject to commissioning of 400kV Dadri - Harsh Vihar Double Ckt. Line (100MW) and revival of 220kV AIIMS - Ridge Valley Double Ckt underground cable (300MW). As per the planning criteria for ensuring hassle free meeting of 6000MW demand, the transmission capacity requirement is 9000MW. Due to the less transmission capacity available, occasional congestion can not be ruled out, though peak demand occurs only for 0.1% age of the time in a month as per the previous years records.

The transmission and distribution constraints were discussed in details in the meeting held on 05.02.13 at SLDC chaired by Dir. (Operations), DTL. The gist of the discussions on the issue of increase of transmission capacity is as under :-

1. CEA has cleared the proposal of increasing the transformation capacity at Mandola 400kV S/stn of PGCIL from existing 1260MVA capacity (4nos. 400/220kV 315MVA ICTs) with 2000MVA capacity (4nos. 400/220kV 500MVA ICTs) resulting in increase of 740MVA (600MW) capacity. Augmentation expected before summer 2014.
2. All 3nos. ICTs of 400/220kV 315MVA at Ballabhgarh to 500MVA with enhancement of 555MVA (450MW) by summer 2014. This would enhance the reliability of supply through 220kV Ballabhgarh-BTPS Double Circuit line during summer months.
3. Commissioning of 220kV Wazirpur-II S/stn – all out efforts are taken to commission the S/stn at least by 31.05.2014 (TPDDL has very stressfully emphasized the need of commissioning of the S/stn by this date otherwise load shedding in continuous basis would have to be resorted in north Delhi).
4. Commissioning of 220kV Peeragarhi S/stn on war footing – With present position the sub-station may be commissioned by 31st December 2013. Though, it was expected to be commissioned on 30.06.2013, the delay is due to getting RBI approval for opening Project Account for INR payment to the successful Chinese bidder.
5. 220kV Najafgarh – Kanjhawala Ckt to be LILO at Mundka during this summer – Tower cast completion is expected by 30.06.2013 thereafter shutdown of the Ckt for 15days for LILO.
6. The scheme for line capacity enhancement between Mandola to BTPS namely 220kV Mandola - Wazirabad (4 ckts), 220kV Wazirabad-Geeta Colony (D/C), 220kVGeeta Colony – Patparganj (D/C), 220kV Patparganj – IP (D/C), 220kV IP – IP Extn (Pragati) (D/C), 220kV IP Extn (Pragati) – Sarita Vihar (D/C), 220kV Sarita Vihar - BTPS (D/C) before summer 2014. It must be ensured that 220kV Wazirabad - Geeta Colony (D/C), 220kVGeeta Colony – Patparganj (D/C), 220kV Patparganj – IP (D/C), 220kV IP – IP Extn (Pragati) (D/C) lines conductors are replaced with high capacity conductors. Later 220kV Mandola - Wazirabad (4 ckts) and 220kV IP Extn (Pragati) – Sarita Vihar **[**after removing LILO of one Ckt at Maharanibagh after the commissioning of 220kV Maharani

Bagh - Gazipur (D/C) line**]** and 220kV Sarita Vihar – BTPS could be taken up for enhancement before summer 2013. Switchgear enhancement would be taken subsequently.

1. Now UP Govt. irrigation deptt. has recommended approval for casting the towers of 220kV Maharanibagh - Gazipur D/C line in their area, the approval from UP Govt. needs to expedited. By the time DTL should complete all other works so that the 220kV Maharanibagh – Gazipur D/C line can possibly be commissioned during summer 2013. As a positive note in this regard, in the 84th OCC of NRPC held on 19.02.2013, the UP Power Transmission Company has informed that they would also coordinate with their State Government for earlier clearance provided 100-150MW power is given to UP through these circuits while augmenting existing 315MVA transformer to 500MVA transformer at Greater Noida S/Stn during April – May 2013 which has been agreed too. This would ensure additional 200MW transmission capacity
2. The establishment of link between 220kV Kashmeregate – RPH should be done so that a parallel link between 220kV Harsh Vihar – Wazirabad – Kashmeregate –RPH could be established for ensuring reliability of central and east Delhi areas.
3. The earlier commissioning of 220/66kV 160MVA Tx at Wazirabad and Gazipur should be expedited.
4. The transmission elements presently down namely, 220/66kV 100MVA Tx. no. 2 at Okhla (expected by 31.03.13), 220/33kV 100MVA Tx. at Okhla (The replacement of 50MVA Tx. expected by 31.05.13), 220/33kV 100MVA Tx. no. 3 at IP (expected by 30.04.13), 220kV Naraina - Ridge Valley Ckt (expected by 15.03.13), 220/33kV 100MVA Tx. no. 2 at Electric Lane (expected by 30.04.13). 220kV AIIMS - Ridge Valley D/C line (expected during the summer 2013) should be revived as committed in parenthesis.
5. DTL should plan and implement the S/stn being installed at East Delhi for which land has been recently taken over by DTL as quick as possible and alternate 220kV link should be established namely 220kV Harsh Vihar – Wazirabad – Anand Vihar (new s/stn) – Patparganj.
6. Before summer 2013 the augmentation is planned as under :

i) Mehrauli – Additional 220/66kV 160MVA Tx (By 15.03.2013)

ii) Wazirabad - Additional 220/66kV 160MVA Tx (By 31.052013)

iii) Pappankalan-II - Additional 220/66kV 160MVA Tx (By 31.05.2013)

iv) Gazipur - Additional 220/66kV 160MVA Tx (By 31.05.2013)

v) Okhla – 220/33kV 50MVA Tx to 220/33kV 100MVA Tx (By 31.05.2013)

1. The following revival of long outage elements are planned during /before summer 2013.
2. Okhla – 220/66kV 100MVA Tx-2 since 16.10.12 (Expected by 31.03.2013)

ii) IP – 220/33kV 100MVa Tx-3 since 24.07.12 (Expected by 30.04.2013)

iii) Electric Lane- 220/33kV 100MVa Tx-2 since 20.09.12 (Expected by 30.04.2013)

iv) 220kV Naraina-Ridge Valley Ckt out since 17.09.2012. Cable damaged during construction work of DMRC. Expected by 15.03.2013.

v) 220kV AIIMS –Ridge Valley Double Ckt out since date of test charging. Expected by 31.05.2013.

vi) 220/33kV 100MVA Pr. Tr.at Okhla (replacement of 50MVA Tx.)

n) In the meeting held on 01.03.2013 at GNCTD with regard to summer preparedness, while discussing the areas of cooperation and coordination, the following points were also discussed :-

1. To ensure maximum evacuation from Mundka and to reduce loading on transformers at 220kV Najafgarh, BRPL be allowed to connect the Paschim Vihar feeder from Nangloi to utilize maximum capacity of Nangloi cables emanating from Mundka. The T-off portion of Mangolpuri - Nangloi Ckt-I needs to be vacated so that TPDDL can utilize the maximum capacity. Planning Steering Committee has advised both utilities to resolve the issue consensually before summer 2013. The issue was discussed in the last Steering Committee meeting held on 30.01.2013 wherein the issue was discussed. The relevant extracts of the MoM is given hereunder :-

**Proposed 1 No.of 66kV Circuit from Mundka to MangolPuri-1 :**

TPDDL submitted that the additional 1 No. of 66KV bay from Mundka to MP-1 Grid at 400kV Mundka has already been allocated to TPDDL. Now TPDDL proposed to lay the 66kV circuit(1x1000 sq.mm. XLPE with approx route length 10 km) from Mundka to MP-1 grid which would be connected as T-Off to 66kV MP-1 to Nangloi Ckt-2 as there is no space for additional 66kV bay at MP-1. Commissioning of this circuit would help in evacuation of the power from Mundka to TPDDL network and also helpful to reduce the loading at Rohini 220 kV grid.

Further TPDDL submitted that they has already laid one 66kV circuit from Mundka to MP-1 grid by making T-Off to 66kV MP-1 to Nangloi Ckt-1. They requested that the T-Off portion of existing 66kV MP-1 to Nangloi Ckt-1 is required to be disconnected at Nangloi grid end so that feed could be direct from 400KV Mundka to MP-1 Grid. Similarly, T-Off portion of Nangloi Ckt-2 is also required to be disconnected at Nangloi grid end.

BRPL informed that the part of the load of Nangloi grid is fed from Mundka/Mangolpuri (with restriction at 40MVA) through the Nangloi to MP-1 line. Therefore at present they could not disconnect this Mangolpuri to Nangloi line at Nangloi end. However, it was decided that BRPL & TPDDL shall mutually discuss/review the proposal keeping in view the load flow in the area after commissioning of 220kV Peeragarhi substation.

Steering committee discussed and agreed in principle for laying the 66kV circuit (1x1000sq.mm. XLPE) from Mundka to MP-1 grid which would be connected as T-Off to 66kV MP-1 to Nangloi Ckt-2.

1. There are three bays at Electric Lane namely 33kV Delhi High court, Janpath, IG&CA for which even lands have not been allotted to NDMC. Out of these unutilized three bays, atleast two bays be allotted to BYPL to give the relief already congested 220kV Geeta Colony-IP link.

In the meeting held on 01.03.2013 at GNCTD, it was intimated that to sort out the issues, a meeting is scheduled on 04.03.2013 in which NDMC and other utilities would discuss and resolve the issue.

1. The spare bays (2nos) at AIIMS (Trauma Center) needs to be allocated to BRPL for maximum evacuation of power from 400kV Maharanibagh through 220kV Maharanibagh – AIIMS Double Ckt Line.

In the meeting held on 01.03.2013 at GNCTD, it was intimated that to sort out the issues, a meeting is scheduled on 04.03.2013 in which NDMC and other utilities would discuss and resolve the issue.

GCC may deliberate on the above issues.

**3.3** **CAPACITOR INSTALLATION PLAN**

At present the capacitor position of Delhi is as under :

|  |  |  |
| --- | --- | --- |
| Sl. No. | Utility | Installed capacity in MVAR |
| 1 | TPDDL | 690.6 |
| 2 | BRPL | 1195.96 |
| 3 | BYPL | 851 |
| 4 | NDMC | 110.8 |
| 5 | MES | 21.1 |
| 6 | IPGCL | 20 |
| 7 | DTL | 754 |
|  | **Total** | **3643** |

As per the capacitor study conducted by NRPC, Delhi has to install additional 1014MVAR by 31.03.13. The representatives of Distribution are of the view that even though it was decided in one of the meetings held at Planning Deptt. of DTL in July 2009 to conduct a study with regard to actual requirement of capacitors in Delhi and the location at which the additional capacitors are required, even after passing 3 years no study has been conducted. They requested DTL’s Planning Deptt to expedite the study so that installation of additional capacities can be pursued with DERC for CAPEX purpose.

In the meeting held on 05.02.2013 at SLDC, Distribution licensees have given the plan for addition of capacitors as under :

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Utility | Planning for installation of additional capacity in MVAr | | Total in MVAr | Remarks |
|  | 2012-13 | 2013-14 |  |  |
| TPDDL | 10.8 | 61.2 | 72.2 |  |
| BRPL | 32.4 | 135 | 167.4 | Additional 256.4MVAr capacity is planned to be added at LT level in 2013-14 |
| BYPL | 10.8 | 97.2 | 108 | Approval for 32.4MVAr has already been accorded by DERC. |
| NDMC | 65.52 | 60.48 | 126 | 5.04MVAr capacitor is also planned for Ali Ganj, Jorbagh for which building is yet to be constructed. |
| MES | -- | -- | -- | The installed capacity 21.1MVAr is sufficient to meet the load of MES. However for voltage regulation they have planned additional caapcity at LT level for 2013-14. |
| Total | 119.52 | 353.88 | **473.4** |  |

In the last OCC meeting held on 25.02.2013, the Planning Deptt. of DTL has informed that the capacitor requirement study has been entrusted to CPRI. The study is expected to be completed within two months. All utilities are requested to provide the required data to DTL.

Planning Deptt. of DTL may update status.

**3.3 STRATEGY TO MEET THE IMPLICATIONS OF CLOSING RPH STATION**

It is given to understand that the closure has been extended by two years. In the OCC meetings BYPL, the distribution utility whose area is fed mostly by the feeders emanating from RPH has been apprehending the possible outages due to poor maintenance of the yard in view of the possible closure of RPH Plant. They requested IPGCL and DTL to take appropriate action to avoid such happenings in summer months.

DTL and IPGCL may update.

**3.4 WORK OF REPLACEMENT OF PORECELAIN INSULATORS WITH POLYMER AND REPLACEMENT OF CONDUCTORS OF 220KV NARELA–ROHTAK ROAD TRANSMISSION LINES OWNED BY BBMB.**

Delhi OCC has continuously been monitoring the issue. The matter was also under the consideration of DERC vide petition no. 72/2008 filed by TPDDL. However, vide order dated 22.02.2013, the DERC vide petition no.72/ 2008 has also been seized of the matter. As per the order dated 22.02.2013, the petition was dismissed on jurisdictional issue. The relevant order is appended hereunder :

**ORDER**

(Date of Hearing 19.02.2013)

(Date of Order: 22.02.2013)

1. Mr. Pradeep Dahiya, Ld. Counsel for Bhakra Beas Management Board (BBMB) submitted that Hon’ble Appellate Tribunal for Electricity in Appeal No. 183 of 2011 in the matter of BBMB vs. CERC and Anrs. upheld the impugned order dated 15.09.2011 of CERC wherein CERC has held that it has jurisdiction over BBMB under this Act. The ATE dismissed the said appeal vide its order dated 14.12.2012.
2. In view of the above, the Commission is of the view that it has no jurisdiction over BBMB. Therefore, it is not appropriate to hear this Petition filed by erstwhile NDPL.
3. This Petition is dismissed.
4. Ordered accordingly.

In the OCC meetings, position has been highlighted as under:

**BBMB issues on 220kV Rohtak Road S/S**

A joint team of Officers from DTL and TPDDL visited the office of Dir(P&D(TS)), BBMB at Chandigarh on 23.01.13 and deliberated the pending issues of BBMB. The status is as under:

|  |  |  |
| --- | --- | --- |
| **S. N** | **Issue** | **Status as on 23.01.13** |
| 1 | Replacement of insulator with polymer insulators and replacement  of conductor on 220kV Narela– Rohtak Road transmission line | BBMB has intimated that NIT in this regard was floated  but no bidder has shown interest in NIT. BBMB urged  DTL authorities for getting the work done as DTL is the State Transmission Utility for Govt. of NCT of Delhi. |

|  |  |  |
| --- | --- | --- |
| S. N | Issue | Status as on 23.01.13 |
| 2 | Proposal for reinforcement of BBMB Rohtak Road Grid S/Stn from a source like 400kV Mundka | The matter was discussed and DTL was asked to  provide detailed proposal in this regard which could be  put to competent authority in BBMB |
| 3 | Parallel operation of 2 nos. 100 MVA Transformers at BBMB 220kV Rohtak Road S/Stn. | The matter was discussed and the decision in this  regard shall be provided to DTL after consultation with  P&C Deptt |

General Manager (400kV O&M), DTL and BBMB may brief the latest status.

**4 COMMERCIAL ISSUES.**

**4.1 Scheduling and associated issues of 16MW Generating Unit of Timapur – Okhla Waste Management Company Pvt Ltd, Okhla Plant.**

The 16MW Waste to Energy Plant has been declared in commercial operation from 01.10.2012.

BRPL and TOWMCL have entered into a PPA with the company. As per the provision of PPA, 50% of the power generated in the plant is to be given to BRPL at a rate arrived in bidding. Balance 50% power can be traded to other party. TOWMCL has requested for open access for the banked power with BRPL (balance 50% power is treated as banked power). The same has been forwarded to BRPL for their consent with the following remarks.

In case if BRPL agrees the open access transaction of 5MW power on Round The Clock Basis from 06.02.2013 to 28.02.2013 the following methodology would be adopted as decided in the meeting held on 03.04.2012 at the plant site. The salient features are as under:

i) TOWMCL can sale the power to third party of 50% of the capacity after meeting the auxiliary requirement i.e. 6.24MW on day ahead basis after the COD of the station. This power could be traded by the generating company through open access. Once the power is sold through open access route, UI needs to be applied for mismatched energy of TOWMCL power. To meet the criteria of Must Run, the schedule for open access could be fixed on the basis of 50% of the actual generation converting into 15 minutes time block and match with scheduled quantum for open access and UI would be made applicable for the mismatched quantum as per the UI regulations.

ii) Such mismatch and corresponding UI amount could be deducted from the billed amount for 50% generation to BRPL as per the PPA at a settled rate, on monthly basis. The proposed methodology is on the basis of the fact that the generator is located in the BRPL’s controlled area and the entire generation of the power station is consumed locally by the utility. Any variation of generation gets automatically affected the BRPL’s drawal from the grid and imposition of corresponding UI which is proposed to be adjusted in the bill of the generator.

1. In case the generator goes for open access for the sale of 50% quantum available with it the following charges are required to be paid by the generator who is obviously being the applicant for the sale of energy.

|  |  |  |  |
| --- | --- | --- | --- |
| Sr. No. | Component of Open Access | Charges (Rs.) | Remarks |
| 1 | Application Charges | 5000 per application | If the sale is to the intrastate utilities within Delhi to be paid to SLDC.  For the purpose of interstate transactions the same would also be given to SLDC for consent of the such transactions. |
| 2 | Scheduling charges for SLDC, Delhi | 2000 per day | If the sale is to the intrastate utilities within Delhi to be paid to SLDC within three days after the approval of the open access on monthly basis.  For the purpose of interstate transactions the same would be charges by the nodal RLDC and reimburse the same to SLDC Delhi. |
| 3 | STU Charges of Delhi | 80 per MWh | If the sale is to the intrastate utilities within Delhi to be paid to SLDC within three days after the approval of the open access to Delhi SLDC. SLDC shall reimburse the same to DTL on monthly basis after the receipt of the amount.  For the purpose of interstate transactions the same would be charges by the nodal RLDC and reimburse the same to SLDC Delhi/ DTL. |
| 4 | Wheeling charges | 0.43/PS per unit | To be paid directly to BRPL within 3 days after the approval of the open access. The rate is based on the retail tariff order of DERC dt. 13.07.2012 for BRPL for the FY 2012-13. |
| 5 | CTU charges | 11.19Ps/unit  (only for Delhi injection) | Applicable for interstate transaction only. The drawal charges would be as per the drawal point. The collection and disbursement lies within the responsibility of nodal RLDCs. |
| 6 | Cross subsidy charges | Nil | Being the generator |
| 7 | Additional surcharge | Nil | Being the generator |
| 8 | Losses (in form of kind) |  |  |
| (i) | STU losses of Delhi | 1.21% |  |
| (ii) | Wheeling losses (BRPL) | 1.41% |  |
| (iii) | CTU losses  (for Delhi injection) | 2% | Varies on weekly basis |
| (iv) | CTU Drawal losses | 1.53% -4.3% | Varies on weekly basis and on drawal point |
| (v) | Other state losses | Depend upon the drawal point | |

iv) In case the generator could not get any buyer for the 50% capacity allowed for sale to the third party that quantum would obviously be treated as a transaction under UI and same would be adjusted on monthly basis based on the accounts prepared by SLDC based on the meter readings to be provided by STU i.e. DTL for computing actual Ex-bus generation (received at 33kV side of Jasola 66kV S/stn of BRPL).

The application was forwarded to BRPL on 04.02.2013, no comments have been received from BRPL sofar.

GCC may deliberate.

**4.3 COMPUTATION OF TRANSMISSION SYSTEM AVAILABILITY OF DELHI TRANSCO LTD (DTL).**

SLDC is certifying Transmission System Availability of DTL on monthly basis as per the Multi Year Transmission Tariff Regulation applicable for the period 01.04.2012 to 31.03.2015. The regulations direct the computation of Transmission System Availability as under :-

**Annual Transmission Service Charge**

6.6 The fixed cost of the transmission system shall be computed on annual basis, in accordance with norms contained in these regulations, aggregated as appropriate, and recovered on monthly basis as transmission charge from the users.

6.7 The transmission charge (inclusive of incentive) payable for a calendar month for a transmission system or part thereof shall be

ARR x ( NDM / NDY ) x ( TAFM / NATAF )

Where,

ARR= Aggregate Revenue Requirement specified for the year, in Rupees;

NATAF = Normative annual transmission availability factor, in per cent specified in clause 5.3(a) of these Regulations;

NDM = Number of days in the month;

NDY = Number of days in the year; and

TAFM = Transmission system availability factor for the month, in Percent, computed in accordance with Appendix –III to these Regulations.

6.8 The Transmission Licensee shall raise the bill for the transmission charge (inclusive of incentive) for a month based on its estimate of TAFM. Adjustments, if any, shall be made on the basis of the TAFM to be certified by the SLDC within 30 days from the last day of the relevant month.

It is proposed that after computing the Transmission system availability by O&M Deptt. of DTL and getting it approved from monthly OCC meetings so that the same can be certified by SLDC with the consent of the all stake holders. **OCC may deliberate and approved the above proposal.**

**Appendix-III: Procedure for Calculation of Transmission System Availability Factor for a Month**

1. Transmission system Availability factor for a calendar month (TAFM) shall be calculated by the respective Transmission Licensee, got verified and certified by the SLDC and separately for each AC transmission system and grouped according to sharing of transmission charges.

2. TAFM, in percent, shall be equal to (100 – 100 x NAFM), where NAFM is the non-availability factor in per unit for the month, for the transmission system / subsystem.

3. NAFM for A.C. systems / sub-systems shall be calculated as follows:

NAFM = [l=1 ΣL (OH l x Ckt. km l x NSC l) + t=1Σ T (OH t x MVA t x 2.5) + r=1Σ R (OH r x MVAR r x 4)] ∕ THM x [ l=1ΣL (Ckt. km l x NSC l )+ t=1ΣT (MVA t x 2.5) + r=1ΣR (MVAR r x 4)]

Where,

l identifies a transmission line circuit;

t identifies a transformer / Inter connecting transformer (ICT);

r identifies a bus reactor, switchable line reactor or Static VAR Compensation (SVC);

L = total number of line circuits;

T = total number of transformers and ICTs;

R = total number of bus reactors, switchable line reactors and SVCs;

OH = Outage hours or hours of non-availability in the month, excluding the duration of outages not attributable to the Transmission Licensee, if any, as per clause 5;

Ckt. km = Length of a transmission line circuit in km;

NSC = Number of sub-conductors per phase;

MVA = MVA rating of a transformer / ICT;

MVAR = MVAR rating of a bus reactor, switchable line reactor or an SVC (in which case it would be the sum of inductive and capacitive capabilities);

THM = Total hours in the month;

4. The transmission elements under outage due to following reasons shall be deemed to be available:

(a) Shut down availed for maintenance or construction of elements of another transmission scheme. If the other transmission scheme belongs to the Transmission Licensee, the SLDC may restrict the deemed availability period to that considered reasonable by him for the work involved.

(b) Switching off of a transmission line to restrict over voltage and manual tripping of switched reactors as per the directions of SLDC.

5. Outage time of transmission elements for the following contingencies shall be excluded from the total time of the element under period of consideration.

(a) Outage of elements due to acts of God and force majeure events beyond the control of the Transmission Licensee. However, onus of satisfying the SLDC that element outage was due to aforesaid events and not due to design failure shall rest with the Transmission Licensee. A reasonable restoration time for the element shall be considered by SLDC and any additional time taken by the Transmission Licensee for restoration of the element beyond the reasonable time shall be treated as outage time attributable to the Transmission Licensee. SLDC may consult the Transmission Licensee or any expert for estimation of reasonable restoration time. Circuits restored through ERS (Emergency Restoration System) shall be considered as available.

(b) Outage caused by grid incident/disturbance not attributable to the Transmission Licensee, e.g. faults in substation or bays owned by other agency causing outage of the Transmission Licensee‟s elements, and tripping of lines, ICTs, etc. due to grid disturbance. However, if the element is not restored on receipt of direction from SLDC while normalizing the system following grid incident/disturbance within reasonable time, the element shall be considered not available for the period of outage after issuance of SLDC‟s direction for restoration.

While certifying the Transmission System Availability by SLDC to meet the MYT stipulation, the outage of capacitors is also considered in same line with SVC’s. This has been objected by DTL. DTL is of the view that as per the DERC Regulations, the availability of capacitors are not covered. The Commission envisages only `SVC’ – Static Var Compensation. In DTL, there is no SVC.

It may be noted that to obtain overall power control in a network, thyristor control reactors and thyristor switched capacitors are often combined with mechanically switched shunt reactors and capacitors controlled by the SVC. As such, Static Var Compensators (SVC) have four major components namely Control System, Thyristor valves, Capacitor Banks and Reactors.

For the benefit of GCC, a note in this regard obtained from ABB who is the manufacturer of SVC is attached for understanding the working of SVC in a large power system.

GCC may advise.

**4.4 Intrastate UI Account**

SLDC has prepared the UI Accounts status upto December 2012 and emailed to all concerned. These are being uploaded in the SLDC website also. Utilities are requested to go through the accounts and offer the comments within 10 days. After receiving the comments the interest calculations would be carried out. Based on the interest calculation the methodology already adopted for payment of interest would be applied for disbursement of about Rs. 50 Crores received from NRLDC as interest of UI Charges of 2011-12.

This is for the information of GCC.

**5 HOSTING OF NEXT MEETING OF GCC**

GCC may decide.