

Shutdown of Talcher-Kolar Bipole for NHAI diversion work at Nayagarh, Odisha

Deliberation in the meeting

A special meeting was convened on **23rd June 2026** under the aegis of ERPC to discuss the shutdown proposal of PowerGrid Odisha on the above-cited subject. The meeting was attended by the Member Secretary, SRPC; representatives from PowerGrid Odisha, SLDC Odisha, GRIDCO, NTPC Talcher, BSPHCL, ERLDC; and other concerned stakeholders from various power utilities.

At the outset, the **Director (Operation), ERPC** welcomed all the participants and expressed his gratitude to the stakeholders for joining the meeting at such short notice. He briefly outlined the background of the issue and informed the participants that the matter had also been deliberated during the **240th OCC Meeting of ERPC**.

He informed that the shutdown proposal submitted by PowerGrid Odisha for execution of the NHAI road diversion work involves the simultaneous shutdown of both poles of the **±500 kV HVDC Talcher–Kolar Bipole** during the period from **16th July 2026 to 31st July 2026 (15 days)**. He further informed that PowerGrid Odisha also intends to undertake the replacement of a converter transformer, which has been under continuous observation due to DGA abnormalities for a prolonged period, during the same shutdown. He highlighted that the proposed shutdown would require significant generation curtailment at **NTPC Talcher** throughout the outage period and, therefore, would have a substantial operational impact on the grid.

Thereafter, the Member Secretary, SRPC welcomed all the stakeholders and stated that the proposed shutdown had been under discussion for a considerable period. After extensive deliberations among all the concerned stakeholders, the shutdown schedule had finally been arrived at. He further observed that several other planned transmission outages were linked with this shutdown and would also be affected by any change in its schedule. Therefore, meticulous planning and timely execution of the proposed shutdown are crucial from the perspective of secure and reliable grid operation. He requested PowerGrid Odisha to present the detailed execution plan for the NHAI diversion work, including the day-wise activity schedule, resource deployment, contingency measures, and the timeline for completion.

The representative of **PowerGrid Odisha** presented the detailed execution plan for the proposed shutdown and highlighted the following:

- The proposed NHAI diversion work involves the erection of **four (04) inline towers**. As these tower locations lie directly beneath the existing transmission line, tower erection could not be undertaken earlier. However, the **foundation**

work for all four towers has already been completed, and the sites are ready for tower erection.

- During the proposed **15-day shutdown**, the first activity will be the **de-stringing of the existing transmission line** over a stretch of approximately **4.6 km**. Upon completion of the de-stringing work, the erection of the inline towers will be taken up.
- To ensure timely completion of the work, **two tower erection gangs**, each comprising **25 personnel**, and **two stringing gangs**, each comprising **30 personnel**, will be deployed simultaneously at the site.
- Following the de-stringing activity, tower erection at locations **8/0** and **4/0** is planned to commence on **19th July 2026** and is expected to be completed by **23rd July 2026**. Thereafter, tower erection at locations **1/0** and **2/0** will be taken up and is scheduled to be completed by **27th July 2026**.
- Upon completion of tower erection at all the above locations, stringing of the transmission line from **Location 1/0 to Location 4/0** will be carried out using the two stringing gangs (total **60 personnel**) during the period **27th July 2026 to 31st July 2026**, with the objective of completing all activities within the approved shutdown period.

In response, Member Secretary, SRPC enquired whether the tower erection activities at the above-mentioned locations could be carried out simultaneously. He observed that once the transmission line is under shutdown, simultaneous execution of the erection works at all locations could reduce the overall shutdown duration and consequently minimize the generation backdown at NTPC Talcher.

The representative of PowerGrid Odisha clarified that the existing transmission towers at all the proposed locations are required to be dismantled prior to the erection of the new inline towers. As the HVDC transmission line passes through the National Highway corridor, execution of the work involves significant Right of Way (RoW) constraints and administrative challenges. He further informed that deployment of police personnel is essential to facilitate safe dismantling and erection activities. Despite repeated efforts by PowerGrid, the district administration has expressed its inability to provide more than two police contingents, owing to which the work can be undertaken only at one location at a time.

Director (Operation), ERPC requested SLDC Odisha to take up the matter with the appropriate authorities in the Government of Odisha so that necessary administrative support could be extended to PowerGrid. He emphasized that timely resolution of these issues would facilitate expeditious completion of the NHA1 diversion work and minimize the impact of the prolonged shutdown on grid security and reliability.

The representative of SLDC Odisha assured the forum that the matter would be brought to the notice of their higher management and subsequently to the Department of Energy, Government of Odisha, seeking necessary administrative intervention to resolve the issues faced by PowerGrid and facilitate timely execution of the work, considering the criticality of the proposed shutdown from the grid security and reliability perspective.

The representative of BSPHCL informed that Bihar has an allocation of approximately 41% from NTPC Talcher Stage-I. He stated that the state experiences its peak demand during the period from July to September, and any significant generation backdown at NTPC Talcher during this period would adversely affect Bihar's power availability and its ability to meet the growing demand. In view of the above, he requested the forum to consider postponing the proposed shutdown until after October 2026.

The representative of NTPC expressed concern over the substantial generation curtailment necessitated by the outage of the HVDC Talcher–Kolar Bipole. He further informed that prolonged operation of generating units at technical minimum load is operationally challenging and may not be feasible for the entire shutdown period. Accordingly, NTPC proposed to utilize the shutdown period for undertaking planned maintenance of some of its generating units.

The representative of GRIDCO submitted that, considering the significant operational challenges and the anticipated generation backdown at NTPC Talcher, the pending reconductoring work of 400 kV Talcher–Meramundali Ckt-I, wherein only about 10 km of line remains to be reconductored, may also be carried out before the proposed HVDC Bipole shutdown. Completion of this work would enhance the power transfer capability of the corridor and help reduce the extent of generation curtailment during the shutdown period.

In response, the representative of ERLDC clarified that carrying out the reconductoring work of 400 kV Talcher–Meramundali Ckt-I prior to the HVDC shutdown would itself necessitate considerable generation curtailment at NTPC Talcher to maintain N-1 security for the Talcher–Meramundali corridor. Therefore, considering the overall operational constraints and system security concerns, ERLDC requested the forum to defer the proposed HVDC shutdown to a lower-demand period. ERLDC also presented the results of system studies highlighting the implications of a continuous shutdown of the ± 500 kV HVDC Talcher–Kolar Bipole and its impact on the 400 kV transmission network in and around the Bhubaneswar area under various contingency scenarios in the Odisha transmission system.

*After detailed deliberations on the operational constraints and system security implications associated with the proposed shutdown of the **± 500 kV HVDC Talcher–Kolar Bipole**, the **Member Secretary, SRPC** made the following observations and suggestions:*

- 1. Considering the prevailing system constraints and the high-demand scenario during the proposed shutdown period, it would be prudent to schedule the shutdown during **November 2026**, which is generally a lean demand period for the constituent utilities and would have comparatively lesser impact on system operation.*
- 2. Prior to availing the shutdown of the HVDC Talcher–Kolar Bipole, **HTLS reconductoring of the 400 kV Talcher–Meramundali D/C transmission line**, along with the **upgradation of associated bay-end equipment**, should be completed. The enhancement of the transmission corridor capacity would improve power transfer capability and help reduce the extent of generation curtailment at **NTPC Talcher** during the HVDC shutdown.*

*Further, **PowerGrid Odisha** was advised to complete the reconductoring work in all respects **before 15th January 2027**, as the power demand in the Southern Region is expected to increase thereafter.*

- 3. **NTPC** was advised to suitably plan the annual overhaul (AOH) or any other scheduled maintenance of its generating units during the proposed HVDC shutdown period so that the effective generation backdown could be minimized and the shutdown period could be utilized optimally.*

4. **PowerGrid Odisha** was advised to undertake the **replacement of the converter transformer**, which has been under prolonged DGA observation, during the proposed HVDC shutdown so that the outage period is utilized effectively and the need for a separate shutdown in future can be avoided.

Decision of the Meeting

After detailed deliberations, the following decisions were taken by the forum:

1. **PowerGrid Odisha** shall **postpone the proposed shutdown of the ± 500 kV Talcher–Kolar HVDC Bipole** for execution of the NHAI diversion work and tentatively plan the shutdown during **November 2026**, considering the comparatively lower system demand during the winter season.
2. During the proposed HVDC Bipole shutdown, **PowerGrid Odisha** shall undertake all planned shutdown and maintenance activities in the HVDC system, including the **replacement of the converter transformer** that has been under prolonged DGA observation, so as to optimize the utilization of the shutdown period and avoid the need for additional outages in future.
3. **Prior to availing the HVDC Bipole shutdown, PowerGrid Odisha** shall complete the **HTLS reconductoring of the 400 kV Talcher–Meramundali D/C transmission line**, along with the **upgradation of the associated bay-end equipment**, in all respects. The completion of these works is expected to enhance the power transfer capability of the corridor and thereby reduce the extent of generation curtailment during the HVDC shutdown.
4. **NTPC Talcher** shall suitably plan the outage of its generating units, including annual overhaul (AOH) or other scheduled maintenance activities, during the proposed shutdown of the **Talcher–Kolar HVDC Bipole** so as to minimize the effective generation curtailment and optimally utilize the shutdown period.

The meeting ended with a vote of thanks to the Chair.

Participants

- 1)Member Secretary, SRPC**
- 2)Shri R.K Meena, Director, ERPC**
- 3)Shri D.K Khuntia, Assistant Director, ERPC**
- 4)Shri Ajay Kumar Sahu, PowerGrid Odisha**
- 5)Shri Sanjay Kumar Mishra, GRIDCO**
- 6)Mrs Supriya Sethi, SLDC Odisha**
- 7)Representative from Power Cell, BSPHCL**
- 8)Representative from NTPC, Talcher**
- 9)Shri Bilash Achari,ERLDC**
- 10)Shri Rakesh Kumar Pradhan,ERLDC**
- 11)Shri Alok Pratap singh,ERLDC**