

कार्यालय : बी-9, प्रथम एवं द्वितीय तल, कुतुब इंस्टीट्यूशनल एरिया, कटवारिया सराय, नई दिल्ली - 110016

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Date:27-05-2026

To,

The Chairman and Managing Director,
APCPDCL/APERDCL/APSPDCL,The Chairman and Managing Director,
APTRANSCO,
Vijayawada, Andhra Pradesh - 520004**Subject: Sudden reduction in electricity demand in Andhra Pradesh during evening leading to large frequency excursions**

Sir,

It is observed that there are recurring instances of abrupt and significant reduction in demand in Andhra Pradesh in the range of 600 to 1000 MW (approx. 10% of state peak demand), during evening transition hours (around 18:00 to 18:10 hrs.) which contributes to sharp rise in grid frequency ~ 50.2 to 50.4 Hz. Details for the period 25-Apr-26 to 15-May-26 are indicated at **Annexure-I**. The issue is being regularly flagged by SRLDC and NLDC. The matter was discussed in 238th OCC meeting of SRPC dated 11.05.2026. Relevant portion of the minutes of the said meeting is enclosed as **Annexure-II**.

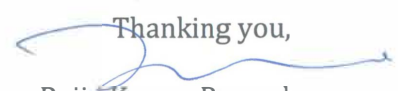
As can be seen from the table (at Annexure-I) such steep reduction in demand is accompanied by heavy under drawl by Andhra Pradesh during the same period leading to frequency rise in the grid. Such high instantaneous deviations (under-drawal) cause abrupt variation in power flow over the transmission lines as well as voltage variations beyond safe operating limits which can trigger multiple tripping of transmission lines thereby adversely affecting grid security. It is worth noting that the Indian Electricity Grid Code 2023 also stipulates provisions against such sharp/abrupt variation in load by the users.

Hence, your kind intervention is solicited to implement the following measures on priority and advise the personnel concerned accordingly for reliable operation of the grid:

1. Gradual load changeover during 17:30-18:15 while keeping the supply obligations intact.
2. Implementation of automatic generation control (AGC) at intra state generators which would contribute to automatic secondary frequency control.
3. Exploring deployment of flexible generation resources with fast ramping and load following capabilities.
4. Installation of dynamic reactive power support resources for voltage control.

An action taken report in this regard shall be highly appreciated.

Thanking you,


Rajiv Kumar Porwal
(Director System operation, Grid-India)

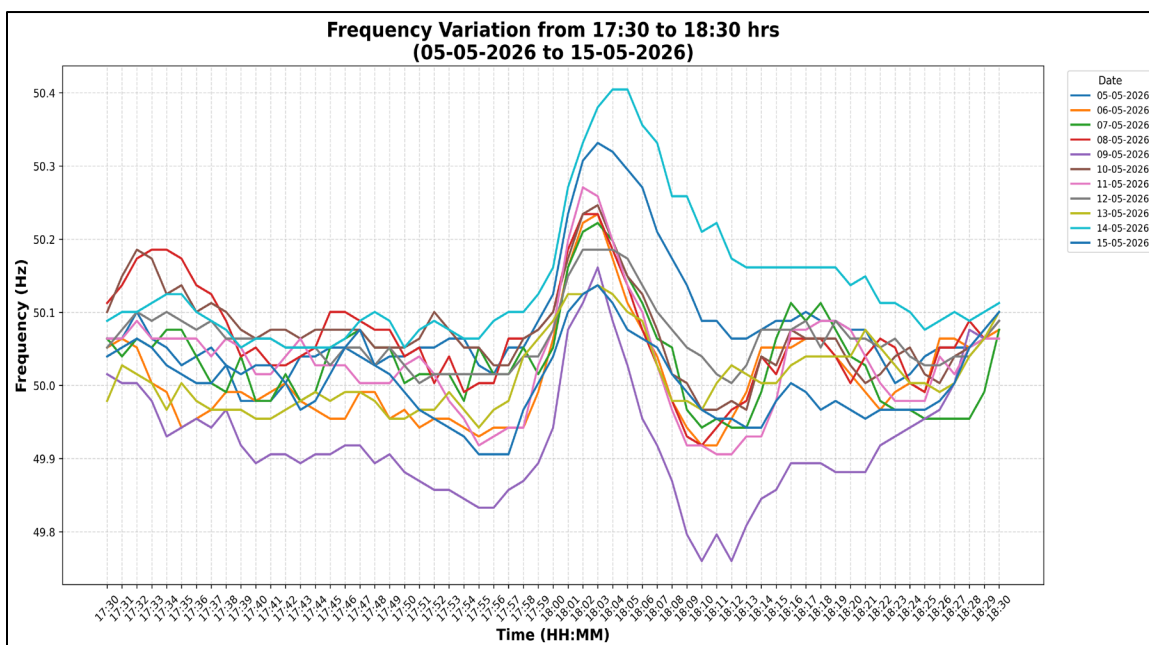
Copy to: (for kind information)

1. The Secretary (Power), Govt. of India
2. The Chairperson, CEA
3. The Secretary, CERC
4. The Member Secretary, SRPC
5. Chief Operating Officer, CTUIL
6. Chairman and Managing Director (Grid-India)
7. Executive Director, SRLDC
8. Executive Director, NLDC
9. Chief engineer, AP SLDC

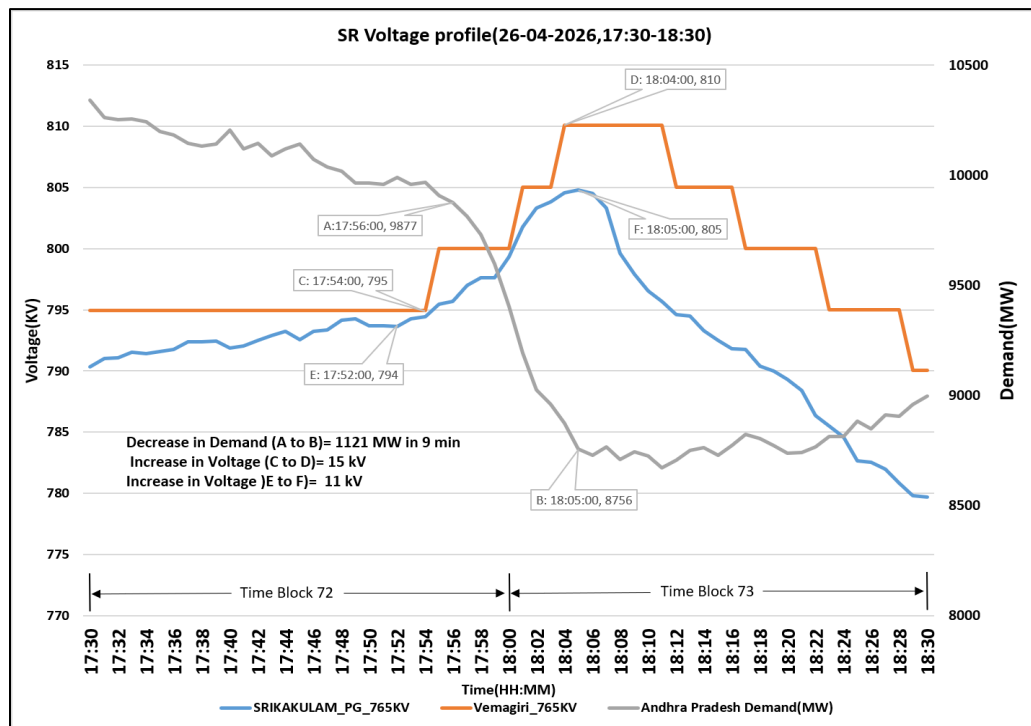
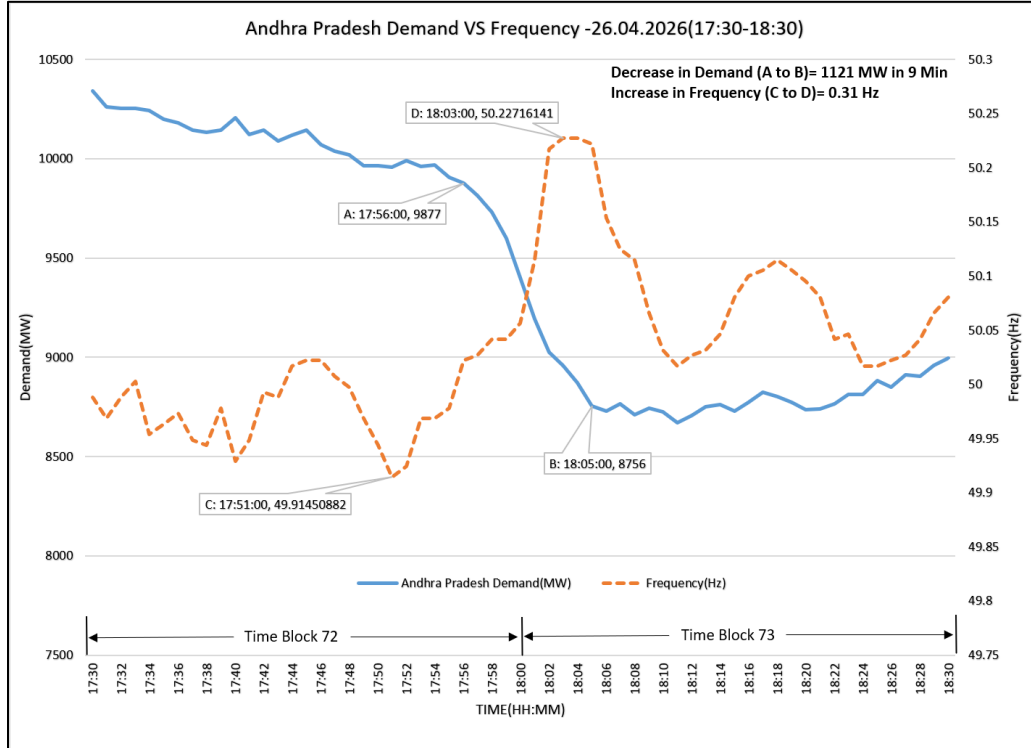
Annexure-I

Analysis of Andhra Pradesh Demand reduction, Under drawl, frequency excursion Phenomena during 18:00 to 18:10 hrs

Date	From time	To time	Demand reduction (MW)	Max instantaneous Under drawl during 18:00 to 18:10 hrs (MW)	Max Frequency / Excursion (Hz) during 18:00 to 18:10 hrs	Time of occurrence
25-04-2026	17:59	18:10	1015	1093	50.295 / 0.182	18:03:00
26-04-2026	17:59	18:08	888	879	50.259 / 0.182	18:03:00
27-04-2026	17:59	18:06	760	763	50.307 / 0.219	18:03:00
28-04-2026	17:59	18:10	949	622	50.319 / 0.243	18:03:00
29-04-2026	17:59	18:01	781	1000	50.344 / 0.268	18:03:00
30-04-2026	17:59	18:10	679	387	50.259 / 0.207	18:03:00
01-05-2026	17:59	18:09	691	288	50.246 / 0.182	18:03:00
02-05-2026	17:59	18:10	633	388	50.368 / 0.268	18:04:00
03-05-2026	17:59	18:09	714	247	50.38 / 0.304	18:03:00
04-05-2026	17:59	18:10	561	331	50.319 / 0.243	18:03:00
05-05-2026	17:59	18:08	347	212	50.332 / 0.243	18:03:00
06-05-2026	17:59	18:05	562	782	50.234 / 0.243	18:03:00
07-05-2026	17:59	18:09	690	226	50.222 / 0.207	18:03:00
08-05-2026	17:59	18:09	723	745	50.234 / 0.158	18:02:00
09-05-2026	17:59	18:09	733	317	50.161 / 0.268	18:03:00
10-05-2026	17:59	18:10	785	572	50.246 / 0.17	18:03:00
11-05-2026	17:59	18:08	890	389	50.271 / 0.243	18:02:00
12-05-2026	17:59	18:10	1288	859	50.186 / 0.146	18:02:00
13-05-2026	17:59	18:08	898	442	50.137 / 0.073	18:03:00
14-05-2026	17:59	18:08	738	434	50.404 / 0.28	18:04:00
15-05-2026	17:59	18:07	655	659	50.137 / 0.134	18:03:00



Typical Day Frequency, Voltage and demand profile around 18:00 hrs.



Deliberations

SRLDC stated that delays in implementing physical regulation actions should be minimized to enable faster and more effective real-time control of State overdrawal. It further emphasized that timely execution of such actions is critical for maintaining grid discipline, system security, and frequency stability, especially during dynamic operating conditions.

SR-II, PGCIL informed that the delay had been brought to the notice of the Kolar Station In-charge and that the criticality of the issue, along with the requirement for early operation, had been highlighted. It was assured that necessary action would be taken to ensure operation/opening within minimum possible time in future instances.

ED, SRLDC observed that physical regulation is undertaken during deteriorated system conditions as a system security measure and, once instructions are issued, the same are required to be implemented within the stipulated time. It was stated that failure to comply with such directions by the concerned entity would be treated as non-compliance. It was emphasized that delays of 3-4 time blocks in implementation defeat the purpose of physical regulation and that concerned entities should ensure for quicker response and avoid recurrence of such delays.

Conclusion

- ❖ *SR-II, PGCIL noted the concern and assured timely execution of switching instructions to avoid operational delays in future.*
- ❖ *The forum emphasized that physical regulation being a critical security measure must be implemented within stipulated timelines to ensure effective grid control and avoid recurrence.*
- ❖ *All states to take proactive measures to restrict its drawls and deployment of Physical regulation should be avoided.*

G) Staggering of loads in Southern Region

- a) It has been consistently observed that there is a sharp reduction in the Southern Region (SR) around 18:00 hrs on a daily basis, leading to operational challenges in maintaining grid parameters within permissible limits. On 26th April 2026, demand decreased significantly from 55,571 MW at 17:56 hrs to 52,241 MW at 18:06 hrs. It has been observed that Andhra Pradesh (approx. 1200MW) and Karnataka (approx. 1900MW) were having major load reduction among Southern States. Consequently, the total All India demand dropped from 2,15,675 MW at 17:58 hrs to 2,11,109 MW at 18:06 hrs.
- b) This sudden reduction in demand has resulted in a sharp rise in system frequency along with overvoltage conditions across the grid. As a consequence, critical transmission elements experienced tripping, including the 765 kV Wardha–Nizamabad circuit at 18:00 hrs and the 765 kV Kurnool–Cuddapah Circuit-1 at 18:01 hrs, both due to overvoltage conditions.
- c) In view of the above, it is advised to stagger the load (especially agriculture load) to either 30 minutes before or 30 minutes after 18:00 hrs. This measure is recommended to mitigate abrupt demand variations and help maintain grid stability by avoiding high voltage and high frequency excursions.

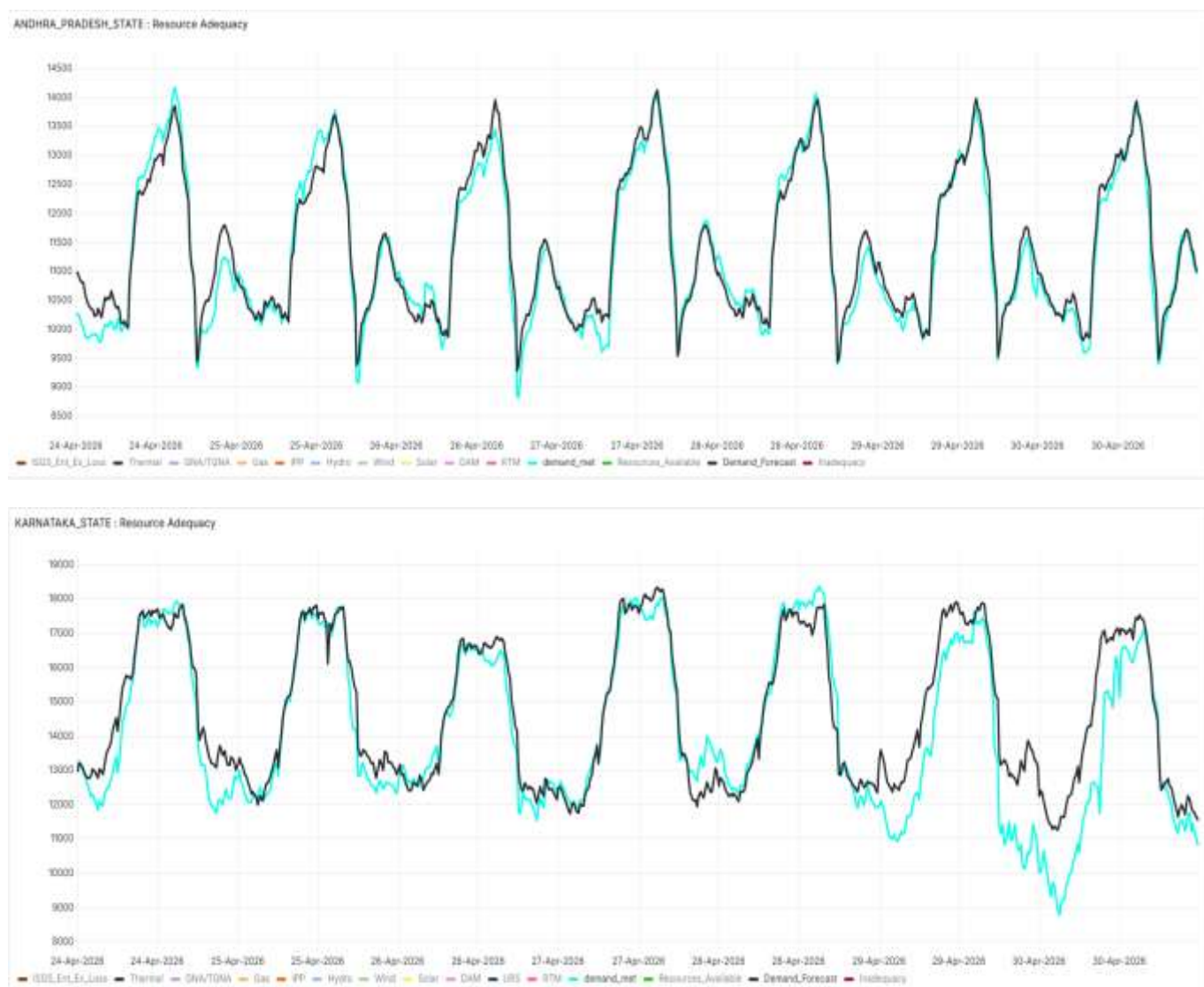
All SLDCs/SRLDC may respond

Deliberations

SRLDC informed that during certain days in April-2026, sharp reduction in demand had been observed around 17:45–18:00 hrs at all-India as well as Southern Region level. It was stated that, within a span of about 10 minutes, nearly 3400 MW demand reduction had been observed in the Southern Region.

It was further informed that analysis for the period from 24th April to 30th April indicated sharp evening demand reduction particularly in Andhra Pradesh and Karnataka. On an average, Andhra Pradesh had witnessed reduction of about 1200–1300 MW between 17:30–18:00 hrs, while Karnataka had experi-

enced reduction of about 1700–1800 MW during the same period. It was specifically mentioned that on 26th April, Karnataka demand reduction was around 1900 MW and Andhra Pradesh reduction was around 1200 MW.



SRLDC stated that due to the sudden demand drop, over-voltage and over-frequency conditions were observed and tripping of 765 kV Kurnool–Cuddapah Ckt-1 had also occurred under over-voltage conditions arising out of over-frequency. States were requested to stagger the load reduction/ramp-down process by either advancing or delaying the reduction by around 30 minutes so that the demand drop could be distributed over multiple time blocks.

APSLDC informed that substantial evening demand drop between 17:45–18:00 hrs was mainly on account of agricultural load reduction, particularly in APSPDCL area. It was stated that APSLDC had advised APSPDCL to stagger the load reduction by at least 30 minutes and distribute the reduction of around 900 MW over multiple blocks, limiting the reduction to not more than 300 MW per block.

It was further informed that APSPDCL had convened a meeting internally and action had been proposed to extend the agricultural load operation by another half an hour so as to reduce the demand slope. APSLDC stated that during the previous 2–3 days, the demand reduction slope had already decreased and further efforts were being made to ensure that demand reduction remains within 300 MW per block.

APSLDC further explained that agricultural feeders in Andhra Pradesh are predominantly being supplied during solar hours and around 9 hours of daytime supply is being provided. Due to sudden switching-off

of agricultural feeders around 18:00 hrs at the end of solar hours, steep demand reduction was occurring. It was stated that efforts were underway to stagger and extend the load reduction period to mitigate the issue.

ED, SRLDC appreciated the efforts being taken by APSLDC and requested that implementation details may be shared so that the impact of staggering could be monitored and reviewed in the subsequent OCC meeting.

APSLDC informed that, on the previous day, the demand reduction had already been limited to about 300–400 MW over two blocks and further discussions were being held for additional optimization measures.

SLDC, KPTCL stated that similar issues were being observed in Karnataka primarily due to agricultural/IP loads being catered during solar hours in line with Government policy and prevailing market conditions. It was stated that agricultural feeders are largely operated between 07:30 hrs and 18:00 hrs and the switching-over of these loads around the end of solar hours was resulting in sharp demand reduction during 17:30–18:00 hrs.

It was further stated that the issue is largely seasonal in nature and is more pronounced during April due to high demand conditions. SLDC, KPTCL informed that meetings would be conducted to explore further staggering and optimization measures.

ED, SRLDC observed that while Government policy requirements need to be complied with, technical aspects relating to system balancing and grid security also need to be adequately addressed. States were advised to examine suitable measures for staggering of such load reductions.

Conclusion

- ❖ *The forum noted the recurring steep evening demand drop in the Southern Region leading to over-frequency and over-voltage conditions, and the initiatives being taken by SLDCs, particularly APSLDC and KPTCL, to stagger agricultural load reduction.*
- ❖ *SLDCs to examine and implement suitable staggering of agricultural load reduction during evening hours to smoothen the Grid Operation avoiding sharp demand drops in the grid. The action taken would be discussed in next meeting.*

H) Persistent Non-Compliance in Timely Furnishing of Event Information by INDIGRID to SRLDC under Regulation 37(2) of the Indian Electricity Grid Code Regulations 2023

SRLDC vide letter dated 09.04.2026 (**Annexure-9h**), had communicated to INDIGRID regarding persistent non-compliance in timely furnishing of event-related information under IEGC Regulations, 2023.

SRLDC stated that:

- As per IEGC provisions, entities are required to furnish FIR, Disturbance Recorder (DR), and Event Logger (EL) data within stipulated timelines (e.g., DR/EL within 24 hours of the event).
- It was observed that, subsequent to takeover of 400 kV Koppal Substation by IndiGrid, event information has been consistently delayed or not submitted.
- Out of 19 events, data for ~95% of cases was either submitted beyond timelines or not submitted. Event details post 13.03.2026 were also not furnished despite lapse of time.
- The issue has been repeatedly deliberated in PCSC meetings, emphasizing the need for compliance. Such delays/non-submissions were viewed as **non-compliance to IEGC provisions** impacting disturbance analysis.