|  |  |  |
| --- | --- | --- |
|  | **पंजीकृत कार्यालय :शक्ति सदन, कोटला रोड़, न्यू दिल्ली-110002**  (Regd. Office Shakti Sadan, Kotla Road, New Delhi-110002)  **कार्यालय उपमहाप्रबंधक (एस.ओ.)**  **Office of Dy. General Manager (SO)**  **एस एल डी सी बिल्डिंग, मिंटो रोड़, न्यू दिल्ली-110002**  SLDC Building, Minto Road, New Delhi-110002  Ph: 23221149 FAX No.23221012 | |
| **No. F./DTL/207 /DGM(SO)/11-12/41** | | **Dated : 10.02.2012** | |

**Subject : Minutes of the Meeting held on 03.02.2012 at Bawana CCGT for resolving scheduling and other related issues of Bawana CCGT Station**

Dear Sir, / महोदय

The copy of the Minutes of the Meeting held on 03.02.2012 at Bawana CCGT with regard to Scheduling and other related issues of Bawana 1500MW CCGT is enclosed for ready reference and further necessary action please.

It is also available in SLDC website [*www.delhisldc.org*](http://www.delhisldc.org) at Meeting Portal.

Thanking you,

भवदीय / Yours faithfully

Encl. As above

(**वी.वेणुगोपाल)/(V. Venugopal )**

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

List of addresses

1. Executive Director (T), DTL, Shakti Deep Bldg. Jhandewallan, New Delhi-110055
2. Executive Director(Engg.), DERC, Viniyamak Bhawan, Shivalik, New Delhi-17
3. General Manager (O&M), DTL, Parkstreet, 220kV S/Stn.,New Delhi
4. General Manager, Badarpur Thermal Power Stn., Badarpur, New Delhi-44
5. General Manager (Commercial), DTL
6. General Manager, RPH
7. General Manager, G.T. Station
8. General Manager, Pragati Station
9. General Manager, SLDC, Delhi
10. CWE (Utilities), MES, Delhi Cantt., New Delhi-110010
11. Executive Director (NR)-I, PGCIL, B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi-110016
12. Executive Director (NR)-II, PGCIL, Bhav Plaza, Block No.0B-26, Grid Bhawad, Rail Head Compled, Jammu-180012
13. Executive Director (Commercial), PGCIL
14. Addl. Vice President, System Operation, BSES, Balaji Estate, Kalkaji, New Delhi
15. Sh. V. K. Gupta, Chief Engineer (SO&C), Punjab SLDC, PSTCL, SLDC Complex, Near 220kV Grid S/Stn. Ablowal, Patiala, Punjab-147001
16. Chief Engineer (System Operation), Haryana SLDC, HVPNL, Shakti Bhawan, Sector-6, Panchkula-130109
17. Chief Engineer (Electrical-1), NDMC, Palika Kendra, New Delhi-1
18. Chief Engineer (Electrical -2), NDMC, Palika Kendra, New Delhi -1
19. Chief Engineer, Haryana Power Procurement Center, Shakti Bhawan, Sector-6, Panchkula, Haryana, Fax no. 0172-3019169.
20. Director (Comml.), NDMC, Palika Kendra, New Delhi-1
21. Sh. Chander Mohan, Vice President & Head (Network Operation), BRPL, BSES Bhawan Nehru Place, New Delhi-19
22. Sh. Ajay Kumar, Addl. Vice President (PP&PMG), BRPL, Bldg. No. 20, Nehru Place, New Delhi-110019
23. General Manager (PP&CC), NDPL, Corporate Office, 3rd Floor, Sub-Station Building, Hudson Lines, Kingsway Camp, Delhi-110019
24. Sh. Sunil Kakkar, Addl. Vice President (PMG), BSES Yamuna Power Ltd., Shakti Kiran Building, Karkardooma, Delhi 110092
25. Sh. Sanjay Srivastava, AVP (PMG), BRPL, Bldg. No. 20, Nehru Place, New Delhi-110019
26. General Manager (Commercial), National Thermal Power Corporation, NTPC NCR Headquarter, Sector-24, Noida, UP-201301
27. DGM(SCADA), Delhi SLDC
28. S.E. M&P Circle, HVPNL, Vidyut Nagar, Hissar, Haryana-125001, (Fax-01662-223017)
29. Manager (SO)-Shift, Delhi SLDC
30. Executive Engineer (SO), NDMC, Minto Road
31. DGM (Metering and Protection), DTL.,Parkstreet,220kV S/Stn., New Delhi
32. Dy.G.M. (Finance)-II, DTL
33. Dy. Manager(F), Comml., DTL, IP Estate, New Delhi-2
34. Manager (T), EA, SLDC
35. Dy. Manager (F), SLDC

Copy for favour of kind information to :

* 1. Secretary, CERC, Chanderlok Building, Janpath, New Delhi-110001
  2. Secretary, Punjab Electricity Regulatory Commission, SCO:220-221, Sector-31A, Chandigarh, Fax No.0172-2664758, 2645163, 2602435
  3. Secretary, Haryana Electricity Regulatory Commission, Bay-33-36, Sector-4, Panchkula-134112, Haryana Fax No. 0172-2582531, 2572359
  4. Secretary, DERC, Viniyamak Bhawan, C-Block, Shivalik, New Delhi-110017
  5. CMD, DTL
  6. CMD, PSTCL, The Mall, Patiala-147001
  7. CMD, PSPCL, The Mall, Patiala-147001
  8. Managing Director, Haryana Vidyut Prasaran Nigam Ltd, Shakti Bhawan, Sector-6, Panchkula-134109
  9. Member Secretary, NRPC, **18A, Shaheed Jeet Singh Marg, Opp. Katwaria Sarai, New Delhi-16**
  10. Chairperson, New Delhi Municipal Council, Palika Kendra, Sansad Marg, New Delhi
  11. CEO, BSES Rajdhani Power Ltd, BSES Bhawan, Nehru Place, New Delhi-110019
  12. CEO, BSES Yamuna Power Ltd, Shakti Kiran Building, Karkardooma, Delhi-92
  13. Managing Director, NDPL, 33kV Grid S/Stn, Hudson Lane, Kingsway Camp, Delhi-9
  14. Chief Engineer (Utilities),CWE,MES, Kotwali Road, Near Gopi Nath Bazar, Delhi Cantt New Delhi-110010
  15. Managing Director, Indraprastha Power Generation Company Ltd (Genco) / Pragati Power Corporation Ltd (PPCL), Himadri, Rajghat Power House, New Delhi-110002
  16. Joint Secretary (Power), GNCTD
  17. Director (T), PPCL, Himadri, Rajghat Power House, New Delhi-110002
  18. Director (F), PPCL, Himadri, Rajghat Power House, New Delhi-110002
  19. CEO, Power System Operation Corporation (POSOCO), B-9, Qutub Institutional Area, Katwaria Sarai, New Delhi-110016
  20. Director (Operations), DTL
  21. Director (Operation), PGCIL, Saudamini, Plot-2, Sector-29, Near IFFCO Chowk, Gurgaon, Haryana-122001
  22. Director (Finance), DTL
  23. G.M., NRLDC, **18A, Shaheed Jeet Singh Marg, Opp. Katwaria Sarai, New Delhi-16**

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**DELHI TRANSCO LTD.**

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

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

SLDC Building, Minto Road, New Delhi – 110 002

Phone No.23221149, Fax 23221012, 23221059

**Subject : Minutes of the Meeting held on 03.02.2012 at Bawana CCGT for**

**resolving scheduling and other related issues of Bawana CCGT Station**

Director (Operations), DTL welcomed all delegates and requested for fruitful discussions and decisions to resolve the issues mentioned in the agenda. He mentioned that this is fifth in the series of the meetings held to resolve the issues regarding Bawana CCGT. The earlier meetings were held on 19.08.2010, 08.09.2010, 11.10.2010 and 22.11.2011. It was also mentioned that the 1st GT of Bawana CCGT started operation from 04.10.2010, second GT on 09.02.2011 and the Steam Turbine on 03.10.2011. The Gas Turbine Unit-1 was declared under Commercial Operation from 00.00hrs. of 27.12.2011.

He further mentioned that though all most all issues have been settled in earlier meetings, certain minor issues remain unsettled. To settle the unresolved issues, this meeting was especially convened. As per the request of all beneficiaries in the last meeting, the venue was fixed at Bawana CCGT to understand the operating system of the Gas Turbines and the issues involved.

He thanked Director (Technical) and Director (Finance), PPCL/IPGCL to organize the meeting at Bawana CCGT and the arrangements made for site visit for over all interest of beneficiaries.

With those brief remarks, he advised Dy.G.M. (System Operation), convener of the meeting to take up the agenda.

List of the participants is enclosed as Annexure-A.

**1 Installed capacity of GTs**

PPCL vide letter no. GM(T)/T/site/project/F.753 dated 16.01.2012 has requested to treat the installed capacity of unit-1 of Bawana CCGT to 216MW. They have supplied the communication of BHEL (the OEM of project) as proof the claim.

PPCL further informed that the nominal capacity of Bawana Project is 1500MW. This was the maximum capacity feasible to be installed with different combination of Gas turbines of various manufacturers as given in feasibility report prepared by NTPC as consultant of PPCL. However Since the gas turbines selected / offered by EPC contractor BHEL is Frame9FA type. The designed capacity of the Gas turbines as per Heat Balance Diagram submitted by BHEL for New and Clean Gas Turbine is 221.2MW, accordingly the Module (2 GTs and 1 STG) output with New and Clean Turbine is 696.20MW. However after 3500 Hours of running (which is corresponding to actual running of Gas Turbine for Commercial Operation after trial operation), at base load, 31.7OC ambient temperature, 32OC cooling water Temperature, 0% make up, 60% RH, RLNG firing, 25ppmvd NOx, 15% O2 the output of each Gas Turbine would be 216.00 MW and Steam Turbine output will be 253.6 MW, thus per module output as per HBD (Heat Balance Diagram) would be 685.6 MW and output from all the two modules will be 1371.2 MW. Moreover actual capacity of individual Turbines and modules will ascertained after performance Guarantee Test by BHEL which will be done after commissioning and trial operation of complete module/station. Accordingly, it was requested to consider the following capacities for all energy accounting activities:-

|  |  |
| --- | --- |
| Unit No. | Installed capacity in MW |
| GT-1 | 216 |
| GT-2 | 216 |
| STG-1 | 253.6 |
| **Module-1** | **685.6** |
| GT-3 | 216 |
| GT-4 | 216 |
| STG-2 | 253.6 |
| **Module-2** | **685.6** |
| **Total Station** | **1371.2** |

PPCL informed that at present, the capacity of GT was taken as 220.2MW in the energy accounts issued by SLDC. SLDC clarified that the capacity considered as 220.2MW for GT was as per the information provided by Bawana CCGT in the meeting held on 19.08.2010. In this regard, it was clarified by PPCL that it was an oversight which was informed much before that starting of operation of the Stations. To a query, it was confirmed by PPCL that the same capacity has been indicated in the Tariff Petition filed by PPCL before CERC.

After the discussions, it was decided to consider the installed capacity of the generating unit as declared now by the owner of the project i.e. PPCL as mentioned above. Accordingly, the allocation of the power from the project has also been modified as under as per the PPAs entered into with beneficiaries with PPCL:

|  |  |  |  |
| --- | --- | --- | --- |
| **S. No.** | **State** | **With merchant power** | |
| **In percentage** | **In MW** |
| 1 | Delhi |  |  |
| BRPL | 26.53 | 363.82 |
| BYPL | 16.58 | 227.41 |
| NDPL | 17.77 | 243.61 |
| NDMC | 7.3 | 100 |
| MES | 1.82 | 25 |
|  | **Total** | **70.00** | **959.84** |
| 2 | Haryana | 10 | 137.12 |
| 3 | Punjab | 10 | 137.12 |
| 4 | Merchant Power | 10 | 137.12 |
|  | **Total** | **100** | **1371.20** |

**2 Decision of allocation of Merchant Power.**

SLDC informed that even though, one unit of Bawana CCGT has been declared on Commercial Operation from 27.12.2011, the decision of allocation of Merchant Power has not been taken by PPCL. As per the Scheduling Principles, 100% capacity should have been allocated to avoid gaming and other scheduling related complications before CoD of the unit. Due to the non decision of allocation of Merchant Power, the backing down of generation also becomes difficult to maintain minimum technical limit which is 75% of the capacity as decided in the earlier meetings. Since, in the merit order dispatch principle, the Open Cycle Generation of Bawana is one of the costliest sources of generation after RLNG Fired Generation of other Gas Stations, the backing down is required to be done at almost all times in the present demand – availability scenario.

Director (Technical), PPCL informed that the decision of allocation of Merchant Power was in the final stage at State Government level. After the State Government has taken the decision, the Distribution Companies of Delhi would be approached to enter the PPAs. He assured that all these exercise would be completed as early as possible as technically and financially PPCL was also affected due to the non scheduling of Merchant Power and disposing the same through UI to maintain minimum technical limit to operate the plant with full operating efficiency and to meet the environmental stipulations.

To a query regarding Combined Cycle operation of the Unit-1 of GT, he informed that certain technical problems were inadvertently erupted with regard to the Heat Recovery Steam Generator (HRSG) of the unit which has been resolved by BHEL. The Combined Cycle operation of GT-1 was expected by end of February 2012. With regard to operation of Gas Turbine Unit-2, he informed that against the allocation of 1.564 MCMD which was sufficient for operation of One GT but less than operation of 2nd GT on full load, 0.622MCMD was getting. Hence, the first GT is also running on partial load. For getting the assured allocation, they were striving very hard and he requested all utilities to avail full power available from Bawana CCGT, as in case Bawana CCGT fail to utilized entire allocation of gas due to abnormal demand of the gas in the market, the present level allocation of gas would also be get reduced. .

Distribution Licensees expressed their inability to absorb the entire capacity due the already strained finances and clarified that the bare minimum technical limit was also been absorbed under compulsions. They also requested that while fixing the bare minimum limit, the Merchant Power should also be considered as fully scheduled as Merchant Power.

SLDC also clarified that they could not schedule more than 75% of the DC including Merchant Power considering the higher cost of generation. It was also clarified that as per the billing figures, the variable cost of various stations based on December 2011billing was as under:-

|  |  |
| --- | --- |
| Source | Variable cost in Ps/Unit |
| Auriya Liqud | 990.50 |
| Auriya – LNG | 948.10 |
| Dadri –LNG | 929.70 |
| Anta – Liquid | 813.50 |
| Dadri – Liquid | 795.20 |
| Anta – LNG | 753.90 |
| Gas Turbine – OC | 501.96 |
| Gas Turbine – CC | 401.23 |
| Pragati – OC | 371.32 |
| BTPS | 354.50 |
| Dadri (Thermal)-I | 299.10 |
| Anta – Gas | 282.00 |
| Dadri (Thermal)-II | 267.60 |
| Rajghat | 265.19 |
| Pragati – CC | 261.36 |
| Auriya Gas | 261.30 |
| Farakka | 258.30 |
| Kahalgaon-I | 256.10 |
| Dadri – Gas | 249.60 |
| Kahalgaon-II | 241.70 |
| Unchahaar-II | 216.80 |
| Unchahaar-III | 216.80 |
| Unchahaar-I | 214.70 |
| Rihand-I | 216.70 |
| Rihand-II | 126.40 |
| Singrauli | 109.80 |

Note : The variable cost of Bawana CCGT for is Rs. 4.40 per unit at present.

It was also confirmed by Director (Technical), PPCL that there was no provision of Liquid Fired Generation in the design of Bawana CCGT Generating Station.

NDPL representative brought to the notice that as per the 1st amendment to the terms and conditions of Tariff Regulations 2009 notified on 02.05.2011, the provisional tariff of the stations should be 95% of the Annual Fixed Cost of the project subject to the adjustment as per the final tariff. As such, while raising bills PPCL should ensure the above stipulations of the Tariff Regulations.

PPCL representative responded that the pro-rata fixed charges for one Gas Turbine is payable as per petition filed with CERC was Rs. 208.14 Crores which comes about Rs.1.31/unit at 85% availability factor.

Concluding the discussions, Chair advised PPCL to expedite the allocation of Merchant Power and ensuring combined cycle operation of the Gas Turbine so that the cost of the generation can be optimized and the entire allocation of the gas of the station can be utilized. He also requested PPCL to intimate SLDC tentative cost in advance for effective merit order scheduling of power from Bawana CCGT.

**3 Payment of PoC Charges for power being scheduled to Regional Utility (Punjab and Haryana)**

SLDC informed that as per the PoC Charges Regulations notified by CERC on 15.06.2010, the Generators are also required to pay the PoC Charges. Ultimately these charges are again to be borne by beneficiaries in proportion to the allocation. Matter was come up for discussion in the 21st Commercial Sub-Committee meeting of NRPC held on 21.01.2012 at NRPC.

During the course of the said Commercial Committee meeting, it was emphasized that Bawana CCGT should precisely declare the upcoming generation plan so that the drawal schedule and injection schedule of Delhi can be suitably taken care for the computation of PoC charges for 2012-13. The injection schedule corresponds to share of Bawana CCGT to outside states of Delhi i.e. Punjab and Haryana at present for the computation of PoC Charges for Punjab and Haryana. Further, the wrong declaration of drawal and injection tantamount to payment of higher charges / penalty to the Delhi beneficiaries in the PoC Charges.

NLDC representative confirmed the need of correct declaration of generation plan of Bawana CCGT to avoid over charges / penalty on Delhi beneficiaries.

To a query, NLDC representative replied that the PoC Charges billing is the responsibility of CTU based on the open access approvals granted to Punjab and Haryana for the power allocation from Bawana CCGT Station. In the PoC Regulations, CTU and the beneficiaries should intimate NLDC, the implementing agency for PoC Charges, the details of long term access granted in this regard.

SLDC clarified that as per the information conveyed by Powergrid vide their letter dated 22.04.2009, the Open Access approval has been granted for Punjab, Haryana and Merchant power to the tune of 140MW each from Bawana CCGT. It was also confirmed that the information has already sent to the Director (Transmission), HVPNL and Member (Transmission), PSEB by Powergrid. It was also clarified that vide the CERC order dated 25.01.2012 in Petition No. 197/2011 TSA has also been executed by Punjab and Haryana with Powergrid on 01.07.2011 and 22.07.2011 respectively.

On a query, SLDC confirmed that as per the Open Access approval, the date of commencement of Open Access is from July 2010 for 25 years.

Director (Technical), PPCL assured that all the details would be submitted within a week time.

The representatives of Distribution Licensees requested SLDC to intimate PGCIL with regard to the Commercial Operation of Bawana CCGT and Open Access details. Copy of the same may also be forwarded to NRLDC, NLDC and all beneficiaries of Bawana CCGT for taking further necessary action in this regard.

Concluding the discussions Director (Operations), DTL who chaired the meeting thanked all the participants for active discussions and resolutions of the issues in amicable manner.

Meeting ended with thanks to the Chair.

**Annexure-A**

**The list of the officers attended the meeting held at SLDC on 03.02.2012 with regard to Scheduling and other related issues of 1500MW Bawana CCGT.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S. N.** | **Name** | **Designation** | **Utility** | **Mobile no.** |
| 1 | Sh. A.K. Haldar | Director (Operations) | DTL | 9650992550 |
| 2 | Sh. Rajan Chowdhary | Director (Finance) | IPGCL/PPCL | 9910331445 |
| 3 | Sh. P.K. Ray | Director (Tech.) | PPCL | 9818357133 |
| 4 | Sh. Jagdish Kumar | G.M. (Proj)-III | PPCL | 9958701234 |
| 5 | Sh. Shiva Shunmuga Nathan | G.M. (Finance) | PPCL | 9910208252 |
| 6 | Sh. R.K. Jain | G.M. (Comml.) / Com. Secretary | IPGCL / PPCL | 9818600955 |
| 7 | Sh. S.M. Verma | G.M. | PPCL | 9717694845 |
| 8 | Sh. Amit Ahuja | DGM (Proj.) | PPCL | 9717079333 |
| 9 | Sh. Naveen Jain | DGM | PPCL | 9810003032 |
| 10 | Sh. P. Gupta | Manager (T) | PPCL | 9717694934 |
| 11 | Sh. A.K. Jha | Manager (T) | PPCL | 9717694790 |
| 12 | Sh. S.K. Raghav | Manager (T) Opn. | PPCL | 9717698281 |
| 13 | Sh. Satynder Prakash | Manager (T), Elec. | PPCL | 9717694813 |
| 14 | Sh. R.K. Yadav | Manager (Commercial) | PPCL | 9717694845 |
| 15 | Sh. Sanjay Kr. Sharma | AM(T), Comml | IPGCL/PPCL | 9717694965 |
| 16 | Sh. Nitesh Verma | AM (F&E), P-III,Bawana | PPCL | 9717694883 |
| 17 | Sh. Roop Kumar | G. M. (SLDC) | SLDC | 9999533629 |
| 18 | Sh. V.Venugopal | Dy.G.M. (SO) | SLDC | 9871093902 |
| 19 | Sh. Sanjeev Kumar | AM(T), System Operation | SLDC | 9999533917 |
| 20 | Sh. Deepak Sharma | AM(T), system Operation | SLDC | 9999535008 |
| 21 | Ms. Sonali Garg | AM(T), SO | SLDC | 9999533898 |
| 22 | Sh. Sunilesh Mohari | DGM (Commercial) | DTL | 9999533655 |
| 23 | Sh. Sanjay Sharma | Manager (T), Comml. | DTL | 9999533795 |
| 24 | Sh. Vivek Pandey | Manager | POSOCO | 9910170824 |
| 25 | Sh. Mohit Joshi | Engineer | POSOCO | 9650598189 |
| 26 | Sh. Ashis Kumar Dutta | A.G.M. | NDPL | 9871798566 |
| 27 | Sh.Sanjay Srivastava | AVP | BRPL | 9312147045 |
| 28 | Sh. Anurag Sharma | Manager (PMG) | BYPL | 9313553021 |
| 29 | Sh.Chaman Lal | Executive Engineer(SO) | NDMC | 9810034499 |
| 30 | Sh. V.M. Tripathi | Garrison Engineer | MES | 9873802301 |
| 31 | Col. Ballaney RN | CWE (U) | MES | 9999374747 |