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# PTC INDIA LTD. TRAINS NEIGHBORING COUNTRIES ON DESIGNING, MANAGING & OPERATING A POWER TRADING ENTITY

## TRAINING FOR SOUTH ASIA REGIONAL INITIATIVE FOR ENERGY INTEGRATION (SARI/EI)

- Delhi, India - Through funding from the U.S. Agency for International Development (USAID) South Asia Regional Initiative for Energy Integration (SARI/EI) program, 16 energy executives participated in training on the design, management and operation of a power trading entity. This training was the second of this type, following the successful completion of a first round, and on specific request from the participants' countries. Once again, the USEA training was conducted by PTC India Ltd. (India's largest power trader) and the National Power Training Institute (NPTI). As in Round 1, the activities were conducted in three modules of five days each, beginning in May, and ending in September of 2016. Modules 1 and 2 were conducted at NPTI Faridabad, and Module 3 was conducted at PTC's office in New Delhi. The topics covered the regulatory and policy environment, as well as specific issues related to power trading in India, and provided first-hand exposure on power exchange.



*Participants from Afghanistan, Bangladesh, Bhutan, Nepal, and Sri Lanka gathered at the National Power Training Institute in Faridabad, India for the first of three modules on designing, managing and operating a power trading entity.*

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## **BACKGROUND**

Although South Asia is one of the fastest growing regions in the world, shortages and poor service quality are common in the energy sector. In order to meet the increasing demand for energy, demand for imported oil has increased throughout the region. As a result, imported oil now accounts for more than a quarter of commercial energy needs in these countries. Despite the tremendous benefits of regional cooperation, the region lags significantly behind most, if not all, regions of the world in energy trade and regional integration. Limited cross-border transmission interconnections and cross-border trading transactions are taking place only between India and Bhutan, India and Bangladesh and to a lesser extent between India and Nepal. Despite the complementarities of the energy resource base of Nepal and India, the two countries have barely begun to exploit the potential opportunities for cross-border electricity trade (CBET). (Source: USAID)

Since 2000, USAID's South Asia Regional Initiative/Energy (SARI/E) program has focused on advocating energy cooperation in South Asia. The program is now in its fourth phase, focusing on advancing regional energy integration and cross-border energy trade in the eight South Asian countries (Afghanistan, Bangladesh, Bhutan, India, Pakistan, Nepal, Sri Lanka & Maldives). This current phase, titled South Asia Regional Initiative for Energy Integration (SARI/EI), is designed to build upon SARI/Energy's successful initiatives of the past to move South Asian countries towards increased regional energy security.

While India has been conducting cross-border electricity exchange for decades, the expanded Nepal-India interconnection will represent a substantial step for Nepal. To assist, USAID SARI/EI assigned the United States Energy Association (USEA) with the task of implementing a program focused on capacity building for the Nepalese. This training is part of a series of capacity building activities to lend support to Nepal, as well as to the other SARI/EI countries.

Energy cooperation between India and Nepal has recently become well-established. Nepal currently imports 345 Mw from India, mostly through four transmissions lines: 80 MW through Dhalkebar-Muzaffarpur, up to 120 MW through Kataiya-Kushhawa, 30 MW through Tanakpur-Mahendranagar and up to 25 MW through Ramnagar-Gandak. These imports help to partially offset Nepal's severe electricity deficit, although even with these imports, Nepal still experiences an average of 48 hours of load shedding a week, down from 63 hours a week at the beginning of the year. Nepal and India recently agreed in principle to build another 11 cross-border transmission lines line, including one from Butwal to Gorakhpur to back up the Dhalkebar-Muzaffarpur line. By 2017, Nepal plans to import 600 MW from India, increasing to 1,000 MW by 2022.

## **PRIMARY WORKSHOP OBJECTIVES**

Following a request on the part of the Nepalese government and with the support of USAID, USEA worked with PTC India and the National Power Training Institute to organize three week-long workshops to help build capacity for designing, managing and operating a power trading entity and to provide a clearer understanding of the principle issues involved in setting up a such an entity in their countries. The main objective of the training was to improve the technical capacity of the Nepal Electricity Authority, Government of Nepal representatives and participants from Nepal's private sector to establish a power trading entity in Nepal. Although the training was mainly targeted at the Nepal power sector, participants also included one representative each from Bangladesh, Bhutan, and Sri Lanka. A total of sixteen delegates were selected.

## **SUMMARY OF KEY ISSUES/DISCUSSIONS**

In order to provide delegates with this training, Module 1 emphasized the various rules, regulations and policies that govern the operating environment in the Indian power sector. Module 2, which was envisaged as a natural progression from Module 1, focused on setting up a power trading entity and included the step-by-step actions of power traders. Module 3 targeted role play sessions, mock bidding exercises, and hands-on-training in the

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PTC control room for practical exposure on power trading operations. It also included a visit to the Indian Energy Exchange (IEX), India's premier power trading platform.

Modules 1 and 2 of the training were conducted at the NPTI facilities in Faridabad, India on June 6 – 10 and August 1 – 5, 2016, respectively. Module 3 was conducted at PTC's office in New Delhi on September 5 – 9, 2016.



*Mr. Mark Newton (second from right), Acting Director, CLEEO, USAID/India highlighted the need and impact of capacity building programs on regional energy cooperation amongst the SARI/EI*

The inauguration of Module 1 was conducted by the Acting Director, Clean Energy and Environment Office, (CLEEO), USAID/India, Mr. Mark Newton. Mr. Newton highlighted the need for, and impact of, such programs on regional energy cooperation amongst the SARI/EI countries. He commended USAID, USEA, PTC and NPTI for coming together to provide such a learning platform to the participants which would help further efforts to create a vibrant power market in the South Asian region.

In his inaugural address, Mr. Deepak Amitabh, Chairman and Managing Director, PTC India Ltd., expressed his satisfaction with the demand for a second round of this program by the SARI/EI countries. He underlined the various power transactions being undertaken by PTC India with its neighboring countries of Bhutan, Nepal and Bangladesh, and reiterated the commitment of PTC to helping other countries develop their own structures for intra-country and inter-country energy transactions.

Modules 2 and 3 began with informal openings by senior PTC and NPTI officials. During the Round 2 training, participants learned about the various rules, regulations and governing policies that shape its operating environment in the Indian Power Sector. The participants gained in-depth knowledge on Indian power sector in general; Indian Electricity Act 2003; open access; the role of load dispatch centers; the roles and functions of Indian power traders; the process of setting up of a power trading entity; the role of IPPs in the power market; how to draft power purchase/sales agreements; tariff models; congestion management in real time system operation; HR and infrastructure requirements; project financing; legal and contractual framework of power trading; unscheduled interchange and availability-based tariff mechanisms; trade in renewable energy; the competitive bidding process; billing procedures and more.

The participants were taught by senior officials from government and private organizations in the power sector. Each shared their insights along with their personal experiences.

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## RESULTS & NEXT STEPS

The participants completed an assessment that was designed to measure their understanding on the topics covered, the relevance of the training program and the overall rating of the training. The participants reported on their understanding on the various topics, both before and after the activity, and reported a substantial increase in their understanding in almost all the subjects. Some of prominent subjects were Deviation Settlement Mechanisms; Exchange Products, Procedures for Bilateral Energy Trade; and Solar Policy in India.



The participants greatly improved their understanding of the topics covered, and found the topics to be very relevant. Participants particularly benefitted from the training provided on the following topics:

- Deviation Settlement Mechanism
- Power Trading entity
- Open Access Regime in India (Transmission charges related)
- Power Exchange (Exchange Products)
- Exercise on Mock Bidding
- Hands on training at the PTC Control Room
- Visit to Indian Energy Exchange



*Visit to Indian Energy Exchange (IEX)*

At the end of the Module 3 sessions, a valedictory function was held, attended by senior officials of PTC and NPTI. During the feedback session, participants expressed their appreciation and gratitude to USAID, USEA, PTC and NPTI for holding such an exceptional training which was an eye opener for them. They promised to disseminate the knowledge they gained from this training, to their subordinates, colleagues and supervisors.

Certificates were distributed to the participants for successful completion of the training. USEA plans to conduct a similar round of training in the coming year again for Afghanistan, Bhutan, and Nepal.



*Groups preparing for the role play session*

## UTILITY EXCHANGE PROGRAM SPEAKERS AND PARTICIPANTS

### 1. SPEAKERS

- Mr. T N Thakur, ex-CMD, PTC India Ltd.
- Mr. Harish Saran, Ex. Director, Marketing, PTC
- Mr. Sandeep Vohra, Asst. Vice President, Operations, PTC
- Mr. Manish Chaudhari, Asst. Chief - Finance, Central Electricity Regulatory Commission (CERC)
- Mr. R K Verma, Chief Engineer, Central Electricity Authority (CEA)
- Mr. B P Bhandary, Director, National Productivity Council (NPC)
- Goutam Chakraborty, Dy. General Manager, National Load Despatch Center (NLDC), Power System Operation Corporation Ltd. (POSOCO)
- Mr. S C Shrivastava, Chief- Engineer, CERC
- Ms. Indu Maheshwari, Asst. Prof., NPTI
- Ms. Shilpa Agarwal, Dy. Chief- Engineer, CERC
- Mr. S. S. Barpanda, Additional General Manager, NLDC, POSOCO
- Ms. Shilpi Dewan, Sr. Executive, Indian Energy Exchange (IEX)
- Mr. Anil Kumar Meena, Chief Design, Engineer, Powergrid Corporation of India Ltd.
- Mr. Pankaj Ekbote, Additional General Manager, NTPC Ltd.
- Mr. Pawan Kumar, Sr. Engineer, NLDC, POSOCO

### 2. PARTICIPANTS

#### Nepal

- Mr. Raju Maharjan, Senior Divisional Engineer, Ministry of Energy
- Mr. Shribhadra Gautam, Finance Officer, Ministry of Energy
- Ms. Pratibha Manandhar, Senior Divisional Engineer, Ministry of Energy
- Mr. Bibhu Bikram Shah, Manager, Hydro Projects, Office of the Investment Board
- Mr. Satish Narajan Joshi, Principal Manager, Office of the Investment Board
- Mr. Jaya Raj Bhandari, Joint Director, Nepal Electricity Authority
- Mr. Lunar Shrestha, Deputy Manager, Nepal Electricity Authority
- Mr. Tirtha Raj Neupane, Charter Accountant, Nepal Electricity Authority
- Mr. Narendra Bir Shrestha, Assistant Manager, Nepal Electricity Authority
- Mr. Ananta Upreti, Assistant Manager, Nepal Electricity Authority

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- Mr. Ramesh Paudel, Assistant Manager, Nepal Electricity Authority
  - Ms. Mandira Adhikari, Engineer, Nepal Electricity Authority
  - Mr. Om Prakash Mandal, Engineer, Nepal Electricity Authority

### **Bangladesh**

- Mr. Mir Mothaher Hossain, Chief Staff Officer to Managing Director, Power Grid Company of Bangladesh

### **Bhutan**

- Mr. Sonam, Engineer, Department of Hydropower & Power Systems, Ministry of Economic Affairs

### **Sri Lanka**

- Mr. K L R Chandana Wijayasinghe, Director, Power & Energy, Ministry of Power & Renewable Energy

*For more information about the South Asia Regional Initiative for Energy Integration, please contact Ms. Sarah Blanford at [sblanford@usea.org](mailto:sblanford@usea.org).*