



21st Century

POWER PARTNERSHIP

Accelerating the transformation
of power systems

Peer-to-Peer Consultations

Ancillary Services Peer Exchange with India: Experience from South Africa, Europe & the United States

Overview

International experience and expertise in power system transformation is an increasingly vital resource for national and subnational decision makers. Tapping global expertise is not easy. In support of national and subnational decision makers, the 21st Century Power Partnership regularly works with country partners to organize peer-to-peer consultations on critical issues. In March 2014, 21st Century Power Partnership collaborated with the Regulatory Assistance Project to host two peer-to-peer exchanges among experts from India, South Africa, Europe, and the United States to discuss the provision of ancillary services, particularly in the context of added variability and uncertainty from renewable energy. This factsheet provides a high level summary of the peer-to-peer consultation.

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The 21st Century Power Partnership aims to accelerate the global transformation of power systems.

The Power Partnership is a multilateral effort of the Clean Energy Ministerial and serves as a platform for public-private collaboration to advance integrated policy, regulatory, financial, and technical solutions for the large-scale deployment of renewable energy in combination with deep energy efficiency and smart grid solutions.

Participants

- India: Central Electricity Regulatory Commission and Power Systems Operation
- South Africa: Siju Joseph of Eskom
- United States: Brendan Kirby of Kirby Consulting, Stephen J. Beuning of Xcel Energy
- Europe: Phil Baker of Regulatory Assistance Project - Europe

Background

Ancillary services are the primary mechanism for ensuring power system balancing and reliability at every moment of the day. Ancillary services requirements are unique to each power system, but across many settings the quantity and performance requirements are evolving in light of increasing amounts of variable renewable energy (e.g., wind and solar) and demand response in the portfolio.

The Government of India is considering several regulatory and market options to improve the provision of ancillary services, and the expert exchanges provide an opportunity for this decision-making to be informed by experiences elsewhere.

The dialogue, which occurred via web meetings in March 2014, were arranged at the request of India's Central Electricity Regulatory Commission (CERC) and Power System Operation Corporation (POSOCO).

The primary focus of the discussions included:

- The historical evolution of ancillary services provision, including predecessor approaches such as reserve sharing pools
- How ancillary services are categorized and procured in various regulatory settings
- Methods for assessing ancillary services requirements on an ongoing basis, particularly as penetration levels of variable renewable energy increase
- Co-optimization of the scheduling of energy and ancillary services
- The interplay between grid codes and ancillary services needs and requirements
- Various options for institutional procurement structures including policies, regulations, and markets
- Challenges in incentivizing ancillary services provision and preventing gaming

Next Steps

- CERC and POSOCO are evaluating how to apply experiences from international approaches to ancillary services to the Indian power system context
- 21st Century Power Partnership staff will meet with CERC and POSOCO leaders in early May to discuss further consultative support