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OFFICE OF THE CHIEF LOAD DESPATCHER, SLDC
ODISHA POWER TRANSMISSION CORPORATION LIMITED

GRIDCO Colony, P.O.-Mancheswar Rly. Colony, Bhubaneswar-751017, FAX-0674- 2748509

CIN – U40102OR2004SGC007553

No-SGM (PS)-PL-15/2019/

3606 (49)

Dated: 08 .11.2019

From:

The Chief Load Despatcher
SLDC, OPTCL, Bhubaneswar-17.

To:

As per distribution list

Sub: Minutes of 138th PSOC meeting held on 25.10.2019 at PTC, Chandaka, Bhubaneswar.


Sir,

Please find enclosed herewith the minutes of 138th Power System Operational Co-ordination meeting held on 25.10.2019 at PTC, Chandaka, Bhubaneswar.

This is for your information & necessary action.

Encl: As above

Yours faithfully;


Chief Load Despatcher,
SLDC, OPTCL

Copy along with enclosures forwarded to the Executive Assistant to CMD, Gridco / OPTCL for kind information of CMD.

Distribution list

1. The Director (Commercial), Gridco, Bhubaneswar
2. The Director (Operation), OPTCL, Bhubaneswar
3. The Director (Projects), OPTCL, Bhubaneswar
4. The Director (Operation), OHPC, Bhubaneswar
5. The CGM (O&M), OPTCL, Bhubaneswar.
6. The CGM (Const.), OPTCL, Bhubaneswar.
7. The Sr. G. M. (RT&C), OPTCL, Bhubaneswar.
8. The CGM (PP), GRIDCO, Bhubaneswar.
9. The CGM (IT), OPTCL, Bhubaneswar.
10. The CGM (Telecom), OPTCL, Bhubaneswar.
11. The Sr. G. M. (Const)-I, OPTCL, Bhubaneswar.
12. The C.G.M. (Const), OPTCL, Sambalpur.
13. The Sr. G.M (CPC), OPTCL, Bhubaneswar.
14. The Sr. G.M (CP), OPTCL, Bhubaneswar.
15. The Sr. G.M. (O&M), Zone-I, Narendrapur
16. The Sr. G.M. (O&M), Zone-II, Meramundali.
17. The CEO, CESU, Bhubaneswar.
18. The A.O., WESCO, Burla
19. The A.O., NESCO, Balasore
20. The A.O., SOUTHCO, Berhampur.
21. The Member Secretary (GCC), OPTCL.
22. The ED, Power Grid Corporation of India, Bhubaneswar.
23. The Sr. G.M. (El.), BHEP, Balimela
24. The A.G.M. (El.), CHEP, Chiplima
25. The Sr. G.M. (El.), UIHEP, Mukhiguda
26. The Sr. G.M. (El.), RHEP, Rengali
27. The D.G.M. (El.), HHEP, Burla
28. The D.G.M. (El.), UKHEP, Bariniput, Koraput
29. The S.E. (O&M), Machhakund
30. The DGM (Elect.), IbTPS, OPGC, Banharपाली.
31. The Vice President (O), IMFA, Choudwar.
32. The D.G.M. (O&M), NTPC (TTPS), Talcher.
33. The AGM (Elect.), JINDAL Stainless Ltd., Duburi
34. The G.M, HINDALCO, Hirakud.
35. The G.M.CPP, NALCO, Angul.
36. The Director, M/s. Jindal Steel & Power Ltd., Angul
37. The AVP-Vedanta Ltd (IPP), Jharsuguda
38. The G.M, Vedanta Ltd (CGP), Jharsuguda.
39. The DGM (Power Distribution), RSP, Rourkela.
40. Joint President, Aditya Aluminium Ltd., Lapanga, Sambalpur
41. The G.M. (Elect.), Bhusan Steel Limited. Meramundali
42. The G.M. (Elect.), Bhusan Power & Steel Ltd, Budhipadar.
43. The G.M. (Elect.), IFFCO Limited.
44. Director & COO, GMR Kamalanga Energy Limited, Satyanagar, Bhubaneswar.
45. The CEO, Bhubaneswar Power Pvt. Ltd, IRC Village, Nayapalli, Bhubaneswar.
46. M/S Tata Power & Steel Ltd., Kalinganagar
47. Power Grid Corporation of India, Bhubaneswar.
48. M/S BEL, Badamal, Bolangir.

Odisha Power Transmission Corporation Ltd. Bhubaneswar.

Minutes of 138th PSOC meeting held on 25.10.2019 at PTC, Chandaka, BBSR

List of participants is at Annexure.

Chief Load Despatcher, SLDC, OPTCL welcomed all the participants to the 138th Power System Operational Coordination meeting and highlighted the system performance during the month of September'2019 and overall power scenario of the State. He also emphasized on the drawal by all the Discoms during the month.

Dy. Manager, SLDC took the agenda items for discussion.

The review proceeded as follows:

1: Confirmation of minutes of 137th PSOC meeting held on 21.09.2019

The minutes of meeting was circulated vide letter No. SGM (PS)-PI-15/2019/3074 ⁽⁴⁹⁾ dated 27.09.2019 to all the members and also uploaded in the SLDC website. No comment has been received from any of the members.

Deliberation in the meeting:

Since no comments have been received from the members, the minutes of 137th PSOC meeting was confirmed.

PART B: SYSTEM PERFORMANCE

B1: Review of Grid Performance for the month of September'2019.

(A) Frequency

It was noticed that, during the month of September'19, **74.71 %** of times the frequency remained in the IEGC band i.e. **49.90Hz - 50.05Hz** in comparison to **71.69 %** during the month of August'19. The maximum and minimum System frequency during the month was **50.20 Hz & 49.70 Hz** respectively.

Deliberations in the meeting

SLDC stated that the percentage of times of frequency in the IEGC band has been increased. The frequency ("above 50.05 Hz") range has been decreased marginally from 20.92 % to 20.64 % in comparison with the previous month. The low frequency range 49.7-49.9 Hz decreased from 7.29 % to 4.56%. The overall frequency profile have been improved during the month.

(B) Grid demand

Grid demand for the month of September'19 was reviewed. The average consumption during the month was **3862 MW**. The maximum System demand of **4969 MW** occurred on **18.09.19** at 20:00 Hrs and minimum demand of **2982 MW** occurred on **30.09.19** at 05:00 Hrs.

Deliberation in the meeting

It is observed that the average demand during the month of September' 19 was decreased by 68 MW and the peak demand also decreased by 68 MW from the month of July'19. The peak demand in the same month of previous year was decreased by 5 MW due to adverse weather condition in the State.

(C) Voltage Profile of important Sub Stations in OPTCL System during the month of Sept.'19.

The Voltage profile at different 220 kV buses in OPTCL system during the month of **September'19** was reviewed.

Deliberations in the meeting

The maximum Voltage of **239.94 kV** occurred at Jayanagar 220 kV bus. Bolangir 220 kV bus had has experienced a minimum Voltage of **209.40 kV**. Voltage profile of all the all the sub-stations seems to be normal except a few transient deviations.

(D) Loading of 220/ 132 kV Auto at 220 kV S/Ss in OPTCL system for the month of Sept'19.

Auto loading of all 220 kV S/Ss during the month of September'19 was reviewed.

(E) DISCOM Drawal during the month of September'19

The schedule and actual energy drawal by Discoms for the month of **September'19** was reviewed.

Deliberation in the meeting:

It is noticed that all the DISCOMs except NESCO have underdrawn during the month, while NESCO have overdrawn. **CESU** has deviated **3.45%** followed by **WESCO** **3.58%** from the scheduled energy while **SOUTHCO & NESCO** have deviated **2.787 % & 1.248 %** respectively.

All the DISCOMs were requested to submit their month ahead demand projection in a realistic manner so that, SLDC shall forward the Monthly LGBR to GRIDCO for power procurement / sale planning.

[Action: DISCOMs]

(F) Energy Generation / import during the month of September'19

Energy generation and exchange during the month of September'19 was reviewed. The total quantum of energy drawn from all the generation sources including Central Sector Share and CGP/IPP support during the month was **2780 MU**.

Deliberations in the meeting

The quantum of energy transaction has increased by **180 MU** in comparison with previous month.

(G) Drawal of Machhakund Power during the month of September'19

The drawal of Machhakund power during the month of September'19 was **23.869 MU**, against AP drawal of **26.276 MU**. The cumulative drawal of the State during the FY-2019-20 (Up to Sept'19) was less by **24.273 MU**

In the 136th PSOC meeting, Sr.GM (O&M), Zone –I suggested to explore the following link lines for providing adequate matching load in Machhakund system.

- i. Connecting Patangi S/S or Proposed Lamtaput S/S with Podagada S/S through 132 kV link.
- ii. Providing Sunabeda S/S area load in Machhakund system
- iii. Modification of Jayanagar S/S to accommodate Jayanagar load

In the 137th PSOC meeting, SOUTHCO stated that 33 kV Dasmantpur feeder did not stand after charging. Insulators are being changed by the contractor. Sr. GM (Const) stated that 132 kV Patangi-Podagada line is under construction and expected by March'2020. He also suggested to utilize 132 kV NALCO-Sunabeda line to feed Sunabeda area load from Machhakund system by bus splitting.

Deliberations in the meeting.

SOUTHCO stated that insulator changing of Dasmantpur feeder is under progress. It was suggested that GRIDCO may convene a meeting with PMU for early restoration of the feeder, so that, more matching load can be provided in Machhakund system.

[Action: GRIDCO/SOUTHCO]

(H) Under Frequency relay operation in OPTCL System during the month of September'19.

There is no UF Relay operation during the month of September'19 as the frequency had never gone beyond 48.50 Hz.

(I) Status of Open Access applications during the month of September'2019

SLDC has processed 246 numbers of Short Term / Medium term and Collective transaction applications have been processed by SLDC for according Approval / Consent / NoC during the month and disposed 246 Nos.

PART C – Issues discussed in the 162th OCC meeting of ERPC on 22.10.2019**C.1: Status of projects funded under PSDF schemes**

In the PSDF review meeting, it was advised to RPCs to monitor the status of all the projects funded by PSDF. Therefore, constituents are requested to update the status of projects which are being funded by PSDF in the desired format.

The latest status as updated by OPTCL / OHPC is as given below:

Sl No	Name of Constituent	Name of Project	Date of approval from PSDF	Target Date of Completion	PSDF grant Approved (in Rs.)	Amount Drawn till date (in Rs.)	Status as updated in 129 th meeting
4	OPTCL	Renovation & Up-gradation of protection and control systems of Sub-stations in the State of Odisha in order to rectify protection related deficiencies.	11.05.15	31.03.20	162.5 Cr. Total expenditure may not exceed Rs. 68 Cr.	38.09 Cr. Received Rs. 8.00 Cr on 28.03.19	<i>Work almost completed.</i>
7		Implementation of OPGW based reliable communication at 132kV and above substations	15.11.2017		51.22 Cr	2.56 Cr received as 10 % DPR. Claimed for 20 %.	Order placed. Expected by Nov'19. Inspection under process.
13	OHPC	Renovation & up-gradation of protection & control system of 4 nos. OHPC sub-stations		U.Kolab-March 19 Balimela-Feb 2019 U.Indravati-Jan 19 Burla-Nov18 Chiplima Dec 2018	22.35 Cr.	2.674 Cr	<i>Placed work order for Balimela. PO for other units amounting Rs. 12.79 Crs placed. Order under process.</i>
Projects under process of approval:							
	OPTCL	Installation of 125 MVAR Bus Reactor along with construction of associated bay each at 400kV Grid S/S of Mendhasal, Meramundali & New Duburi for VAR control & stabilisation of system voltage	27-07-18		31.94 Cr Estd. Cost. Approved amount 30.26 Cr. Grant amount 27.23 Cr.	Rs.2.72 Cr received as 10% of DPR. Retendering under process.	Agreement signed and sent to NLDC for signature. Retendering under process.
Projects recently submitted:							
	OPTCL	Implementation of Automatic Demand Management System (ADMS) in SLDC, Odisha	22-12-17	Date of submission	3.26 Cr Estt cost. 2.93 Cr recommended by Appraisal committee.		CERC approval received. Tendering under process.
	OPTCL	Protection up gradation and installation of SAS for seven numbers of 220/132/33kV	12.03.2018	Date of submission	41.1 Cr Estt cost	10% of DPR to be asked.	Project approved. Tender to be

		Grid substations (Balasore, Bidanasi, Budhipadar, Katapalli, Narendrapur, New-Bolangir & Paradeep).					floated after revision of specification. Agreement will be sent to NLDC after signature of Govt.
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[Action: CGM (O&M) / OHPC/ SLDC]

C.2: Finalization Outage Request and processing timeline--ERLDC

The procedure for timeline regarding submission of outage request till approval of the outage formulated by ERLDC has been circulated and discussed in 156th OCC meeting held at NTPC, Kahalgaon. The same had also been presented in 157th OCC meeting held at ERPC, Kolkata for beneficiary's comments/suggestion. Till date ERLDC did not receive any objection/suggestion from the utilities. Under this circumstance, the procedure mentioned through a flow chart in Annexure-B15 may be approved and minute unless any modification/suggestion recommended. In 158th OCC, all the constituents were advised to submit their comments on outage procedure within a week. OCC decided to finalize the procedure in next OCC Meeting.

In 161st OCC it was informed that comments have been received only from Powergrid.

OCC advised all the other constituents to submit their comments to ERLDC at the earliest.

In the 136th PSOC meeting it was decided that SLDC and O&M shall submit feedback to ERPC. SLDC stated that this issue was discussed in the OCC. CGM (O&M) / CGM (Const) may forward their comments, if any to ERPC directly.

Deliberations in the meeting

SLDC stated that this issue was discussed in the OCC. CGM (O&M) / CGM (Const) may forward their comments, if any to ERPC directly.

[Action: CGM (O&M) / CGM(Const)]

C.3: Implementation of Automatic Demand Management Scheme

The latest status along with proposed logic as follows:

Sl. No	State /Utility	Logic for ADMS operation	Implementation status/target	Proposed logic (if different from under implementation logic)
1	Odisha	1. System Frequency < 49.9 Hz 2. Odisha over-drawl > 150 MW 3. DISCOM over-drawl > (40 MW)	10 Months Sent for PSDF approval	Logic 2 and 3 is AND or OR, in case it is AND then ADMS may not operate when DISCOMs are in schedule but GRIDCO is over drawing due to less generation at State embedded generators.

In the 116th PSOC meeting, CGM (O&M) stated that since considerable time has already been lapsed SLDC may prepare the EoI without waiting for CPC.

In the 123rd PSOC meeting SLDC stated that since the estimated cost has increased due to inclusive of SCADA integration, the revised estimate is placed in the BoD for approval.

In the 133rd PSOC meeting a committee was constituted with representatives of DISCOM, Telecom, IT & SLDC.

A meeting of the Committee was held on Dt. 06.07.2019. SLDC made a presentation on the logic and methodology to be adopted for the ADMS. The technical specifications prepared by SLDC were shared among the concern wings of OPTCL for their views. The specification will be finalized on receipt of the same. The DISCOMs were requested to update the list of feeders and

group considering the present network configuration. On finalization of the above, the tendering process will be taken up by CPC wing of OPTCL as already approved by CMD, OPTCL.

The role of different wings was discussed in the meeting as tabled.

Role of different wings of OPTCL for implementation of ADMS

Task	Responsible Entity in OPTCL
Preparation of Tender Document and finalization of ADMS logic	SLDC
Finalization of Technical Spec.	Telecom wing, OPTCL
Floating of Tender	CPC wing, OPTCL
Interfacing between SCADA and ADMS Server at SLDC	Telecom wing, OPTCL
Communication link between SLDC ADMS Server and Grid S/S	IT / Telecom wing, OPTCL
Installation of RTU at Grid S/s	Under the supervision of O&M / Telecom wing, OPTCL
Connection of 33KV trip Ckt. with RTU at Grid S/S	Under the supervision of O & M wing, OPTCL
Updating and Grouping of 33KV feeders	Discom
Day to day monitoring of ADMS	SLDC
Bidding Guidelines	As per OPTCL procurement guidelines

As decided in the 135th PSOC meeting, SLDC convened a meeting on 06.08.2019 with Telecom, O&M, IT and CPC to discuss their rolls in the ADMS project.

The Technical & Commercial specification have been approved by the committee and forwarded to CPC for processing the Tender.

In the 137th PSOC meeting, it was suggested by CGM (Telecom) that BoQ & SoQ in different formats need to be matched and technical sanction shall be made by SLDC and forwarded to CPC for necessary action.

Deliberations in the meeting

SLDC stated that technical sanction has been done and forwarded to CPC for tendering.

[Action: SLDC /CPC]

C.4: 220 kV Inter-connecting lines of OPTCL with 400/220 kV Bolangir(PG), Keonjhar & Pandiabil S/s

PGCIL has already commissioned the 2 X 315MVA 400/220kV Bolangir S/s by LILOing of 400 kV Meramundali-Jeypore S/C line and 400/220 kV Keonjhar S/s with an objective of supplying power from ER grid to its adjoining areas in Odisha.

In 137th PSOC meeting the status has been updated as follows:

Sl.	Name of the transmission line	Completion schedule
1.	2 X 315MVA 400/220kV Bolangir S/s	
a.	LILO of one circuit of Sadeipalli-Kesinga 220 kV D/C line at Bolangir (PG) S/S.	Construction of 220 kV Sadeipali- Kesinga line has started. 220 kV Sadeipali-Bolangir (PG) portion of the line is expected by March'20.
2.	400/220 kV Keonjhar S/S.	
a.	Keonjhar (PG)-Keonjhar (220/33 kV) & 220 kV D/C line	220 kV S.C line and Keonjhar S/S (220/33 kV), 2x20 MVA charged on 31.12.2018. 2 nd ckt; charged on 03.08.2019.
b.	Keonjhar (PG)-Turumunga (220/132 kV) & 220 kV D/C Line.	By 2021. Order placed.
3.	400/220 kV Pandiabil Grid S/s	
a.	Pratapsasan(OPTCL)-Pandiabil (PG) 220 kV D/C	December'2019

C.5: Bypassing arrangement of LILO of 400kV Lines at Angul

LILO of Meramundali-Bolangir/Jeypore 400 kV S/C line and LILO of one Ckt of Talcher-Meramundali 400 kV D/C line has been done at Angul 765/400kV Sub-station. The bypass arrangement for these circuits is under implementation at Angul by Powergrid.

In 158th OCC, Powergrid informed that bypass arrangement would be completed by August 2019. OPTCL informed that 2nd circuit of 400 kV Meramundali-Mendhasal line would be commissioned

by 1st week of August 2019.

OPTCL informed that 2nd circuit of 400kV Meramundali-Mendhasal line would be commissioned by end of August 2019.

As per POWERGRID email dated 16th September, the anticipated date for commissioning of the LILO by-pass arrangements at Angul SS is by end of Oct'2019.

OCC advised POWERGRID to take urgent steps for commissioning of the bypass arrangement. Delay in implementation of the arrangement is causing loss of operational flexibility besides subjecting the grid to the risk of high fault current.

In the 137th PSOC meeting, DGM (Const) stated that 3rd ICT at Mendhasal in under testing. O&M stated that tree clearance has already been completed. After commissioning of the ICT, 400 kV Mendhasal-Meramundali 2nd ckt will be charged.

Deliberations in the meeting

Const. wing stated that a technical committee has been formed to examine the oil sample test result for charging of the 3rd ICT at Mendhasal. A decision shall be taken after receiving the views of the Committee.

[Action: CGM (Const.)]

C.6: Update on status of telemetry

CERC vide order dated 28.02.2016 on Petition No. 007/SN/2014 directed NLDC and respective RLDCs to update the status of telemetry every month at their respective websites and take up the issue of persistent non-availability of data from Generating Stations/substations at RPC meetings for appropriate action. Major issues are given below:

i. Regarding frequent intermittent of real time SCADA data from Talcher STPS Stage 1 & 2, NTPC agreed to provide additional ports by March 2019.

ii. Alternate path for Malda-Farakka OPGW link In 153rd OCC, Powergrid was advised to implement alternate OPGW link through 400 kV Kishenganj- Darbhanga-Muzaffarpur lines.

In 159th OCC, ERLDC informed that PMU data available at ERLDC is intermittent due to communication issues and PMU data reporting from PDCs at SLDCs is also intermittent. ERLDC opined that alternate OPGW link is required for reliable communication. OCC advised Powergrid to take the necessary action to resolve the issue. CERC vide order dated 28.02.2016 on Petition No. 007/SN/2014 directed, NLDC and respective RLDCs to update the status of telemetry every month at their respective websites and take up the issue of persistent non-availability of data from Generating Stations/substations at RPC meetings for appropriate action.

Issues relating OPTCL Network:

Narsingpur data:

In the 132nd PSOC meeting CGM (Telecom) stated that survey work for Meramundali-Bhanjanagar line is under process. OPGW will be reached at site after completion of survey and preparation of drum schedule.

In the 134th meeting CGM (Telecom) stated that delivery of OPGW has already been started.

In the 135th PSOC meeting DGM (Telecom) stated that replacement of earth wire by OPGW in 220 kV Bhanjanagar-Meramundali is expected by December'2019

NALCO data: DGM (Telecom) stated that the vender list and rate will be provided to NALCO for placement of order by them.

In the 137th PSOC meeting, NALCO stated that the estimate has already been received from OPTCL (Telecom). Approval from higher authority in under process.

Deliberations in the meeting

Telecom / NALCO representatives were not present in the meeting to deliberate.

[Action: NALCO/Telecom]

C.7: Mock Black start exercises in Eastern Region – ERLDC

Schedule and tentative date for conducting mock black start exercise in OHPC stations is as tabled.

Sl.	Name of Hydro Station	Schedule	Tentative Date	Schedule	Tentative Date
		Test-I		Test-II	
1	Upper Kolab	Last week of May-2019	Done on 19 th July19	Last week of January 2020	
3	Rengali	2nd week of June 2019	Done on June'19	Last week of November 2020	
4	U.Indravati	3rd week of June 2019	7 th Nov' 2019	2nd week of February 2020	
6	Balimela	3rd week of October 2019	Done on 17 th July19	1st week of March 2020	Dec'2019
9	Burla	Last week of June 2019	Done on 20 th July' 2019	Last week of February 2020	Dec'2019

In the 136th PSOC meeting, SLDC stated that while conducting mock Black start exercise for Upper Kolab and Upper Indravati HEPs Muniguda Traction feeder is getting interrupted. In view of the above, feeding of Muniguda Traction S/S from Theruvali S/S through a separate dedicate line may be examined.

In the 137th PSOC meeting, Sr. G.M (O&M), Zone-1 suggested to put Rayagada area load on Indravati for black start exercise. SLDC may develop the procedure accordingly.

Since Rayagada area load is not adequate (15 MW) to run the Indravati unit, it is proposed to connect Kesinga area load for Indravati HEP Black start exercise. Muniguda traction shall be interrupted during the mock drill. Vinto Solar generation and Kesinga traction shall be shifted through bus splitting.

Deliberations in the meeting

SLDC stated that mock Black Start exercise for Indravati HEP is scheduled to be conducted on 7th November2019. SLDC suggested an alternate procedure for extending Upper Indravati generation up to Aska through 220 kV line.

[Action: SLDC/ O&M/ OHPC]

C.8: Collection of modeling data from Renewable as well as conventional energy generators: ERLDC

As a National Grid operator, POSOCO is continuously working for ensuring reliability and security of the Grid. With penetration of more and more renewable energy source the task is becoming complicated day by day. An accurate dynamic modeling of the National Grid needs modeling of conventional as well as renewable / distributed generation sources. World Bank has engaged Digsilent as consultant for assisting POSOCO for building dynamic model of the Grid. A guideline for dynamic data collection has been developed in consultation with Digsilent Pacific team. All the utilities are requested to collect data from the grid scale renewable power plants as well as from conventional power plants under their jurisdiction and submit the same to ERLDC/ERPC as early as possible.

In the 157th OCC advised all the SLDCs to submit the details to ERPC and ERLDC. Format along with an explanation for collection of Wind and Solar Data had been shared by ERLDC with all SLDCs.

Bihar/ West Bengal and Orissa are having Solar Plant with more than 5 MW capacity. However, details have not yet been received in terms of modeling data.

In the 132nd PSOC meeting, all generators as well as RE sources were requested to furnish data to SLDC for onward transmission to ERPC.

In the 137th PSOC meeting, SLDC stated that the format has been forwarded to all entities and GRIDCO. It was requested that GRIDCO may pursue to all RE generators to submit the data.

Deliberations in the meeting

GRIDCO stated that they have received some of the Solar plant data, which will be forwarded to SLDC. SLDC requested GRIDCO to forward all the PPAs made with the Solar projects of the State.

[Action: GRIDCO / SLDC]

C.9: Implementation of Automatic Generation Control in Eastern Region--ERLDC

In compliance to CERC's direction in order dated 06/12/2017 in petition no 79/RC/2017, AGC was commissioned in NTPC Barh on 01st August 2019 and operationalized since 23rd August, 2019.

Vide order dated 28th August 2019, CERC in Petition No.: 319/RC/2018 directed that all the ISGS stations whose tariff is determined or adopted by CERC shall be AGC-enabled and the ancillary services including secondary control through AGC be implemented as per the following direction:

I. All thermal ISGS stations with installed capacity of 200 MW and above and all hydro stations having capacity exceeding 25 MW excluding the Run-of-River Hydro Projects irrespective of size of the generating station and whose tariff is determined or adopted by CERC are directed to install equipment at the unit control rooms for transferring the required data for AGC as per the requirement to be notified by NLDC. NLDC shall notify the said requirements within one month of this order.

II. All such ISGS stations whose tariff is determined or adopted by CERC shall have communication from the nearest wide band node to the RTU in the unit control room.

XXXXXXXXXX

IX. All new thermal ISGS stations with installed capacity of 200 MW and above and hydro stations having capacity exceeding 25 MW excluding the Run-of-River Hydro Projects irrespective of size of the generating station and whose tariff is determined or adopted by CERC shall mandatorily have the capability to provide AGC support.

Deliberations in the meeting

SLDC stated that since the total capacity of State generators has been tied up with GRIDCO, AGC for State generators may not be required. SLDC may write a letter to ERPC for clarification also may deliberate in the next OCC.

[Action: SLDC]

C.10: Submission of data in MERIT Order portal--CEA

CEA vide mail dated 9th July 2019 informed that the MERIT Order portal had been launched on 23rd June, 2017 by Honourable Minister of Power. One of the most important advantages of "Merit" Portal is Transparent information dissemination pertaining to marginal variable cost and source wise purchase of electricity and indication of supply side reliability, adequacy, and cost of power procurement.

However, it has been observed that many of the states are not filling the data regularly and sometimes the data filled varies widely from the data available on the respective RLDCs daily reports.

It is requested that the states may be advised to fill the data regularly and check that correct data is filled on the MERIT Portal.

In 159th OCC, all the SLDCs were advised to fill the correct data in MERIT portal on regular basis.

Deliberations in the meeting

SLDC stated that SLDC is complying the decision of OCC.

[Action: SLDC]

C.11: Data for preparation Load Generation Balance Report (LGBR) of ER for the year 2020-21

As per the IEGC, RPC Secretariat is responsible for finalization of the Annual Load Generation Balance Report (LGBR) for Peak as well as Off-peak scenarios and the annual outage plan for the respective region To facilitate the preparation of LGBR of Eastern Region by ERPC Secretariat within the schedule period, the following data/information for the year **2020-21** in respect of the constituents/utilities of Eastern Region is urgently required:

- i) The unit wise and station wise monthly energy generation proposed from existing units during 2020-21 (thermal/hydro/RES).
- ii) Annual maintenance programme for each of the generating units (thermal and hydro both).
- iii) Generating units under R&M / long outage indicating date of outage and reasons of outage and expected date of return (thermal and hydro both).
- iv) Partial and forced outage figures (in %) of generating units for the last 3 years.
- v) Month wise peak demand (MW) – restricted and unrestricted peak demand.
- vi) Month wise off-peak demand (MW).
- vii) Month wise energy requirement (in MU).
- viii) Month wise & source wise power (both MU & MW) purchase and/or sale plan.
- ix) Schedule of commissioning of new generating units during 2020-21 and unit-wise monthly generation programme (in MU).
- x) Allocation of power from new generating units.
- xi) Month wise and annual planned outage of transmission system (Transmission lines 220kV and above / ICTs / Reactors/ other elements).

Information may please also be submitted in the form of soft copy through email (mail ID: mserpepower@nic.in / erpcjha@yahoo.co.in).

Deliberations in the meeting

All the utilities have furnished the data except NESCO. NESCO assured to furnish the dada soon.

[Action: NESCO]

C.12: Monitoring of Next Six-Month New Element Integration in OCC and Its Update on Monthly Basis --ERLDC

It has been observed that many elements are getting interconnected into the system and beforehand details are not available with the system operator resulting in difficulty in carrying our operational planning activity. In view of this, as a regular agenda all ISTS and ISGS/IPP to update the OCC regarding any new elements at 220 kV and above which will be integrated in next six month with the grid. For State Grid, SLDC will be submitting the details on behalf of its intrastate Generation and transmission system. The format is given below:

Transmission Elements	Agency/ Owner	Scheme (ERSS/ TBCB/ Standing Committee/State	Schedule Completion	Projected Month for Completion	Issue Being Faced

In previous several OCC, Transmission licensees and SLDCs are requested to submit RLDC/RPC following details on monthly basis

- List of transmission element /generators of State and ISTS licensees synchronised in the last month.
- List of transmission element /generators expected to be synchronised during next month or in near future

Some SLDCs are submitting the list of intrastate and interstate line on regular basis, however transmission element /generators expected to be synchronised during next month or in near future is not submitted by any SLSC/Transmission licensee to RLDC/RPC.

Deliberations in the meeting

AGM (Const.) assured to furnish the information sought to ERPC.

[Action: CGM (Const.)]

C.13: Preparation of crisis management plan for Cyber Security in Power Sector in line with CERT-IN.

The activity of the preparation of Crisis Management Plan for countering the cyber-attacks and its implementation including the Mock Drills, audits etc. is being monitored by CEA regularly in line with crisis management plant of Ministry of Power. Power Utilities (including generation, transmission & distribution utilities) of eastern region are to furnish regularly the updated status to on the same to Chief Engineer, Distribution Planning & Development Division, CEA.

In 142nd OCC, ERLDC informed that, in line with Enquiry Committee Recommendation, cyber security audit is being conducted on regular basis for SCADA system installed at ERLDC and SLDC as well but cyber security audit for telecom infrastructure installed in Eastern Region is not being carried out.

OCC advised all the constituents to conduct the cyber security audit on telecom infrastructure installed in Eastern Region. It is further advised that compliance / mitigation of the points observed during the audit should also be completed for improvement of the telecom infrastructure in ER.

As suggested by CEA, a format has been circulated among ER constituents for furnishing the information of the respective systems for discussion in OCC Meeting. The format is enclosed at Annexure-E1.

OCC advised all the constituents to submit the information to ERPC as per Annexure-E1. OPTCL has submitted the required data

In the 136th PSOC meeting, IT wing was requested to submit the quarterly report for the quarter ending September'2019.

In the 137th PSOC meeting, IT stated that after completion of the audit, the quarterly report will be submitted. Further, Telecom may intimate the details of their infrastructures to be incorporated in Cyber Security audit.

Deliberations in the meeting

IT stated that they will furnish the data after completion of Audit. Telecom representative was not present to deliberate.

[Action: Sr. G.M (IT) /Telecom]

PART-D – Operational Issues

D.1: Non-compliance of drawal schedule by DISCOMs

Non-compliance of drawal schedule messages issued to Discoms during the month of Sept'19:

Sl. No	Name of Discom	No. of message issued	Over drawal (MU)	Deviation (%)
1	CESU	0	-26.492	3.45
2	WESCO	0	-23.330	3.58
3	NESCO	0	5.636	1.25
4	SOUTHCO	0	-8.319	2.79
	Total	0	-52.505	

It is noticed that all the DISCOMs except NESCO were under drawn during the month, while NESCO have over drawn. CESU has deviated 3.45% followed by WESCO 3.58% from the scheduled energy while SOUTHCO & NESCO have deviated 2.787 % & 1.248 % respectively. DISCOMs may forecast their drawal in realistic approach to minimise deviation. Daily drawal profile of all DISCOMs for the month of September'19 was reviewed.

[Action: SLDC/ Discoms]

D.2: Compliance of CEA Regulations for Grid Connectivity of Renewable Energy Sources.

As per CEA (Technical Standards for connectivity to Grid) Regulations, 2007, dated 21st February 2007, the pertinent clauses 6 (iii) & 6 (iv) (b) of general Connectivity Conditions shall be applicable to all the Generating Projects including the renewable, which are getting connected to the Grid at voltage level of 33kV & above. Subsequently, CEA have notified the CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013 dated 30.09.2013. These Regulations are applicable for "Distributed Generation Resources", which means A Generating Station feeding electricity into the System at voltage level below 33kV. Needless to mention that these Regulations also cover the renewable projects connected to the Distribution Licensee's System at voltage level of below 33kV. The letter received from CEA is annexed herewith.

SLDC has already forwarded the Regulations & a letter received from DoE, Govt. of Odisha to the Distribution Licensees.

A meeting has been convened by Gridco in this regard with the RE generators, OPTCL, Telecom & SLDC. In the meeting, two nos of agencies presented their data acquisition logic from the RE sources. It was decided that each agency will take up a pilot project for data communication from one RE source to SLDC. On completion of the above project next course of application shall be decided.

In the 125th PSOC meeting GRIDCO have agreed to write a letter to M/s Chemtrol. It was decided that a committee shall be constituted with representatives of GRIDCO, O&M, Telecom & SLDC to take a decision.

In the 134th PSOC meeting, GRIDCO stated that M/s Camptrol has successfully completed the pilot project i.e real time data communication for MGM Solar at Tangi.

A committee has been constituted with representatives of GRIDCO, O&M, Telecom & SLDC. This issue was also discussed in the 16th GCC meeting held on 09.08.2019. GRIDCO assured to make a demo of data communication from MGM Solar at Tangi to SLDC by end of August'19.

In the 136th PSOC meeting, GRIDCO stated that M/S Chemtrol has agreed to make a demo of data communication from MGM Solar at Tangi to SLDC on 29th August'2019. The demo is yet to be made by Chemtrol.

In the 137th PSOC meeting, DGM (Telecom) stated that M/S Chemtrol has made a Demo but GRIDCO was not present to witness. However, Chemtrol has agreed to show a Demo in last week of Sept'2019 with prior intimation to GRIDCO.

Deliberations in the meeting

It was decided that GRIDCO may fix a dead line for Chemtrol to make the Demo for data communication. GRIDCO may convene a meeting to discuss the communication issue.

[Action: GRIDCO/ Telecom]

D.3: Data communication from newly commissioned RE sources connected at 132 kV- SLDC

There are as many 8 Nos. of Solar projects with installed capacity of 272.5 MW have connected with OPTCL network through 132 kV lines. The real time data of these plants are yet to be received at SLDC control room. Since the generation quantum is quite substantial (to the tune of 0.6 MU during a day), this has an impact on real time generation monitoring.

In the 132nd PSOC meeting it was decided that SLDC shall convene a meeting with the defaulting Solar units and Telecom to discuss the issue.

In the 133rd PSOC meeting CGM (Telecom) stated that Vinto Solar data can be integrated only after laying of optical fiber, which has been proposed for PSDF funding

In the 134th PSOC meeting, CGM (Tel) stated that release of optical fiber has already processed. This issue was discussed in the 16th GCC meeting held on 09.08.2019, where Director (Commercial) suggested to prioritize data communication from Solar plants.

In the 136th PSOC meeting, CGM (Telecom) stated that the laying of optical fiber is in process.

In the 137th PSOC meeting CGM (Telecom) stated that laying of optical fiber is expected to be completed by December'2019. DGM (Telecom) suggested that SLDC may write a letter to Vento Power (Solar) at Kesinga to explore the data communication, since all communication equipment are available with them. Data communication can be made through after visit of the service Engineer of the company.

Deliberations in the meeting

It was suggested that Telecom may ensure establishment of data communication facility before recommending for connectivity for any Solar Plant.

[Action: SLDC / Telecom]

D.4: Implementation of Automatic Meter Reading for OPTCL-Discom interface points.

In the 116th PSOC meeting, IT stated that out of 840 nos. of meters integrated, around data from 750 nos. of meters will be received each month. Data from the remaining 90 meters are to be collected manually.

In the 117th PSOC meeting IT stated that out of 840 nos. of meters integrated, data from 717 nos. of meters have been extracted for the month of December'17. Data could not be collected from 63 Nos. of meters, which were replaced, as the information was received by IT one day before. CGM (O&M) may instruct Secure meters Ltd to inform the replacement of meters to IT immediately.

In the 118th PSOC meeting, IT stated that out of 840 nos. of meters integrated, data from 754 nos. of meters have been extracted for the month of January'18. The extracted data will be compared with the M cubed meter reading. If found satisfactory, the project will be made go live.

In the 133rd PSOC meeting, DGM (IT) stated that Paralakhemundi and Balasore S/S meter data has been tested. The software fetching data for other S/Ss will be tested

In the 135th PSOC meeting IT stated that TCS has already rectified the error. TCS will make a presentation in this regard on dt. 27.08.2019.

In the 136th PSOC meeting, IT stated that the meter data has been checked and presentation done on 2nd August'2019. The same has been forwarded to SLDC.

In the 137th PSOC meeting IT stated that, the software developed by M/S TCS has been tested for DLMS -2 energy meters. This has to be developed for DLMS-3 type energy meters. TCS has asked for one month time for the same.

Deliberations in the meeting

IT stated that software development is under progress and expected to be completed for CESU area energy meters.

[Action: IT / SLDC]

D.5: Colony consumption of POWERGRID S/Ss

In the 131st PSOC meeting SLDC stated that POWERGRID is consuming power for their colony, which is not reflected in the DISCOM bill. POWERGRID stated that they have applied to DISCOMs to make them consumer.

It was decided that SLDC shall convene a meeting between GRIDCO, POWERGRID & DISCOMs to discuss the issue.

In the 133rd PSOC meeting it was decided that all Discoms shall submit the details of their problems regarding making POWERGRID their consumer, to GRIDCO for raising the issue in the Commercial Committee meeting of ERPC.

In the 134th PSOC meeting it was decided that SLDC shall prepare the energy accounting considering consumption of POWERGRID. The DISCOMs may insist POWERGRID stations in their respective control area to become their consumer. SLDC has prepared the energy Accounting of DISCOMs including drawal of POWERGRID.

In the 136th PSOC meeting it was decided that GRIDCO shall write a letter to ERPC to convene a special meeting involving POWERGRID and add DISCOMs of the State to resolve the issue. This item has been listed in the OCC agenda.

In the 137th PSOC meeting it was suggested that the DISCOMs may file Petition before the OERC separately to resolve the issue.

Deliberations in the meeting

It was suggested by GRIDCO that all the DISCOMs may attend the 163rd OCC meeting of ERPC scheduled to be held at Pride Ananya Resort, Bankimuhan, ViP Road, Puri on 15th November'19 and raise the issue of POWERGRID.

[Action: GRIDCO / All DISCOMs]

D.6: Dispute in Energy Accounting of DISCOMs

It is noticed that DISCOMs are frequently raising disputes in the monthly Energy Accounting before GRIDCO, which are being forwarded to SLDC subsequently by GRIDCO. SLDC is clarifying the disputes, which is a lengthy and time consuming process. It is requested that the executives of DISCOMs involved in the billing activity of DISCOMs may attend SLDC EASSC personally to resolve their disputes.

Deliberations in the meeting

The DISCOMs agreed to the proposal.

[Action: All DISCOMs]

PART E: OPERATIONAL PLANNING

E.1: Commissioning status of new Transmission elements.

The status of commissioning of new transmission elements deliberated in the last meeting is as follows:

Sl. No	Transmission element details	Present Status
1	220 kV Jayanagar-Jeypore(PG) 2nd DC line	December'2019
2	400 kV Meramundali-Mendhasal 2nd ckt.	December'2019
3	132 kV Kesinga-Junagarh line	December'2019
4	220 kV Pandiabili-Pratapsasan line	March'20
5	132 kV Pratapsasan-Phulnakhara line	February'20
6	220/132/33 kV, Pratapsasan S/S	March'20
7	220/33 kV, Deogarh S/S	March'20
8	132/33 kV, Maneswar S/S	March'20
9	132/33 kV, Boriguma S/S	Feb'20
10	220/33 kV, 2x20 MVA Baliguda S/S	Forest clearance awaited
11	220/33 kV, 2x20 MVA Kalimela S/S	Forest clearance awaited
12	220/132/33 kV, Goda Chhak S/S (320 MVA)	March'20
13	220/132 kV Kesinga S/S	Mar'20
14	132/33 kV R.Udyagiri S/S	Mar'20
16	220/33 kV Laxmipur S/S 2nd 20 MVA Tfr	Nov'19
18	132/33 kV, Mancheswar GIS	Dec'19
19	132/33 kV, Satasankha S/S	February'19

Deliberations in the meeting

All the Discoms stated that the contractors have failed to execute the HT infrastructure work awarded to them. O&M stated that the DISCOMs shall intimate the name of contractor/ Agency/Scheme to OPTCL for necessary action.

[Action: CGM (Construction) / DISCOMs]

E.2: HT metering at DISCOM interface points.-SLDC.

As per the Central Electricity Authority (Installation and Operation of Meters) Amendment Regulations, 2010, the interface meters shall be installed at the High Voltage side of the Inter Connecting Transformer. Accordingly POWERGRID has implemented the amended Regulation. GRIDCO / OPTCL may examine for metering in the High Voltage side of the ICT, which is done in the Low Voltage side at present.

In the 134th PSOC meeting, SLDC stated that Gridco may convene a meeting with DISCOMs and OPTCL to implement CEA Regulation to reduce the loss level of State system and increase revenue of GRIDCO. Further OERC vide order dated 29.03.2019 in case No. 71/2018 in the matter of ARR and Transmission tariff of OPTCL at Para 181 directed OPTCL to take necessary steps for reduction of transmission loss by avoiding over loading as well as other innovative action.

This issue was also discussed in the 16th GCC meeting, where the DISCOMs highlighted the PPA provision for receiving power at 33 kV Voltage level by them. Director (Commercial) agreed to convene a meeting between DISCOMs, O&M & SLDC to discuss the issue. If required, GRIDCO shall approach the Hon'ble OERC for amendment of the PPA/ Supply Code if required to comply CEA Regulation.

In the 136th PSOC meeting, GRIDCO has agreed to convene a meeting in the month of September'19 to discuss the issue

In the 137th PSOC meeting it was requested that GRIDCO may convene a meeting to discuss the issue

Deliberations in the meeting

GRIDCO stated that a meeting will be convened in the month of November'19 to discuss the issue

[Action: GRIDCO/ OPTCL]

E.3: Major Events in the month of September'19

On dt. 15.09.19 at 12:50 Hrs - 132/33 kV, Pottangi Grid S/S bus charged. (132 kV Sunabeda-Pottangi SC line has already been idle charged since 14:56 Hrs dt. 16.01.19). At 13:20 Hrs dt. 15.09.19 -20 MVA, 132/33 kV Power Transformer charged at Grid S/S, Pottangi.

Members may note

E.4: Important Grid Incidences during the month of September'19.

No major grid disturbances occurred during the month Sept-19.

E.5: Outage of major transmission Elements during the month of September'19. (above 10 hrs).

Outage of major transmission elements during the month was reviewed. The incidents are due to snapping of conductor/ jumpers/failure of CT / Insulator etc. O&M may take necessary preventive measures to avoid such incidents.

[Action: O&M]

E.6: Prolonged outage of Transmission elements

Sl No	Transmission line / element	Date of outage	Reason	Expected date of restoration
1	220 kV Samangara – Pandiavil ckt -I& II	03.05.19	Tower collapsed during the severe cyclonic storm FANI.	

[Action: O&M]

E.7: Review of Outage Program of State Generators for the month of November'19:

Tentative Outage programme for State Generators for the month of November'2019

Sl.	Station	Unit	Period	Remarks
1	Burla	# 1 # 5 # 6 # 7	14.03.18 to continue 25.10.16 to continue 16.10.15 to continue 01.11.19 to 30.11.19	T&G coupling cover water leakage Under R,M & U Under R, M & U Annual Maintenance
2	Chipilima	# 1	15.11.19 to 14.12.19	Annual Maintenance
3	Balimela	# 1 # 2 # 8	05.08.16 to continue 20.11.17 to continue 05.11.19 to 29.11.19	Under R,M work Under R,M work Annual Maintenance
4	Rengali	# 4	01.11.19 to 30.11.19	Annual Maintenance & PSDF work
5	Upper Kolab	# 1	04.11.19 to 03.12.19	Annual Maintenance
6	U. Indravati	# 3	15.11.19 to 13.12.19	Annual Maintenance

E.8: Generation Program for the month of November'19.

Generation schedule for the month of November'19 furnished by OHPC are given below.

Name of Hydro Gen. Station	Generation Program (MW)		Reservoir Level as on 01.10.19	Reservoir Level as on 01.10.18	MDDL	High Flood Reservoir Level
	Nov'19 (1 st fortnight)	Nov'19 (2 nd fortnight)				
HPS-I, Burla	130	130	630.00 ft.	629.56 ft.	590 ft.	630 ft.
HPS-II, Chiplima	40	40	-	-	-	-
Balimela	240	240	1513.00 ft.	1515.30 ft.	1440 ft.	1516 ft.
Rengali	200	200	123.98 mtr.	121.21 mtr.	109.72 mtr	123.5 mtr.
U.Kolab	100	100	856.34 mts.	857.11 mtr.	844 mtr	858 mtr.
U. Indravati	300	300	641.02 mtr.	641.08 mtr.	625mtr	642 mtr
MKD (O/D)	30	30	2748.25 ft.	2748.10 ft.	2685 ft.	2750 ft.
TOTAL	1040	1040				

Generation schedule may change depending on inflow & availability of machine.

[Action: SLDC / OHPC]

E.9: Anticipated power generation and demand for the month of November'2019.

Sl. No	Discom	Average	Peak
1	CESU	1100	1300
2	WESCO	1050	1100
3	NESCO	800	900
4	SOUTHCO	400	500
5	Total Discom	3400	4000
	System Loss & others	150	200
	Total Demand	3500	4000
Availability			
1	Hydro	1040	1200
2	State Thermal	1100	1100
3	IPP, small hydro &RE	350	300
4	ISGS share (including OA& purchase)	900	1150
5	CGP support (OA)	350	350
6	Total availability	3740	4100
7	Surplus / Deficit	240	100

PART F: OTHER ISSUES**F.1: Date and Venue of the next (139th) PSOC meeting.**

ANNEXURE

138th Power System Operational Co-ordination Committee Meeting
 [At 11:00 A.M. on dt. 25.10.2019]
 [At PTC, Chandaka, Bhubaneswar]

Sl. No.	Name	Designation	Organisation	Mobile No.	E-mail Address	Signature
1	P.K. Mishra	CLD	SLDC	9438907402	clld_slde@sldeorissa.org.in	
2	S.P. Panda	CGM	BHEP, BALA OH PCL	7328840300	bhep.balimbi@gmail.com	
3	PRASHANT KUMAR DAS	Sr.G.M	GRIDCO	9438907408	prashantk_das@gridco.in	
4	GIYANA RANTAN	CGM	OHPC	9439284257	gpranjanandap@gmail.com	
5	Pratap Chandra Mahapatra	Sr.G.M	OPTCL	9438907320	ele.pcmahapatra@optcl.co.in	
6	M.Z. Huda	Sr.G.M	OPTCL	9438907471	ele.m.z.huda@optcl.co.in	
7	H.P. Mahapatra	CGM	OHPC	7328840015	hpm.ohpc@gmail.com	
8	A.K. Mohanty	DEM	OHPC	7328840019	akm_675@optcl.co.in	
9	D.N. Patra	DGM	OHPC	7328840020	dnpatra.ohpc@gmail.com	
10	PK Mahapatra	AGM	OHPC	9338715401	Pradeep.mahapatra@opgk.co.in	
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12	Bannabhai Brahm	AGM	OPTCL	9438907421	ele.bbrahm@optcl.co.in	
13	Ukhari Sahu	AGM	SLDC	9438907477	ele.uchari.sahu@sldeorissa.org.in	
14	Saumita Patra	AGM	GRIDCO	7308825750	ele.spatra@gridco.in	
15	Debi Prasad	AGM	SLDC	9438907416	ele.dprasad@sldeorissa.org.in	
16	B. Panda	AGM	SLDC	9438907415	ele.b.panda@sldeorissa.org.in	
17	S.K. Mishra	AGM	SLDC	9438907414	sanku@sldeorissa.org.in	
18	Suchismita Sethy	AM	OPTCL	7438908257	it.ssethy@optcl.co.in	
19	Souali Sahoo	AM(IT)	OPTCL	9438908957	it.souali@optcl.co.in	
20	S.C. Mahapatra	GM(OP)	NARECO	9438906016	skm@nareco.org.in	
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23	P.K. Satapathy	GM(EI)	SLDC	9438907410	ele.pksatpathy@optcl.co.in	
24	M.K. Das	GM(EI)	SLDC	7438907603	ele.mkdas@optcl.co.in	
25	S.K. Mohanty	GM(EI)	OPTCL	9438907017	ele.skmohanty@optcl.co.in	
26	N.B. Mahapatra	G.M.(E)	OPTCL	9438908067	ele.nbmahapatra@optcl.co.in	
27	P.W. Nanda	GM(EI)	OPTCL	9438907922	ele.pwnanda@optcl.co.in	
28	S.K. Das	AGM	OPTCL	9438907316	ele.santoshdas@optcl.co.in	
29	C.R. Mishra	DGM	OPTCL	9438907305	ele.crmishra@optcl.co.in	
30	A.K. Patra	AGM	WBSCO	9437150149	amil.patra@wbSCO.org.in	
31	M.K. Mahapatra	DGM(EI)	OPTCL	9438907967	ele.mkmahapatra@optcl.co.in	
32	S.K. Patro	AGM(EI)	SLDC	9438907945		
33	S.K. Das	AGM(EI)	Southco	9437352618	skdas@southco.org.in	
34	P.K. Mohanty	DM(EI)	SLDC	9438907920	ele.pkmohanty@optcl.co.in	
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38	Lulu Lita Lalon	DM(EI)	SLDC	9438907160	ele.sscaloo@optcl.co.in	
39	S.S. Nayak	GM, PP	GRIDCO	9437404458	sgm.pp@gridco.in	
40	Madhusudan Sahoo	AGM	GRIDCO			