

# MINUTES OF THE 48<sup>th</sup> SLCF MEETING HELD ON 27.02.2017

Shri. P. K. Kundu, Chief Engineer (SLDC), WBSETCL & Chairperson, SLCF welcomed all the participant members to the 48<sup>th</sup> SLCF meeting.

## ***ITEM-1: CONFIRMATION OF THE MINUTES OF THE 47<sup>th</sup> SLCF MEETING HELD ON 23/11/2016.***

The minutes of the 47<sup>th</sup> SLCF meeting was circulated vide memo no: SLDC/How/109/1260 dated 03/12/2016 and the same was also published in the official website of SLDC ([www.wbsldc.in](http://www.wbsldc.in))

The minutes of the 47<sup>th</sup> SLCF meeting was taken as accepted.

## ***ITEM-2: REVIEW OF THE STATE GRID PERFORMANCE:***

### ***Power point presentation on Grid Performance for the month of November -16, December-16 & January-17***

Superintending Engineer, SLDC made a Power point presentation on the grid performance based on operational statistics for the period November -16, December-16 & January-17. A critical analysis on the grid performance reveals the following:

- 2.1 Availability of WBPDC power plants in terms of \*NAPAF & \*PAFM for the month of November -16, December-16 & January-17 are as follows:

Generating Station.	November-16		December-16		January-17	
	NAPAF (%)	PAFM (%)	NAPAF (%)	PAFM (%)	NAPAF (%)	PAFM (%)
<i>BTPS</i>	74	<b>43.96</b>	74	<b>80.65</b>	74	<b>78.47</b>
<i>STPS</i>	85	<b>96.22</b>	85	<b>100.89</b>	85	<b>99.28</b>
<i>KTPS</i>	75	<b>41.43</b>	75	<b>43.65</b>	75	<b>55.74</b>
<i>BkTPP-I</i>	85	<b>64.00</b>	85	<b>72.50</b>	85	<b>78.11</b>
<i>BkTPP-II</i>	85	<b>68.10</b>	85	<b>88.40</b>	85	<b>94.18</b>
<i>SgTPP</i>	85	<b>65.14</b>	85	<b>78.93</b>	85	<b>75.23</b>

\* **NAPAF**: Normative Annual Plant Availability Factor (in %).

\***PAFM** : Plant Availability Factor achieved during the Month (in %).

2.2 Potential Demand of WBSEDCL in MU.

Month	Potential Demand	Remarks
November-15	2339.25	2.64% Low
November-16	2277.45	
December-15	2265.51	0.40% Rise
December-16	2274.58	
January-16	2444.32	4.14% Rise
January-17	2545.42	

2.3 Gross Generation of WBPDC ( in MU ) during November -16, December-16 & January-17

November-16	December-16	January-17
1579.79	1703.62	1942.26

2.4 System met and system Potential of distribution licensees during November -16, December-16 & January-17 were as follows:

CONSTITUENT	November-16		December-16		January-17	
	System Met ( MU)	System Potential ( MU)	System Met ( MU)	System Potential ( MU)	System Met ( MU)	System Potential ( MU)
WBSEDCL (OWN)	2274.16	2277.45	2271.44	2274.58	2536.64	2545.42
CESC	747.75	747.75	701.41	701.44	692.01	692.04
DPL	145.67	146.21	139.83	140.35	153.33	153.76

2.5 The Maximum demand (potential) and their time of occurrence during November -16, December-16 & January-17 were as follows:

CONSTITUENT	MAXIMUM DEMAND (MW)		
	November-16	December-16	January-17
WBSEDCL (OWN)	5605 MW on 02.11.16 at 19.00 hrs.	4685 MW on 30.12.16 at 18.00 hrs.	5368 MW on 28.01.17 at 19.00 hrs.
CESC	1734 MW on 02.11.16 at 18.00 hrs.	1419 MW on 01.12.16 at 18.00 hrs.	1350 MW on 05.01.17 at 18.00 hrs.
DPL	253 MW on 02.11.16 at 19.00 hrs.	231 MW on 13.12.16 at 09.00 hrs.	235 MW on 18.01.17 at 18.00 hrs.

The new Transformers, EHT lines and equipments commissioned during this period were also deliberated by S.E, SLDC. (**List of new Transformers, EHT lines & equipments are shown in Annexure-1**).

### **ITEM No. 3. IMPORTANT GRID INCIDENTS:**

1. On 16.12.16 at 09:18 hrs disturbance occurred at Budge-Budge Generating Station of CESC which resulted in Generation loss and load loss.

*--- CESC representative may please deliberate.*

#### **Deliberation in the meeting.**

*Representative of CESC informed that on 16.12.16 at 09:18 hrs Bus Zone protection operated at 132 KV Main-bus 1 at Budge Budge causing tripping of GT2, ST1, ST2, ICT1, ICT2, Budge Budge – Chakmir Ckt # 1, 2, 3 &4. Flash-over at sectionalize isolator at 132 KV Main Bus #1 of Budge Budge.*

2. On 17.12.16 at 12:15 hrs total power failure occurred at Arambag and adjacent sub-stations.

*--- WBSETCL representative may please deliberate.*

#### **Deliberation in the meeting.**

*Representative of WBSETCL informed that on 17.12.16 at 12:15 hrs R-Phase CT burst out i.r.o 220 KV Bus transfer (220 Rishra was on Transfer Bus) which resulted tripping of all 400 KV and 220 KV feeders from far end.*

#### **Suggestions:**

*Fault of 220 KV bus should not be extended to 400 KV bus & finally it should not result in tripping of 400 KV lines connected with that bus. So to ensure selectivity of protection system, adequate measure may please be taken i.r.o Arambag Sub-stn, so that such occurrence may be avoided.*

3. On 12.01.17 at 21:04 hrs total power failure occurred at 132 KV Bolpur Substation.

*--- WBSETCL representative may please deliberate.*

#### **Deliberation in the meeting.**

*Representative of WBSETCL informed that on 12.01.17 at 21:04 hrs 132 KV Durgapur-Bolpur ckt #1,2 tripped at Durgapur end with Zone 3. On charging of DGP-Bolpur Ckt #1 from DGP end flash over and abnormal sound observed i.r.o 33 KV Earthing Transformer cum station service Tr. #1. Finally this Earthing cum Station service transformer got damaged.*

#### **Suggestions:**

*After any event of main power failure, switching off 33 KV outgoing feeders is needed from Sub-stn end before charging EHT lines/transformers.*

4. On 19.01.17 at 00:13 hrs Total power failed at NJP and other North Bengal Sub-stations.

*--- WBSETCL representative may please deliberate.*

**Deliberation in the meeting.**

*Representative of WBSETCL informed that on 19.01.17 at 00:13 hrs R-Phase CVT burst out i.r.o 132 KV NJP – Siliguri (PGCIL) line at NJP end and the line tripped from both end. Simultaneously the broken part of CVT damaged the adjacent Chalsa feeder B-ph LA at NJP end. Consequently,*

- (i) NJP – Chalsa 132 KV ckt tripped from both end
- (ii) 220 KV bus section 1 & 2 tripped at 400 KV Binnaguri(PG) Sub-stn.
- (iii) 132 KV NBU – Siliguri (PG) tripped at Siliguri(PG) end.
- (iv) 132 KV NJP-NBU tripped at NJP end.
- (v) 220 KV NJP-TLDP-III tripped at TLDP end.
- (vi) Total power failed at NJP S/stn.
- (vii) U/F relay appeared at NJP, NBU, Siliguri (WBSETCL) and Darjeeling Sub-stn.

*As after RHP-Rangit ckt tripped & after NBU-Siliguri (PG) ckt tripped, A portion (RHP-Darjeeling-NBU-Siliguri(PG)-Ujanu-NJP) of the network was Islanded with generation of RHP only. Finally running units (3,4)of RHP tripped with GOP & GOM relays.*

**Suggestions:**

- 1) *For fault at 132 KV line, tripping at 220 KV bus section CBS at Binnaguri is not normal and adequate steps should be taken by testing wing of WBSETCL in consultation with Power Grid, Binnaguri end to avoid such recurrence.*
- 2) *When the faulty line cleared/tripped from both end, then tripping of 132 KV Siliguri(PG)-NBU ckt with back up directional E /F cannot be explained. Matter may be taken up with Siliguri(PG) end for finding out the reason of this tripping*

5. On 24.01.17, 132 Bus of 220 KV New-Bishnupur S/S became no-power consecutively at 15:30 hrs, 15:55 hrs and 16:25 hrs.

*--- WBSETCL representative may please deliberate.*

**Deliberation in the meeting.**

*Representative of WBSETCL informed that on on 24.01.17, 132 KV New Bishnupur Ckt #1,2,3 tripped at 15:30 hrs, 15:55 hrs and 16:25 hrs respectively. There was a problem in PT#2 connected to 132 KV bus but during normalization of 132 KV ½ main Bus of New Bishnupur 220 KV Sub/stn, the reason of multiple tripping has to be explored.*

6. On 29.01.17 at 01:56 hrs 132 KV bus fault occurred at Kasba Sub-station.

*--- WBSETCL representative may please deliberate.*

**Deliberation in the meeting.**

*Representative of WBSETCL informed that on 29.01.17 at 01:56 hrs 132 KV PT #1 failed at Saltlake side of the bus at Kasba S/S which resulted tripping of 150 MVA Tr #1, 2 and 160 MVA Tr. #3,4. Consequently, two stage load rejection took place at CESC system due to overloading of Transformers and/or tripping of transformers. 220 KV Kasba-Subhasgram ckt also tripped at Kasba end.*

**Observation/Remarks:**

*Testing representative opined that reason of Kasba-Subhasgram ckt tripping at Kasba end during this event is due to disabled status of directional property of relay of 220 KV Kasba-Subhasgram Ckt at Kasba end. After the event directional feature of the protection of said ckt was enabled.*

*Testing representative (WBSETCL) opined that for bus differential protection check relay didn't function properly*

7. On 13.02.17 at 09:55 hrs, 220 KV bus fault occurred at BkTPP.

*--- WBPDCCL representative may please deliberate.*

**Deliberation in the meeting.**

*Representative of WBPDCCL informed that on 13.02.17 at 09:55 hrs 220 KV Bus bar protection relay (96) operated resulting tripping of 220 KV feeders i.r.o –*

- (i) Generator 3,4,5*
- (ii) ST 3,4 &5*
- (iii)IBT #1,2*
- (iv)Gokarna #1, 2*
- (v) Satgachia #1,2*
- (vi)Durgapur #1,2*
- (vii) 220 KV Pass bay*

*Consequently, Unit #4,5 went in house load condition. Unit #3 also was in house load and sustained for 28 mins. and then tripped due to low drum level.*

*Before the event 220 KV MB #2 was in shutdown condition.*

*All 220 KV feeders were in MB #1. 220 KV Gokarna was in bus tie at BkTPP end.*

**Observation/Remarks:**

*Reason of operation of these bus bar protections need to be explored.*

8. On 20.02.17 at 17:15 hrs total power failure occurred at 132 KV Egra S/S and at BEL.

*--- WBSETCL representative may please deliberate.*

**Deliberation in the meeting.**

*On 20.02.17 at 17:15 hrs due to encroachment of monkeys near contai bay at Egra 220/132 KV S/Stn, 220 KV KGP-Egra 1,2 and 132 KV Contai-Egra and Egra- Bajkul ckts tripped. Hizli-BEL ckt also tripped, resulted no power condition at Egra. Around 72 MW load loss took place.*

9. On 23.02.17 at around 09:53 hrs sudden outage of Budge-Budge Unit resulted widespread power interruption in CESC control area.

--- CESC representative may please deliberate

**Deliberation in the meeting.**

*On 23.02.2017 fault developed in Taratala-Chakmir 132 KV Ckt-I at 09.53 hrs and it was not cleared in time resulting following incidences:*

- a. *Chakmir-budge Budge 132 KV Ckt –I,II,III & IV tripped.*
- b. *Kasba (WBSETCL)-CESC 132 KV Ckt-I,II & III (synchronisation point of CESC system with State Grid) tripped due to cascading effect.*
- c. *Budge Budge Unit-I,II & III tripped due to load generation mismatch.*
- d. *Southern receiving station, park Street, Park Lane, BBD Bag, Majherhat, east Calcutta, Chakmir, New Cossipur, BT Road, DumDum, Jadavpur & Titagarh receiving station 132 KV Sub-stations became no power, resulting around 745 MW load interruption.*
- e. *Restoration of power progressively made from 09.56 hrs to 10.15 hrs taking grid support from WBSETCL & load restored in steps taking active support from WBSEDCL through synchronisation of three units of PPSP at 10.15 hrs, 10.21 hrs & 11.08 hrs respectively.*
- f. *Budge Budge units synchronised at 15.45 hrs, 16.29 hrs. & 19.06 hrs.*

**Suggestions:**

- a. *Over dependency on Budge Budge TPS is to be reduced by scattering generation at Titagarh TPS & Southern Generating Station.*
- b. *Existing Protection system of CESC EHV network should be reviewed in line with Grid code and ERPC Protection philosophy.*

**ITEM No. : 4. OPERATIONAL PLANNING:-**

- (a) Anticipated power supply position for the month of MARCH-2017, APRIL-2017 & MAY-2017 (All figures are in MW) :-

Description	MARCH-2017	APRIL-2017	MAY-2017
WBPDC Generation	3083 (74 MU) (01.03.17 TO 15.03.16)  3250 (78 MU) (16.03.17 TO 31.03.16)	3125 (75 MU)	3125 (75 MU)
WBSEDCL Own Maximum Demand	6165	6200	6130
CESC Maximum Demand	1785	2020	2095
CESC Own gen. + HEL + IPP/CPP	740+540+40	830+540+40	830+540+40
DPL Generation Availability	450	450	450
DPL Maximum	250	250	250

Demand			
IPCL demand at J.K.Nagar	50/55	50/55	50/55

(b) Finalization of Shut Down proposal for the month MARCH-2017, APRIL-2017 & MAY-2017 i.r.o. Generating Units, Transmission Lines and other equipments etc. as provided by constituents.

**(i) SHUT DOWN APPROVED FOR WBPDC, WBSEDCL, CESC and OTHER GENERATING UNITS:**

*No shut down request.*

(c) **Prolonged outage of power system elements :-**

<i>Sl.No.</i>	<i>Network elements under outage</i>	<i>From</i>
<i>1.</i>	220 KV Durgapur- J.K.Nagar Ckt	19:45 hrs of 19/11/2016

*Deliberation in the meeting.*

➤ *About SL. No. 1, no tentative date for restoration of the line has been given by WBSETCL representative.*

**ITEM No: 5. ISSUES RAISED BY SLDC:**

A. Revival of 400 KV bus reactor at KTPS to combat high voltage in winter.

**Deliberation in the meeting:**

*SLDC proposed to introduce 400 KV Bus reactor of suitable capacity at KTPP end to combat high voltage problem during winter off peak hours. It is important to mention that after commissioning of 400 KV KTPP- Chaibasa line, significant voltage rise (beyond IEGC specified limit) observed at Kharagpur Bus during last winter off-peak hours. WBPDC representative agreed to apply for PSDF fund on the suggestion of WBSLDC as stated above.*

B. Information needed on readiness & tentative time of commissioning of 220 KV IPCHL (India Power Corporation (Haldia) Limited) feeder/lines from new Haldia 220 KV Sub-station.

**Deliberation in the meeting:**

*WBSETCL representative informed that one bay for IPCHL bay will be ready at New haldia end within 7 days. However, for the second bay an issue of inadequate phase to phase clearance is yet to be solved.*

C. IPCL may elaborate on the readiness of their units for commissioning.

**Deliberation in the meeting:**

*IPCL representative confirmed readiness of one unit. However, they have applied for start-up power agreement (15 MW) from WBSEDCL. Finalization of the agreement is yet to materialize.*

D. 400 KV Ranchi-PPSP Ckt. related daily data is not being furnished to WBSLDC from PPSP. It is needed urgently for state system calculation.

**Deliberation in the meeting:**

*WBSEDCL representative confirmed to furnish daily data from PPSP end.*

E. Recently it has been observed that whenever any Unit is being diverted through Bus tie, the meter i.r.o corresponding bus tie is not showing any reading. BTPS representative is being requested to elaborate on this issue.

**Deliberation in the meeting:**

*WBPDC representative informed that a switch has been installed i.r.o bus-tie meter to differentiate Generator meter reading and feeder meter reading.*

F. Discussion on Web-based scheduling launched by ERLDC.

**Deliberation in the meeting:**

*WBSLDC representative informed that ERLDC is going to launch a new Web based scheduling process from 01.03.2017. Then, for the period of next one month, both the existing scheduling process and the newly launched Web-based scheduling process will be in parallel operation. From 01.04.2017 only web based scheduling process will be in operation as informed by ERLDC.*

*WBSLDC has demonstrated the procedure of Web-based scheduling launched by ERLDC at the house. As WBSEDCL is the only inter-state open access customer of LTA and MTOA mode and has ISGS share, they were specially requested to follow Web based scheduling process of ERLDC and co-ordinate with SLDC for scheduling of inter-state power transaction.*

**ITEM No: 6. AGENDA NOTE PUT UP BY SLCF MEMBERS FOR DISCUSSION:**

**6.1. Agenda note put up by SgTPP**



- A. Shutdown of 315 MVA 400/220/33 KV ICT#1 for oil filtration purpose for 5 days duration on continuous basis.(Ref. to our msg no. S/16/12/25 dtd. 31/12/16 & S/17/02/06 dtd. 06.02.17)

**Deliberation in the meeting:**

*In view of increased load pattern for boro agricultural season and initial summer loading this shut-down can't be allowed at present. WBSLDC opined that these requisition should be placed so that it could be accommodated by mid of December. With present load pattern these shutdown can be allowed only after commissioning and operationalisation of Gokarna 400 KV sub-stn.*

- B. Delay in receipt of effect at our DC REV 01(Dated 24.01.17), which was received after the time block elapsed (SLDC REV NO. 10 T.O.O 19:55 hrs.).

**Deliberation in the meeting:**

*WBSLDC control room received revision-11(Rev-01 of SgTPP was incorporated) of WBSEDCL (ALDC) at 19.51 hours of 24.01.17. After incorporating the WBSEDCL schedule, SLDC sent their Rev-10 at 19.55 hrs.(within less than 5 minutes). SLDC proposed to find out amicable solution with discussion between buyer and seller to avoid such complicated situation in future.*

**6.2. Agenda note put up by CESC**

- A. At 01:56 hrs. on 29.01.17, CESC System got islanded due to operation of Bus-bar differential relays at WBSETCL Kasba Substation.

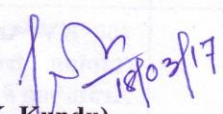
**Deliberation in the meeting:**

*Defective Check-relay at 220 KV Kasba sub-stn i.r.o Bus-bar protection has already been replaced as confirmed by the Testing Wing of WBSETCL.*

**ITEM No: 7. Date and venue of next SLCF (i.e. 49<sup>th</sup>) Meeting.**

*It will be intimated in due course of time.*

**ITEM No: 8. MISCELLANEOUS**

  
(P. K. Kundu)  
**C.E., SLDC, HOWRAH.**

### **Annexure -1**

<b><u>Transformers</u></b>			
<b>Sl. No.</b>	<b>Location</b>	<b>Identification equipments</b>	<b>of Date &amp; Time</b>
<b>1</b>	<b>132 KV Bajkul Sub/Stn.(GIS)</b>	<b>50 MVA 132/33 KV Tr. # 2</b>	<b>Commissioned &amp; charged at no load at 18:25 hrs. on 29/12/16.</b>
<b>2</b>	<b>132 KV Chalsa Sub/stn.</b>	<b>31.5 MVA 132/33 KV Tr. # 1 (Replacing old 20 MVA Tr.)</b>	<b>Commissioned &amp; charged at no load at 23:15 hrs. on 29/12/16 and loaded at 16:46 hrs. on 30/12/16</b>

<b><u>New Lines</u></b>		
<b>Sl. No.</b>	<b>Identification of equipments</b>	<b>Date &amp; Time</b>
<b>1</b>	<b>132 KV Domjur- Chanditala ckt # 1 &amp; 2</b>	<b>Commissioned &amp; charged at no load at 20:03 hrs. on 25/11/16.</b>
<b>2</b>	<b>132 KV BTPS – Liluah Ckt #2 (Changed configuration of BTPS- Chandital and Liluah-Rishra #3)</b>	<b>Commissioned &amp; charged at no load at 17:40 hrs. on 21/11/16 and loaded at 16:15 hrs. on 23/11/16</b>
<b>3</b>	<b>132 KV Rishra - Chanditala Ckt #2</b>	<b>Commissioned &amp; charged at no load at 19:08 hrs. on 20/11/16.</b>
<b>4</b>	<b>400 KV PPSP – New Ranchi (PG) (taping from TL no. 04 of PPSP-Arambag #1)</b>	<b>Commissioned &amp; charged at no load at 17:38 hrs. on 06/01/17.</b>
<b>3</b>	<b>400 KV Arambag – New Ranchi (PG) (taping from TL no. 04 of PPSP-Arambag #1)</b>	<b>Commissioned &amp; charged at no load at 18:20 hrs. on 06/01/17.</b>

Memo No. SLDC/ How/ 109/ 1870(1-35)

Dated : 18/3/2017.

Copy for information please:-

1. PS to Managing Director, WBSETCL, Vidyut Bhavan, Kolkata-91.
2. PS to Managing Director, DPL, Kolkata -107.
3. PS to Director (Operations), WBSETCL, Vidyut Bhavan, Kolkata-91.
4. PS to Director (RT), WBSEDCL, Vidyut Bhavan, Kolkata-91.
5. PS to Executive Director (OS), WBPDC, Salt Lake City, Kolkata-700 098.
6. C.E, SLDC, WBSETCL, Howrah-09.
7. C.E, Transmission Headquarter, WBSETCL, Vidyut Bhavan, Kol-91.
8. C.E, CTD, WBSETCL, Abhiksan Bhavan, Kol-91.
9. C.E, Communication, WBSETCL, Abhiksan Bhavan, Kol-91.
10. Chief Engineer, CLD, DVC, Howrah.
11. C.E.(PTP) WBSEDCL, Vidyut Bhavan, Kolkata-91.
12. G.M , (SO) CESC Ltd., Statesman House, Kol- 01.
13. G.M. BTPS, WBPDC.
14. G.M. STPS, WBPDC.
15. G.M. KTPP, WBPDC.
16. G.M. BKTPP, WBPDC.
17. G.M. SGTPP, WBPDC.
18. Sri S. Namjoshi, Vice-President, Engineering & Projects, IPCL
19. Sri I. B. Chakraborty, Vice-President, Engineering & Projects, IPCL
20. Addl. Chief Engineer, SLDC, WBSETCL, Howrah-09.
21. Addl. Chief Engineer, ALDC, WBSEDCL.
22. Sri A.Sengupta, Manager, CESC Ltd, Statesman House, Kol- 01.
23. Sri D.De,Dy. Manager, CESC Ltd, Statesman House,Kol-01.
24. Sri S. K. Sarkar, G.S.(T&D, Load Management), DPSC Ltd.
25. Sri R. Biswas, Sr. Manager, ALDC, DPL.
26. Sri P. Banerjee, Sr. Manager(RISO), KTPP, WBPDC.
27. Sri A. Guha, Sr. Manager (SO),KTPP, WBPDC.
28. Sri D. Chanda, Sr.Manager (PS), BKTPP, WBPDC.
29. Mr. Joynal Abedin, Sr.Manager (E.O.), BKTPP, WBPDC.
30. Sri A.Biswas, Manager(PS),BKTPP, WBPDC.
31. Sri F.Hossain, Manager (PS), SGTPP, WBPDC.
32. Sri M.S.Bapari, Manager (PS), SGTPP, WBPDC.
33. Sri N.Saha, Sr. Manager (PS), WBPDC.
34. Sri M. Mallik, Sr. Manager, (System Operation – Electrical), BTPS, WBPDC.
35. Sri S. Maiti, Sr. Manager (O), STPS, WBPDC.

*Zibendu Bhattacharya*  
Convenor, SLCF 18-03-17