|  |  |
| --- | --- |
|  |   **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-110002Ph: 23221149 FAX No.23221012 |
| **No. F./DTL/207/13-14/DGM(SO)/214** | **Dated : 12.03.2014**  |

**Subject : Minutes of the 10th meeting of Grid Coordination Committee held on 29.01.2014 at 11.00hrs. at Conference Hall, 1st Floor, NDMC Convention Centre, NDCC-II, New Delhi 110001.**

Dear Sir, / महोदय

The Minutes of the 10th meeting of Grid Coordination Committee held on 29.01.2014 at 11.00hrs. at Conference Hall, 1st Floor, NDMC Convention Centre, NDCC-II, New Delhi 110001 is enclosed for ready reference and further necessary action please.

Thanking you,

  Yours faithfully

Encl. as above

 Dy. G. M. (System Operation)

 Convener, GCC

List of addresses

1. General Manager, NRLDC, 18A- SJSM, Katwaria Sarai, New Delhi-110016
2. Executive Director (Engg. and Tariff), DERC, Viniyamak Bhawan, C-Block, Shivalik, New Delhi-110017
3. General Manager (Planning), DTL, Shakti Deep Building, Jhandewalan, New Delhi
4. Executive Director (Engineering), NTPC, Corporate Centre, EOC Noida, Sector-24, UP-201301-Fax No.0120-2410200
5. Chief Executive Officer, Aravali Power Company Pvt. Ltd. 5th Floor, Engineering Office Complex, A-8A, Sec. 24, Noida, 201301 (U.P.)-fax no. 0120-2410361
6. Chief Engineer (SO), Punjab SLDC, PSTCL, SLDC Complex, Near 220kV Grid S/Stn Ablowal, Patiala, Punjab-147001, Fax No. 0175-2365340, 0175-2367490
7. Chief Engineer (System Operation), Haryana SLDC, HVPNL, Shakti Bhawan, Sector-6, Panchkula-134109, Fax No. 0172-2560622
8. G.M., Bawana CCGT Plant, Sec-5, DSIIDC Indl. Area, Bawana, New Delhi-39
9. General Manager,Indira Gandhi Super Thermal Power Station Jhajjar, Jhajjar Distt. Haryana Pin-124141, Fax no. 01251-266202, Ph. 01251-266265
10. C.E., Haryana Power Procurement Centre, Panchkula, Haryana, Fax No.0172-3019169
11. G.M. (O&M)-I, DTL, Park Street 220kV Grid S/Stn. New Delhi-110001
12. G.M. (SLDC), SLDC Building, Minto Road, New Delhi 110002.
13. G.M. (C&RA), DTL, IP Estate, New Delhi-110002
14. Chief Engineer (TS), PSD(TS) DTE, BBMB, 66kV S/Stn, Industrial Area Ph-1, Chandigarh, 160019.
15. Superintending Engineer (O&M) Circle, BBMB 400kV S/Stn, BBMB Complex, Panipat, Haryana 132008
16. G.M. (Civil), DTL, Lodhi Road 220kV S/Stn, CGO Complex, New Delhi-110003
17. G.M. (O&M)-II, DTL Shakti Deep Building, Jhandewalan, Delhi
18. G. M., Badarpur Thermal Power Stn., Badarpur, New Delhi-44
19. General Manager, RPH
20. CWE (Utilities), MES, Delhi Cantt, New Delhi-110010
21. Garrison Engineer (Utilities), MES, Delhi Cantt., New Delhi-110010
22. Sh. Mukesh Dadhich, G.M.(SO), BYPL, Balaji Estate, Kalkaji, New Delhi-110019
23. Sh. Ajay Kumar, Vice President (PMG), BRPL, BSES Bhawan, Nehru Place**,** New Delhi–110019. Off. 39996052 Fax: 011- 3999605
24. Sh.A.K. Sharma, Head (O&M), BYPL, Shakti Kiran Building, Karkardooma, Delhi
25. Chief Engineer (Electrical), NDMC, Palika Kendra, New Delhi-110001
26. Chief Engineer (Transmission System),BBMB, SLDC Complex, Sector-28, Industrial Area Phase-I, Chandigarh.
27. Director (Comml.), NDMC, Palika Kendra, New Delhi-110001
28. General Manager, GT Station
29. General Manager, Pragati Power Corporation Ltd, Pragati Power Station New Delhi
30. Dy.G.M.(Metering & Prot), DTL, Parkstreet,220kV S/Stn, New Delhi-1
31. General Manager (Fin), DTL, Shakti Sadan, New Delhi-110002
32. Dy. G. M. (Fin-II), DTL, RPH Complex, New Delhi-110002
33. HOG (Power System and Trading), TPDDL, Cennet Building, Adjacent to 66/11kV Pitampura-3 Grid Building, Near PP Jewellers, Pitampura, Delhi-34.
34. Sh. Sanjay Banga, Sr. General Manager (PSC & A), TPDDL, Scada Building, Near Netati Subhash Place Metro Station, Pitampura, Delhi-110034
35. CEO, Timarpur – Okhla Waste Management Company Ltd Jindal ITF Center, 28 Shivaji Marg New Delhi-110015
36. G. M. (Project), Timarpur – Okhla Waste Management Company Ltd Jindal ITF Center, 28 Shivaji Marg New Delhi-110015, Ph. 45021983, Fax 45021982
37. G.M. (Project)-I, DTL, Shakti Deep Building, Jhandewalan, Delhi-110055
38. G.M. (Project)-I, DTL, Shakti Deep Building, Jhandewalan, Delhi-110055
39. Dy.G.M.(O&M)-III, DTL, 220kV S/Stn Lodhi Road, CGO Complex, New Delhi-03
40. Dy. G.M.(O&M)-I, DTL, 220kV Park Street Grid S/Stn, near RML Hospital, Park Street, New Delhi-110001
41. Dy. G.M. (O&M)-II, DTL, Shakti Deep Building, Jhandewalan, Delhi
42. Dy. G.M.(OS), DTL, 220kV Naraina Grid S/Stn, New Delhi-110010
43. Dy.G.M. (400kV O&M S/Stn), DTL, 220kV Naraina Grid S/Stn, New Delhi-10
44. Sh. Sunil Kakkar, Head (PMG), BYPL, 2nd Floor, Shakti Kiran Building, Karkardooma, Delhi-110092
45. Sh. Sanjay Srivastava, AVP (PMG), BRPL, Bldg. No.20, Nehru Place, New Delhi - 110019
46. General Manager (Commercial), National Thermal Power Corporation, NTPC NCR Headquarter, Sector-24, Noida, UP-201301
47. General Manager (Commercial), Aravali Power Company Pvt Ltd, 1st Floor, Pawan Hans Towers, C-14, Sector-1, Noida-201301
48. Chief Engineer, DMRC, Inderlok Metro Station, Delhi
49. G.M. (O&M), Ramky Enviro Engineers Ltd., Delhi MSW Solutions Ltd, Sector-5, Pocket N-1, Bawana Indl. Area, Behind Pragati Power Plant, Bawana, Delhi-39
50. DGM(SCADA), Delhi SLDC
51. Manager (SO)-Shift, Delhi SLDC
52. Executive Engineer (SO), NDMC
53. Dy. Manager (Finance), SLDC

Copy for favour of kind information to :-

* 1. Secretary, CERC, 3rd & 4th Floor, Chanderlok Building, 36, Janpath, New Delhi- 110001, Ph: 011-23353503 Fax: 011-23753923
	2. Secretary, DERC, Viniyamak Bhawan, C-Block, Shivalik, New Delhi-110017
	3. Chairman and Managing Director, DTL
	4. Chairperson, New Delhi Municipal Council, Palika Kendra, Sansad Marg, New Delhi
	5. Member Secretary, NRPC, Katwaria Sarai, New Delhi-110016
	6. Member (Power Regulations), BBMB, Sector-19B, Madhya Marg, Chandigarh
	7. Director (Operations), NTPC, Scope Complex, 7 Institutional Area, Lodhi Road, New Delhi-110003
	8. Managing Director, Indraprastha Power Generation Company Ltd (IPGCL) / Pragati Power Corporation Ltd (PPCL), Himadri, Rajghat Power House, New Delhi-110002
	9. Director (Operations), DMRC, Metro Bhawan, Fire Brigade Lane, Barakhamba Road, New Delhi-110001.
	10. Director (Operations), DTL
	11. Director (HR), DTL
	12. Director (Finance) DTL
	13. CEO, BSES Rajdhani Power Ltd, BSES Bhawan, Nehru Place, New Delhi-110019
	14. CEO, BSES Yamuna Power Ltd, Shakti Kiran Building, Karkardooma, New Delhi-92
	15. CEO, Power System Operation Corporation (POSOCO), B-9, Qutub Institutional Area, Katwaria Sarai, New Delhi-110016
	16. CEO, TPDDL, 33kV Grid S/Stn, Hudson Lane, Kingsway Camp, Delhi-110009
	17. Chief Engineer(Utilities),CWE, MES, Kotwali Road, Near Gopi Nath Bazar, Delhi Cantt New Delhi-110010
	18. Special Secretary (Power), Govt. of NCT of Delhi, Delhi Secretariat, New Delhi
	19. Director, PSTI, Subramanayapura Road, Banasankari-II Stagem Bangaluru-560070
	20. Principal Director, NPTI, Faridabad, NPTI Complex, Sector-33, Faridabad-121003

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**DELHI TRANSCO LTD.**

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

**[Office of General Manager (SLDC)]**

SLDC Building, Minto Road, New Delhi – 110 002

Phone No.23221091, Fax 23221012, 59

**Subject : Summary Record of discussions held in the 10th Meeting of the Grid Coordination Committee (GCC) of Delhi, held on 29.01.2014 at 11.00hrs. at Conference Hall, 1st Floor, NDMC Convention Centre, NDCC-II, New Delhi 110001.**

The list of participants is enclosed at **Annexure.**

**WELCOME**

Sh. A.K. Haldar, Director (Operations), DTL, Chairman GCC welcomed all participants to the 10th GCC meeting. He wished all happy and prosperous new year. He thanked NDMC for hosting this meeting in such a good ambiance.

He highlighted the major achievement of the Indian Power System and informed that now Grid is in the arena of One Nation One Grid One Frequency w.e.f. 31.12.2013. Thus, the then NEW Grid turned NEWS Grid. He reminded that the responsibility of all stakeholders has increased to maintain the stability of entire Grid by strictly adhering to the Grid discipline. The Central Electricity Regulatory Commission has already notified the amended Indian Electricity Grid Code on 06.01.2014 and the amended provisions made effective from 17.02.2014.

The existing Unscheduled Interchanged (UI) Regulations have also been replaced and new regulations called Deviation Settlement Mechanism will also come into force w.e.f. 17.02.2014. The frequency band has been further tightened from existing 49.7-50.2Hz to 49.95-50.05Hz. The volume of deviation from scheduled to actual has been scaled down to 150MW or of 12% of the schedule whichever is low. Continuous over drawal / under drawal has also been prohibited and within 12 time block the polarity should be changed (in case of over drawal to under drawal and vice versa). To understand further, a knowledge sharing session has also been organized by SLDC in which Engineers of NRLDC have been requested to conduct the same. Representations of the stakeholders of Delhi Power sector were also solicited.

He further expressed satisfaction of the power supply front. The position during this winter has by and large been satisfactory barring few days in the first week of January 2014 during which the power supply position was disturbed due to outage of machines. He felt satisfaction that in spite of vide variation in load - 1500MW to 3800MW - during off peak hours to peak hours, all Distribution companies are managing the same in best possible way. Our next challenge is to meet the peak summer demand which is expected to cross 6000MW this year. All utilities, DTL Generators and Discoms should gear up to meet the challenge particularly in view of lagging of some of the transmission projects due to one reason or other.

He also highlighted certain major achievements in Delhi Power System since the last meeting of the Grid Coordination Committee such as commissioning of 160MVA Tx at Pappankalan-II, 160MVA Tx at Mehrauli etc. The Islanding Scheme of Delhi is also on final stage of reality.

He mentioned about the non payment of dues to Generating and Transmission Utilities which is also creating hurdles in completing the projects and to maintain the day to day operation of the concerned utilities. He requested all utilities to ensure at least the current payment to avoid the collapse of system.

With these remarks, he concluded the welcome address and once again thanked NDMC officers for excellent arrangements made for hosting the meeting.

After the welcome address of the Chairperson, the agenda was put up for discussions and the gist of the discussions and decisions are as under:-

**1 Confirmation of the minutes of 9th meeting of GCC held on 06.08.2013.**

The minutes of the 9th meeting of GCC held on 06.08.2013 have been circulated vide letter no. F.DTL/207/13-14/DGM(SO)/116 dated 25.09.2013. No comments were received.

**GCC confirmed the Minutes of its 9th meeting held on 06.08.2013**

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

**2.1 ENHANCEMENT OF GRID SECURITY AT BTPS**

It was informed that the subject has been in the regular agenda of NRPC and NRPC’s OCC meetings. The relevant portions of minutes of the 94th NRPC OCC meeting held on 19.12.2013 is appended hereunder:-

**Quote-**

In the 88th OCC meeting while discussing “Increasing grid connectivity of BTPS”, representative of BBMB had intimated that in the network around 220KV Samaypur – Ballabgarh, N-1 contingency is not met due to continuous high power flow during summer load peak periods. He had requested that load plan may be rearranged in the area by HVPNL / DTL / POWERGRID after making a proper system study by PGCIL to avoid any system contingency in the area. Further, he had requested that these elements may also be got covered in the system study being carried out by CEA. In this regard, representative of DTL had intimated that a study to evolve composite scheme for supply of power up to 2022 for Delhi was under progress in CEA with the association of DTL and CTU. He added that DTL would conduct an internal study in regard to increasing connectivity of BTPS and then include this aspect in the study being conducted by CEA.

In the 92nd meeting, SE(O), NRPC intimated had that in the recently held TCC/NRPC meetings, POWERGRID had informed that CEA has carried

out comprehensive study for supply of power to Delhi up to 2022. He added that this study had suggested creation of 06 new substations in Delhi. Later it was found that due to ROW problem for the line corridors connecting these new substations, it may not be possible to built new substations and as such the plan would be reviewed in a separate meeting between CEA, CTU and DTL. Representative of DTL stated that any planning for increasing grid connectivity of BTPS shall be based on studies by CEA. In this meeting, he intimated as under:-

At present BTPS is connected with the grid through 220kV Ballabgarh – BTPS – Mehrauli – DIAL – Bamnauli. Further it is already having the link with 220kV BTPS – Alwar Ckt. As such at present BTPS is having 3 connecting links namely

(i) 220kV BTPS – Ballabgarh D/C Line

(ii) 220kV BTPS – Mehrauli – DIAL – Bamnauli D/C Line

(iii) 220kV BTPS – Alwar S/C Line

Due to these existing links BTPS station survived several times in recent past when entire 400kV System of Samaipur / Ballabgarh remained dead causing the loss of 220kV BTPS – Ballabgarh D/C Link.

Further, he intimated that future system is likely to have

(i) 220kV Transmission line from 400kV Maharani Bagh to 220kV Gazipur is under advance stage of completion. As soon as this line comes, the following link shall be arranged.

220kV Maharani Bagh – Gazipur – Noida – BTPS

(ii) Scheme for laying of 220kV Cable from 220kV Masjid Moth S/Stn. to 220kV Okhla is under consideration. The execution of this scheme will have connectivity as under :

220kV Maharani Bagh – Masjid Moth – Okhla – BTPS

(iii) The establishment of 220kV Cable ckt. between 220kV Gazipur to 220kV Patparganj is under execution and after execution it will have link with BTPS as under :

220kV Mandola – Wazirabad – Geeta Colony – Patparganj – Gazipur – Noida -BTPS

(iv) Scheme for execution of 220kV Patparganj to 220kV Preet Vihar (Anand Vihar) (upcoming grid) is under preparation and if finalized the connectivity with 400kV Harsh Vihar will be arranged as under :

220kV Harsh Vihar – Preet Vihar (Anand Vihar) - Patparganj – Gazipur – BTPS

However, he added that the closed loop operation of all the above links would be decided based on the studies being carried out.**Unquote-**

BTPS representative informed that the agenda was put up in the NRPC Forum by NRLDC not BTPS or NTPC. He further informed that they do not have any issue with regard to the connectivity of BTPS with the Grid in the present scenario.

**GCC noted the position. It is further advised the Planning Department of DTL to conduct study in coordination with all Stakeholders including BTPS and decide on the configuration based on the studies in view of the impending changes to be occurred in the system. The study be conducted by the State System Study Group.**

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

The latest 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. | The original planning was 2X315MVA Txs at Mundka. The 3rd Tx. available at present which has been brought after repairs. It is likely to be energized by 30.04.2014. The same is planned as hot reserve at present. In near future, the load of the S/Stn is likely to be increased with the commissioning of 220kV Wazirpur and 220kV Peera Garhi and LILO of 220kV Najafgarh – Kanjhawala Ckt at Mundka. The provision of 220kV feed to Rohtak Road is also being explored. After the load of the sub-station is attained as envisaged in the scheme would be prepared for provison of 4th transformer as hot reserve and implemented after obtaining the regulatory approval from DERC.**GCC advised Planning Department of DTL for immediate preparation of the scheme for the 4th Transformer as hot reserve.**  |
| 2 | 220/66 kV, 160MVA Tx | 13 | 160MVA Tx earmerked for 220kV Pappan Kalan-II would be the hot reserve. | At Papankalan-II the third transformer which was envisaged as hot reserve has been charged on 19.11.2013 and put in use to meet the load demand. New scheme would be prepared for a hot reserve of 220/66kV 160MVA Tx looking into the increasing population by Planning Department of DTL. |
| 3 | 220/66kV, 100MVA Tx | 40 | New Tx. is required to be purchased The scheme for one 220/66/ 33kV 100MVA Tx as hot reserve has been approved and the same would be placed at Patparganj before summer 2014 for hot reserve  | The transformer is available at site. ETC is to be awarded.   |
| 4 | 220/33kV, 100MVA Tx, | 35 |
| 5 | 66/33kV 30MVA Tx, | 3 | After the commissioning of 66kV IFC Grid, the 33kV Narela – Khampur feeder become redundant and then the transformer could be spared for hot reserve purpose. However, the 66kV bay being utilized for 66/33kV Tx at Narela would be used for IFC Grid. As such, the transformer would have to be shifted to some other place for hot reserve. GCC advised Planning Department of DTL to decide the location. | At present, there only three 66/33kV 30MVA Txs in the system - two at Park Street and one at Narela. Most of the time, 66/33kV transformers are kept as standby at Park Street. At Narela, the 33kV level is being descarded and 66kV bay would be utilize to feed the upcoming 66kV IFC Grid of TPDDL whihc would be be coming in two years time (being the deposit work of DDA). Considering the facts, GCC decided not to have hot reserve in this category. |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S.N | Capacity  | Present population in nos. | Status of the hot reserve  | Acton plan and responsibility  |
| 6 | 66/11kV 20MVA Tx | 23 | The scheme for a 66/11kV Tx as a hot reserve has been approved and transformer is under procurement. | In principle approval of DERC has been sought which is yet to be received.   |
| 33/11kV 20/16MVA Tx | 16 | The hot reserve 33/11kV Tx would be placed at Shalimar Bagh before summer 2014. | The scheme has been approved by DTL board however, DERC approal is awaited.  |

**2.3 AUGMENTATION OF TRANSFORMATION CAPACITY OF 66/11KV AND 33/11KV TRANSFORMERS AT DTL SUB-STATIONS.**

Grid Coordination Committee had recommended the proper augmentation of 66/11kV and 33/11kV transformers at 220kV level to maintain the reliability of supply to consumers directly fed from 220kV S/Stns of DTL. The matter was taken up by Chairperson, GCC with DERC for getting the necessary regulatory approval.

However, DERC intimated their decision vide letter dated 19.11.2013 where they were of the view that DTL should not augment these transformers as Distribution Companies are to shift the load from these 11kV systems to their own system as they have completed 12 years of operations in their respective areas.

Discoms were of the view that in most of the places, they are not getting any spaces for establishing the sub-stations. Earlier also, they requested space in the switch yards of DTL S/Stns for establishing assets in place of 66/11kV or 33/11kV transformers in DTL S/Stn.

General Manager (O&M)-I drew attention of relevant paragraphs of DERC’s communication dated 19.11.2013 wherein it was stated as under:-

5 It is clear from the above, during the policy direction period, DTL and DISCOMs were advised in Co-ordination Forum meeting to shift 11kV load from DTL Grid S/Stn and inter DISCOMs feeders to respective DISCOMS Grid S/Stn before March 2007, till such time, the existing 66/11kV and 33/11kV network and 11kV feeders shall continue to provide infeed during policy direction period. Subsequently, DISCOMs shall meet adequate sub transmission capacity and 11kV feeders to provide as main feed in the area and existing 11kV feeders from DTL shall fed as a back feed till such time 66/11kV and 33/11kV assets including 11kV feeders completes its useful life. Moreover, Intrastate ABT may be fully applicable when DISCOMS provide supply from their own Grid S/Stn through 11kV feeders and maintain the system as their own.

6 The Commission considered the issue relating to transformation capacity at 66/11kV and 33/11kV levels in 220kV Sub-Station of DTL. The Commission decided that in the light of directions issued by the Commission in different meetings of the coordination Forum, the distribution licensees is directed to shift the load from 11kV feeders of DTL to the sub-stations established by distribution licensees, so that all future issues relating to load growth could be efficiently handled by the DISCOMs.

He was of the view that these assets would be used as a back up mechanism for maintaining power supply to the areas fed from the 11kV system and hence no question for providing space in DTL’s yard arises as per the directives of DERC. Further he was of the view that if such spaces are provided the future expansion of DTL yard would also become impossible

Distribution Companies were of the view that a lot of capital expenditures are required to be incurred in case of establishment of new set up to feed 11kV system which is not in the interest of consumers.

**After discussions, Chair opined that DERC’s orders are required to be implemented. He was further of the view that in case of any difficulty in implementing the order, the affected party may approach the Commission.**

**2.4 IMPLEMENTATION OF STATE-OF-THE–ART–LOAD MANAGEMENT SCHEME BY DISCOMS**

It was informed that CERC vide order dated 28.12.2013 has issued notices to all State Utilities except Delhi for non implementation of The State-Of-The-Art Load Management Scheme. All utilities of Delhi need to maintain the system and ensure that the scheme is operation at all point of time. It is also brought in the notice of amendment of Indian Electricity Grid Code applicable from 17.02.2014. The relevant portions of the amended IEGC is appended hereunder :-

**Quote**

5.4.2 Demand Disconnection

(a) SLDC/SEB/distribution licensee and bulk consumer shall initiate action to restrict the drawal of its control area, from the grid, within the net drawal schedule.

(b) The SLDC/SEB/distribution licensee and bulk consumer shall ensure that requisite load shedding is carried out in its control area so that there is no overdrawl.

d) The SLDC through respective State Electricity Boards/ Distribution Licensees shall also formulate and implement state-of-the-art demand management schemes for automatic demand management like rotational load shedding, demand response (which may include lower tariff for interruptible loads) etc. before 01.01.2011, to reduce overdrawl in order to comply para 5.4.2 (a) and (b) . A Report detailing the scheme and periodic reports on progress of implementation of the schemes shall be sent to the Central Commission by the concerned SLDC.

The amended regulation of 6.4.7 of IEGC is also appended hereunder:-

(2) Regulation 6.4.7 of Principal Regulations shall be substituted with the following:

"7. The SLDC, SEB / distribution licensee shall always restrict the net drawal of the state from the grid within the drawal schedules keeping the deviations from the schedule within the limits specified in the Deviation Settlement Mechanism Regulations. The concerned SEB/distribution licensee/User, SLDC shall ensure that their automatic demand management scheme mentioned in clause 5.4.2 acts to ensure that there is no over-drawal. If the automatic demand management scheme has not yet been commissioned, then action shall be taken as per

manual demand management scheme to restrict the net drawal from grid to within schedules and all actions for early commissioning of Automatic Demand Management Scheme (ADMS) shall be initiated

**Unquote**

To a query to NDMC with regard to implementation of the scheme they informed that ADMS has already been commissioned in their system also.

**GCC advised all distribution utilities to maintain and monitor the operation of the system as per the provisions contained in the grid codes.**

**2.5 EXECUTION OF CONNECTION AGREEMENT BY PPCL FOR BAWANA CCGT (1371MW).**

In the last GCC meeting held on 06.08.2013, Chairperson, GCC advised the Protection wing of DTL to resolve the issues creating hurdles in executing the connection agreement as quick as possible as the issue was hanging long, though the system is operating since October 2010 without the execution of the mandated Connection Agreement with STU.

It was informed in the meeting that the agreement has finally been executed on 24.01.2014, though the system has been remained connected since October 2010.

**GCC noted the same and also advised that in future no system be allowed to be connected without the execution of the connection agreement with STU.**

**2.6 OUTSTANDING DUES**

DTL intimated that the outstanding dues position of various Distribution Companies as on 31.12.2013 as under:-

|  |  |
| --- | --- |
| Paying utilities | Total amount in Rs. Crores |
| BRPL | BYPL |
| 757.27 | 452.35 | 1209.62 |

Outstanding dues with respect to TPDDL and NDMC on account of Pension Trust, Income Tax, Power Purchase Liability and wheeling charges etc also mentioned as under:-

|  |  |
| --- | --- |
|  Paying utilities | Total amount in Rs. Crores |
| TPDDL | NDMC |
| 128.61 | 38.97 | 167.85 |

IPGCL/PPCL intimated that 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 since October 2010 due to consistent default of BYPL and BRPL in making payment of energy bills raised to them, as on date the accumulated dues amounts to ₹3,145.48 crore. The breakup is as below:-

(Amount in Crore)

|  |  |  |
| --- | --- | --- |
| DISCOM | IPGCL | PPCL |
| BYPL | 637.97 | 709.88 |
| BRPL | 864.29 | 933.34 |
| TOTAL | 1502.26 | 1643.22 |

It was further informed that IPGCL and PPCL have been sending repeated reminders to BRPL and BYPL for making payment of their dues but nothing has been done.

The representative mention that even after truing up Order dated 31.07.2013 of DERC of the BRPL and BYPL are not adhering to their own commitments. It is pertinent to mention that in response to regulation notice issued by IPGCL and PPCL on 20.09.2013, CEO, BRPL had submitted a payment plan for both BYPL and BRPL, wherein they were proposing to release ₹80 crore in September 2013 and ₹75 crore each month from October to December 2013 to the Principal Secretary (Power) dated 23.09.2013 with the request to withdraw power regulation. In response to the said letter, Department of Power, GNCTD has requested to the Chairman, BRPL and BYPL for release of at least ₹400 crore till December 2013, also stating that, payment on account of BYPL and BRPL related to subsidy but transferred directly by GNCTD to Govt. utilities on account of non-payment may not be treated as part of ₹400 crore. Later IPGCL and PPCL accepted the request of BRPL and withdrew regulation notice. However said request has not been confirmed and complied with by BYPL and BRPL. He gave the details of payment received from BRPL and BYPL in IPGCL and PPCL from September-2013 to December 2013 as below:-

 (Amount ₹ in crore)

|  |  |  |
| --- | --- | --- |
| Month | IPGCL | PPCL |
| BYPL | BRPL | BYPL | BRPL |
| September 2013 | 15.00 | 12.50 | 15.00 | 38.50 |
| October 2013 | 6.04 | 12.49 | 28.09 | 62.65 |
| November 2013 | Nil | `23.42 | Nil | Nil |
| December 2013 | Nil | Nil | Nil | Nil |
| Total | 21.04 | 48.41 | 43.09 | 101.15 |

The representative of IPGCL/PPCL drew attention of DERC’s Tariff Order for FY 2013-14 indicating BRPL has ₹654.73 crore as revenue surplus. Therefore, non-payment by BRPL to IPGCL and PPCL is not understood. Even after DERC’s

Tariff Order dated 31.07.2013 BRPL and BYPL had not adhered to making payment of current dues and defaulted to the extent as mentioned below:-

 (Amount ₹ in Crore)

|  |  |  |
| --- | --- | --- |
| Month | IPGCL | PPCL |
| BYPL | BRPL | BYPL | BRPL |
| August 2013 | 10.75 | 8.42 | 32.84 | 8.70 |
| September 2013 | Nil | 10.78 | 21.61 | 20.74 |
| October 2013 | 9.51 | 13.05 | Nil | Nil |

He presented that disastrous financial position of their company due to continuous default of the payment by BRPL & BYPL as under :

1. IPGCL and PPCL are functioning with working capital sanction from Allahabad Bank. The available cash credit limit at Allahabad Bank as on 17/01/2014 in IPGCL & PPCL are ₹18.95 crore and ₹1.50 crore against the sanction limit of ₹125 crore & ₹200 crore.
2. On 15/01/2014 PPCL has defaulted towards repayment of principal and interest due to PFC amounting to ₹52.08 crore towards loan drawn for PPS III, Bawana.
3. On default to PFC, PPCL is liable to pay 2% interest over and above the interest rate for the period in default on the outstanding amount. In case the default continues PFC can invoke the Escrow mechanism which is available as a security.
4. On default to GAIL the company would be liable to pay penal interest @ of 2% over and above SBI prime lending rate, this is at present 14.75% p.a. i.e. @ 16.75% p.a. On continuation of default to GAIL for supply of gas, they can invoke the Stand-by Letter of Credit issued from Allahabad Bank and Indusind Bank which will erode the creditworthiness of the Company in the banking system.
5. Due to acute liquidity crisis, payments to vendors for supply or services are being kept on hold.
6. Salary and establishment payment to employees of IPGCL & PPCL in January 2014 will also be impacted due to non availability of funds.
7. Due to non-payment to GAIL for supply of gas, there is a possibility of stoppage of supply of gas, which will result in stoppage of generation impacting in load shedding in Delhi.

BRPL representative intimated that the position has already been apprised to highest authorities of their management. He hoped that the positive solution might be emerged out to discharge at least the liability of the current dues to the Generating and Transmission Utilities.

BYPL representatives intimated that their payment dues from UI account have already been diverted to the extent of about Rs. 179 Crores to DTL, IPGCL and PPCL against the bulk payment received from NRLDC on 30.10.2013. The current payment of UI dues are also being diverted to PPCL / IPGCL. Apart from UI pool diversion, in the present conditions, looking into the financial position of the

company, he could not commit any plan to clear the outstanding dues or current monthly payment. With regard to the commitment of payment by the management, the representative was unaware.

TPDDL representatives intimated that as far as their position is concerned, no payment is due to DTL on Transmission Charges front. The position was made clear in the last GCC meeting also. With regard to the pension trust payment, it is sub-judice and hence it should not be considered as non payment of dues. With regard to the Income Tax, the petition filed by them against the claim of DTL was under the consideration of DERC. He further requested DTL to reconcile claims with the Finance Wing of their company.

NDMC representative intimated that there is no payment due to DTL as Transmission Charges. The outstanding dues shown are the claim of DTL in respect of Pension Trust during the period November 2012 to March 2013. They were further of the view that DTL cannot claim Pension Trust payment from NDMC as none of the erstwhile DVB / DESU employees were working or retired from NDMC as NDMC was in existence prior to the unbundling of DVB and it is not a successor entity of DVB. The matter was also brought into the notice of DERC through an official letter.

**Considering the overall position, GCC decided the following:**

**1 Requested all utilities to pay at least the current dues so that the regular day to day operations may continue to ensure electricity supply to consumers.**

**2 In case, the current dues are not being paid, concerned utilises may take other legal recourse as per the provision of Power Purchase Agreements (PPAs) or Transmission Service Agreement, as the case may be, including the power regulations without affecting the regular paying utilities.**

**3 With regard to the payment dispute of TPDDL and NDMC with DTL, Chair advised to file petition before DERC to resolve the issue.**

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.**

 **In the updated position is as under :**

|  |  |  |
| --- | --- | --- |
| Clause | RECOMMENDATIONS  | STATUS AS ON DATE  |
| 9.1.1  | Periodical 3RD Party Protection Audit **– Time frame – within one year**  | 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 :-

|  |  |  |  |
| --- | --- | --- | --- |
| Sl. No | Description of Issue | Sub-station  | Action taken/proposed (As on 29.01.2014) |
| 1  | Replacement of Static Distance Relays by Numerical Relays | Bamnauli  | Work will be completed by 30.09.2014 |
| 2 | Earth fault in DC system to be rectified | Bamnauli  | Partly the problem has been addressed. Full completion of work would be done shortly.  |
| 3 | Time Synchronization to be provided or rectified | Bamnauli | No issue |
| 4 | DR and Event Logger to be provided or to be kept in order | Bamnauli  | The 400 kV EL is in place. EL for 220 kV and DR (inbuilt function with Numerical Relays) will be completed by Dec. 2014. |
| 5 | Bus Bar Protection to be provided/made functional | Bamnauli  | Bus Bar Protection made functional |
| 6 | LBB Protection to be provided/made functional | Bamnauli | No issue |
| 7 | PLCC problems  | Bamnauli  | PLCC of all 400 kV lines with new Protection Coupler are installed and functional. PLCC Tele protection coupler for 220kV lines will be installed after stringing of OPGW by POWERGRID by July 2014.  |
| 8 | DG Set  | Bamnauli | No issue |

(Basic Protection Audit carried out on 400kV S/Stn Bamnauli before CWG)It was also advised by NRPC that DTL should go for fresh third party protection audit of entire DTL system. In 90th OCC meeting, it was informed that TPA of DTL system would be got done from the panel of protection experts being drawn up by NRPC secretariat. It was informed that panel for TPA has already been formed and the audit is expected to be started soon.  |
| 9.1.2  | Philosophy of Zone-3 trippings to be reviewed to avoid indiscriminate and load encroachment and faults **– Time Frame - immediate**  | Powergrid, has reviewed the zone-3 settings in coordination with STUs, generators and POSOCO and put them in order in accordance with load ability. The status of implementation of the above by the States was discussed at the meeting of National Power Committee (NPC) held on 15.04.2013 wherein the States were asked to furnish the details. The responses were awaited.  |

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| Clause | RECOMMENDATIONS  | STATUS AS ON DATE  |
|  |  | As far Delhi is concerned, the details have been submitted to PGCIL through NRPC as under :-

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Sl No** | **Name of substation** | **Voltage level(kV)** | **Name of transmission line** | **Voltage (kV) for MVA calculation** | **Make of relay** | **CT primary** | **Zone-3 setting (X) Secondary Ohms** |
| Main-I | 1 | Bamnauli | 400kV | Ballabhrgarh-I | 380kV | Micromho | 2000/1 | 13.9 |
| Main-II |   |   |   |   | 380kV | Micromho | 2000/1 | 3.36 |
| Main-I | 2 | Bamnauli | 400kV | Ballabhrgarh-II | 380kV | Micromho | 2000/1 | 13.9 |
| Main-II |   |   |   |   | 380kV | Micromho | 2000/1 | 3.36 |
| Main-I | 3 | Bamnauli | 400kV | Mundka-I | 380kV | Micromho | 2000/1 | 13.4 |
| Main-II |   |   |   |   | 380kV | Micromho | 2000/1 | 2 |
| Main-I | 4 | Bamnauli | 400kV | Mundka-II | 380kV | Micromho | 2000/1 | 13.4 |
| Main-II |   |   |   |   | 380kV | Micromho | 2000/1 | 2 |
| Main-I | 5 | Mundka | 400kV | Bamnauli-I | 380kV | P442 | 2000/1 | 10.27 |
| Main-II |   |   |   |   | 380kV | D60 | 2000/1 | 10.27 |
| Main-I | 6 | Mundka | 400kV | Bamnauli-II | 380kV | P442 | 2000/1 | 10.27 |
| Main-II |   |   |   |   | 380kV | D60 | 2000/1 | 10.27 |
| Main-I | 7 | Mundka | 400kV | Bawana-I | 380kV | P442 | 2000/1 | 28.4 |
| Main-II |   |   |   |   | 380kV | D60 | 2000/1 | 28.4 |
| Main-I | 8 | Mundka | 400kV | Bawana-II | 380kV | P442 | 2000/1 | 28.4 |
| Main-II |   |   |   |   | 380kV | D60 | 2000/1 | 28.4 |
| Main-I | 9 | Mundka | 400kV | Jhajjar-I | 380kV | P442 | 2000/1 | 20.14 |
| Main-II |   |   |   |   | 380kV | D60 | 2000/1 | 20.14 |
| Main-I | 10 | Mundka | 400kV | Jhajjar-II | 380kV | P442 | 2000/1 | 20.14 |
| Main-II |   |   |   |   | 380kV | D60 | 2000/1 | 20.14 |
| Main-I | 9 | Bawana | 400kV | Mundka-I | 380kV | Micromho | 2000/1 | 13.4 |
| Main-II |   |   |   |   | 380kV | Micromho | 2000/1 | 2 |
| Main-I | 10 | Bawana | 400kV | Mundka-II | 380kV | Micromho | 2000/1 | 13.4 |
| Main-II |   |   |   |   | 380kV | Micromho | 2000/1 | 2 |
| Main-I | 11 | Bawana | 400kV | Mandola-I | 380kV | Micromho | 2000/1 | 11.7 |
| Main-II |   |   |   |   | 380kV | Micromho | 2000/1 | 3.12 |
| Main-I | 12 | Bawana | 400kV | Mandola-II | 380kV | Micromho | 2000/1 | 11.7 |
| Main-II |   |   |   |   | 380kV | Micromho | 2000/1 | 3.12 |
|  | 13 | Bawana | 400kV | Abdullapur |  | Settings done by PGCIL |
|  | 14 | Bawana | 400kV | Bahdurgarh |  | Settings done by PGCIL |
|  | 15 | Bawana | 400kV | Hisar (Now Mahendergarh) |  | Settings done by PGCIL |
|  | 16 | Bawana | 400kV | Dipalpur | Settings done by PGCIL |

Note1) Zone setting for main-I & main-II distance relays to be provided for each line.2) Voltage kV for MVA calculation may be taken as 380 kV for 400kV lines and 727kV for 765kV line.REMARKS1. MAIN-II PROTECTION OD DTL LINES IN THE DELHI RING MAIN LINES IS IN BLOCKING SCHEME2. ZONE 3 IS SET REVERSE LOOKING FOR MICROMHO RELAYS USED AS MAIN-II.3. CALCULATED MAX LOADING LIMIT IS AS PER THE FORMULA GIVEN IN THE MINUTES WHERE X IS THE REACTANCE OF LINE4. THE OTHER END DETAILS IN RESPECT OF JHAJJAR LINE ALSO NEED TO BE CONFIRMED FROM NTPC/PGCIL/APCLThe Protection Department of DTL intimated that, thus the recommendations stand implemented.  |

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| **Clause** | **RECOMMENDATIONS**  | **STATUS AS ON DATE**  |
| 9.1.4  | Complete independent audit of time synchronization of DRs, EL and PMs should be carried out **- Time frame – within one month**  | DTL intimated that at all interstate points the time synchronization has been done. Others will follow. DR is available at all 400kV Grids. ELs for all 220kV S/Stns have been planned. DR is not required at 220kV Sub-stations as *Numerical Relays* have this inbuilt feature.As far as IPGCL and PPCL systems are concerned, they informed that DR is available at CCGT Bawana and Pragati. EL is not required at generating stations as generators have inbuilt features of EL.IPGCL & PPCL was advised to ensure the time synchronization of DRs. **GCC advised Delhi Protection Sub Committee may regularly monitor the issue.**  |
| 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 49.95Hz to 50.05Hz. The Deviation Settlement Mechanism has also been introduced according to the tightening to the frequency band. The salient features of new settlement mechanism was presented by the NRLDC representative and the SLDC representative. The main issues immerged out were as under :1. No over drawal by Delhi if frequency is below 49.95Hz.
2. No under drawal by Delhi if the frequency is more than 50.05Hz.
3. Every (12) time blocks the polarity of drawal should change.
4. Delhi utilities were of the view that due to vast variation in load i.e. 1500MW in winter off peak to 6000MW in summer peak and about 5300MW on round the clock allocation heavy underdrawal despite backing down to the technical minimum limit and sale of power to the maximum possible extent cannot be ruled out. As such controlling of under drawal is an herculeious task for Delhi utilities.
5. Despite requisition is zero from certain plants by discoms, NRLDC schedules a substantial amount of power causing underdrawal of Delhi.
6. Technical bare minimum requirement of generating stations should be authenticated by Grid authorities i.e. CEA for optimum
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| Clause | RECOMMENDATIONS  | STATUS AS ON DATE  |
|  |  | scheduling of power and to manage the load so that the stipulation contained in the deviation settlement mechanism notified by CERC can be adhered to. 1. Discom representatives even pointed out the instances of Dadri (Th.) generating station generated even less than 50% at the time of coal shortages to preserve the coal to establish full capacity for few peak hours to ensure full capacity charges. But during normal courses when discoms requisition less than 70% capacity that is not being acceded too.
2. NRLDC representative indicated that at abnormal conditions generation can go below the stipulated 70% for thermal stations providing oil support level. He was also of the view that the machines of 500MW and above can generate without oil support upto 60%. However, he was of the view that there need to be plant wise bare minimum capacity known to everybody for proper scheduling and adherence of the stipulation of the deviation settlement mechanism and amended grid code provisions.
3. TPDDL representative informed that despite taking up the matter with CEA for technical bare minimum capacity notification the response of CEA is lukewarm.
4. It was decided that Delhi SLDC in coordination with all stake holders of power system of Delhi would draw out a revised scheduling procedures to take care of the deviation settlement mechanism.
5. The accuracy of real time scheduling and actual drawal should also be ensured both at SLDC & ALDCs. Till the SCADA systems of Discoms are integrated with SLDC weekly reconciliation of actual of discom should be carried out by SLDC.

It was also informed that a one day special interactive session has also been planned under the guidance of NRLDC engineers in this regard. |
| 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**  | As above.  |

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| Clause | RECOMMENDATIONS  | STATUS AS ON DATE  |
| 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 all 24 UFRs and 13 df/dt relays are functional. Additional relays have also been procured as per the decision of NRPC meetings. Further all UFRs have also been replaced with *Numerical Relays* along with the implementation of *Islanding Scheme of Delhi*. The National Power Committee (NPC) in its 2nd meeting held on 16.07.2013 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) – 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 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 |

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| --- | --- | --- |
| **Clause** | **RECOMMENDATIONS**  | **STATUS AS ON DATE**  |
|  |  | With regard to the suggestion of providing under frequency relay’s 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 DTL’s Grid S/Stns.CERC in its order 23.12.2013 has issued notices to the Head of SLDC & MD/CMD of the STU to explain why action should not be initiated under section 142 of Indian Electricity Act 2003 (IEC 2003) for non compliance of Grid Code. The relevant portion of the order in petition no. 221/MP/2012 is reproduced hereunder :**Quote***29.We are constrained to remark that we are thoroughly dissatisfied with the defense mechanism in terms of UFR and df/dt. Hard reality which stares us on the face is that these have not been provided and maintained as per Regulation 5.2 (n) and 5.4.2 (e) of the Grid Code by NR constituents. Accordingly, we hereby direct as follows:* 1. *Issue notices to the heads of SLDCs and MD/ CMD of the STU of Punjab, Haryana, Rajasthan, Delhi, Uttar Pradesh, Uttarakhand, Himachal Pradesh, Jammu and Kashmir and head of Electricity Department, UT of Chandigarh and to explain why action should not be initiated under Section 142 of the Electricity Act, 2003 for non-compliance of the Grid Code.*

*(b)Member Secretary, NRPC to submit the latest status of UFRs and df/dt installations in NR within 1 month from the issue of this order.*  *(c) UFRs and df/dt relays also be mapped on the SCADA system of each state so that they can be monitored from SLDC/NRLDC.* *(d)All STUs and SLDCs to map/network the UFR and df/dt on their SCADA system.* *(e)NRLDC to submit the compliance report on the progress of installation of additional UFR and df/dt relays and quantum of load relief expected during contingency by 31.3.2014.* *(f)The staff shall examine the reports of the Member-Secretary, NRPC and NRLDC and shall submit to the Commission within one month of the receipt of the reports of NRPC and NRLDC.* **Unquote**G.M.(O&M)-I informed that this order came in a petition filed by NRLDC after the grid incidence occurred on 30/31-07.2012. Now DTL has complied all the directions with regard to installation of Under Frequency relays. With regard to mapping of under frequency relays in SCADA it was informed by the representative of SCADA Circle of SLDC that during the year 2006 the mapping of under frequency relay  |

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| **Clause** | **RECOMMENDATIONS**  | **STATUS AS ON DATE**  |
|  |  | was done in SCADA system but after the replacement of the statistical relays to numerical relays and the connection of islanding scheme panels these mapping got disturbed. G.M.(O&M)-I informed that SLDC should integrate the relays to the existing SCADA system through suitable methods so that these relays could be mapped in SCADA system as directed by CERC. These relays are already mapped in the islanding scheme panels already installed in SLDC though the system is of ALSTOM. GM.(SLDC) opinioned that the O&M department should do the integration work as the data integration is the responsibility of STU. **Director (Oprs.), DTL advised SLDC & O&M department to put the proposals clearly expressing the technical requirements to map the UFRs & df/dt relays in the SCADA system for the compliance of CERC directions, so that the responsibility can be assigned to the concerned to map the system. The exercise should be carried out within a week.** |
| 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.**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 “*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*.” BTPS representative informed 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. **BTPS representative assured that they would approach CERC for exemption till R&M activities are carried out in the 210MW machines.**  |

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| Clause | RECOMMENDATIONS  | STATUS AS ON DATE  |
| 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**  |  CERC vide order dated 22.04.2013 has approved amendment to the detailed procedure for relieving congestion in real time operation under Regulation 4(2) of the Central Electricity Regulatory Commission (Measures to relieve congestion in Real Time Operation) Regulation 2009. The revised procedure is available in NRLDC’s website homepage. |
| 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.DTL is adhering 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. Action : CTU/STUs and CEA – Time frame 6 months  | The order for Dynamic Simulation Study and Reactive Power compensation have been placed to CPRI. Planning Department of DTL informed that certain further data requirements are asked by CPRI. Some of the utilities (BRPL, BYPL & NDMC) are yet to provide the same. GCC advised all utilities to provide the data as quick as possible so that the study can be completed by CPRI without further delay.  |
| 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.**Action MoP, GoI Time frame : 6 months.** | Under the consideration of Ministry of Power, GoI.  |

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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 79th NRPC’s 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 :-**Monitoring of reactive support from generating units.**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 substations 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

|  |
| --- |
| 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 |  |  |  |  |
| …. |  |  |  |  |
| …. |  |  |  |  |  |
|  |  |  |  |  |  |

All generating utilities have assured to facilitate the provision of real time gross generation of active and reactive power generation and other parameters as decided in the 84th OCC of NRPC so that the reactive power generation can be monitored by SLDC and NRLDC.  |

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| Clause | RECOMMENDATIONS  | STATUS AS ON DATE  |
|  |  | SCADA circle of SLDC informed that they have already carried of site visit of generating stations of IPGCL & PPCL. The details of the work identified and required to be carried out by the generating stations at GTPS, PPCL-I & RPH have already been informed to them. The details are as under. The installation of active and reactive power transducers / MFT in 11kV generator control panel for transferring 4-20 mA output of the transducer and their connection to SIC / RTU panel at 220kV control room (of DTL by laying 0.3mm digital cable) for providing the data. As far as CCGT Bawana is concerned the transfer of active and reactive power generation will have to be transferred to SLDC through existing SAS. It was further clarified that the responsibility of data integration lies with the Gencos but all help would be provided by SLDC SCADA Circle. **GCC advised the Director (Tech.) IPGCL/PPCL to ensure the data integration of reactive power as stipulated by NRPC. He agreed for the same.**  |
| 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**  | GM(O&M)-I informed that all the hardware works have been completed. The connection with relay islanding panel to unit control board of the respective units of the generating stations is in progress and expected to be completed in the end of Feb. 2014. Testing would be carried out after the work is over and the entire scheme would be readied by end of March 2014.  |
| 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**  | 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). |

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| Clause | RECOMMENDATIONS  | STATUS AS ON DATE  |
| 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**  | 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. Gujarat has also trained its system operators. States were requested to expedite training of system operators and it was recommended that only certified operators should man the Load Despatch Centers. As far as Delhi is concerned the officers of SLDC are being sent regularly for training to upgrade the knowledge. So far 19 Engineers have obtained basic certificate and one Engineer got the certification in specialist course in Regulatory affairs. Incentive schemes are proposed for certified operators which are under the active consideration of the DTL management. Distribution utilities also proposed to include their Load Despatch Engineers in the certification programs. GCC advised SLDC to take up the matter with NPTI/PSTI for including the load dispatch engineers of Distribution Licensees in the certification courses. Accordingly, the matter was taken in FOLD meeting wherein the POSOCO agreed to consider the proposal of including System Operators of Areas Control Centers of Distribution Licensees , if SLDC recommends, in this regard.Discoms requested SLDC to provide the training details to them so that they can nominate system operation engineers for such system operation related trainings.**GCC agreed. NPTI would also be intimated in this regard.**  |
| 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 constraints on long term and short term basis. It is expected that the major constraints would be resolved within two years. **The progress is regularly being monitored in the Grid Coordination Meetings**. |

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| Clause | RECOMMENDATIONS  | STATUS AS ON DATE  |
| 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 conditions of CEA and relevant provisions of IEGC. **GCC also decided not to issue energization certificate without data connectivity to SLDC / RLDC. Distribution licenses were also advised for such actions.**  |
| 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.  | 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. 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. |
| 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.  | As far as Delhi is concerned it has planned to replace all battery banks for auxiliary supply of RTU & Communication equipments at their sub stations and ALDC buildings. These are of 48V DC Battery banks. So far, at five locations namely, Patparganj, Sarita Vihar, Bamnauli ALDC, Geeta Colony and Gopalpur the banks have been replaced. The rest of the 27 locations the battery banks are under procurement and would be replaced by August 2014 |
| 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**  | GM (Planning) DTL intimated that the meeting could not be convened during September 2013 as decided in last meeting due to the non nomination of members by some of the utilities. **GCC advised all utilities for earlier nomination. GCC also advised GM(Planning) for convening the system study group meeting which is an important activity as point out by the inquiry committee, as quick as possible.**  |

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| **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.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 POWER GRID 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.
 | 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. |

**NEW ISSUES**

**3 OPERATIONAL ISSUES**

**3.1 POWER SUPPLY POSITION**

The anticipated power supply position for summer 2014 is as under:-

|  |
| --- |
| Position as on 05.03.2014**DELHI AS A WHOLE** ALL FIGURES IN MW |
| **MONTH** | **1st Fortnight** | **2nd fortnight** |
| **APRIL 2014** | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 |
| DEMAND | 2900 | 3000 | 3650 | 3700 | 3650 | 3450 | 3200 | 3950 | 4200 | 4100 |
| AVAILABILITY | 4035 | 4035 | 3915 | 4045 | 4328 | 4132 | 4132 | 4012 | 4142 | 4425 |
| SURPLUS (+) / SHORTAGE (-) | **1135** | **1035** | **265** | **345** | **678** | **682** | **932** | **62** | **-58** | **325** |
| **MAY 2014** |  |  |  |  |  |  |  |  |  |   |
| DEMAND | 4300 | 3750 | 4350 | 4900 | 4700 | 5000 | 4500 | 5100 | 5700 | 5400 |
| AVAILABILITY | 5160 | 5097 | 5097 | 5298 | 5382 | 5349 | 5286 | 5261 | 5462 | 5571 |
| SURPLUS (+) / SHORTAGE (-) | **860** | **1347** | **747** | **398** | **682** | **349** | **786** | **161** | **-238** | **171** |
| **JUNE 2014** |  |  |  |  |  |  |  |  |  |   |
| DEMAND | 5300 | 4800 | 5500 | 6100 | 5500 | 5200 | 4700 | 5200 | 5850 | 5300 |
| AVAILABILITY | 5383 | 5330 | 5320 | 5619 | 5638 | 5358 | 5305 | 5295 | 5594 | 5613 |
| SURPLUS (+) / SHORTAGE (-) | **83** | **530** | **-180** | **-481** | **138** | **158** | **605** | **95** | **-256** | **313** |
| **JULY 2014** |  |  |  |  |  |  |  |  |  |   |
| DEMAND | 5250 | 4700 | 5300 | 6000 | 5700 | 4800 | 4350 | 5000 | 5500 | 5200 |
| AVAILABILITY | 5507 | 5212 | 5187 | 5718 | 5800 | 5507 | 5212 | 5187 | 5718 | 5800 |
| SURPLUS (+) / SHORTAGE (-) | **257** | **512** | **-113** | **-282** | **100** | **707** | **862** | **187** | **218** | **600** |
| **AUG 2014** |  |  |  |  |  |  |  |  |  |   |
| DEMAND | 4600 | 4200 | 4800 | 5100 | 4900 | 4600 | 4000 | 4700 | 5100 | 5100 |
| AVAILABILITY | 5041 | 4756 | 4746 | 5277 | 5334 | 5041 | 4756 | 4746 | 5277 | 5334 |
| SURPLUS (+) / SHORTAGE (-) | **441** | **556** | **-54** | **177** | **434** | **441** | **756** | **46** | **177** | **234** |
| **SEP 2014** |  |  |  |  |  |  |  |  |  |   |
| DEMAND | 4600 | 4100 | 4800 | 5000 | 5000 | 4350 | 3900 | 4500 | 4600 | 4700 |
| AVAILABILITY | 4469 | 4469 | 4469 | 4632 | 4730 | 4741 | 4741 | 4741 | 4904 | 5002 |
| SURPLUS (+) / SHORTAGE (-) | **-131** | **369** | **-331** | **-368** | **-270** | **391** | **841** | **241** | **304** | **302** |

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| **BRPL** |  | ALL FIGURES IN MW |  |
| **MONTH** | **1st Fortnight** | **2nd fortnight** |
| **APRIL 2014** | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 |
| DEMAND | 1203 | 1226 | 1471 | 1487 | 1500 | 1441 | 1305 | 1594 | 1693 | 1684 |
| AVAILABILITY | 1490 | 1490 | 1490 | 1547 | 1619 | 1505 | 1505 | 1505 | 1563 | 1634 |
| SURPLUS (+) / SHORTAGE (-) | **287** | **264** | **19** | **61** | **119** | **65** | **200** | **-89** | **-130** | **-50** |
| **MAY 2014** |  |  |  |  |  |  |  |  |  |   |
| DEMAND | 1796 | 1538 | 1766 | 1996 | 1939 | 2094 | 1845 | 2085 | 2334 | 2247 |
| AVAILABILITY | 1862 | 1837 | 1837 | 1909 | 1977 | 1962 | 1937 | 1912 | 1984 | 2077 |
| SURPLUS (+) / SHORTAGE (-) | **66** | **299** | **71** | **-88** | **38** | **-132** | **92** | **-173** | **-351** | **-170** |
| **JUNE 2014** |  |  |  |  |  |  |  |  |  |   |
| DEMAND | 2227 | 1995 | 2284 | 2497 | 2290 | 2183 | 1938 | 2148 | 2387 | 2203 |
| AVAILABILITY | 1933 | 1918 | 1908 | 2023 | 2062 | 1933 | 1918 | 1908 | 2023 | 2062 |
| SURPLUS (+) / SHORTAGE (-) | **-293** | **-77** | **-376** | **-474** | **-228** | **-250** | **-19** | **-239** | **-364** | **-140** |
| **JULY 2014** |  |  |  |  |  |  |  |  |  |   |
| DEMAND | 2205 | 1938 | 2183 | 2457 | 2369 | 2007 | 1788 | 2051 | 2242 | 2159 |
| AVAILABILITY | 1983 | 1958 | 1933 | 2048 | 2112 | 1983 | 1958 | 1933 | 2048 | 2112 |
| SURPLUS (+) / SHORTAGE (-) | **-221** | **21** | **-250** | **-409** | **-257** | **-24** | **170** | **-118** | **-194** | **-47** |
| **AUG 2014** |  |  |  |  |  |  |  |  |  |   |
| DEMAND | 1928 | 1731 | 1963 | 2071 | 2029 | 1932 | 1643 | 1919 | 2080 | 2121 |
| AVAILABILITY | 1725 | 1710 | 1700 | 1815 | 1854 | 1725 | 1710 | 1700 | 1815 | 1854 |
| SURPLUS (+) / SHORTAGE (-) | **-203** | **-21** | **-263** | **-256** | **-175** | **-207** | **67** | **-219** | **-265** | **-267** |
| **SEP 2014** |  |  |  |  |  |  |  |  |  |   |
| DEMAND | 1937 | 1692 | 1972 | 2040 | 2082 | 1831 | 1613 | 1849 | 1869 | 1954 |
| AVAILABILITY | 1640 | 1640 | 1640 | 1712 | 1755 | 1780 | 1780 | 1780 | 1852 | 1895 |
| SURPLUS (+) / SHORTAGE (-) | **-297** | **-52** | **-332** | **-328** | **-327** | **-51** | **167** | **-69** | **-17** | **-60** |

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| BYPL |  |  |  | ALL FIGURES IN MW |  |
| **MONTH** | **1st Fortnight** | **2nd fortnight** |
| **APRIL 2014** | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 |
| DEMAND | 696 | 709 | 851 | 860 | 867 | 833 | 755 | 922 | 979 | 974 |
| AVAILABILITY | 946 | 946 | 946 | 979 | 1020 | 1002 | 1002 | 1002 | 1035 | 1076 |
| SURPLUS (+) / SHORTAGE (-) | **250** | **237** | **95** | **119** | **153** | **168** | **247** | **80** | **56** | **102** |
| **MAY 2014** |  |  |  |  |  |  |  |  |  |   |
| DEMAND | 1039 | 890 | 1021 | 1154 | 1121 | 1211 | 1067 | 1206 | 1350 | 1299 |
| AVAILABILITY | 1252 | 1252 | 1252 | 1293 | 1318 | 1252 | 1252 | 1252 | 1293 | 1318 |
| SURPLUS (+) / SHORTAGE (-) | **213** | **362** | **231** | **139** | **197** | **41** | **185** | **46** | **-57** | **19** |
| **JUNE 2014** |  |  |  |  |  |  |  |  |  |   |
| DEMAND | 1288 | 1154 | 1321 | 1444 | 1325 | 1262 | 1121 | 1242 | 1380 | 1274 |
| AVAILABILITY | 1292 | 1292 | 1292 | 1358 | 1367 | 1292 | 1292 | 1292 | 1358 | 1367 |
| SURPLUS (+) / SHORTAGE (-) | **4** | **138** | **-29** | **-86** | **42** | **30** | **171** | **50** | **-22** | **93** |
| **JULY 2014** |  |  |  |  |  |  |  |  |  |   |
| DEMAND | 1275 | 1121 | 1262 | 1421 | 1370 | 1161 | 1034 | 1186 | 1297 | 1248 |
| AVAILABILITY | **1267** | **1267** | **1267** | **1333** | **1342** | **1267** | **1267** | **1267** | **1333** | **1342** |
| SURPLUS (+) / SHORTAGE (-) | **-8** | **146** | **5** | **-88** | **-29** | **106** | **233** | **81** | **37** | **93** |
| **AUG 2014** |  |  |  |  |  |  |  |  |  |   |
| DEMAND | 1115 | 1001 | 1135 | 1198 | 1173 | 1118 | 950 | 1110 | 1203 | 1227 |
| AVAILABILITY | 1186 | 1186 | 1186 | 1252 | 1260 | 1186 | 1186 | 1186 | 1252 | 1260 |
| SURPLUS (+) / SHORTAGE (-) | **71** | **185** | **51** | **55** | **87** | **68** | **235** | **76** | **50** | **34** |
| **SEP 2014** |  |  |  |  |  |  |  |  |  |   |
| DEMAND | 1120 | 978 | 1140 | 1180 | 1204 | 1059 | 933 | 1069 | 1081 | 1130 |
| AVAILABILITY | 1055 | 1055 | 1055 | 1096 | 1121 | 1089 | 1089 | 1089 | 1130 | 1155 |
| SURPLUS (+) / SHORTAGE (-) | **-65** | **76** | **-86** | **-84** | **-83** | **30** | **156** | **19** | **49** | **25** |

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| **TPDDL** |  |  |  |  |  |  | ALL FIGURES IN MW |  |
| **MONTH** | **1st Fortnight** | **2nd fortnight** |
| **APRIL 2014** | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 |
| DEMAND | 841 | 857 | 1028 | 1039 | 1048 | 1006 | 912 | 1114 | 1183 | 1177 |
| AVAILABILITY | 1323 | 1323 | 1203 | 1243 | 1413 | 1334 | 1334 | 1214 | 1254 | 1424 |
| SURPLUS (+) / SHORTAGE (-) | **483** | **467** | **176** | **205** | **366** | **328** | **422** | **100** | **71** | **247** |
| **MAY 2014** |  |  |  |  |  |  |  |  |  |   |
| DEMAND | 1255 | 1074 | 1233 | 1394 | 1355 | 1463 | 1289 | 1457 | 1631 | 1569 |
| AVAILABILITY | 1710 | 1672 | 1672 | 1760 | 1752 | 1799 | 1761 | 1761 | 1849 | 1841 |
| SURPLUS (+) / SHORTAGE (-) | **455** | **597** | **438** | **365** | **397** | **336** | **472** | **304** | **218** | **271** |
| **JUNE 2014** |  |  |  |  |  |  |  |  |  |   |
| DEMAND | 1555 | 1393 | 1595 | 1744 | 1600 | 1525 | 1354 | 1500 | 1667 | 1539 |
| AVAILABILITY | 1802 | 1764 | 1764 | 1882 | 1854 | 1777 | 1739 | 1739 | 1857 | 1829 |
| SURPLUS (+) / SHORTAGE (-) | **246** | **370** | **168** | **138** | **254** | **252** | **385** | **239** | **189** | **290** |
| **JULY 2014** |  |  |  |  |  |  |  |  |  |   |
| DEMAND | 1540 | 1354 | 1525 | 1717 | 1655 | 1402 | 1249 | 1433 | 1566 | 1508 |
| AVAILABILITY | 1901 | 1631 | 1631 | 1981 | 1991 | 1901 | 1631 | 1631 | 1981 | 1991 |
| SURPLUS (+) / SHORTAGE (-) | **361** | **277** | **106** | **264** | **336** | **499** | **382** | **198** | **415** | **483** |
| **AUG 2014** |  |  |  |  |  |  |  |  |  |   |
| DEMAND | 1347 | 1209 | 1371 | 1447 | 1417 | 1350 | 1148 | 1341 | 1453 | 1482 |
| AVAILABILITY | 1774 | 1504 | 1504 | 1854 | 1864 | 1774 | 1504 | 1504 | 1854 | 1864 |
| SURPLUS (+) / SHORTAGE (-) | **427** | **295** | **133** | **407** | **447** | **424** | **356** | **163** | **401** | **382** |
| **SEP 2014** |  |  |  |  |  |  |  |  |  |   |
| DEMAND | 1353 | 1182 | 1378 | 1425 | 1454 | 1279 | 1127 | 1292 | 1305 | 1365 |
| AVAILABILITY | 1463 | 1463 | 1463 | 1513 | 1543 | 1561 | 1561 | 1561 | 1611 | 1641 |
| SURPLUS (+) / SHORTAGE (-) | **110** | **281** | **85** | **88** | **89** | **281** | **434** | **269** | **305** | **276** |

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| **NDMC** |  |  |  |  | ALL FIGURES IN MW |  |
| **MONTH** | **1st Fortnight** | **2nd fortnight** |
| **APRIL 2014** | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 | 00-03 | 03-09 | 09-12 | 12-18 | 18-24 |
| DEMAND | 130 | 180 | 270 | 280 | 200 | 140 | 200 | 290 | 310 | 230 |
| AVAILABILITY | 236 | 236 | 236 | 236 | 236 | 252 | 252 | 252 | 252 | 252 |
| SURPLUS (+) / SHORTAGE (-) | **106** | **56** | **-34** | **-44** | **36** | **112** | **52** | **-38** | **-58** | **22** |
| **MAY 2014** |  |  |  |  |  |  |  |  |  |   |
| DEMAND | 180 | 220 | 300 | 320 | 250 | 200 | 270 | 320 | 350 | 250 |
| AVAILABILITY | 297 | 297 | 297 | 297 | 297 | 297 | 297 | 297 | 297 | 297 |
| SURPLUS (+) / SHORTAGE (-) | **117** | **77** | **-3** | **-23** | **47** | **97** | **27** | **-23** | **-53** | **47** |
| **JUNE 2014** |  |  |  |  |  |  |  |  |  |   |
| DEMAND | 200 | 230 | 270 | 380 | 250 | 200 | 260 | 280 | 380 | 250 |
| AVAILABILITY | 311 | 311 | 311 | 311 | 311 | 311 | 311 | 311 | 311 | 311 |
| SURPLUS (+) / SHORTAGE (-) | **111** | **81** | **41** | **-69** | **61** | **111** | **51** | **31** | **-69** | **61** |
| **JULY 2014** |  |  |  |  |  |  |  |  |  |   |
| DEMAND | 200 | 260 | 300 | 370 | 270 | 200 | 250 | 300 | 360 | 250 |
| AVAILABILITY | 311 | 311 | 311 | 311 | 311 | 311 | 311 | 311 | 311 | 311 |
| SURPLUS (+) / SHORTAGE (-) | **111** | **51** | **11** | **-59** | **41** | **111** | **61** | **11** | **-49** | **61** |
| **AUG 2014** |  |  |  |  |  |  |  |  |  |   |
| DEMAND | 180 | 230 | 300 | 350 | 250 | 170 | 230 | 300 | 330 | 240 |
| AVAILABILITY | 311 | 311 | 311 | 311 | 311 | 311 | 311 | 311 | 311 | 311 |
| SURPLUS (+) / SHORTAGE (-) | **131** | **81** | **11** | **-39** | **61** | **141** | **81** | **11** | **-19** | **71** |
| **SEP 2014** |  |  |  |  |  |  |  |  |  |   |
| DEMAND | 160 | 220 | 280 | 320 | 230 | 150 | 200 | 260 | 310 | 220 |
| AVAILABILITY | 279 | 279 | 279 | 279 | 279 | 279 | 279 | 279 | 279 | 279 |
| SURPLUS (+) / SHORTAGE (-) | **119** | **59** | **-1** | **-41** | **49** | **129** | **79** | **19** | **-31** | **59** |

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| **MES** |  |  |  |  |  | ALL FIGURES IN MW |  |
| **MONTH** | **1st Fortnight** | **2nd fortnight** |
| **APRIL 2014** | 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 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 |
| SURPLUS (+) / SHORTAGE (-) | **9** | **11** | **9** | **4** | **4** | **9** | **11** | **9** | **4** | **4** |
| **MAY 2014** |  |  |  |  |  |  |  |  |  |   |
| DEMAND | 30 | 28 | 30 | 35 | 35 | 32 | 30 | 32 | 35 | 35 |
| AVAILABILITY | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 |
| SURPLUS (+) / SHORTAGE (-) | **9** | **11** | **9** | **4** | **4** | **7** | **9** | **7** | **4** | **4** |
| **JUNE 2014** |  |  |  |  |  |  |  |  |  |   |
| DEMAND | 30 | 28 | 30 | 35 | 35 | 30 | 28 | 30 | 35 | 35 |
| AVAILABILITY | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 |
| SURPLUS (+) / SHORTAGE (-) | **15** | **17** | **15** | **10** | **10** | **15** | **17** | **15** | **10** | **10** |
| **JULY 2014** |  |  |  |  |  |  |  |  |  |   |
| DEMAND | 30 | 28 | 30 | 35 | 35 | 30 | 28 | 30 | 35 | 35 |
| AVAILABILITY | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 |
| SURPLUS (+) / SHORTAGE (-) | **15** | **17** | **15** | **10** | **10** | **15** | **17** | **15** | **10** | **10** |
| **AUG 2014** |  |  |  |  |  |  |  |  |  |   |
| DEMAND | 30 | 28 | 30 | 35 | 30 | 30 | 28 | 30 | 35 | 30 |
| AVAILABILITY | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 |
| SURPLUS (+) / SHORTAGE (-) | **15** | **17** | **15** | **10** | **15** | **15** | **17** | **15** | **10** | **15** |
| **SEP 2014** |  |  |  |  |  |  |  |  |  |   |
| DEMAND | 30 | 28 | 30 | 35 | 30 | 30 | 28 | 30 | 35 | 30 |
| AVAILABILITY | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 |
| SURPLUS (+) / SHORTAGE (-) | **2** | **4** | **2** | **-3** | **2** | **2** | **4** | **2** | **-3** | **2** |
|  | **Note :** |
| 1 | Availability from Un-allocated quota of Central Sector has been considered as NIL. Allocation from Jhajjar has been assumed as NIL |
| 2 | Availability from DVC has been considered as 375 MW only considering its past record. |
| 3 | Availability from Hydro stations has been considered as 50% during the day time, 75% during evening peak and 30% during the rest of the period in the month of April 2013. During May & Sept. 2014 - 75%, 90% and 50% during day time,  |
|  | evening peak and rest of the time respectively. During the month of June-Aug 2014 during the day time 90%, evening peak 95% and rest of the time 50% from Hydro sources |
| 4 | Dadri (Thermal)-II Unit-1 - 490MW is under planned shut-down during 01.04.2014 to 30.04.2014 for Annual Overhauling |
| 5 | BTPS Unit-3 (95MW) is under planned shut-down for capital overhauling during 07.04.2014 to 21.05.2014, Unit-5 (210MW) during the period 01.08.2014 to 15.10.2014. |
| 6 | Dadri (Thermal)-unit -2I (210MW) is under planned shut-down for 01.08.2014 to 30.08.2014 |

Distribution companies have intimated that they have already started the process of arranging additional power to meet the shortages. The shortages of power is predominately during second fortnight of May 2014 to first fortnight of Sept. 2014 which is a normal phenomena. But they apprehended the transmission capability to meet the peak demand of 6100MW.

SLDC intimated that the transmission capacity as per the present informatoins is only about 6000MW subject to the commissioning of 400kV Dadri – Harsh Vihar double ckt (evacuation is expected to be 100MW). 220kV Maharanibagh – Gazipur D/C (160MW) and revival of 220kV Maharani bagh – Trauma centre D/C (300MW). The details of the Total Transmission Capacity (TTC) & Available Transmission Capacity (ATC) are as under :

**Transfer Capability of Delhi**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sr. No. | Name of the Inter connection point | Transmission Element | Capacity in MVA / MW | Transfer Capacity in MW(TTC) | Available Transfer Capacity in MW (ATC) | Remarks |
| 1     | Mandola     | 400/220kV 315MVA Tx-I | 315MVA | 280 | 250 |   |
| 400/220kV 315MVA Tx-II | 315MVA | 280 | 250 |   |
| 400/220kV 315MVA Tx-III | 315MVA | 280 | 250 |   |
| 400/220kV 315MVA Tx-IV | 315MVA | 280 | 250 |   |
| **Total** | **1260MVA** | **1120** | **1000** |   |
| 2       | Bawana       | 400/220kV 315MVA Tx-I | 315MVA | 280 | 250 |   |
| 400/220kV 315MVA Tx-II | 315MVA | 280 | 250 |   |
| 400/220kV 315MVA Tx-III | 315MVA | 280 | 250 |   |
| 400/220kV 315MVA Tx-IV | 315MVA | 280 | 250 |   |
| 400/220kV 315MVA Tx-V | 315MVA | 280 | 250 |   |
| 400/220kV 315MVA Tx-VI | 315MVA | 280 | 250 |   |
| **Total** | **1890MVA** | **1680** | **1500** |   |
| 3     | Bamnauli     | 400/220kV 315MVA Tx-I | 315MVA | 280 | 250 |   |
| 400/220kV 315MVA Tx-II | 315MVA | 280 | 250 |   |
| 400/220kV 315MVA Tx-III | 315MVA | 280 | 250 |   |
| 400/220kV 315MVA Tx-IV | 315MVA | 280 | 250 |   |
| **Total** | **1260MVA** | **1120** | **1000** |   |
| 4     | Maharani Bagh     | 400/220kV 315MVA Tx-I | 315MVA | 280 | 220 | Subject ot the availability of 220kV Maharani Bagh - Gazipur D/C & revival of 220kV Maharani Bagh - Trauma Center D/C |
| 400/220kV 315MVA Tx-II | 315MVA | 280 | 220 |
| 400/220kV 500MVA Tx-I | 500MVA | 400 | 220 |
| 400/220kV 500MVA Tx-II | 500MVA | 400 | 220 |
| **Total** | **1630MVA** | **1360** | **880** |
| 5   | Mundka   | 400/220kV 315MVA Tx-I | 315MVA | 280 | 50 | Output is restricted due to non commissioning of 220kV Lines from Mundka. One of the ckts Najafgarh - Khanjawala is sexpected to be commissioned as LILO at Mundka only by 30.06.2014 |
| 400/220kV 315MVA Tx-II | 315MVA | 280 | 50 |
| **Total** | **945MVA** | **560** | **100** |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sr. No. | Name of the Inter connection point | Transmission Element | Capacity in MVA / MW | Transfer Capacity in MW (TTC) | Available Transfer Capacity in MW (ATC) | Remarks |
| 6   | Harsh Vihar   | 400/220kV 315MVA Tx-I | 315MVA | 280 | 50 | Subject to the availability of 400kV Dadri - Harsh Vihar D/C line. Output restricted through 66kV feeders only. |
| 400/220kV 315MVA Tx-II | 315MVA | 280 | 50 |
| **Total** | **630MVA** | **560** | **100** |
| 7     | BTPS     | 220kV Ballabhgarh Ckt-I | 132MW | 132 | 100 | Load of Gazipur would be run through Maharani Bagh |
| 220kV Ballabhgarh Ckt-II | 132MW | 132 | 100 |
| 220kV Alwar Ckt. | 132MW | -132 | -100 |
| 220kV Noida Ckt. (Sec 20) | 132MW | -132 | 0 |
| **Total** | **528MW** | **0** | **100** |
| 8    | Narela    | 220kV Panipat Ckt-I | 100MW | 100 | 75 |   |
| 220kV Panipat Ckt-II | 100MW | 100 | 75 |   |
| 220kV Panipat Ckt-III | 100MW | 100 | 75 |   |
| **Total** | **300MW** | **300** | **225** |   |
| 9     | Rohtak Road(BBMB)    | 66kV Gurgaon Ckt-I | 20MW | -20 | -10 |   |
| 66kV Gurgaon Ckt-II | 20MW | -20 | -10 |   |
| 33kV Gurgaon Ckt. | 20MW | -20 | -10 |   |
| 33kV Bahadurgarh Ckt. | 20MW | -20 | -10 |   |
| Total | 80MW | -80 | -40 |   |
| 10 | Patparganj | 220kV Sahibabad ckt. | 132MW | 132 | 0 |   |
| 11   | Gazipur   | 220k Noida Sec-62 Ckt. | 132MW | 132 | 0 |   |
| 220k Noida Sec-20 Ckt. | 132MW | 132 | 0 |   |
| Total Capacity |   | **6456** | **4865** |   |
| **Generation Capacity injected at 220kV or below level** |
| **Station** | **Capacity in MW** |  | **Ex-bus Capacity** |
| BTPS | 705 |   | 600 |
| RPH | 130 |   | 100 |
| GT | 270 |   | 150 |
| Pragati | 330 |   | 300 |
| Rithala | 75 |   | 0 |
| TOWMCL | 16 |   | 12 |
| Total Capacity  | 1526 |   | 1162 |
| **Total Demand handling capacity** | **7618** | **6027** |

It was made very clear that the transmission capacity could only be increased after the evacuation capability of recently commissioned 400kV Sub stations namely Maharani Bagh & Mundka is increased. The appreciable quantum of ATC could further be increased after the commissioning of 220kV Ckts. from the upcoming 400kV Harsh Vihar S/Stn.

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 cannot be ruled out. Though peak demand occurs only for a very short duration (0.1% time in a month) as per the previous year’s records

**GCC advised all utilities to arrange sufficient power to meet the shortages particularly looking into the tightening of frequency band by CERC from the existing 49.7Hz.-50.20Hz. to 49.95 Hz.-50.05Hz. from 17.02.2014. DTL was also advised to ensure early commissioning of sub stations like Wazipur, Peeragarhi & Harsh Vihar etc. to enhance the transmission capacity.**

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

The latest position of System improvement works for removing the transmission constraints is as under:

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| --- |
| **Carried over from Summer 2013 Action plan** |
| **Sr. No.**  | **Details of transmission constraints**  | **Suggestions drawn out as per discussions held on 05.02.13 and 8th GCC meeting held on 08.03.13**  | **Target fixed**  | **Status as on 29.01.2014**  |
| 1  | Outage of 220/33kV 100MVA Tx-II at Electric Lane – out since 20.09.2012  | Even though the present load is only 50MW. To have redundancy, the Tx. should be energized during the summer season  | 31.07.13  | The transformer is energized on 19.11.2013 at 21.22hrs. on no load and load was taken on 03.12.2013 at 12.38hrs.  |
| 2  | Overloading of 220/66kV 100MVA Txs at Mehrauli during peak hours  | 160MVA Tx available at site to be energized before summer 2013.  | 31.03.13  | The transformer is energized on 31.10.2013 at 14.40hrs. on no load and subsequently load taken on 07.11.2013 at 13.30hrs.  |
| 3  | Overloading of 220/66kV 100MVA Txs at Wazirabad  | 160MVA Tx available at site to be energized before summer 2013.  | 31.05.13 | The transformer is as site. In tendering process, for supply, erection, testing and commissioning of 220kV & 66kV Bays the parties quoted abnormally high prices than estimated. The tender has been dropped. The retendering for ETC for Bays and associated equipments under process and likely to be commissioned in June 2014 end.  |
| 4  | Stability of supply at Gazipur  | 160MVA Tx available at Gazipur to be energized as quick as possible  | 30.06.13  | The transformer is available at site. In tendering process, for supply, erection, testing and commissioning of 220kV & 66kV Bays the parties quoted abnormally high prices than estimated. The tender has been dropped. The retendering for ETC for Bays and associated equipments under process and likely to be commissioned in June 2014 end. Civil foundation work is expected to be completed by the end of February 2014. |
| 5  | Augmentation of 220/33kV 50MVA Tx to 220/33kV 100MVA Tx at Okhla - out since 19.36hrs. on 05.06.2010  | The Tx should be augmented before onset of summer 2013  | 31.05.13  | The existing 220/33kV 100MVA Tx received for augmentation was diverted to RPH to replace the damaged 100MVA Tx. at RPH. The new Tx of CGL make received on 24.07.2013 at Okhla. However, design of Tx is different from earlier CGL make Tx. The civil foundation modification work has been completed on 20.11.2013. However, the transformer commissioned on 06.02.2014 at 13.15hrs.  |

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| --- | --- | --- | --- | --- |
| **Sr. No.**  | **Details of transmission constraints**  | **Suggestions drawn out as per discussions held on 05.02.13 and 8th GCC meeting held on 08.03.13**  | **Target fixed**  | **Status as on 29.01.2014**  |
|  6  | Delay in commissioning of 220kV AIIMs – Ridge Valley D/C Cable.  | For ensuring maximum evacuation from Maharani Bagh S/Stn and to give relief to 400/220kV ICTs at Bamnauli, the link should be established to meet the summer load demand.  | 31.05.13  | Circuit-II commissioned on 15/04/2013. Circuit-I Cable was damaged by DMRC near Bhikaiji Cama Place. DMRC also proposed shifting of Circuit-I near Bhikaiji Cama Place as its Station is coming up at that Location. M/s LS Cable & System have laid the new cable and all the six joints have been made. Pre-commissioning tests are going on. This Circuit-I is likely to be commissioned by 28.02.2014. |
|  7  | Revival of 220kV Maha Rani Bagh – Trauma Center (AIIMS) D/C which is out since 31.05.13 due to drilling process by Delhi Jal Board  | Order has been placed to M/s. L.S.Cables for 400Mts. 1200 Sq. mm cable piece.. The cable is expected to be delivered by 15.02.2014. Service contract is yet to be awarded. The ckts. are expected by April 2014. |
| 8  | To ensure maximum evacuation from Mundka 400kV S/Stn.  | 220kV Najafgarh – Kanjhawala Ckt. to be LILO at Mundka  | Tower cast completion by 30.06.2013 and 15 days shut-down for LILO after that  | The length of Najafgarh – Mundka Section is 5.5Kms. Total nos. of towers required to be erected in this section are 35. Out of 35, 30No. Foundations have been cast and 19 towers have been erected. There is resistance from Farmers /Locals regarding laying of this tower line and at present 4No. Court Cases are pending. Part of the Tower material is under procurement. Insulators are also under procurement. OPGW is to be arranged by SLDC through PGCIL. Efforts are being made to complete S/C LILO at Mundka by June 2014. For the other section i.e. Kanjhawla to Mundka, matter is under consideration with Planning Department for laying a multi circuit line on the same corridor.  |
| 9  | Stability of supply of West Delhi / North Delhi areas  | LILO of 220kV Bawana – Najafgarh Ckt. at Kanjhawala  | Route length of the line for Loop in is 3.2Kms for and for Loop Out, the length is 3.3Kms. Loop out portion is already energized. Casting of Foundations is completed in Loop in portion and all the 17 towers have been erected. The Stringing work was held up for a long time due to non-availability of materials. Now, the stringing work is completed between Kanjhawla and Loc#5. Further, stringing is going on. The work is expected to be completed by 31.03.2014. |
| 10 | The over loading of Mandola ICTs and 220kV Wazirabad – Geeta Colony – Patparganj – IP D/C line.  | Commissioning of 220kV Maharani Bagh – Gazipur D/C line  | Subject to providing 200MW power to UP.  | Route length is 9Kms and number of Tower location is 42. Out of 42, Foundation has been cast at 36 locations. 35No. Towers have also been erected. At present, Foundation work is in progress at Loc#4, 13, 14, 15 & 16. Stringing of 2.5KM route length is also completed, however, jumpering & earth-wire laying are pending due to non-availability of material, which are under procurement. Balance tower material is also under procurement. Further, numerical relay for the related bays at Ghazipur is also under procurement. The work is expected to be completed by 31.03.2014.  |

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| --- | --- | --- | --- | --- |
| **Sr. No.**  | **Details of transmission constraints**  | **Suggestions drawn out as per discussions held on 05.02.13 and 8th GCC meeting held on 08.03.13**  | **Target fixed**  | **Status as on 29.01.2014**  |
| 11  | The transmission constraints in North Delhi areas  | Commissioning of 220kV Wazirpur S/Stn.  | 31.05.13  | 220kV Wazirpur Sub-Station is ready and applied for electrical inspector clearance. Sub station equipments are tested by back charging the 33kV Ckts on 27.12.2013 The Route length of infeed from Shalimarbagh is 4.18Km. Cable has been laid. Cable jointing has also been done. However, end terminations are pending at the two ends. At Wazirpur end, the work of GIS Terminations could be taken up only after the availability of Xian Engineers (the GIS Supplier), who are expected in Delhi by 11th Feb 2014. At the Shalimarbagh end, Foundation work for the out door terminations has been done. This cable is likely to be energized by 28.02.2014. However, the 2nd infeed from Peera Garhi is expected to be commissioned by June 2014. The total route length is 8.6Km from Peera Garhi to Wazirpur. Out of 19 sections, work of cable laying has been completed in 11 sections. Out of 120 joints (incl. Terminations) 42 joints have been completed. M/S TBEA is the vendor for execution of this work. |
|  12  | The transmission constraints in West and North Delhi areas  | Commissioning of 220kV Peera Garhi S/tn.  | Though it was expected to be commissioned by 30.06.13, due to delay in getting RBI approval for opening Project Account for Rupees payment to the successful Chinese Bidder, the project is expected to be commissioned only by 31.12.13  | The sub station would be ready by March 2014. As far as 220kV link i.e. 220kV Mundka – Peera Garhi ckt. is concerned, Cable in 18 Sections (9.524KM Route) out of 24 Sections(13KM Route) has been laid. Further Cable laying is going on in Section#21. The last lot of 10.128KM Length Cable is expected to be delivered in Feb 2014. The cable joint works are still to be taken up by M/s TBEA. The project is expected to be completed by 30.06.2014. |
| 13  | Over loading at Mandola and transmission line between Mandola and IP, the commissioning of the S/Stn to be expedited before summer 2013  | Commissioning of 400kV Harsh Vihar S/Stn.  | Due to delay in commissioning of 400kV Dadri – Harsh Vihar D/C line by PGCIL, the target could not be fixed.  | The total length of the circuit is 56Kms. There are 161 no. of Towers locations and at 153 locations, foundation have been cast. At 146 locations, towers have been erected. Stringing work has been started on 29th July 2013 and about 23kilometre stringing work has been completed. At remaining locations foundation casting and tower erection work is under progress.Work is expected to be completed by 31.03.2014.  |

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| **Action plan for Summer 2014 and onwards** |
| **Sr. No.**  | **Details of transmission constraints**  | **Suggestions drawn out**  | **Target fixed**  | **Present status and Target fixed**  |
| 1  | Over-loading of 220kV Rohini-I S/Stn  | Commissioning of 220kV Bawana – Rohini-II Double Ckt line (O/H)  | Before summer 2014.  | Route length is 6.1Kms. Out of 38 locations, foundations have been cast at 30 locations. 19 towers have also been erected. Tower material is under procurement. Polymer insulators are also required to be arranged. OPGW would be made available by PGCIL in ULDC Phase-II Scheme. Expected to be commissioned by June 2014. |
| 2  | Overloading of 220kV Ckts. from Mandola to BTPS namely 220kV Mandola – Wazirabad (4 Ckts), 220kV Wazirabad – Geeta Colony (Two Ckts), 220kV Geeta Colony – Patparganj (2 Ckts), 220kV Patparganj – IP (2Ckts), 220kV IP – Pragati Ckt (2 Ckts), 220kV Pragati – Sarita Vihar (2 Ckts.) after removal of present LILO, 220kV Sarita Vihar Ckt (2 Ckts)  | Capacity enhancement of transmission lines should be carried out in phased manner **In 1st phase** 220kV Wazirabad – Geeta colony D/C line, 220kV Geeta colony – Patparganj D/C line **Second Phase** 220kV Mandola–Wazirabad Ckt-I, II, III & IV 220kV Pragati – Sarita Vihar Ckt-I & II 220kV Sarita Vihar – BTPS Ckt-I & II **Third phase** Enhancement of the capacity of switchgears at Wazirabad, Geeta Colony, Patparganj, IP and Sarita Vihar S/Stns.  | Planning Deptt to prepare the scheme so that the augmentation can be done before summer 2014 To be augmented by summer 2015 Subsequently  | The budgetary offer for augmentation of 220kV Wazirabad – Geeta Colony Double Ckt. and 220kV Bamnauli – Papankalan –I Double Ckt. has been received and some clarification has been sought from vender for preparation of scheme. It is likely to happen only before Summer 2015.  |
| 3 | -Do- | Interlinking of 220kVPatparganj and Gazipur S/Stns through a single ckt line.  | DMRC has undertaken the work with cost sharing basics 1/3rd cost to be borne by DTL and balance by DMRC as the existing overhead line is infringing with DMRC route. Route length of the cable is 4.5kms.Order has been placed to LS Cable as a turnkey project. Cable to be received from Korea. Work is expected to completed by August-2014.  |
| 3  | Overloading of Transformers at Pappankalan-I and 220kV Line between Bamnauli and Pappankalan-I  | Two transformers to be augmented to 160MVA Txs along with 66kV bus bars at Pappankalan-I. Lines capacity of 220kV Bamnauli - Pappankalan-I should also be augmented to handle the enhanced transformation capacity.  | Planning Department to prepare the scheme so that that the system to be in place before summer 2014  | The proposal of augmentation of transformers’ has been put up to the DTL Board for approval. But the Board returned the proposal with query that how both the transformer (220/66kV 100MVA Tx.) would be utilized. The Planning Deptt has clarified and resubmitted the scheme for approval. The augmentation is possible only before summer 2015.  |

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| **Sr. No.**  | **Details of transmission constraints**  | **Suggestions drawn out**  | **Target fixed**  | **Present status and Target fixed**  |
| 4  | Over-loading of 400/220kV 315MVA transformers at Mandola sub station of PGCIL  | 31st Standing Committee Meeting of Power System Planning held on 02.01.2013 at CEA, has approved the augmentation of all four 315MVA Txs to 500MVA capacity.  | To be implemented by PGCIL. It is understood that two Txs would be augmented before summer 2014 and others before summer 2015.  | Since at present no 500MVA Trs. are on order, the augmentation is planned from Summer 2015  |
| 5  | Over-loading of 400/220kV 315MVA ICTs at Ballabhgarh  | 31st Standing Committee meeting of Power System Planning held on 02.01.2013 at CEA has approved the augmentation of all four 315MVA Txs to 500MVA  | To be implemented by PGCIL. It is understood that all Txs would be augmented before summer 2015.  | Since at present no 500MVA Trs. are on order, the augmentation is planned from Summer 2015  |
| 6  | Alternate source to RPH  | The establishment of link between 220kV Kashmiri Gate to RPH to be established so that reliable link between 220kV Harsh Vihar – Wazirabad – Kashmiri Gate – RPH could be established for ensuring reliability of power supply of Central and East Delhi areas.  | The scheme for 220/33kV GIS at RPH has been prepared and approved by the DTL Board. Land has been taken over from IPGCL. However, there is reservation by DERC for according in principal approval in view of the approval of IPGCL Board to continue the operation of the RPH station for another five years. Matter is being taken up with DERC again.  |
| 7  | Overloading of 66/11kV at Najafgarh, Pappankalan-I, and Wazirabad and 33/11kV Txs at Shalimar Bagh 220kV Sub-Stations  | Due to problem of getting space near 220kV S/Stns. Distribution Licensees requested DTL to enhance the capacities of the 66/11kV & 33/11kV txs. at critically loaded S/Stns namely Najafgarh, Pappankalan-I, Shalimar Bagh and Wazirabad before summer 2014.  | Planning Department has already taken up the matter with DERC during July 2013 which has been followed up by Director (Operations) in October 2013. DERC vide letter no. F/(44)/Engg/DERC/2012-13/3496/3930 dt. 19.11.2013 has clarified that DTL cannot incur capital expenses in 11kV system at its sub stations as DISCOMs were supposed to shift 11kV load from DTL’s sub stations to their own sources by year 2007. As decided in GCC meeting the the matter would be referred to DERC for further discussion and resoulation.  |
| 8  | In adequate transmission capacity at Masjid Moth  | Planning Deptt. to prepare scheme so that additional 220/33kV Tx is in place at Masjid Moth before summer 2014.  | The plan has already been prepared and Board approval obtained. The procurement action is under process. After order at least six months are required for commissioning of transformer. Though all out efforts are taken to commission the transformer by summer 2014 but likely to be delayed.  |
| 9  | Enhancement of transformation capacity from existing 2X100MVA (220/33kV) Txs. At Lodhi Road  | At present both the transformers are running at full capacity and occasional load shedding also taking place due to over loading during summer season.  | Due to space constraint the 3rd Tx is possible only after the conversion of existing conventional Grid S/Stn to GIS which is expected to be in place during Summer 2014 (August 2014 end). Discoms and NDMC were advised to start the work for necessary change in system configuration for the usage of 33kV GIS. BRPL intimated to meet the summer load of the areas fed from Lodhi Road, the 33kV HUDCO feeder’s load would be shifted to Masjid Moth before peak summer months.  |

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| **Sr. No.**  | **Details of transmission constraints**  | **Suggestions drawn out**  | **Target fixed**  | **Present status and Target fixed**  |
| 10  | Evacuation scheme of 400kV upcoming Harsh Vihar S/STN | Commissioning of 220kV Harsh Vihar-Wazirabad D/C cable link.Commissioning of 220kV Harsh Vihar- Preet Vihar(up coming 220Kv s/Stn) D/C line.Commissioning of 220Kv Preet Vihar-Patpargang S/C line | Approval of DTL board and subsequent regulatory approval obtained. Tendering is under process. Completion time is 18 months after order. As such this system is available only for summer 2016.Scheme under preparation. Expected by summer 2017.Scheme under preparation. Expected by summer 2017. |

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

The present capacitor position in Delhi is as under :-

|  |  |  |  |
| --- | --- | --- | --- |
| **Utility**  | **Installed capacity in MVAR (HT)** | **Installed in capacity in MVAR (LT)** | **Total**  |
| BYPL | 863.8 | 102 | 965.8 |
| TPDDL | 657.4 | 119 | 776.4 |
| NDMC | 209.8 | 24 | 233.8 |
| DTL | 753.5 | 0 | 753.5 |
| BRPL | 1178.78 | 242 | 1420.78 |
| RPH | 20 | 0 | 20 |
| MES | 20.1 | 0 | 20.1 |
| Total  | 3703.38 | 487 | 4190.38 |
| Requirement as per NRPC Study | 4594 as on 31.03.2013 |  |  |

**REVIVAL OF CAPACITOR BANKS AT DTL SUB STATIONS.**

Following Capacitor Bank were under breakdown since long time at DTL sub stations have been revised as under :

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sr. No.  | Name of Sub station  | Capacity in MVAR  | Date of Outage | Date & time of revival |
| 1 | Patparganj  | 10 | 09.07.08 | 31.12.13 at 17.00hrs.  |
| 2 | Gazipur  | 5.04 | 20.05.12 | 20.12.13 at 17.25hrs.  |
| 3 | Papankalan –I | 20 | 08.10.10 | 30.12.13 at 18.45hrs.  |
| 4 | Naraina  | 10 | 29.06.12 | 02.12.13 at 19.16hrs.  |
| 5 | Narela  | 20 | 26.05.12 | 20.12.13 at 17.11hrs.  |
| 6 | Shalimarbagh  | 10 | 05.01.10 | 23.12.13 at 17.58hrs.  |
| 7 | Mehrauli  | 20 | 11.09.11 | 29.04.13 at 10.45hrs.  |
|  | Total  | 95.04 |  |  |

The utilities have informed that they have planned the installation of additional capacitors are

|  |  |  |  |
| --- | --- | --- | --- |
| Utility | Planning for installation of additional capacity in MVAR (HT level) | Installed so far in MVAR | Remarks |
| 2013-14 |
| TPDDL | 72.2 | 36 | 1. 4.8MVAR installed at Bawana -7 but not yet energized 2. 9.6MVAR to be installed at Rani Bagh C.C. in FY 13-14 with new grid.3. 4.8MVAR installed with new transformer at Rohini -23 but not yet energized4. .4.8MVAR to be installed at Shalimarbagh FC in FY 13-14 with new transformer which is yet to be commission.5. 10.08MVAR installed at RG-28 S/Stn but not yet energized. 6. 4.8MVAR installed at A-21 but not yet energized7. 10.8MVAR to be installed at Bawana –I in FY 13-14 with new grid.8. 10.8MVAR installed at Model Town but not yet energized 9. 10.8MVAR to be installed at Bawana Phase -2 No. 1 in FY 13-14 with new grid. |
| 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 |
| 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 |
| NDMC | 126 | 45.36 | 15.12MVAR capacitor energized at Netaji Nagar S/Stn during July 2013. 10.08 MVAR each installed at Trauma Centre and Raja Bazar sub- station will be energized shortly. Further progress is as under:

|  |  |  |  |
| --- | --- | --- | --- |
|  **Name of Stn.** | **Capacity in MVAR** | **Present status**  | **Remarks**  |
| B.D.Marg | 5.40 | Work awarded and in progress | Work likely to be completed by May 2014 |
| Bapu Dham | 5.40 |
| Sajahan Road | 10.8 |
| Mandi House  | 10.8 |
| State Guest House  | 5.40 |
| Hnauman Road  | 5.40 |
| National Archives  | 5.40 |
| Race Course  | 5.40 |
| School Lane  | 5.40 |
| Schindia House  | 5.40 |
| **Total**  | **64MVAR** |  |  |

 5.04MVAr capacitor is also planned for Ali Ganj, Jorbagh for which building is yet to be constructed. Further 30.24MVAR capacity added at Keventry Diary, Sanjay Camp and Raisina Rd S/stn. 10.08MVAR each during May 2013. |
| 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** |  |

Discoms requested Planning Department of DTL to complete the study of capacitor requirement without which DERC will not allow for capitalization of any additional capacitors. G.M.(Planning), DTL requested for data required by CPRI at the earliest from the distribution companies so that the study can be completed.

**3.3 NON USAGE OF BAYS ALLOTTD TO VARIOUS UTILITIES FROM DTL SUB-STATIONS.**

The details of plans to utilize the unutilized bays of recently commissioned sub-stations given by the utilities 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 2 Jor Bagh (Ali Ganj)3.IIT4. Bhikaji cama**Total = 4 Bays** | NDMCNDMCBRPLBRPL | 19.11.0917.06.11 | 1. As per the information provided by NDMC, the nomenclature has been changed to Race Course. Work is held up due to monsoon. However 50% work has been completed and expected by May 14.2. Cable laying is expected to be completed by June 14. However, Sub-station would be readied by CPWD by Dec. 2014. 3. 40% Cabling work completed. Matter is subjudice due to ROW issue. Expected by April 20144. 90% Cabling work completed. Matter is subjudice due to ROW issue expected by Feb. 2014  |
| 2 | 220kV Electric Lane | 33kV  | 1. Vidyut Bhawan2 . Hanuman road3. Janpath Lane4 Church Road5 Delhi High Court**Total = 5 Bays** | NDMC | 19.11.09 | 1. Expected to be completed by June 2014.2. The work for laying of cable has been awarded. The cable laying work completed. Expected by June 2014.3. 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 Annexure for which land has been allocated. 4. Bay allocated to DMRC by NDMC for their upcoming project in Phase-3 5. The land allocation fro 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. |

|  |  |  |
| --- | --- | --- |
| **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**  |
| 3 | 220kV DSIDCBawana | 66kV | 1 Bawana-I2 Bawana-I3 Bawana-74 Bawana-7**Total = 4 Bays** | TPDDL | 19.11.09 | For 1&2 the cable work is under progress. Expected by 15.02.2014. For 3&4 it is a deposit work of DSIIDC. The scheme has been approved by DERC and expected by Mar. 2014. 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 (which is likely to be delay due to dropping of the tender modus operandy would be decided in teh steering committee for additional bay.  |
| 4 | 220kV Rohini-II | 66kV | 1 RG-30-I2 RG-30-II**Total = 2 Bays** | TPDDL | 31.05.12 | Scheme has been submitted to DERC for approval. Both the circuits would be energized after the establishment of Rohini-30 Grid S/Stn.  |
| 5 | 400kV Mundka | 66kV  | 1. 66kV Mundka ckt-I2. 66kV Mundka ckt-II3.66kV Bakarwala ckt-I4.66kV Bakarwala ckt-II5. 66kV Paschim Vihar | BRPL | 19.11.09 | 1 &2. Work for construction of 66kV Mundka S/Stn. Has been awarded in June 2013 and S/Stn. Is expected by March 2014. The total length of Cable is 400 mtrs.3&4. The scheme for the establishment of the Bakkarwala S/Stn. was approved by DERC in 2007. However, the scheme was not implemented due to inadequate load requirement. Now, DERC has again been approached for approval as price has been increased significantly.5. The cable length is more than 18 Kms. To avoid the sheath voltage inducement problem as encountered on 66kV Nangloi, Nangloi Water Works and Mangolpuri Feeders, it was decided to take out the Paschim Vihar feeder from the upcoming 220kV Bodella S/Stn. The planning steering Committee is being approached for re-allocation of Paschim Vihar Bay allotted to BRPL from Mundka to upcoming Dichau Kalan S/Stn.  |
|  |  |  | **TPDDL**1.66kV Mangolpuri-II2.66kV Kirari Sultan Puri Ckt.-I3.66kV Kirari Sultan Puri Ckt.-II | TPDDL | 19.11.09 | 1 Being the less priority item as Mangolpuri S/Stn. Sufficient in feed capacity the scheme has been shifted for 2015-16 Capex schemes. 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. |

**3.4 ISSUES REFERRED FROM STEERING COMMITTEE OF PLANNING.**

**3.4.1 Establishment of 66kV Dhaula Kuan DMRC S/STN.**

 DMRC has taken up the matter with BRPL for feeding the Dhaula Kuan S/Stn by LILO of one cable between 66kV Park Street and Ridge Valley S/Stns. This was approved in the last meeting of GCC held on 06.08.2013.

 BRPL vide their letter dated 28.11.2013 has not agreed to the proposal. BRPL has in fact suggested the LILO of the both the circuits between Park Street and Ridge Valley Ckts at Dhaula Kuan.

The Steering Committee meeting held on 12.12.2013 has also decided to implement the decision taken in the GCC meeting held on 06.08.2013.

The Steering Committee further suggested DMRC that the provision of bus coupler be made at 66kV Dhaula Kuan S/Stn. so that power flow can take place between Park Street and Ridge Valley in contingency on which DMRC no agreed as it cannot become the part of utility for power transfer between them and DMRC as DMRC is very important public transport system and providing the power for Metro operation is the highest priority. During such transfer of power, operation control centers of DMRC which is responsible for running trains will come into the picture which may lead to unsafe train operations. Since, there was no consensus in the Steering Committee meeting, the matter has been referred to GCC for resolution.

The Delhi Metro representatives were of the view that all planning have been done in line of decisions taken in the meetings held with Director (Operations), DTL on 22.08.2013 and 9th GCC meeting held on 08.08.2013. Frequent changes in decisions not only create confusion but also delay the execution of projects. Further, they were of the view that the essential utilities like Delhi Metro are not supposed to carry out such switching operation which may hamper the normal operation of the traction services. As such they sticked to the decision taken on 9th GCC meeting.

G.M. (Planning), DTL was of the view that Planning Steering Committee suggested the scheme for provision of Bus coupler at DMRC S/Stn of Dhaula Kuan to ensure the stability of supply of DMRC in case of exigencies either at Ridge Valley or at Park Street. Since, no consensus could be arrived the Chair decided that he would separately call a meeting within a week to resolve the issue.

**GCC Noted the decision of Chairperson.**

**3.4.2** **Return of 66kV Bay No. 630 at 220kV DSIDC Bawana to TPDDL which was reallocated to M/s DMSWSL**

 G.M. (Planning) , DTL intimated that in the steering committee meeting held on 03.07.2013 it was decided to reallocate 66KV bay No. 630 at 220kV DSIDC Bawana from M/s TPDDL to M/s DMSWSL for connecting waste to energy Power Plant being constructed at Bawana subject to M/s DMSWSL shall bring their generation by 30-09-13. It was further decided that DTL should establish one 66KV Bay (Deposit work) expeditiously at 220KV DSIIDC Bawana, so that M/s TPDDL may utilize the same to meet out their committed Targets with DSIIDC. It was also intimated that necessary amount for the bay was also remitted by M/s DMSWSL.

 However, TPDDL informed vide their letter No. TPDDL/NEG/2013/08/731 dated 12th August 2013 to M/s DMSWSL that in case the latter fail to start power generation by 30th September 2013, Bay No. 630 should be allocated back to TPDDL.

In the steering committee meeting held on 11.09.2013 the position was explained as under :

1. The representative of M/s DMSWSL intimated that the cable is likely to be delivered at site shortly and cable laying work shall be completed by the end of January 2014.
2. The Representative of M/s TPDDL intimated that Bay No. 630 (presently allocated to DMSWSL) be allocated back to them as they are also planning to connect the cable at 220kV DSIDC Bawana S/stn by the end of March 2014.
3. DTL informed that the tender (Deposit work of M/s DMSWSL) for ETC of one 66 KV bay at 220kV DSIDC Bawana S/stn required by DMSWSL has been dropped due to some contractual complications and the process of re-tendering is in progress.

In the Steering Committee deliberations steering committee advised that this matter shall be taken up in the next steering committee meeting when cable would be ready for connection at site till that status quo stands as on 03.07.2013 i.e. the date of steering committee meeting held at DSIIDC Bawana.

Further in the Steering Committee meeting held on 08.01.2014 the representative of DMSWSL intimated that the cable is likely to be delivered at site shortly and cable laying work between Waste to energy power project and DSIDC Bawana shall be completed by mid February, 2014.

In view of the above position G.M.(Planning), DTL requested GCC to advice on the issue.

**After detailed deliberations the following were decided.**

1. ***Let DMSWSL connect the cable at Bay no. 630 already allocated to them as per the decision of Steering meeting held on 03.07.2013 as the cabling work is complete and only terminal joints are required to be completed which is expected by end of Feb. 2014 as reported by the representative and the generation of the plant is also ready to start.***
2. ***Modus operandi be worked out for termination of Bawana -7 feeder in case TPDDL is ready to charge the line from Bawana DSIDC as TPDDL has to do the same within one month of the receipt of the deposit from DSIIDC.***

**3.5 AUGMENTATION OF 66kV CIRCUITS EMENATING FROM GT STATION.**

The issue was discussed in Delhi Operation Coordination Committee held on 30.07.2013 and in the Grid Coordination Committee Meeting held on 06.08.2013.

BYPL raised the issue of load constraints being faced on 66 KV O/G feeders from GTPS. This was during the long outage of the only existing 220KV BTPS - Gazipur line through which the entire Gazipur load was fed, it was required to take maximum load on 66 KV GTPS - Akshardham feeder (to be further distributed to MVR-1&2 areas). This arrangement can reduce the loading on 220 KV Patparganj Transformers thereby load-shedding in East Delhi areas. However, due to under-sized conductor used at O/G bays at GTPS, loading above 300-350 Amps was not allowed, while the capacity of the Akshardham feeder is about 550 Amps. (630 sq.mm.cable).

GTPS had informed in those meetings that a complete shutdown of 66 KV half-bus is required to augment the conductor of O/G bays. During shutdown, both the stations auxiliary transformers will remain affected as these are installed on the same half-bus vicinity. This will require complete shutdown of the station as there will be no-supply to the station auxiliaries and it may take around 72 Hrs. to restart generations after the shut-down.

In order to avoid complete shut-down of the station, it was suggested to explore the possibility to arrange auxiliary supply through 11kV sources by BYPL so that the shut-down of the complete station can be obviated. BYPL had agreed to provide 11kV supply for auxiliary needs on temporary basis.

SLDC suggested to do the augmentation work after second week of October 2013 during Saturday and Sunday.

In the 9th GCC meeting it was advised to IPGCL to plan the work during Saturday and Sunday after second week of October 2013 provided auxiliary needs are arranged through 11kV BYPL sources.

IPGCL representative informed since they have not heard anything from BYPL for providing 11kV feed to meet the auxiliary need of IPGCL, G.T. Stn. to avoid the safe shutdown of the units, the work could not be undertaken.

**GCC noted the position with displeasure and pointed out that such critical works should be carried out during off peak season so that maximum utilization can be achieved during the needy peak season. It was further decided that the Delhi OCC should monitor the issue and ensure that the work should be accomplished before March 2014 end.**

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

The augmentation of conductors of 220kV Narela – Rohtak road Double Circuit Lines and change of porcelain insulators to polymer insulators has been pending quite long. BBMB representative informed that the material is ready but inspite of repeated tending process, the work could not be undertaken. BBMB representative further intimated that inspite of repeated requests to DTL to undertaken work on their behalf also could not be materialized. Due to the lack of line clearance, for carrying out the required work, both the circuits would have to be taken under shutdown for six months to carry out the augmentation works. The outage of both the ckts would in turn result into power supply constraints at Rohtak Road S/Stn as it does not have other source.

Considering the above facts in the 9th meeting of GCC held on 08.08.2013, it was decided to explore the possibility of establishing a 220kV GIS S/Stn at Rohtak Road with feed from LILO of 220kV Mundka – Peeragarhi Ckts at Rohtak Road. TPDDL representative even offered to consider providing space at 33kV Rohtak Road S/Stn for establishing 220kV GIS.

In the meeting TPDDL representative informed that the matter was considered at their end and found that at 33kV Rohtak Road S/Stn the establishment of 220kV GIS would not be feasible due to structural complexities. The establishment of 220kV GIS and operation of conventional 33kV S/Stn cannot run simultaneously. As such DTL should try for another site in the nearby area.

DTL informed that at present, no such site is available.

TPDDL further opined that the only solution is to provide space in the vicinity of existing 220kV S/Stn of BBMB which has enough space. He informed that a delegation of Delhi OCC visited the site on 28.06.2012 wherein the provision of 2nd feed was explored. As a follow up the delegation further met Director (P&D) TS BBMB, Chandigarh at Chandigarh on 23.01.2013 wherein the issue of providing second feed was also discussed. It was also decided in the meeting that a detailed proposal would be sent by DTL to BBMB so that BBMB can put up the matter to the competent authority for further action.

BBMB representative intimated that they do not have any such request from DTL so far for providing space for GIS or providing duplicate source to the 220kV BBMB S/Stn of Rohtak road. They requested for a fresh joint site visit at BBMB Rohtak Road so that all options can be reworked again to draw out a proposal. They further suggested that after the site visit, the proposal may be forwarded to Member (Power), BBMB by DTL for the consideration of BBMB.

GCC approved the proposal and constituted a committee with the following members to carry out the visit within 10 days.

1. Sh. Roop Kumar, G.M. (Planning), DTL
2. Sh. Prem Parkash, G.M.(O&M)-I, DTL
3. Sh. Naresh Goel, Superintending Engineer, O&M Circle, BBMB, Panipat
4. Sh. Mukesh Dadhich G.M., (S.O.), BYPL
5. Sh. S.Sondhi, AVP, S.O. BRPL
6. Sh. P. Devnand, HoG, PSC, TPDDL
7. Sh. Darshan Singh, Manager (S.O.), SLDC, DTL

**It was also decided that after the report, Director (Operations) DTL the Chairperson, GCC would take up the matter with Member (Power), BBMB to provide space for establishment of 220kV GIS at BBMB S/Stn at Rohtak Road or to provide second feed at BBMB Rohtak Road S/STn from nearby 400kV S/Stn of DTL for ensuring stability of supply to areas fed from existing 220kV BBMB Rohtak Road S/Stn and 33kV Rohtak Road S/Stn of TPDDL.**

**3.7** **Breakdowns of 66kV Feeders emanating from Mundka 400kV and Overloading of Nahafgarh substation—Regarding:-**

The agenda was put up by THE O&M Department of DTL. It was informed that the issue of long breakdown of feeders emanating from Mundka S/Stn. has been in the agenda of Delhi OCC meeting. It was explained that following feeders are emanating from 400kV S/Stn Mundka:-

1. 66kV Nangloi Feeder (BRPL)
2. 66kV Nagloi Water Works (BRPL)
3. 66kV Mangolpuri (TPDDL)
4. 66kV Ghevra (TPDDL)
5. 66kV DMRC (DMRC)

The frequency of the breakdown of 66kV Nangloi, Nangloi Water Works & Mangolpuri Feeders are more and most of the time the feeders remained under breakdown causing non utilization assets at Mundka and thereby overloading of nearby stations like Najafgarh, Papankalan-I etc. The details of the breakdown of these feeders from their charging date are as under :

**66kV Mundka - Nangloi Ckt (Energized on 01.08.2011 at 16:35Hrs.)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sl. No. | Tripping date | Tripping Time | Restoration date | Restoration time | Relay indication | Remarks  | Nos of days outage |
| 1 | 01.08.11 | 16:36 | 11.08.11 | 19:02 | Dist. Prot. B-phase, 51A, 86A&B along with 220/66kV 160MVA Tx. which tripped on 86A&B, supervision faulty, CPR signal, visual audio alarm, signal A&B | Cable faulty | 10 |
| 2 | 29.08.11 | 04:00 | 29.08.11 | 13:59 | 86, 67N | Transient fault | 1 |
| 3 | 27.12.11 | 18:18 | 09.01.12 | 16:06 | General trip, O/C, 86 | Cable faulty | 13 |
| 4 | 13.02.12 | 05:57 | 17.02.12 | 18:17 | 86, Zone-2&3, dist. Prot. 67N, DT, O/C | Cable faulty | 4 |
| 5 | 12.03.12 | 0:33 | 31.03.12 | 13:48 | E/F | Cable faulty | 19 |
| 6 | 10.04.12 | 08:13 | 14.05.12 | 14:58 | Dist. Prot. Zone-2&3, Direct O/C, general trip | Cable faulty | 35 |
| 7 | 26.05.12 | 17.51 | 29.05.12 | 15.17 | General trip 86 Master Relay | Cable faulty | 3 |
| 8 | 10.06.12 | 06.11 | 21.06.12 | 19.05 | General trip 86 Master Relay | Cable faulty | 11 |
| 9 | 04.07.12 | 11.57 | 19.07.12 | 13.39 | General trip 86 Master Relay | Cable faulty | 15 |
| 10 | 27.07.12 | 15.11 | 30.07.12 | 16.07 | General trip 86 Master Relay | Cable faulty | 3 |
| 11 | 06.08.12 | 19.10 | 27.08.12 | 19.28 | General trip 86 Master Relay | Cable faulty | 21 |
| 12 | 29.08.12 | 12.47 | 31.08.12 | 19.52 | General trip 86 Master Relay | Cable faulty | 2 |
| 13 | 31.08.12 | 20.37 | 05.09.12 | 17.04 | General trip 86 Master Relay | Cable faulty | 5 |
| 14 | 12.09.12 | 15.32 | 18.09.12 | 13.08 | General trip 86 Master Relay | Cable faulty | 6 |
| 15 | 04.10.12 | 13.06 | 08.10.12 | 15.33 | General trip 86 Master Relay | Cable faulty | 4 |
| 16 | 18.10.12 | 15.10 | 09.11.12 | 17.14 | General trip 86 Master Relay | Cable faulty | 22 |
| 17 | 09.11.12 | 17.33 | 16.11.12 | 15.12 | Dist. Prot E/F  | Cable Faulty | 7 |
| 18 | 31.12.12 | 16.17 | 06.01.13 | 08.17 | O/C, General Trip, Master Relay | Cable faulty | 6 |
| 19 | 09.01.13 | 10.16 | 16.02.13 | 15.12 | General trip 86 Master Relay | Cable faulty | 38 |
| 20 | 19.02.13 | 12.40 | 07.03.13 | 14.15 | General trip 86 Master Relay | Cable faulty | 19 |
| 21 | 15.03.13 | 20.19 | 29.03.13 | 20.08 | General trip 86 Master Relay | Cable faulty | 14 |
| 22 | 05.05.13 | 06.40 | 13.05.13 | 14.40 | Dist Prot Zone-II  | Cable faulty | 8 |
| 23 | 13.05.13 | 17.31 | 24.05.13 | 16.08 | General trip 86 Master Relay | Cable faulty | 11 |
| 24 | 04.06.13 | 06.20 | 04.06.13 | 06.51 | Directional O/C | Transient fault | 0 |
| 25 | 05.06.13 | 09.51 | 27.06.13 | 14.46 | Dist Prot Zone-1, RYB  | Cable faulty | 22 |
| 26 | 29.06.13 | 12.48 | 02.07.13 | 09.18 | Directional O/C | Cable faulty | 4 |
| 27 | 11.07.13 | 17.13 | 15.07.13 | 17.57 | Dist Prot. Zone-II, RYB, Bus Bar Protection  | Cable faulty | **4** |
| 28 | 19.07.13 | 16.54 | 24.07.13 | 14.30 | Dist Prot. Y’ Phase, Zone-I | Cable faulty | **5** |
| 29 | 24.07.13 | 16.35 | 29.07.13 | 16.31 | Dist Prot `Y’ Phase Zone-I, Directional O/C | Cable faulty | **5** |
| 30 | 01.08.13 | 11.22 | 11.08.13 | 12.46 | Y phase Dist. Prot.,  | Cable faulty | **10** |
| 31 | 06.08.13 | 13.59 | 10.08.13 | 14.34 | Y phase Dist. Prot.,  | Cable faulty | **4** |
| 32 | 11.08.13 | 13.10 | 14.08.13 | 11.59 | B phase Dist. Prot.,  | Cable faulty | **3** |
| 33 | 27.08.13 | 16.42 | 30.08.13 | 12.50 | B phase Dist. Prot.,  | Cable faulty | **3** |
| 34 | 30.08.13 | 13.12 | 31.08.13 | 20.23 | B phase Dist. Prot.,  | Transient fault  | **1** |
| 35 | 08.09.13 | 00.59 | 11.09.13 | 17.47 | R, Y, B phase Dist. Prot.,  | Cable faulty | **3** |
| 36 | 11.09.13 | 18.46 | 11.01.14 | 20.01 | Y phase Dist. Prot.,  | Cable faulty | **122** |
| 37 | 12.01.14 | 07.42 | Still out  | Y phase Dist. Prot.,  | Cable faulty |  |
|  |  |  |  |  |  | **Total days**  | **522 days out of 952 days of service upto 12.03.2014** |

**66kV Mundka - Nangloi W/W Ckt (Energized on 02.08.2011 at 17:40Hrs.)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sl. No. | Tripping date | Tripping Time | Restoration date | Restoration time | Relay indication | Remarks  | Total days of outage |
| 1 | 03.08.11 | 17:56 | 25.08.11 | 16:07 | 220/66kV 160MVA Tx. tripped on visual audio alarm, ERA trip, ERB trip, 86A&B, supervision, 86, 4WS2 link. B-phase of 66kV Nangloi W/W found faulty | Cable faulty | 22 |
| 2 | 03.11.11 | 12:00 | 09.11.11 | 20:13 | Dist. Prot. zone-I, 67NX along with 220/66kV 160MVA Tx. tripped on 86A&B. cable of 66kV feeder found faulty | Cable faulty | 6 |
| 3 | 14.11.11 | 8:17 | 19.11.11 | 15:41 | Tripping of 315MVA ICT and 160MVA Tx | Tx tripping | 5 |
| 4 | 11.12.11 | 21:30 | 20.12.11 | 10:03 | Tripping of 315MVA ICT and 160MVA Tx at 19:47hrs. and normalized at 21:39hrs. PTW issued to BSES at 23:18hrs. on the 66kV W/W feeder | Cable faulty | 9 |
| 5 | 22.12.11 | 01:19 | 26.12.11 | 14:50 | 86, General trip | Cable faulty | 4 |
| 6 | 26.12.11 | 14:51 | 08.01.12 | 18:23 | O/C, general trip, 86 | Cable faulty | 13 |
| 7 | 26.01.12 | 04:15 | 13.02.12 | 18:32 | O/C prot. trip, B-phase faulty | Cable faulty | 18 |
| 8 | 28.03.12 | 03:09 | 15.04.12 | 18:13 | 86, Dist. Prot. Zone-3, O/C, R-phase faulty | Cable faulty | 18 |
| 9 | 24.04.12 | 08:18 | 28.04.12 | 12:53 | O/C, 86 | Cable faulty | 4 |
| 10 | 10.06.12 | 06.09 | 10.06.12 | 08.31 | General Trip 86 Master Relay | Transient fault | 1 |
| 11 | 18.06.12 | 17.03 | 23.06.12 | 19.50 | General Trip 86 Master Relay | Cable faulty | 5 |
| 12 | 02.08.12 | 04.08 | 07.08.12 | 18.25 | General Trip 86 Master Relay | Cable faulty | 5 |
| 13 | 28.08.12 | 09.30 | 31.08.12 | 13.16 | General Trip 86 Master Relay | Cable faulty | 3 |
| 14 | 29.09.12 | 08.08 | 04.10.12 | 17.47 | Dist Prot Zone-I | Cable faulty | 6 |
| 15 | 24.02.13 | 19.22 | 26.02.13 | 15.08 | General Trip 86 Master Relay | Cable faulty | 4 |
| 16 | 06.06.13 | 16.54 | 09.06.13 | 03.23 | Directional O/C | Cable faulty | 3 |
| 17 | 01.07.13 | 15.20 | 03.07.13 | 22.56 | Directional O/C | Cable faulty  | 2 |
| 18 | 09.07.13 | 18.31 | 09.07.13 | 20.16 | Directional O/C | Transient fault | **0** |
| 19 | 09.07.13 | 22.32 | 13.07.13 | 20.16 | Directional O/C | Cable faulty  | **4** |
| 20 | 21.07.13 | 09.48 | 26.07.13 | 22.59 | Directional O/C | Cable faulty  | **5** |
| 21 | 01.08.13 | 11.22 | 01.08.13 | 12.09 | Directional O/C | Transient fault | **0** |
| 22 | 03.08.13 | 09.42 | 06.08.13 | 15.36 | Zone-1, Dist. Prot.  | Cable faulty  | **3** |
| 23 | 23.08.13 | 01.51 | 28.08.13 | 00.41 | R, Y, B phase Dist. Prot.,  | Cable faulty | **5** |
| 24 | 30.08.13 | 13.19 | 03.09.13 | 12.30 | R, Y, B phase Dist. Prot.,  | Cable faulty | **4** |
| 25 | 11.01.14 | 00.39 | 13.01.14 | 20.37 | R, Y, B phase Dist. Prot.,  | Cable faulty | **2** |
| 26 | 31.01.14 | 12.59 | 02.02.14 | 18.19 | R, Y, B phase Dist. Prot.,  | Cable faulty | **2** |
| 27 | 05.02.14 | 15.25 | 08.02.14 | 18.40 | R, Y, B phase Dist. Prot.,  | Cable faulty | **3** |
| 28 | 11.02.14 | 20.41 | 15.02.14 | 21.43 | R, Y, B phase Dist. Prot.,  | Cable faulty | **4** |
| 29 | 03.03.14 | 11.58 | Still out |  | R, Y, B phase Dist. Prot.,  | Cable faulty |  |
|  |  |  |  |  |  | **Total**  | **170 days out of 953 days of service upto 12.03.14** |

**66kV Mundka -Mangolpuri ckt. (date of energization 18.02.12 at 13.04Hrs.)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sl. No. | From Date | Time of outage | To Date | Time of restoration | Relay indication | Remarks | No. of days of outage |
| 1 | 25.02.12 | 16.44 | 21.03.12 | 14.57 | R-phase, Zone-I, Dist. Prot.  | Cable faulty | 25 |
| 2 | 22.03.12 | 9.22 | 24.03.12 | 15.18 | R-phase, Zone-I, Dist. Prot.  | Cable faulty | 2 |
| 3 | 12.05.12 | 18.02 | 13.05.12 | 14.13 | Over voltage | Over voltage | 0 |
| 4 | 18.05.12 | 23.21 | 29.05.13 | 22.42 | R-phase, Zone-I, Dist. Prot.  | Cable faulty | 11 |
| 5 | 17.06.12 | 07.08 | 17.06.12 | 15.41 | R-phase, Zone-I, Dist. Prot.  |  | 0 |
| 6 | 19.07.12 | 10.39 | 19.07.12 | 14.14 | O/C, Dist. Prot. 3-phase, Z-1 |  | 0 |
| 7 | 13.08.12 | 15.59 | 13.08.12 | 19.48 | O/C, E/F, Bus bar Prot. |  | 0 |
| 8 | 04.09.12 | 14.10 | 12.09.12 | 20.20 | R-phase, Zone-I, Dist. Prot. | Cable faulty | 8 |
| 9 | 07.12.12 | 13.17 | 07.12.12 | 22.31 | R-phase, Zone-I, Dist. Prot. |  | 0 |
| 10 | 11.12.12 | 11.39 | 11.12.12 | 13.48 | LBB at Mundka |  | 0 |
| 11 | 13.12.12 | 19.56 | 19.12.12 | 15.56 | R-phase, Zone-I, Dist. Prot. | Cable faulty | 6 |
| 12 | 16.01.13 | 22.53 | 22.01.13 | 11.29 | R&Y-phase, Zone-I, Dist. Prot. | Cable faulty | 6 |
| 13 | 05.02.13 | 03.10 | 05.02.13 | 04.41 | Over voltage | Over voltage | 0 |
| 14 | 13.03.13 | 06.45 | 13.03.13 | 14.10 | Bus bar Prot at Mundka |  | 0 |
| 15 | 25.03.13 | 12.39 | 30.03.13 | 12.43 | O/C, Y-phase, Zone-I, Dist. Prot. | Cable faulty | 5 |
| 16 | 02.06.13 | 6.29 | 02.06.13 | 8.55 | Dist. Prot. B-phase |  | 0 |
| 17 | 06.06.13 | 16.46 | 07.06.13 | 14.49 | O/C, E/F |  | 1 |
| 18 | 08.06.13 | 6.32 | Still out  |  | Dist. Prot. R-phase, Z-1, E/F | Cable Faulty | - |
|  |  |  |  |  | Total  |  | 341 days out 746 day of service upto 12.03.14 |

The representative further added that due to the outage of these feeders, the loads of these feeders are being fed from Najafgarh Substation. 400kV Mundka Substation was conceptualized for off-loading the Najafgarh, but because of breakdowns of these feeders of BRPL & TPDDL. DTL’s 220kV Najafgarh Substation Papankalan-I and others Substations remain overloaded. If the position continues unabated in the upcoming summer season, it is likely that heavy load shedding at 66kV level at 220kV Najafgarh shall have to be resorted due to excessive overloading at 66kV Level and 11kV levels.

DTL representative further feared that Najafgarh 220KV DTL substation has faced sabotage/ unauthorised entry of local people due to resorting to load shedding for want of maintaining the load balancing due to overloading at 66kV and 11kV level. DTL personals and equipments are at stake due to this menace. He requested BRPL and TPDDL to rectify the faults of the above mentioned feeders and ensure the continues operation of the feeders during the forthcoming summer season to maintain stability of power supply of the areas.

BRPL representative intimated that they could not fix the problem of the frequent cable faults of Nangloi & Nangloi Water Works (Quamruddin Nagar) feeders inspite of carrying out cross bonding in major joints. Further opening cable joints along about 18KMs route length of Mundka – Nangloi Mundka – Nangloi Water Works feeders for cross bonding is also not practically possible apart from huge investments for carrying out the work. They have also appointed consultants to suggest remedial measures to evert the frequent cable faults for the section between Mundka – Nangloi- Nangloi Water Works feeders. The plan is also being contemplated to terminate 66kV Mundka – Nangloi Ckt at Nangloi water works Sub station so that the cable length is made shorter by 5-6Kms. It was also informed that Mundka – Nangloi water works cable is more stable than Mundka – Nangloi cable (refer the breakdown details) . It was also planned that the cable portion of Mundka – Nangloi would be utilized for interconnection of Nangloi water works & Nangloi stations.

TPDDL representative intimated that cross bonding work 66kV Mundka – Nangloi feeder has been awarded to Raychem Company. The work for cross bonding of cable has also started recently. The work is expected to be completed by March2014.

**Grid Coordination Committee stressed upon the utilities to ensure the continuous operation of the feeders by any means to ensure stability of power supply to the areas fed through 66kV Mundka-Nangloi, 66kV Mundka-Nangloi Water Works and 66kV Mundka-Mangolpuri Ckts apart from optimum utilization of 400kV Mundka Sub station.**

**4 COMMERCIAL ISSUES.**

**4.1 INTRASTATE UI ACCOUNT**

SLDC intimated the latest position of Intrastate UI account is as under:-

**(AMOUNT IN RUPEES CRORES)**

**(position as on 17.01.2014)**

|  |  |  |
| --- | --- | --- |
| **UTILITY** | **RECEIVABLE BY UTILITIES** | **PAYABLE BY UTILITY** |
| TPDDL | 20.5394871 | 0.0000000 |
| BRPL | 0.0000000 | 92.7907086 |
| BYPL | 30.2977568 | 0.0000000 |
| NDMC | 27.9081480 | 0.0000000 |
| MES | 0.0000000 | 0.0000000 |
| IPGCL | 0.5165137 | 0.0000000 |
| PPCL | 2.1742410 | 0.0000000 |
| BTPS | 1.2561128 | 0.0000000 |
| **TOTAL** | **82.6922594** | **92.7907086** |

 The interest payment of UI amount has also been settled as under:-

**DETAILS OF PAYMENT RECEIVED FROM NRLDC AGAINST INTEREST ON UI CHARGES**

|  |  |  |
| --- | --- | --- |
| **DATE** | **AMOUNT****(Rs. In Crore)** | **Period corresponding to**  |
| 25.04.2012 | 3.59 | 3rd quarter of 2011-12 |
| 16.05.2012 | 7.52 | 4th quarter of 2011-12 |
| 28.01.2013 | 40.23 | 1st, 2nd and 3rd quarter of 2012-13. |
| 02.07.2013 | 11.24 | 1st, 2nd and 3rd quarter of 2012-13. |
| **TOTAL** | **62.58** |  |

**INTEREST CALCULATION OF DELAYED UI PAYMENTS (in Rs. Crores)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Utility**  | **2011-12** | **2012-13** | **Total**  |
| **NDMC** |  1.1020835  |  4.8823321  |  5.9844156  |
| **PPCL** |  1.1955113  |  1.7382714  |  2.9337828  |
| **IPGCL** |  0.0441188  |  0.1391949  |  0.1833137  |
| **TPDDL** |  1.2738977  |  17.5872983  |  18.8611960  |
| **BYPL** |  1.4042043  |  19.7683589  |  21.1725632  |
| **BTPS** |  0.0717167  |  0.9332447  |  1.0049614  |
| **MES** |  0.2187122  |  1.2425519  |  1.4612641  |
| **Total** |  **5.3102445** | **46.2912522** | **51.6014968** |

It is mentioned that though the substantial amount of the outstanding dues of the receivable utilities have been cleared / adjusted, the entire outstanding could be cleared only if the paying utility i.e. BRPL clears the outstanding dues amounting to Rs.92.7907086 Crs. The State Electricity Regulatory Commission has also been informed of the position.

NRLDC representative informed that though they have cleared the entire outstanding dues of Delhi they are being made respondents in the cases in CERC by Delhi Discoms for getting the dues as the dues are mainly due to the default in payment by an Intrastate utility.

SLDC representative cleared that the outstanding dues from Regional UI Pool Accounts were started clearing only from 30.10.2013 and the petitions were filed by utilities much before the date. It was also intimated that SLDC has already filed the details of UI received from NRLDC and UI paid / adjusted against the dues of discoms before CERC. The copies of the submission have also been endorsed to all utilities including the state commission.

NDMC representative mentioned that they have not been paid the dues against the payment received from NRLDC on 30.10.2013 amounting Rupees 328 Crores and UI interest amounting Rs. 5.98Crores as it was understood that it has been arbitrarily adjusted by SLDC against the payment dues of NDMC to DPCL.

SLDC representative intimated that they have not yet adjusted any amount as mentioned by NDMC, so far and waiting for the State Government’s nod to release the amount. SLDC advised NDMC to take up the matter with State Government & DPCL to resolve the issue. All other payments due to NDMC are regularly being released to them.

IPGCL / PPCL representative requested to give them the details of UI payment released to them against the outstanding dues of BYPL. Dy. Manager (Finance), SLDC informed that they got the confirmation of reconciliation of UI payment and interest payment from all utilities. The details of payments are also being intimated to the concerned officials of the intrastate utilities who are dealing the UI accounts.

IPGCL / PPCL representative was advised to reconcile the accounts if required, with the finance wing of SLDC.

BRPL representative could not commit any plan to liquidate the arrears of UI payment owed by them.

**GCC noted the position and advised BRPL to clear the UI payment.**

**5 Formation of Renewable Regulatory Fund (RRF)**

It was informed by SLDC that CERC vide order dated 09.07.2013 has approved the detailed procedure for the implementation of mechanism of Renewable Regulatory Fund under Regulation 6.1 (d) of Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations 2010.

The operation of Renewable Regulatory Fund has been implemented w.e.f. 15.07.2013. CERC has also amended the Grid Code w.e.f. 17.02.2014 in the operation of RRF. The extract is appended hereunder:-

**Quote**

(14) Para 5 of Annexure-1 to the Grid Code (Complimentary

Commercial Mechanism) shall be substituted as under:

“5. The wind generators shall be responsible for forecasting their generation upto an accuracy of 70%. Therefore, if the actual generation is beyond +/- 30% of the schedule, wind generator would have to bear the UI charges. For actual generation within +/- 30% of the schedule, no deviation would be payable/receivable by Generator, The host state, shall bear the deviation charges for this variation, i.e within +/- 30%. However, the deviation charges borne by the host State due to the wind generation, shall be shared among all the States of the country in the ratio of their peak demands in the previous month based on the data published by CEA, in the form of a regulatory charge known as the Renewable Regulatory Charge operated through the Renewable Regulatory Fund (RRF). This provision shall be applicable with effect from such date as may be notified by the Commission. **Unqoute**

As per the detailed procedure published by NLDC, the payment has to be released within 10 days of the issue of the accounts by the respective RPC.

NRLDC reparative explained the operation of RRF. It was further informed that the RRF has not yet been implemented though it was planned for implementation from 15.07.2013. It was further informed that CERC vide its order dated 07.01.2014 has suspended the implementation of RRF mechanism till further orders. The relevant extract of the order is reproduced hereunder:-

2. Consequent to implementation of RRF vide our aforementioned order, Commission has received feedback from wind generators, concerned Regional Power Committees and POSOCO regarding implementation of the RRF mechanism. The Commission, therefore, intends to review the RRF mechanism approved vide our order dated 9.7.2013 after giving due consideration to interests of the wind generators and other stakeholders as well as in the interest of safe, secure and reliable operation of the grid. While the forecasting and scheduling of wind generation shall continue as per the provisions of the Grid Code and RRF procedure approved vide our order dated 9.7.2013, the commercial mechanism outlined therein shall remain suspended till further orders.

It was also informed that Hon’ble Madras High Court has stayed the UI payment of wind generators in their state following a petition filed by Wind Power Producers Association.

However, the Court has neither stayed the provision for generation forecast, of wind generators and grid code provisions of RRF.

SLDC representative informed that SLDC is duty bound to obey the provisions of IEGC provisions and as such, RRF participation is also mandatory as and when it is implemented. As such, to avoid penalties and to avoid legal consequences of non adherence of IEGC provisions if any payment liability comes on Delhi towards RRF it may pay from any funds available with SLDC, preferably from UI pool account. The amount be claimed from Discoms based on the share of discoms load at the time of occurrence of Delhi peak during the previous month as per SEM data.

TPDDL suggested that since Discoms are regulated entities they could not incur any expenses without DERCs approval. As such, the mechanism suggested by SLDC may be got approved from DERC so that they can claim the expenses through ARR.

**GCC approved the suggestion of SLDC for operation of RRF mechanism. SLDC was advised to discharge the payment liability if occurred, as per the provision of RRF mechanism approved by CERC from UI pool account being operated by SLDC for adherence of IEGC provisions. Approval of DERC may also be sought in this regard for the claims from Discoms.**

**6 Revision of UI Accounts from 28.05.2013 (9th week of 2013-14) to 01.12.2013 (35th week of 2013-14) by NRLDC.**

DTL representative informed that the transmission losses of Delhi for 2013-14 from Week-9 of 2013-14 has shown a phenomenal increase as detailed hereunder:-

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Week No.** | **2012-13** | **2013-14** | **Week No.** | **2012-13** | **2013-14** |
| 1 | 1.08 | 1.22 | 27 | 0.88 | 1.59 |
| 2 | 1.18 | 1.34 | 28 | 1.11 | 1.68 |
| 3 | 1.26 | 1.07 | 29 | 1.09 | 1.64 |
| 4 | 1.29 | 1.26 | 30 | 1.08 | 1.48 |
| 5 | 1.31 | 1.16 | 31 | 1.16 | 1.70 |
| 6 | 1.45 | 1.13 | 32 | 1.34 | 1.67 |
| 7 | 1.39 | 1.01 | 33 | 1.48 | Accounts for the week-33 and onwards are not prepared. |
| 8 | 1.26 | 1.09 | 34 | 1.25 |
| 9 | 1.15 | 1.42 | 35 | 1.30 |
| 10 | 1.14 | 1.34 | 36 | 1.55 |
| 11 | 1.13 | 1.37 | 37 | 1.69 |
| 12 | 1.23 | 1.48 | 38 | 1.03 |
| 13 | 1.33 | 1.55 | 39 | 0.99 |
| 14 | 1.37 | 1.60 | 40 | 1.15 |
| 15 | 1.22 | 1.76 | 41 | 1.09 |
| 16 | 1.13 | 1.52 | 42 | 1.08 |
| 17 | 1.25 | 1.48 | 43 | 1.25 |
| 18 | 1.16 | 1.38 | 44 | 0.99 |
| 19 | 1.17 | 1.41 | 45 | 0.99 |
| 20 | 1.11 | 1.37 | 46 | 1.08 |
| 21 | 1.16 | 1.26 | 47 | 1.02 |
| 22 | 1.10 | 1.22 | 48 | 1.00 |
| 23 | 1.10 | 1.44 | 49 | 1.14 |
| 24 | 1.00 | 1.39 | 50 | 0.98 |
| 25 | 1.18 | 1.33 | 51 | 1.01 |
| 26 | 1.11 | 1.31 | 52 | 1.20 |
|  |  |  | 53 | 1.19 |

On analysis, it was found that at 220kV BBMB, Narela S/Stn. the 220/132kV ICT-II has been upgraded from 50MVA to 100MVA on 28.05.13 and accordingly the CT’s on 220KV side are upgraded from 150/1 A to 300/1 A and on 132KV side are upgraded from 250/1A to 500/1A but the same CT ratio has been not updated in NRLDC/NRPC master data and issued UI accounts considering old ratio in said period (i.e 28.05.13 to 01.12.13 )and upgraded only on 02.12.13. As such, DTL losses increased during the above period i.e. 28.05.13 (9th week) to 01.12.13 (35th week) and losses comes in the range of 1.3% to 1.70 % against its average trend of

1.2% due to metering error occurred at BBMB Narela resulting into higher input energy booked to Delhi. The same is also informed to NRLDC on nos. of occasions but so far no revision has been done by NRLDC in the UI accounts for the period 28.05.2013 to 01.12.2013. He requested NRLDC for revision of UI accounts for the period 9th week of 2013-14 to 35th week of 2013-14 so that transmission losses of DTL can contain within normal limits in records.

NRLDC representation he expressed his inability to revise the accounts citing the IEGC Regulations 6.4.22. For convenience, the said clause of the regulation is reproduced hereunder:-

He also made it clear that UI Accounts are prepared by NRPC Secretariats nor RLDCs

The RLDC shall be responsible for computation of actual net injection / drawal of concerned regional entities, 15 minute-wise, based on the above meter readings. The above data along with the processed data of meters shall be forwarded by the RLDC to the RPC secretariat on a weekly basis by each Thursday noon for the seven day period ending on the previous Sunday mid-night, to enable the latter to prepare and issue the Unscheduled inter-change (UI) account in accordance with the CERC(Unscheduled Interchange charges and related matters) Regulations, 2010 , as amended form time to time. . All computations carried out by RLDC shall be open to all regional entities for checking/verifications for a period of 15 days. In case any mistake/omission is detected, the RLDC shall forthwith make a complete check and rectify the same.

SLDC representative intimated that the matter was brought into the notice of 25th Commercial Sub Committee Meeting of NRPC held on 24.12.2013. In the meeting, it was advised that the respective constituents should take up the matter with CPRI for testing CT / CVTs and make full utilization of testing kit of CPRI. However, before testing by CPRI, it was found that at 220kV BBMB, Narela S/Stn. the ICT-II has been upgraded from 50MVA to 100MVA on 28.05.13 and accordingly the CT’s on 220KV side have also been correspondingly upgraded from 150/1A to 300/1A and on 132KV side have been upgraded from 250/1A to 500/1A but the same CT ratio has not been updated in NRLDC/NRPC master data using for issuing UI Accounts upto 01.12.2013.

NRLDC representative was of the view that the matter be taken up at NRPC forum for getting the UI accounts revised for the period 28.05.2013 to 01.12.2013.

**GCC advised SDLC to put up the agenda for the forthcoming NRPC/TCC meeting to be held on 26/27.02.2014 for revision of UI accounts for the period 28.05.13 to 01.12.13.**

**Subsequently, the matter was taken up in the 30th NRPC meeting held on 28.02.2014 wherein it was decided to revise all the accounts for the period 28.05.2013 to 01.12.2013.**

**7 IMPLEMENTATION OF OPEN ACCESS IN DELHI**

SLDC representative informed that DERC vide its order dt. 24.12.2013 has decided the charges for Open Access in Delhi.

The guidelines have also been issued alongwith the orders. The collection and disbursement of the component of open access have also been decided as under :

**Quote**

**13 iv. Applicable Charges for an Open Access Consumer**

Where a consumer opting for Open Access purchases electricity from a source other than the DISCOM of his area, he shall be liable to pay:-

a) Energy charges to the seller of electricity as per the contract entered into by him;

b) Wheeling charges to the DISCOM in whose area he is located, at the rate fixed in the Tariff Order;

c) Cross subsidy surcharge fixed in this order to the DISCOMs in whose area, the consumer is located, if applicable;

d) Additional surcharge as applicable;

e) Standby charges as applicable;

f) Transmission charges to DTL at the rate fixed as per 5(ii) of this order;

g) Scheduling and system operating charges to SLDC at the rate Rs. 2000/- per day or the rate fixed by the Commission from time-to-time;

h) UI charges to the DISCOMs in whose area, the consumer is located at the prevalent rate;

i) Reactive energy charges to the DISCOMs in whose area, the consumer is located at the rate @ 10 Ps/kVARh or the rate fixed by the Commission from time-to-time;

j) Miscellaneous charges in respect of metering and other requirements as necessary under Intra-State ABT mechanism, to be provided by DTL. These charges are to be paid to DTL as per actual cost incurred by DTL;

k) Any other charges not mentioned above, but covered by this Order and the detailed procedures drawn by STU for operationlization of Open Access in Delhi;

v. All the charges relating to Open Access Transactions shall be collected by the Distribution Licensee in whose area the Open Access consumer is located and as per the detailed procedures drawn by STU for operationlization of Open Access in Delhi. Those charges which relate to other agency involved in such open access transactions and collected by a particular DISCOM shall be paid within 3 working days to respective agencies failing which late payment surcharge @ 1.25% per month shall be payable. **Unquote**

Further timelines are also required to be adhered to as per the guidelines as under:

**ACTIVITY CHART SHOWING TIME LINES FOR SHORT TERM OPEN ACCESS PROCESS**

**ACTIVITY**

|  |  |  |
| --- | --- | --- |
|  **A)** | **Approval of Short Term Open Access** | **TIME LINE** |
| i) | Submission of Application By Consumer to SLDC | 0 |
| ii) | Verification of field data and Consent by Distribution Licensee  | **within 12 working days** |
| iii) | **Decision by SLDC for conditional approval**  | **within 3 working days** |
|  | **Total** |  **15 working days** |
| **B)** | **INSTALLATION OF METERING EQUIPMENTS.**  |
| i) | Procurement of Metering Equipment By the authorized agency | within 30 days |
| ii) | Testing by Authorized agency  | within 10 days |
| iii) | Installation at site by consumer/Dist Licensees | within 10 days |
| iv) | Testing by Distribution Licensees /STU & issue of Point wise compliance report  | within 10 days |
| **C** | **Issue of NOC/Standing clearance/Concurrence by SLDC** |
| i) | Submission of application | 0 working day |
| ii) | First NOC/Standing clearance/Concurrence | within 7 working days |
| iii) | Subsequent Monthly NOC/SC/Concurrence | within 3 working days |
| **D** | **Down loading of Meter data & preparation of Energy account by SLDC:** |
| i) | Meter reading & down loading of data by Dist: Licensees (on due date) (Monthly in case of Purchaser & weekly in case of Seller)  | 0 Hr. |
| ii) | Submission of downloaded data to SLDC by Distribution Licensees / STU | within two days |
| iii) | Preparation of Energy Account by SLDC for Distribution Licensees | within 7 days  |
| iv) | Forwarding of UI Energy Account by Dist licensees | within a month |

SLDC representative informed that as per the requirement of the guidelines Discoms are required to nominate nodal officers for operationlization of Intrastate Open Access in Delhi.

All distribution licensees have nominated nodal officers in this regard. The details are as under:

**Nodal Officers for implementation of Open Access in Delhi**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Utility** | **Name & Designation of nodal officer**  | **Phone No./Fax**  | **email** | **Address** |
| TPDDL | Sumit Sachdev AGM (Power Mgmt) | 9971211438/66112249 | sumit.sachdev@tatapower-ddl.com | NDPL House, Hudson Lines, Kingsway Camp, Delhi-110009 |
| BRPL | Shobhit DharManager(PMG), | 39999495,8010935754/39999495 | shobhit.dhar@relianceada.com | Power Management Group, BSES Rajdhani Power Ltd., BSES Bhawan, 2nd Floor, B-Block, Nehru Place, New Delhi-110019 |
| BYPL | Ms Nisha KotnalaAsstt. ManagerPMG | 39992035Fax 39992076 | Nisha.kotnala@relianceada.com | Power Management Group, BSES Yamuna Power Ltd, Shakti Kiran Building, 2nd floor, B Block, Karkardooma, Delhi-110096 |

**GCC noted.**

**8 Opening of LC for Bulk Power Supply to BRPL and BYPL by IPGCL and PPCL Power stations**

IPGCL / PPCL representative intimated that inspite of various correspondences in respect of opening of LC for securing Bulk Power Supply, BRPL and BYPL have not established LC in respect of IPGCL and PPCL since April, 2011.

 He requested utilities to establish LC as per the provisions of PPA.

BRPL & BYPL representatives could not commit any assurance in this regard.

 **GCC advised IPGCL / PPCL may proceed as per the provisions of PPAs.**

**9 Reconciliation of accounts by BYPL.**

IPGCL / PPCL representative intimated that the reconciliation of dues in respect of BYPL during the period from the date of default to 30.09.2013 has been signed on 28.01.2014 though it was pending long.

**GCC Noted.**

**10 HOSTING OF NEXT MEETING OF GCC**

Convener GCC requested Director (Tech.) IPGCL/PPCL to host next meeting of GCC which is likely to be held in first week of May 2014, in any premises of their power houses. Director (Tech.) IPGCL/PPCL agreed to consider the proposal.

**11 CONCLUSION**

NDMC representative placed vote of thanks to GCC to give them an opportunity to host the meeting of the apex forum as per Delhi Grid Code.

Convener GCC reciprocated the vote of thanks and once again thanked NDMC to host the meeting.

The meeting ended with thanks to the Chair.

**Annexure**

**List of the participants attended 10th Grid Coordination Committee meeting held on 29.01.2014 Convention Centre, NDMC New Delhi**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S. N** | **Name**  | **Designation** | **Utility** | **Mobile no.** |
| **1** | Sh. A.K. Haldar  | Dir (O), Chairperson, GCC | DTL | 9650992550 |
| **2** | Sh. Prem Prakash | GM(O&M)-I | DTL | 9999533630 |
| **3** | Sh.P.K.Gupta | G.M. (SLDC) | SLDC | 9999533626 |
| **4** | Sh. Roop Kumar | G.M. (Planning) | DTL | 9999533629 |
| **5** | Sh.Kiran Saini | GM(C&RA) | DTL | 9999533639 |
| **6** | Sh. V.K. Gupta | G.M. (Project)-I | DTL | 9999533625 |
| **7** | Sh. H. Vyas | G.M. (Project)-I | DTL | 9999533631 |
| **8** | Sh.S.K.Mishra | GM(Civil) | DTL | 9999533610 |
| **9** | Sh.A.K.Rathor | DGM(T) | DTL | 9999533669 |
| **10** | Sh.S.Sutradhar | DGM(OM)III | DTL | 9999533671 |
| **11** | Sh.L.P.Kushwaha | DGM(O&M)II | DTL | 9999533664 |
| **12** | Sh.S.K.Sharma | DGM(Planning ) | DTL | **9999533640** |
| **13** | Sh. Loveleen Singh | DGM (OS) | DTL | **9999533659** |
| **14** | Sh.Ashok Kumar | DGM(T) to Dir(SO) | DTL | **9999533661** |
| **15** | Sh. Sunder Singh | DGM(SCADA) | SLDC | 9999533667 |
| **16** | Sh.K.M.Lal | DGM(T) Planning | DTL | 9999533660 |
| **17** | Sh.Naveen Goel | Manager(Commercial) | DTL | 9999533950 |
| **18** | Sh.A.K.Gahlot | Manager(S/W) | SLDC | 9999533954 |
| **19** | Sh. Susheel Gupta | Manager (SO) | SLDC | 9999533926 |
| **20** | Sh.Paritosh Joshi | Manager(T) Prot. | DTL | 9999533933 |
| **21** | Sh. Pankaj Vijay | Manager (T)-Planning | DTL | 9999533929 |
| **22** | Sh.Darshan Singh | Manager(T) | SLDC | 9999533837 |
| **23** | Sh.K.C.Gupta | Dy.Manager(F) | SLDC(F) | 9999533729 |
| **24** | Sh.Sanjeev Kumar | Asstt.Manager(T) | SLDC | **9999533917** |
| **25** | Sh.S.S.B.V.Phani Kumar | SO(Account) | DTL | **9999533581** |
| **26** | Sh.S.K. Dey | Dy.Manager(F) | DTL | **9999533739** |
| **27** | Smt.Neelam Bharti | Asstt.Manager(T) | SLDC | **9999533897** |
| **28** | Smt.Sonali Garg | Asstt.Manager(T) | SLDC | **9999533898** |
| **29** | Sh. Deepak Sharma | AM(SO/EA) | SLDC | **9999535008** |
| **30** | Sh.Brijesh Kumar | AM(T) ICM | DTL | 9999533825 |
| **31** | Sh.Dharmender Verma | JE(E) | SLDC | **9999533157** |
| **32** | Sh.Raju Verma | PA | SLDC(F) | 9999531968 |
| **33** | Sh. H.K. Chawla | DGM | NRLDC | 9650074803 |
| **34** | Sh.S.K.Maheshwari | AGM(EEM) | BTPS | 9650993817 |
| **35** | P.K. Dass | AGM(O&M) | NTPC\_BTPS | 9650992225 |
| **36** | Sh. Ashish Dutta | HoG(PMG) | TPDDL | 9871798566 |
| **37** | Sh. P. Devanand | AGM (PSC) | TPDDL | 9871800506 |
| **38** | Sh.Jagdiesh Kumar | Dir(T) IPGCL/PPCL | IPGCL/PPCL | 9958701234 |
| **39** | Sh. S. M. Verma | GM | PPCL/IPGCL | 9717694896 |
| **40** | Sh.R.K.Yadav | DGM(Comm) | IPGCL/PPCL | 9717694845 |
| **41** | Sh. A.K.Janghu | CEE | DMRC | 8527222442 |
| **42** | Sh. Ved Mitra | CEE | DMRC | 9871165812 |
| **43** | Sh. Ashish Bhatia | Dy. CEE | DMRC | 9650574448 |
| **44** | Sh.N.S.Sagar | C.E(E) | NDMC | 9899041848 |
| **45** | Sh.A.K.Joshi | ACE (E) | NDMC | 9717241999 |
| **46** | Sh.Sanjay Kumar Gupta  | AEE | NDMC | 9953745323 |
| **47** | Sh.Deepak Sachdeva | EE | NDMC | 9811120675 |
| **48** | Sh.Chaman Lal | SE(E) | NDMC | 9810034499 |
| **49** | Sh. Poddar | EE(M/F) | NDMC | 9818544215 |
| **50** | Sh. K. S. Meena | XEN, System Operation | NDMC | 9811203020 |
| **51** | Sh.Madan Lal | EE(Power) | NDMC | 9868115524 |

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| --- | --- | --- | --- | --- |
| **S. N** | Name  | Designation | Utility | Mobile no. |
| **52** | Sh.D.P.Sharma | EE(E) | NDMC | 9810871808 |
| **53** | Sh.Y.K.Sabharwal | EE(M/DT) | NDMC | 9810123816 |
| **54** | Sh.Vindo Kumar | Ex. Engineer(E)  | NDMC | 9811326237 |
| **55** | Sh.N.K.Tommar | SE(E) | NDMC | 9711953552 |
| **56** | Sh.Paras Ram | EE | NDMC | 9818279867 |
| **57** | Sh.N.K.Goel | SE (O&M) Panipat | BBMB | 09416017711 |
| **58** | Sh.Anil Kasushik | Sr.XEN/O&M | BBMB | 9871899935 |
| **59** | Sh.Dinesh Kr.Mishra | Manager(E) | DMSWSL | 8744057058 |
| **60** | Sh.Iype George | GM | DMSWSL | 8744075262 |
| **61** | Sh.Irfan Ahmad  | GM | BRPL | 9350130387 |
| **62** | Sh.Satinder Singh Sondhi | Add.V.P | BRPL | 9312147009 |
| **63** | Sh.Harsh Sharma | VP | BYPL | 9312782589 |
| **64** | Sh.Mukesh Dadhich | GM | BYPL | 9350261451 |
| **65** | Sh.Sunil Kumar | DGM | BYPL | 9312667430 |
| **66** | Sh. V. Venugopal | DGM, SO – Convener GCC | SLDC | 9871093902 |