



AGENDA

# OVERVIEW OF INDIA'S CURRENT MARKET STRUCTURE

**July 16 – 20, 2007**

**New Delhi, India**

**Conducted by the  
U.S. ENERGY ASSOCIATION  
Under the  
SOUTH ASIA REGIONAL INITIATIVE FOR ENERGY (SARI/ENERGY)  
Funded by the  
U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT**

## DRAFT AGENDA FOR EXECUTIVE EXCHANGE

**GOAL:** The Executive Exchange is designed to provide the participants with a better understanding of the regulatory, technical and financial mechanisms behind the current Indian electricity trade practices and the contemplated power market as it would impact prospects for cross-border trade. During the visit, participants will have the opportunity to meet with operators, regulators and policy makers, and discuss the technical, legal and regulatory issues, and operations involved in the current market operations.

**TARGET AUDIENCE:** Officials involved in cross border interconnection and federal level regulators from Nepal, Bangladesh, Sri Lanka and Bhutan.

### OBJECTIVES:

- Understand the emerging structure of electricity sector in India
- Meeting with regulators, transmission system operators, electricity planners and other key players.
- Discuss the salient features of load dispatch operation in India.
- Discuss the availability based tariffs (ABTs)
- Discuss the role of traders of both physical as well as financial products in a market & in bilateral trading
- Discuss the role of the regulator in a power exchange market
- Understanding of how cross-border trade is currently managed, and how it will be managed in the future emerging power exchange

### OUTCOMES:

- Understanding of how electricity is traded within India, the evolution of trade and future plans & direction
- Understanding of how to trade electricity across borders with India – available mechanisms and options
- Understanding of how interconnections to and from India and *access to* the Indian electricity network and market place can facilitate the growth of their national energy sectors – e.g. how the current electricity sale and purchase framework can incentivize construction of new infrastructure and better operation of existing infrastructure.

### Executive Exchange Participants

#### Bangladesh

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Former Secretary of Energy

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**USAID/Nepal**

**Sri Lanka**  
**H.D.S. Thimothies**  
**Chief Engineer (Operations Planning)**  
**System Control Centre**  
**Ceylon Electricity Board**

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**J. Nanthakumar**  
**Chief Engineer (Operations Audit)**  
System Control Centre  
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**Ms. T.A.K. Javasekera**  
**Chief Engineer (Transmission Planning)**  
Transmission Planning Section  
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**Dr. L.D.L. Perera**  
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**Junior Executive (Electrical)**  
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July 15, 2007

Arrive in New Delhi

**Lodging: Shangri-La Hotel**  
19, Ashoka Road, Connaught Place  
New Delhi - 110001, India  
T: (91 11) 4119 1919  
F: (91 11) 4119 1988

## DAY 1: MONDAY, JULY 16, 2007

Central Electricity Regulatory Commission – at [Habitat Centre \(Willow Hall\)](#)

- 8:45 am Depart hotel for Habitat Centre
- 9:30 – 9:35 am Welcome note by USAID
- 9:35 – 9:45 am Inaugural speech on electricity markets in India (Member Bhanu Bhushan)
- 9:45 – 1:00 pm **Speaker: Mr Bhanu Bhushan, Member, CERC**  
ABT including UI mechanism:
- Capacity Charge
  - Energy Charge
  - Frequency linked real time settlement (UI) mechanism
  - Scheduling and merit order dispatch under ABT
  - Availability based Incentive
  - Reactive energy management
  - Special energy meters and energy accounting
  - Harnessing captive and renewable sources through UI mechanism
  - Grid Code
- 1:00 – 2:00 pm Lunch
- 2:00 – 5:00 pm **Speaker: Mr. Ravinder, Chief (Engineering), CERC**
- Evolution of Open Access in India since 2003
  - Overview of Electricity Trading in India
  - Electricity market development
  - Update on developing Power Exchange
  - Tariff based competitive bidding in generation and transmission
- 5:00 pm Adjourn

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## DAY 2: TUESDAY, JULY 17, 2007

**Visit to National Thermal Power Corporation: Electricity Generation and Trading**

- 9:00 am Depart hotel for NTPC Office / PMI Office
- 9:45 am Arrive at NTPC

10:00 – 10:45 am	About NTPC <ul style="list-style-type: none"> <li>• Overview of power generation portfolio</li> <li>• Investment plans</li> </ul>
10:45 – 11:30 am	Trading and Power Exchange <ul style="list-style-type: none"> <li>• NTPC Vidyut Vyapar Nigam operations</li> <li>• Bilateral and ABT trading</li> </ul>
11:30 – 12:15 am	Investments in South Asian Countries <ul style="list-style-type: none"> <li>• Investment in Coal based power plant located in Sri Lanka</li> <li>• Investment in hydro power projects in Nepal and Bhutan</li> </ul>
12:15 – 1:00 pm	Lunch
1:00 pm	Depart for NTPC Dadri Power Generation facility
3:00 - 5:30 pm	Visit to Coal based thermal power plant and gas based combined cycle power plant Concurrent visit to 400 kV HVDC transmission line control room at Dadri
5:30 pm	<u><a href="#">Dinner by NTPC at Dadri Guest House</a></u>
8:30 pm	Return to Hotel

## DAY 3: WEDNESDAY, JULY 18, 2007

### Visit to Power Trading Corporation (PTC)

9:30 am	Depart hotel for Power Trading Corporation (PTC)
10:00 am	Arrive at PTC
10:05 am	Introductions and overview of PTC
10:45 am	Energy Trading in India <ul style="list-style-type: none"> <li>• Inter-regional energy exchange</li> <li>• Intra-regional energy exchange</li> <li>• Level of trading in India</li> <li>• Short term versus long term trades</li> <li>• Contracts and settlement of payments</li> </ul>
12:00 noon	PTC: Trading With Other Countries <ul style="list-style-type: none"> <li>• Structure of international trades</li> <li>• Settlement of payments</li> <li>• Guarantees</li> </ul>
12:30 pm	Market Development: Ways Forward From a Trader's Perspective <ul style="list-style-type: none"> <li>• Day Ahead Market</li> <li>• National market design</li> <li>• Challenges to further development of power market in India</li> </ul>
1:15 pm	Lunch

- 1:45 pm Depart for Reliance Energy Trading Ltd.  
2/22A, Shanti Niketan, New Delhi 110021
- 2:15 pm Overview of Reliance Energy Trading
- Inter-regional energy exchange
  - Intra-regional energy exchange
  - Level of trading in India
  - Short term versus long term trades
  - Contracts and settlement of payments
- 3:30 pm Market Development: Ways Forward From a Trader's Perspective
- Day Ahead Market
  - National market design
  - Challenges to further development of power market in India

## **DAY 4: THURSDAY, JULY 19, 2007**

### **Visit to Power Grid Corporation's Northern Regional Load Dispatch Center**

Location: 18-A, Qutub Institutional Area, New Delhi 110 016

- 8:00 am Depart hotel for Regional Load Dispatch Center (RLDC)
- 9:15 am Arrive at RLDC
- 9:30 – 10:00 am Overview of Power Grid and RLDC
- Prudent operational practices
  - Maintenance
  - Free Mode Governor Operation
  - Modernization of system
  - Interstate system protection
  - Interconnection issues
- 10:00 – 10:45 am Grid management
- Establishment of RLDC's and functions
  - Real-time grid operation
  - Load control
- 10:45 – 11:45 am Power Grid and ABT
- Facilitated implementation of ABT for grid management
  - Optimum scheduling and dispatch
- 11:45 – 12:45 pm Energy Accounting
- Settlements with generators and utilities
  - How ABT payments are settled
- 12:45 – 1:30 pm Live demonstration of load flows and dispatching
- 1:30 – 2:30 pm Lunch
- 3:00 pm Depart for CEA

Sewa Bhawan, R.K. Puram, 2<sup>nd</sup> floor

4:30 pm Transmission Planning

7:30 pm Dinner with executives from energy companies (location TBD)

## DAY 5: FRIDAY, JULY 20, 2007

### Visit to Malana Power Company Ltd

9:30 am Depart hotel for Malana Power Company Ltd.  
Bhilwara Towers, A-12, Sector-1, Noida 201301

11:00 am Power sales and energy trading from the Genco perspective

- Level of trading
- Arranging trades
- Terms of trades
- Short term versus long term trades
- Contracts and settlement of payments
- ABT and its effect on trading

1:00 pm Lunch

2:00 pm Depart for meeting with PWC

3:00 pm Presentation on electricity markets by PWC (Shangri-La Hotel)

—Mr. Chandrashekar Iyer, Associate Director

Mr. Shubhranshu Patnaik, Executive Director

- Analysis of the mechanisms and progress
- ABT
- Analysis of the mechanisms and progress
- Challenges to further development of power market in India

## SATURDAY, JULY 21, 2007

Delegates depart for home.

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