

**Recommendations by
Independent Power Producers
Association of India (IPPAI)**

On

Draft

**Central Electricity Regulatory
Commission
(Ancillary Services Operations)
Regulations, 2015**

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IPPAI's Comments & Suggestions

1. **Policy and Regulatory Framework:** International experiences show that regulatory interventions were vital to the success of models in the past for addressing issues such as reliability of power supply and utilization of stranded assets.

IPPAI's suggestion: State level regulations should be aligned with the Central level regulations.

2. **Renewable Energy and Short-term Generation Forecasting:** Share of renewable energy sources (RES) is growing as a percentage of total generation capacity. Given that RES are characterized by significant generation variation, a greater capacity share in future would raise significant concerns for the ability of the system to maintain frequency within desirable band. This would significantly depend on the ability of RES based plants to provide fairly reliable short-term generation forecast. International experience shows that it is possible to provide more reliable short-run forecast (at least within a range of 4-6 hours) to be able to assist the system operator in procurement and deployment of ancillary services.

IPPAI's suggestion: It is suggested that RE generators should adopt/develop tools for reliable forecasting of short-term generation forecasting. This can begin as a voluntary exercise for a period of 1-2 years followed by its mandatory adoption across all such plants (except microplants) and subsequent applicability of UI mechanism with narrow band of error for all RES based plants. It is also desirable that existing band of error for RE plants be narrowed down in a phased manner. This would itself provide incentive to improve short-term forecasting. It would also be prudent to evaluate the cost of ancillary services (especially RSAS) on account of variation / unreliable generation forecasting. This may help highlight the need for improvement in generation forecasting by RE plants. While it may not be possible to have a very reliable forecast during the initial phase, reliable data input and

model adjustments can provide more reliable estimates over time. This would help CERC and SERCs to evaluate the extent to which RE need to improve short-term generation forecasting so as to reduce the ancillary cost burden on the system.

3. **Smart Grid enabled Ancillary Services**: For India, the smart grid may offer a unique opportunity to leapfrog into a vastly improved electricity environment. There is great potential to provide grid modernization and load reduction technologies; hence it becomes pertinent that regulations for such ancillary services may be put in place.

Smart Grids can potentially revolutionize the electric grid by enabling (i) retail consumers to offer ancillary services such as demand response and (ii) distributed generators to offer ancillary services such as Frequency Control Ancillary Services (FCAS).

4. **International Experiences in Ancillary Services**: Ancillary Services are part of electricity markets in most of the developed power markets. Generally, ISO (Independent System Operator) procures Ancillary Services on behalf of all the generators and distribution utilities and collects the appropriate charges from the utilities and generators to compensate the Ancillary Service providers.

IPPAI's suggestion: In the current context of introducing ancillary services in India, it is useful to study market structures operational in international markets. IPPAI has already done significant research on international ancillary services markets of US, UK, Philippines, Australia and South Africa and would like an opportunity to present such international experiences to policy makers.

5. **Supply Side Bidding State Generation Plants**: The proposed Reserves Regulation Ancillary Services (RRAS) mechanism envisions that inter-state generating stations (ISGS) shall build their un-requisitioned capacity.

IPPAI's suggestion: In a similar manner state level plants should also be made part of supply side bidding through SERC level regulations to that effect.

6. **Public-Private partnership model in Reactive power support:** The existing system constituents have limited ability to address needs for reactive power through existing facilities. This would necessitate additional investments. CERC may provide an investment framework for private/public investment in facilities (such as capacitor banks) that can provide static/mobile reactive power support in the system.

IPPAI's suggestion: While location of such facilities would be determined through system studies, CERC may propose terms and conditions for payment of services to be provided by such facilities. Since these are to be location specific, one cannot see a regional/national market emerging in this context. CERC/SERCs may develop standards of performance and grid deployment of such facilities. A framework for return can be developed similar to that for generation/transmission plants. A mechanism for sharing of cost of reactive power support should be based on the location and beneficiaries of such facilities.