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OFFICE OF THE CHIEF LOAD DESPATCHER, SLDC

ODISHA POWER TRANSMISSION CORPORATION LIMITED

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CIN – U40102OR2004SGC007553

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

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Dated: 05.04.2019

From:

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

To:

As per distribution list

Sub: Minutes of 131st PSOC meeting held on 29.03.2019 at PTC, Chandaka, Bhubaneswar.


Sir,

Please find enclosed herewith the minutes of 131st Power System Operational Co-ordination meeting held on 29.03.2019 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, Banharpali.
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.

Minutes of 131st PSOC meeting held on 29.03.2019 at PTC, Chandaka, BBSR

List of participants is at Annexure.

Chief Load Despatcher, SLDC, OPTCL welcomed all the participants to the 131st Power System Operational Coordination meeting and highlighted the system performance during the month of February'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 130th PSOC meeting held on 25.02.2019

The minutes of meeting was circulated vide letter No. SGM (PS)-PI-15/2019/670⁽⁴⁷⁾ dated 07.03.2019 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 130th PSOC meeting was confirmed.

PART B : SYSTEM PERFORMANCE

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

(A) Frequency

It was noticed that, during the month of February'19, **67.23** % of times the frequency remained in the IEGC band i.e. 49.90Hz - 50.05Hz in comparison to **69.48** % during the month of January'19. The maximum and minimum System frequency during the month was **50.16 Hz & 49.75 Hz** respectively.

Deliberations in the meeting

SLDC stated that the percentage of times of frequency in the IEGC band has been reduced. However the "above 50.05 Hz" range has been increased from 20.23 % to 26.87 % in comparison with the previous month. .

(B) Grid demand

Grid demand for the month of February'19 was reviewed. The average consumption during the month was **3144** MW. The maximum System demand of **4223** MW occurred on **14.02.19** at 20:00 Hrs and minimum demand of **2142** MW occurred on **16.02.19** at 05:00 Hrs.

Deliberation in the meeting

It is observed that the average demand during the month of February' 19 has increased by 49 MW and maximum demand by 24 MW in comparison to January'19. The demand has increased marginally during the month due to change in weather condition.

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

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

The maximum Voltage of **236.59 kV** occurred at **Bidanasi** 220 kV bus, while **Narendrapur** 220 kV bus has experienced the minimum Voltage of **205.01 kV**. The 220 kV Voltage profile of Bidanasi, Mendhasal, Jayanagar and Narendrapur and 400 kV Voltage profile of Meramundali, Mendhasal and New Duburi bus during the month of February' 2019 was reviewed.

Deliberations in the meeting

It is noticed that only 2-3 days the Bus Voltage of Bidanasi has gone high. Narendrapur bus Voltage has become low on 26.02.2019 due to grid disturbance.

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

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

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

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

Deliberation in the meeting:

It is noticed that CESU & SOUTHCO have over drawn during the month while NESCO & WESCO have under drawn substantially during the month. CESU has over drawn 6.724 MU followed by SOUTHCO 12.033 MU, while WESCO & NESCO have under drawn 37.472 MU & 10.212 MU respectively. The deviation of SOUTHCO, CESU, NESCO & WESCO are 4.549, **1.166, 2.381% & 6.440 %** respectively from the scheduled energy. The net under drawal of Discoms during the month was **28.927MU**.

WESCO stated that there are some discrepancies in the Open Access schedule of their embedded consumers, which has been intimated to SLDC through a letter by post. SLDC suggested to mail the same

All DISCOMs were requested to predict their drawal in a realistic manner. In the 130th PSOC meeting SLDC suggested that the DISCOMs may furnish their week ahead drawal schedule for generation planning, which is yet to be received.

[Action: DISCOMs]

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

Energy generation and exchange during the month of February'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 **2112.786 MU**.

Deliberations in the meeting

The energy demand has almost remained same in comparison with previous month.

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

The drawal of Machhakund power during the month of February'19 was **26.209 MU**, against AP drawal of **28.068 MU**.

Deliberations in the meeting

It was noticed that the State's drawl from Machhakund has reduced since last nine months. Southco may explore for adding of Koraput, Dasmantpur & Kakariguma feeders to Podagada S/S. OPTCL may take initiative for adding of more feeders at Podagada S/S. DGM (Const) stated that one feeder is expected by end of April'2019.

[Action: Southco]

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

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

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

Status of Open Access Applications received and disposed by SLDC during the month was reviewed.

Deliberations in the meeting

Total 122 numbers of Short Term / Medium term and Collective transaction applications have been processed by SLDC for according Approval / Consent / NoC during the month.

PART C – Issues discussed in the 155th OCC meeting of ERPC held on 25.03.2019**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	31.03.19	162.5 Cr. Total expenditure may not exceed Rs. 68 Crs.	38.09 Cr. Received Rs. 8.00 Cr on 28.03.19	90% equipment installed and commissioned. Stn Tfr and some measuring instruments are under tendering process.
7		Implementation of OPGW based reliable communication at 132kV and above substations	15.11.2017		51.22 Cr	Request for 10% grant already submitted. Agreement signed	Order placed
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.	2.235 Cr	Placed work order for Balimela. PO for other units amounting Rs. 2 Crs placed. Tendering for Rs 7 Cr under finalization.
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.	27.23 Cr. 10% funding will be asked.	Agreement signed and sent to NLDC for signature. Tender is under evaluation. Bank mandate submitted.
Projects recently submitted:							
	OPTCL	Implementation of Automatic Demand Management System (ADMS) in SLDC, Odisha	22-12-17	Date of submission	3.26 Cr Estd cost. 2.93 Cr recommended by Appraisal committee.		Approved by Appraisal committee. Forwarded to CERC for concurrence.

OPTCL	Protection up gradation and installation of SAS for seven numbers of 220 132 33kV Grid substations (Balasore, Bidanasi, Budhipadar, Katapalli, Narendrapur, New-Bolangir & Paradeep).	12.03.2018 Date of submission	41.1 Cr Estt cost	Compliance to TSEG observation submitted. Audit observation has been sent to NLDC.
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Action: CGM (O&M) / OHPC/ SLDC

C.2: Mapping of Feeders of Automatic Under Frequency Load Shedding (AUFLS) Scheme

In 8th NPC held on 30th November 2018, it was decided that each RPC would submit the details / progress of feeder mapping to NPC secretariat on a regular basis (quarterly).

In 154th OCC, DVC informed that mapping of the UFR feeders had already been implemented in DVC system.

In 40th TCC, Bihar and Jharkhand have confirmed that mapping of the UFR feeders has been implemented.

West Bengal informed that out of 18 S/s only 6 S/s data are available at SLDC. For the remaining 12 S/s the RTUs are old and needed replacement. WBSETCL added that they have already placed a proposal for PSDF funding.

OPTCL informed that out of 58 feeders only 14 feeders data are available at SLDC. For mapping of the remaining feeders, the RTUs needed to be replaced as they were old. OPTCL added that replacement of old RTUs is in advance stage and it would be implemented within a year.

Deliberations in the meeting

DGM (Telecom) stated that tender for procurement of RTU is under pre-bid stage. He also added that data for more number of feeders can be made available to SLDC from the existing RTUs.

[Action: CGM (O&M) / Sr. G.M (Telecom)]

C.3: Coal requirement for thermal power plants –MoP

MoP vide letter dated 7th February 2019 informed that, it has been decided that in view of expected increased power demand in the next few months up to monsoons, all power plants be advised to be watchful, and do maintain plant availability and adequate coal stocks as per norms, in this period.

All the thermal plants are advised to take effective steps for immediate implementation of the decision. The action taken report may also be forwarded to the Ministry at the earliest.

In 154th OCC, all the thermal generators were advised to assess the requirement of coal in the coming few months and take the necessary action to build up adequate stock to ensure uninterrupted supply of power.

In 40th TCC, all the thermal generators were advised to inform ERPC Secretariat any hurdle being faced by them in building up the coal stock. If required, a separate meeting would be convened by ERPC Secretariat with the thermal generators, coal companies and the Railways.

Deliberations in the meeting

It was suggested in the meeting that GMR/ OPGC and Vedanta Ltd may furnish the report to ERPC directly.

[Action: GMR / OPGC / Vedanta Ltd.]

C.4: Removal of Vedanta Towers (5 nos) for direct connectivity on permanent basis of 400kV Sundargarh-Raigarh ckt#4 and 400kV Sundargarh-Raigarh ckt#2--Powergrid

Initially 02 nos LILO was made in 400kV Rourkela-Raigarh ckt-2 and Ckt-4 to evacuate power generation of Sterlite Energy Ltd (Now Vedanta Ltd), Jharsuguda. However, as per directives from ERLDC/ERPC LILO of 400kV Rourkela-Raigarh ckt-2(Now Sundargarh-Raigarh ckt-3) was opened in 2014 and LILO of 400kV Rourkela-Raigarh ckt-4(Now Sundargarh-Raigarh ckt-4) was opened in October 2017.

As a temporary measure to facilitate immediate disconnection of LILO and making the line direct PG clamps were used in Vedanta Towers. In this process 05nos of Vedanta Towers are there in the 400kv Sundargarh-Raigarh ckt-2 and 4. 03nos between Loc 298-299of 400kV Sundargarh-Raigarh ckt-4 and 02nos of Towers between Loc 834-833 of 400kV Sundargarh-Raigarh Ckt3. The sketch showing the Vedanta Towers in both the circuits is enclosed for ready reference.

The matter for removal of Towers and making direct connectivity with Raigarh on permanent basis has been discussed several times with M/s Vedanta. But till date no action has been taken by M/s Vedanta for making the line direct after removal of Towers. Maintenance of the said Towers and corridor are not being done. Any outage of these lines due to issues in these towers and span shall not be attributed to POWERGRID. M/s Vedanta may be asked to restore the line as it was before making the Line LILO.

Deliberations in the meeting

DGM, Powergrid, Bhubaneswar and Vedanta Ltd deliberated the present status in the meeting. It was decided that POWERGRID and Vedanta Ltd shall discuss the issue mutually and intimate decision to SLDC.

[Action: POWRGRID, Bhubaneswar/ Vedanta Ltd.]

C.5: Implementation of Automatic Generation Control (AGC) in India (at Inter State level)

CERC in its order dated 13.10.2015 in Petition No. 11/SM/2015 reiterated the need for mandating Primary Reserves as well as enabling Secondary Reserves, through Automatic Generation Control (AGC) as follows:

(a) All generating stations that are regional entities must plan to operationalise AGC along with reliable telemetry and communication by 1st April, 2017. This would entail a one-time expense for the generators to install requisite software and firmware, which could be compensated for. Communication infrastructure must be planned by the CTU and developed in parallel, in a cost effective manner.

(b) On the other hand, National/Regional/State Load Dispatch Centres (NLDC/RLDCs/SLDCs) would need technical upgrades as well as operational procedures to be able to send automated signals to these generators. NLDC /RLDCs and SLDCs should plan to be ready with requisite software and procedures by the same date. (c) The Central Commission advises the State Commissions to issue orders for intra-state generators in line with this timeline as AGC is essential for reliable operation of India's large inter-connected grid."

The issue was discussed in 8th NPC Meeting held on 30th November 2018, it was decided that each RPC would submit the status of implementation of AGC to NPC.

In 154th OCC, it was informed that ISGS generators at Barh and Teesta V are in the process of implementation of the AGC as a pilot project.

It was informed by Member Secretary, ERPC that, during the deliberation in the 8th NPC meeting on 30.11.2019, it emerged that states in the other regions had already taken initiative for implementation of AGC. ERPC was advised to sensitize this issue in the ERPC forum.

OCC advised Odisha, West Bengal and DVC to identify one generator in their system for implementation of AGC as a pilot project and place the detailed implementation plan in coming TCC Meeting.

In 40th TCC, NTPC informed that AGC at Barh STPS will be implemented by May, 2019.

SLDC Odisha informed that they have written a letter in this regard to OPGC also pointed that regulatory changes need to be framed by SERC before implementation of AGC in the state.

OPGC suggested for implementing the AGC in new units to be commissioned shortly.

DVC confirmed that unit#8 of Mejia TPS has been identified for AGC implementation as a pilot project.

WBPDCCL informed that they will submit the details in OCC meeting.

The followings were decided in the TCC Meeting:

1. Status of implementation of AGC shall be regularly monitored in OCC meetings.
2. An workshop shall be organised in ERPC wherein NLDC and NTPC will be invited to interact with the ER constituents regarding the experience they have gained in implementing the AGC in other regions.

Deliberations in the meeting

OPGC stated that after synchronization of their new unit, they will intimate to ERPC for implementation of AGC. OHPC stated that after attending the workshop they will examine to identify one of their units.

[Action: OPGC/OHPC]

C.6: Power Assistance at Manique GSS from DVC and at Kendposi GSS from OPTCL –JUSNL

JUSNL vide letter dated 8th February 2019 informed that they are planning shutdown of 132 KV D/C RCP-ADP line for erection of 05 nos. Multi Circuit Tower in place of existing transmission tower. Erection of Multi Circuit Tower is inevitable for new 132 KY RCP-Jadugoda transmission line due to limitation of vacant corridor.

In 154th OCC, JUSNL explained that they needed around 35 MW power from Manique (DVC) and 40 MW power from Joda (OPTCL) S/s during the shutdown of 132kV Ramchandrapur-Adityapur D/C line for 31 days.

DVC informed that, due to network constraints in DVC system, DVC would not be in a position to give power from Manique (DVC).

OPTCL informed that the ATRs at Joda are quite old and they are planning to augment the ATRs. Power could be extended to JUSNL only after completion of augmentation of ATR.

Underlining the need to facilitate the shut-down to JUSNL and at the same time, to ensure system integrity, OCC advised Member Secretary, ERPC to convene a special meeting at ERPC Secretariat to discuss the issue with JUSNL, DVC, OPTCL, ERPC and ERLDC to arrive at an acceptable solution.

Accordingly, a separate meeting was held on 1st March 2019. After detailed deliberation, the following were decided:

1. OPTCL shall take shutdown of one 100MVA 220/132kV ATR at Joda from 2nd March 2019 to start the augmentation work
2. After completion of augmentation of 220/132kV ATR at Joda, JUSNL shall avail the shutdown of 132kV Ramchandrapur-Adityapur D/C line tentatively from 6th April 2019.
3. OPTCL shall provide additional 40 MW power from Joda (OPTCL) to fed Kendiposi loads during the shutdown period of 132kV Ramchandrapur-Adityapur D/C line
4. DVC shall provide power support of 35 MW during off peak and 25 MW during peak hours at Manique subjected to availability of unit #3 of Bokaro during the shutdown period of 132kV Ramchandrapur-Adityapur D/C line

OPTCL added that during shutdown of one 100MVA, 220/132kV ATR at Joda from 2nd March 2019, they can only give 20 MW power to Kendiposi during off peak hours and they cannot give any power during peak hours due to significant load growth in Joda area.

Jharkhand agreed and requested to keep the 220kV Joda-Kendiposi line as idle charged condition so that they can draw railway power in case of any emergency.

Odisha agreed but requested Jharkhand to avoid power drawal during peak hours. □ Jharkhand assured that they would draw power only during emergency after taking consent from OPTCL.

It was opined that most of the JUSNL loads would be met by 220kV Chandil S/s during shutdown of 132kV Ramchandrapur-Adityapur D/C line. Jharkhand was advised to maintain the reliability of the 220kV Chandil S/s and ensure healthiness of the protection system at Chandil S/s.

Deliberations in the meeting

O&M stated that NESCO has been requested to divert three nos of feeders from Joda command area to create margin in Joda Auto. A decision can be taken in this issue only after the General Election.

[Action: CGM (O&M)]

C.7: Information regarding details of existing transmission system (220 kV and above AC & DC voltage level) in Eastern Region as on 31.12.2018

CEA vide letter dated 29/01/2019 intimated that MoP, GoI has desired information regarding details of state wise growth of transmission system (both interstate and intra state system) over the years to create database of existing transmission system.

Accordingly, it is requested that the information in respect of existing transmission system (both interstate and intra state system) as well as State Power Map and single line Diagram of transmission network including Powergrid (ISTS) and other Transmission Service Provider (TSPs) (as on 31.12.2018) may please be made available in the specified format attached at Annexure –B14. I & II to ERPC for onward transmission to CEA / MoP by 28.02.2019.

Deliberations in the meeting

O&M agreed to furnish the information to ERPC.

[Action: CGM (O&M)]

C.8: Review of the PSS Tuning of Generators in Eastern Region

PSS tuning meeting was conducted by ERPC on 31st January 2019 where generators from Eastern Region have participated. The MoM of the meeting has been released by ERPC and is available on the website. During the PSS meeting following decision have been taken:

1. Generators who had already done the PSS tuning shall submit the details of the Excitation System, PSS tuning and its report. The generators shall submit the Generator terminal voltage, Field voltage, Real power, Reactive Power, Generator Speed, and PSS output in excel/.csv format for better analysis of the result.
2. Generators for which PSS tuning was not carried out shall take up the PSS Tuning with OEM immediately.
3. Generators for which PSS was not in service shall take up the issue with OEM immediately to bring the PSS into service.
4. For any future tuning, it was recommended to all generators to collect the response along with data in .csv/excel format.
5. All the generators where the PSS tuning was done and PSS not in service shall submit their action plan for PSS Tuning in line with IEGC and CEA standards before the next OCC meeting to ERPC/ERLDC.

In view of the same five categories have been made for comprehensive checkup and plan for PSS tuning for Eastern region Generating plants, which are given at Annexure-B14.

Deliberations in the meeting

OPGC stated that they have already furnished the data to ERPC. GMR and Vedanta were requested to furnish the data soon to ERPC.

[Action: GMR / Vedanta Ltd]

C.9: 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 TalcherMeramundali 400 kV D/C line has been done at Angul 765/400kV Sub-station. The bypass arrangement for these circuits were under implementation at Angul by Powergrid. In 154th OCC, Powergrid informed that bypass arrangement would be completed by March 2019.

Deliberations in the meeting

DGM, Powergrid, Bhubaneswar stated that the bypass work will be completed by 1st week of April'2019

C.10: Updated Black Start and Restoration procedure of State—ERLDC As per clause IEGC 5.8(b)

“Detailed plans and procedures for restoration after partial/total blackout of each User’s/STU/CTU system within a Region, will be finalized by the concerned User’s/STU/CTU in coordination with the RLDC. The procedure will be reviewed, confirmed and/or revised once every subsequent year.”

In 154th OCC all the SLDCs were advised to submit the updated restoration procedure of their respective state.

However SLDCs are yet to submit the Black Start and restoration procedure for respective states.

Deliberations in the meeting

SLDCs stated that the Black Start and restoration procedure in respect of Odisha is under process and will be submitted after completion.

[Action: SLDC/OHPC]

C.11: Periodical Audit and Vulnerability Assessment & Penetration Testing (VPAT) of ICT Infrastructure--CEA

Central Electricity Authority vide letter dated 31st January 2019 informed that a vulnerability has been reported in website of an organization under Power Sector. Any vulnerability present in ICT infrastructure, website, web application etc. may invite attackers to carry out malicious activities. In this case, attackers could exploit the targeted organization.

To avoid the possibility of Cyber Security related issue by plugging and fixing the vulnerability, it is essential to conduct regular & meaningful audit and Vulnerability Assessment and Penetration testing (VPAT) of all ICT infrastructure in addition to adopting the best practices and guidelines by all Power Sector Organizations.

In this regard, all Power Sector organizations are requested to ensure periodical audit and Vulnerability Assessment and Penetration testing (VPAT) of all ICT infrastructure by competent auditors and testers. Further, Sectoral CERTs are requested to take immediate action and coordinate with organizations under their purview for the same.

In 154th OCC, all the constituents were advised to conduct the Audit, Vulnerability Assessment and Penetration Testing (VPAT) of all ICT infrastructure, website, web application etc. and submit a report to CISO, MoP with a copy to ERPC Secretariat.

Deliberations in the meeting

IT stated that they have completed the audit and the status report submitted to SLDC. SLDC may forward the same to ERPC.

[Action: SLDC / IT]

C.12: Details of Capacitor bank installed in Distribution/Sub transmission network --ERLDC

Details of capacitor installed in Eastern Region as a whole was last collected in year 2011. The last updated list is given in Annexure-B18. In the meantime, many utilities might have installed additional capacitor bank for better voltage regulation some has also applied for fund from PSDF for installation of capacitor banks.

Utilities are requested to provide the updated capacitor bank list for record purpose.

Deliberations in the meeting

O&M has installed capacitor banks in some of the grid S/Ss at 33 kV bus. O&M may furnish the details to ERPC.

[Action: CGM (O&M)]

C.13: 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 129th PSOC meeting CGM (PP), GRIDCO stated that M/S MGM Solar has been selected for the pilot project

In the 130th PSOC meeting GRIDCO stated that CESU MRT is not co-operating for accessing the energy meter by M/s Chemtrol. CESU representative assured to take up the matter with their MRT wing

Deliberations in the meeting

The concern officer of GRIDCO was not present to deliberate the status. GRIDCO was requested to intimate the status to ERPC under intimation to SLDC.

[Action: GRIDCO]

C.14: 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 124th PSOC meeting SLDC stated that the revised estimate has been approved in the BoD.

In the 129th PSOC meeting SLDC stated that CERC approval is awaited for tendering.

In the 129th PSOC meeting it was suggested by members that SLDC may write to ERPC in this regard

Deliberations in the meeting

SLDC was requested to write a letter to ERPC.

[Action: SLDC]

C.15: 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 Meramandali-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 130th 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	Construction of 220 kV Sadeipali- Kesinga line has

	kV D C line at Bolangir (PG) S/S.	started. Expected by March '19. 220 kV Sadeipali-Bolangir (PG) portion of the line is expected by July '19.
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; April '2019
b.	Keonjhar (PG)-Turumunga (220/132 kV) 220 kV D/C Line.	By 2019. Order placed.
3.	400/220 kV Pandiabil Grid S/s	
a.	Pratapsasan(OPTCL)-Pandiabil (PG) 220 kV D/C line	July '2019

In the 130th PSOC meeting Telecom stated that OPGW and telecom equipment for Keonjhar (PG)-Keonjhar line is not available. CGM (Cont) was requested to process the file and write a letter to Telecom. NESCO stated that two nos of feeders will be completed by end of March '2019 for drawing load from Keonjhar S/S.

Deliberations in the meeting

D.G.M (Telecom) stated that CARD has already been received. All works will be completed by April '2019. NESCO was requested to expedite the takeoff arrangement.

[Action: CGM (Cont) / CGM (Telecom)]

C.16: 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.

X X X

With regard to the State network, this was deliberated in the last meetings that data communication from Narsingpur S/s is not in place. Also date communication from NALCO is not stable. Telecom stated that provision for laying optical fibre in Bhanjanagar-Meramundali line has been kept in PSDF scheme. However, if wave trap foundation will be done at Narsingpur S/S, the data communication can be established.

In the 129th PSOC meeting it was decided that NALCO shall write to OPTCL for preparation of estimate for laying of Optical fibre. Construction wing of OPTCL agreed for construction of wave trap foundation at Narsingpur S/S.

In the 130th PSOC meeting Sr. G.M (Telecom) stated that NALCO has submitted a request letter in this regard. Wave trap foundation at Narsingpur is yet to be done.

Deliberations in the meeting

CGM (Telecom) stated that work order has already been placed for laying of Optical fibre in Meramundali-Bhanjanagar line. As such wave trap is not required. Telecom may take necessary action for preparation of estimate for laying of Optical fiber between NALCO and Meramundali.

[Action: Telecom / NALCO]

C.17: Mock Black start exercises in Eastern Region – ERLDC

The tentative schedule of black-start exercises for F.Y 2018-19 given by OCC is as follows

Sl.	Name of Hydro Station	Schedule	Tentative Date	Schedule	Tentative Date
		Test-I		Test-II	
1	Upper Kolab	Last week of May-2018	Done on 28.06.2018 & 27.09.18	Last week of January 2019	March '2019
3	Rengali	2 nd week of June 2018	Done on 18.08.2018	Last week of November 2018	Done on 12.02.19
4	U.Indravati	3 rd week of June 2018	Done on 28 th Dec '18	2 nd week of February 2019	

6	Balimela	3 rd week of October 2018	Done on 21 st Dec'18	1 st week of March 2019	Done on 11.03.19
9	Burla	Last week of June 2018	Done on 07.06.2018	Last week of February 2019	Done on 07.03.19

Deliberations in the meeting

SLDC stated that Mock black start exercise for Indravati will be done after the General election.

[SLDC / OHPC]

C.18: Submission of Thermal Loading of Transmission line and associated terminal equipment by ISTS licensee

In line with the MoM of 4th NRCE Meeting dt.03-11-14 and “Operational Guidelines for determination Of TTC, ATC and TRM for the Short-Term Horizon (0-3 Months)” published by NRCE dt.20-02-15, thermal limit for transmission line has to be used for calculation of ATC/TTC. However, the thermal loading of transmission line depend on the Maximum Conductor Temperature, End equipment thermal rating. This has to be submitted by the Owner of the equipment. Further, the equipment owner also has to confirm that relay setting has been aligned so that the line can be operated up to its thermal limit. In the absence of complete details, ERLDC is utilising the data from the CEA Planning Criteria for thermal rating

OCC advised all the other ISTS licensees and STUs to submit the relevant data to ERLDC and ERPC.

In the 129th PSOC meeting Sr. G.M (CP) stated that thermal loading data has been submitted by them. O&M shall submit the terminal equipment data

In the 130th PSOC meeting O&M was requested to expedite for furnishing the data.

Deliberations in the meeting

O&M assured to furnish the data in the month of April'2019.

[Action: C.G.M (O&M)]

C.19: Certification through BIS as per IS 18001:2007 to all generating/ transmission units.

In 84th OCC meeting all constituents were requested to interact with BIS with intimation to ERPC and get certified as per CEA direction.

As per the information received from the constituents the following generators certified with IS 18001: • All NTPC stations in Eastern Region • Teesta, NHPC • All OHPC generating units • All CESC generating units • All units of WBPDCCL • DGPC units

In the 129th PSOC meeting O&M stated that 2nd stage internal audit has been done. Report is yet to be received. Process has been initiated for deposit of application money for external audit. On compliance of the observations Certificate may be issued.

In the 130th PSOC meeting O&M stated that the external audit will be conducted on 7th & 8th March'2019.

Deliberations in the meeting

O&M stated that Audit has been completed but the report is yet to be received

[Action: CGM (O&M)]

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 February'18:

Sl. No	Name of Discom	No. of message issued	Over drawal (MU)	Deviation (%)
1	CESU	0	6.724	1.166
2	WESCO	0	-37.472	6.440

3	NESCO	0	-10.212	2.381
4	SOUTHCO	0	12.033	4.549
	Total	0	- 28.927	

It is noticed that SOUTHCO & CESU were over drawn during the month while WESCO & NESCO were under drawn. **SOUTHCO** has deviated **5.717%** followed by CESU **2.831%** from the scheduled energy while **WESCO and NESCO** have deviated **0.380 % & 1.247 %** respectively. DISCOMs may forecast their drawal in realistic approach to minimise deviation.

Deliberations in the meeting

SLDC advised all DISCOMs to remain in the schedule in view of implementation of 4th Amendment DSM Regulation.

[Action: All DISCOMs]

D.2: Communication issues

The status of data communication from CGPs as deliberated in the 124rd PSOC meeting meeting is as follows.

Sl.	Name of CGP	Present status
1	M/s NINL, Duburi	M/s NINL has requested for Scheme, BOQ for PLCC/SCADA, which has been forwarded by OPTCL. No action has been taken by NINL so far.
2	IRE, Chatrapur	Data communication system yet to be established by the Plant

In the 117th PSOC meeting, Members opined that GCC should file a case soon against NINL & IRE before the OERC.

In the 119th PSOC meeting it was decided that GCC shall file a case against the defaulting CGP/ Consumers before the OERC.

In the 123rd PSOC meeting it was deliberated that RT&C have sought some information from Telecom wing which will be intimated. NALCO stated that due to problem in their internal communication system, data communication to SLDC is being interrupted.

In the 124th PSOC meeting Telecom stated that communication system for Paradeep area industries will be completed by September'2018. Telecom was advised to give a reply to the information sought by RT&C.

In the 125th PSOC meeting Telecom stated that the information sought by RT&C will be forwarded soon.

In the 126th PSOC meeting it was decided that SLDC shall convene a meeting with Telecom, GCC & RT&C and discuss the issue for filing case before the OERC.

A meeting was convened between SLDC, Telecom, GCC, RT&C, NINL & IRE Ltd on dt.15.01.2019 at SLDC conference hall to discuss the communication issue. Representative of IRE, SLDC, GCC and Telecom were attended the meeting. IRE deliberated that presently CB, CT & CVT are not installed at their end. Tendering for procurement of CB, CT & CVT have already been done, which will be expected by end of April'2019. Due to space constraint at IRE Switch yard, installation of the equipment may not be possible, unless the Switchyard is modified. For modification they may need the help of OPTCL. It was suggested by SLDC that IRE may approach Sr. G.M (O&M), Zone-1, OPTCL in this regard. Simultaneously, they also to write Sr. G.M (Telecom), OPTCL for preparing estimate for extending data communication from their end. NINL was not present in the meeting.

In the 129th PSOC meeting it was decided that DGM (O&M), Berhampur and DGM(Cons.), Berhampur shall visit IRE S/W yard and submit a status report to Sr. G.M (O&M), Berhampur.

RT&C may file a case before the OERC for non-compliance of extending data communication facility by M/s NINL.

In the 130th PSOC meeting it was decided that RT&C shall file a case before the OERC against the defaulting CGP / Industries and Telecom will provide the required information to them. RT&C vide their letter No. 104(4) dated 01.03.2019 asked Telecom wing to prepare the draft Petition along with the required information to them.

Deliberations in the meeting

It was decided that T&C and Telecom shall discuss and prepare the Petition to file before the OERC.

[Action: RT&C and Telecom]

D.3: 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 119th PSOC meeting IT stated that Parameters of 16 Nos meters are showing wrong. DLMS data for the newly installed Secure meters are not coming. It was decided that O&M shall discuss the matter with Secure meters to resolve the issue.

In the 123rd PSOC meeting IT stated that out of 840 Nos interface meters connected with AMI, 750 Nos are reporting at present. The newly replaced meters are not reporting. 2 Nos. of meters has sent to M/s SECURE meters for study.

In the 127th PSOC meeting IT stated that TCS is demanding Rs. 6.5 lacs for developing the required software. The proposal is placed before the management for approval

In the 128th PSOC meeting IT stated that the memorandum has been placed before the PSC

In the 130th PSOC meeting IT stated that approved letter was yet to be received by them.

Deliberations in the meeting

IT stated that TCS has already developed the driver for Paralakhemundi and Balasore S/S meters. Data fetching is under testing stage.

[Action: IT / SLDC]

D.4: DISCOM Agenda

SOUTHCO

1. Gridco & OPTCL has billed the power drawn by M/s Vinto energy Solar connected at Tentulikhunti S/S through 132 kV ckts to Southco. Since there is no such agreement with Southco & M/S Vinto Energy Solar, the bills from December'18 to February'2019 may be withdrawn from Southco bill.

2. OPTCL has charged Narendrapur-TATA 220 kV DC line and the energy drawn by M/S TATA has been incorporated in SOUTHCO drawl. The transmission /Energy bill also raised by OPTCL /GRIDCO. The bills may be withdrawn.

Deliberations in the meeting

It was decided that SOUTHCO and GRIDCO may discuss mutually and resolve the issue.

[Action: SOUTHCO / GRIDCO]

NESCO

1. 132/33 kV Dhenkikote S/S drawl need to be incorporated in the RVDU.
2. Revision of schedule in case of adverse weather condition.

Deliberations in the meeting

DGM, Telecom stated that RTU is yet to be installed at Dhenkikote. However data from other end shall be provided in the RVDU. SLDC stated that revision of schedule is being done as per provisions in the Regulation.

[Action: NESCO / Telecom]

E.1: Commissioning status of new Transmission elements.

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

Sl. No	Transmission element details	Present Status
1	Commissioning of 220 kV Jayanagar-Jeypore 2 nd DC line	Expected to be completed by June'19.
2	Commissioning of 400 kV Meramundali-Mendhasal 2 nd ckt.	July'2019
3	220/33 kV, 2x20 MVA Baliguda S/S	July'19
4	220/33 kV, 2x20 MVA Kalimela S/S	July'19
5	220/33 kV, 2x20 MVA Kasipur S/S	April'2019. Line charged.
6	220/132 /33 kV, 2x100 MVA Aska S/S (132/33 kV side)	April'19
7	220/132/33 kV, Goda Chhak S/S (320 MVA)	June'19
8	220/132/33 kV Jayapatana S/S(320 MVA)	July'19
9	220/132 kV Pratapsasan S/S(320 MVA)	Dec'19
10	220/132 kV Kesinga S/S (320 MVA)	July'19
11	132/33 kV Betanati S/S	March'19
12	132/33 kV R.Udyagiri S/S	July'2019

The Discoms are requested to take necessary action for availing power supply from those S/Ss and prepare their action plan for takeoff arrangement.

[Action: CGM (Construction) / DISCOMs]

E.2: Major Events in the month of February'19

1. 20.02.2019: At 15:50Hrs 132 KV Olavar-Chandbali ckt I & II charged. 132/33 KV GIS Grid S/S, Chandbali also charged along with 40MVA Power Transformer.
2. 25.02.2019: At 11:38 Hrs,132 KV Digapahandi - Chikiti ckt - I & II charged. One 40 MVA (132/33 KV) Power Transformer also charged at Grid S/S, Chikiti.
3. 27.02.2019: At 15:25 Hrs, 220/33 KV, 20 MVA Transformer at Narasinghpur Grid S/S charged.
4. 27.02.2019: At 17:18 Hrs, 220 kV Narendrapur-TATA ckt-1 charged. Ckt-2 charged at 17:28 Hrs.
5. 28.02.2019: At 12:38 Hrs , 315 MVA (400/220 KV) ICT -03 at Grid S/S, Mendhasal charged.

Members may note

E.3: Important Grid Incidences during the month of February'19.

Important grid incidences have been reviewed. The incidences have been discussed in the PCC meeting of ERPC held on 26.03.2019. DGM (Telecom) stated that wrong DT signal at Mendhasal has been investigated and rectified. Digital Tele-protection coupler has been installed for both the ckts of Meramundali-Mendhasal line.

[Action: O&M]

E.4: Outage of major transmission Elements during the month of February'19. (above 10 hrs).

Outage of major transmission elements was reviewed. Most of the outages are due to PT / CT failure and Tree falling. O&M may take necessary preventive action to avoid such incidences.

[Action: O&M]

E.5: Review of Outage Program of State Generators / Transmission elements for the month of April'19:

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

Sl.	Station	Unit	Period	Remarks
1	Burla	# 1	14.03.18 to continue	T&G coupling cover water leakage Hoist gate problem Under R,M & U Under R, M & U
		# 4	25.10.18 to continue	
		# 5	25.10.16 to continue	
		# 6	16.10.15 to continue	
2	Chiplima	# 3	15.10.15 to continue	Under R&M
3	Balimela	# 1	05.08.16 to continue	Under R&M
		# 2	20.11.17 to continue	Under R&M
4	Rengali	# 2	12.12.18 to continue	Capital Maintenance.
5	Upper Kolab	# 4	01.02.19 to continue	Capital maintenance work
		# 3	28.03.19 to continue	Multiple E/F

[Action: OHPC]

E.6: Generation Program for the month of April'19.

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

Name of Hydro Gen. Station	Generation Program (MW)		Reservoir Level as on 01.03.19	Reservoir Level as on 01.03.18	MDDL	High Flood Reservoir Level
	Apr'19 (1 st fortnight)	Apr'19 (2 nd fortnight)				
HPS-I, Burla	35	35	620.00 ft.	620.97 ft.	590 ft.	630 ft.
HPS-II, Chiplima	25	25	-	-	-	-
Balimela	360	360	1498.00 ft.	1458.70 ft.	1440 ft.	1516 ft.
Rengali	50	50	116.34 mtr.	121.64 mtr.	109.72mtr	123.5 mtr.
U.Kolab	100	100	853.03 mts.	852.00 mtr.	844 mtr	858 mtr.
U. Indravati	360	360	636.66 mtr.	634.06 mtr.	625mtr	642 mtr
MKD (O/D)	30	30	2735.40 ft.	2744.20 ft.	2685 ft.	2750 ft.
TOTAL	960	960				

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

[Action: SLDC / OHPC]

E.7: Anticipated power generation and demand for the month of April'2019.

Sl. No	Discom	Average	Peak
1	CESU	1250	1500
2	WESCO	1200	1400
3	NESCO	850	950
4	SOUTHCO	480	550
5	Total Discom	3780	4400
	System Loss & others	150	200
	Total Demand	3930	4600
Availability			
1	Hydro	960	1200
2	State Thermal	750	750
3	IPP, small hydro &RE	600	600
4	ISGS share (including OA& purchase)	1270	1700
5	CGP support (OA)	350	350
6	Total availability	3930	4600
7	Surplus / Deficit	0	0

Members may discuss.

PART F: OTHER ISSUES

F.1: Date and Venue of the next (132nd) PSOC meeting.

Additional agenda

F.2: Planned shutdown for transmission elements carrying ISTS power.-SLDC

It is noticed that planned shutdown proposal of transmission elements carrying ISTS power are being submitted before 1-3 days. Since approval from ERLDC is required for allowing shutdown of these elements, it is requested to submit such proposals by end of 1st week of the month for the succeeding month so that the proposal can be placed in the OCC meeting of ERPC.

Deliberations in the meeting

O&M/ Const agreed to furnish planned shutdown proposals of transmission elements carrying ISTS power by 1st week of the month for the succeeding month

[Action: CONST. / O&M]

F.3: Mismatch of base case database- GRIDCO

Gridco stated that the database for ATC /TTC calculation done by SLDC and the available database with GRIDCO for PoC load flow study is not matching.

Deliberations in the meeting

It was decided that SLDC, CP, O&M and GRIDCO may prepare the database and communicate to ERLDC for updating their database.

[Action: SLDC / CP / O&M/GRIDCO]

F.4: Colony consumption of POWERFRID S/Ss

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.

Deliberations in the meeting

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

[Action: SLDC/ GRIDCO/POWRGRID/DISCOMs]

131st Power System Operational Co-ordination Committee Meeting

[At 11:00 A.M. on dt. 29.03.2019]

[At PTC, Chandaka, Bhubaneswar]

Sl. No.	Name	Designation	Organisation	Mobile No.	E-mail Address	Signature
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3	AKPattanayak	C.S.M	Telcelcom	9438907440	cgm.telcoptel.co.in	
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