



SOUTH ASIA & CENTRAL ASIA EXECUTIVES SHARE BEST PRACTICES IN ELECTRICITY TRANSMISSION & DISTRIBUTION

WASHINGTON, DC, Apr. 26, 2011 – The United States Agency for International Development (USAID), in partnership with the United States Energy Association (USEA), recently convened over 40 senior energy officials from 12 nations as part of a *South Asia & Central Asia Executive Workshop on Best Practices in Electricity Transmission and Distribution*. From March 21 – 23 in New Delhi, India, participants in this regional forum shared best practices for the operation of efficient and reliable electricity systems, including effective transmission and distribution reforms, renewable energy deployment and low carbon power development, and emerging technologies such as Smart Grid. Opportunities and challenges to expanded cross-border electricity trading were addressed throughout the workshop.

The delegates examined the effectiveness of the various policies and technologies utilized in each country's electricity systems. The workshop examined best practices in electricity transmission, focused on low-carbon development strategies, involved site visits to a local utility's SCADA center, substation, and customer service center, and highlighted best practices in electricity distribution. U.S. electric utility experts from the Bonneville Power Administration (BPA) and Sacramento Municipal Utility District (SMUD) participated each day to provide U.S. perspectives and lessons learned.



Jeremy Gustafson, Director of the Clean Energy & Environment Office of USAID/India, welcomed the delegates to New Delhi on March 21, 2011.



Khamidilla Shamsiev (left), Director of Central Asia's Central Dispatch Center Energia, which was established with USAID support, discusses regional transmission dynamics. USEA Program Manager John Hammond (right), moderated the workshop.

BEST PRACTICES IN ELECTRICITY TRANSMISSION

USAID's Director of the Office of Clean Energy & Environment, Jeremy Gustafson, opened the workshop by welcoming the delegates to New Delhi, and emphasizing the significant opportunities for cross-border electricity trade in South Asia and Central Asia, while recognizing the unique challenges and characteristics across the region. He reiterated USAID's longstanding support of regional power development.

Cross-Border Trade

Tony Rodrigues, a retired transmission expert from BPA, led off the presentations by highlighting the U.S. experience in cross-border power trading, including U.S.-Canada interconnections, water rights issues addressed in the Columbia River Treaty, hydropower flood control responsibilities, and the financing and governance of international agreements. Khamidilla Shamsiev, Director of the Central Dispatch Center Energia in Tashkent, Uzbekistan, followed by describing the history, development, and lessons learned from power trading in Central Asia. CDC Energia manages 220 and 500 kW interconnected grids in the region, and provides technical evaluation of all contracts between major power systems and power plant upgrade projects. He stressed the importance of mutual agreements to ensure equitable water usage for power and agriculture.

Bhutan – India – Nepal Joint Panel on Transmission Interconnections

Following the U.S. and Central Asian perspectives, Bhutan, India, and Nepal jointly chaired a panel discussion on their transmission interconnections, ongoing transactions, and remaining challenges. PTC India Limited described its role in facilitating electricity trade in South Asia, while Gem Tshering, Director of Transmission for the Bhutan Power Corporation, and R.C. Pandey, the General Manager of the Nepal Electricity Authority, outlined operational responsibilities and supply and demand dynamics in the region, including new transmission projects planned and under construction. All three countries expressed optimism that their participation in USAID's South Asia Transmission Utility Regional Network (SATURN) would smooth developmental challenges to expanded cross-border trade.



Bhutan Power Corporation's Director of Transmission, Gem Tshering, discusses regional power dynamics adjacent to delegates from Tajikistan and India.



Kanysh Moldabayev, Head of National Power Grid Development for KEGOC, describes Kazakhstan's significant recent investments in transmission infrastructure.

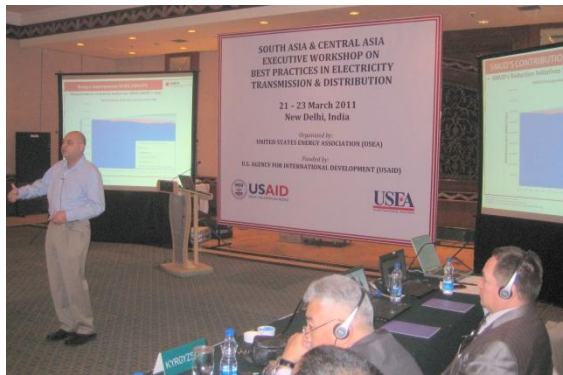
System Reliability

In the afternoon of the first day's session focusing on transmission, delegates from Afghanistan, Kazakhstan, and Sri Lanka detailed their countries' best practices to ensure transmission system reliability. Issues addressed included technical hardware and software utilized, outage planning, system monitoring, emergency response requirements, reliability requirements, and movements toward implementing aspects of Smart Grid technologies. BPA's Tony Rodrigues also provided a presentation on U.S. system reliability requirements, including

emphasis on resource and demand balancing, and North America's electric system reliance upon the "control area concept," whereby control areas are obligated to follow established reliability criteria while being required to continuously match the prevailing load with their generation assets.

At the conclusion of the session, the delegates attended the launch of USAID's SATURN program, chaired by Erin Soto, Mission Director for USAID/India.

LOW CARBON POWER SECTOR DEVELOPMENT



Jaspal Deol describes SMUD's renewable energy portfolio and California's climate legislation as Kyrgyzstan's delegates look on.

The workshop also focused on low carbon power sector development strategies in the morning. Mr. Jaspal Deol, Manager of Substation Design, Construction, and Maintenance with SMUD, highlighted his utility's pioneering efforts in the fields of renewable energy deployment, energy efficiency programs, demand side management, and advanced metering technologies. He also candidly addressed barriers to implementation, including costs, public perception, NIMBY attitudes, and technological challenges. Deol also detailed California's legislative initiatives to reduce greenhouse gas emissions.

Renewable Energy Standards

Tony Rodrigues supplemented SMUD's presentation by detailing Oregon's Renewable Portfolio Standard (RPS), including specific action plans implemented by PacifiCorp, PGE, and Idaho Power, major utilities in the Pacific Northwest. He also reviewed Oregon's Emissions Performance Standard, and how the state is meeting demand without building new coal stations but instead increasingly deploying wind turbines and natural gas plants. Rodrigues summarized the barriers to low carbon power sector development as successful wind integration, costs associated with modifying or closing existing fossil plants, current inadequate transmission for wind, and opposition to rate increases.



Tony Rodrigues, BPA (Ret.) describes Oregon's Renewable Energy Standard and barriers to renewable energy deployment.



Delegates from Afghanistan, Sri Lanka, and Maldives outside one of NDPL's newest substations in New Delhi.



NDPL describes their customer-driven philosophy at one of their numerous customer service centers in New Delhi on March 22, 2011.

Site Visits to North Delhi Power Limited

Following the morning presentations, the entire delegations of each of the 12 countries in attendance departed for site visits hosted by North Delhi Power Limited, one of India's most successful utilities in terms of loss reduction and reliability improvements. They visited an NDPL SCADA Center, newly constructed substation, and a customer service center.



Delegates from Bangladesh and Uzbekistan inside one of NDPL's newest substations in New Delhi.

BEST PRACTICES IN ELECTRICITY DISTRIBUTION



Sri Lanka's delegation delivers remarks on distribution reform on the final day of the workshop, March 23, 2011.

The final day of the workshop featured SMUD's experiences in loss reduction and system reform, including best practices in system operation and maintenance, enhancing workforce capabilities, improving customer service, and reducing distribution losses. SMUD's vast and integrated SCADA system has greatly enhanced their distribution efficiency improvements. SMUD's Outage Management

System, emergency response plan, and predictive maintenance program were highlighted as well.

The afternoon also featured a panel discussion on loss reduction and related distribution reforms, highlighting progress achieved in Sri Lanka, Kyrgyzstan, and Tajikistan to reduce losses, increase revenue, and improve customer service. The workshop concluded with a summary discussion and awarding of certificates to the delegations.



The workshop was held at the Sheraton New Delhi Hotel from March 21 – 23, 2011.

RESULTS

This workshop brought together senior transmission and distribution officials from Central and South Asia to examine best practices in electricity transmission and distribution, with a focus on areas of regional cooperation and possible power trading. The workshop resulted in:

- Increased understanding of best practices in electricity transmission and distribution, both in the United States as well as in neighboring countries;
- Fostered regional cooperation and increased understanding of opportunities and obstacles to greater integration;
- Witnessed first-hand the operation of distribution substations, customer service centers, and planning centers at one of India's most respected utilities, NDPL.

CONTACT

For additional information about this program, please contact John Hammond, USEA Program Manager, at jhammond@usea.org or (202) 312-1230.



Electricity transmission and distribution experts from 12 nations gather in New Delhi, India at the conclusion of USAID's South Asia & Central Asia Executive Workshop on Best Practices in Electricity Transmission & Distribution on March 23, 2011.

WORKSHOP PARTICIPANTS

Afghanistan

DABS-Afghanistan

Mr. Abdul Razique Samadi, CEO
 Mr. Gulla Jan Hairan, COO
 Mr. Baktash Nasiri, Acting PMO Director
 Mr. Wali Oria, Deputy Head Planning
 Mr. Nangyali Miakhail, Planning Engineer

Bangladesh

Power Grid Company of Bangladesh

Mr. Bazlul Munir, Manager
 Mr. Premendra Kumar Roy, Director
 Mr. Pranab Kumar Roy, Manager (MIS)

Bhutan

Bhutan Power Corporation

Mr. Jai Dev Sharma
 Mr. Gem Tshering, Director – Transmission
 Mr. Thinlay Gyeltshen, GM, Transmission
 Mr. Sonam Gyeltshen, Regional Manager
 Mr. Ghana Shyam Tamang, Engineer

India

Mr. Sanjeev Mehra, EVP, PTC India Limited
 Mr. Bubbar Singh, Assistant Manager, NDPL
 Mr. Abhishek Mukhija, Manager, NDPL

Kazakhstan

Mr. Kanysh Moldabaev, Head of National Power Grid Development, KEGOC
 Mr. Alexander Reizlin, Director of Distribution
 Unit, Akmola Regional Electric Company

Kyrgyzstan

Mr. Bapa Zhanybekov, Chief of Commercial Dispatch Center, NESK
 Mr. Askar Kolchaev, Head of Commercial Balance Department, Severelectro

Maldives

State Electric Company Limited

Mr. Ibrahim Nashid, Engineer
 Mr. Ahmed Marsoom, Engineer

Nepal***Nepal Electricity Authority***

Dr. Jivendra Jha, Managing Director
Mr. R.C Pandey, General Manager
Mr. Rajan Dhakal, Asst. Manager
Mr. Shyam Shrestha, Grid Operation
Mr. Shekhar Datta, Janakpur Regional Office
Mr. Ramchandra Gupta, Butwal Office

Sri Lanka

Mrs. S.P. Pathirana, Deputy GM, CEB
Mrs. D. Thilakasena, Deputy GM, CEB
Mr. W.A.J.K. Amarasinghe, Deputy GM, CEB
Mr. Rasanga Fernando, Engineer, LECO

Tajikistan

Barki Tajik

Mr. Fayzullo Avezov, Director, Kairakum
HPS

Mr. Musoqul Azizov, Director, Penjiken REC

Uzbekistan***Uzbekenergo***

Mr. Muzaffar Hakimov, Director

Central Asia***CDC Energia***

Mr. Khamidilla Shamsiev, Director,

United States

Mr. Jeremy Gustafson, USAID/India

Mr. Amol Bhutad, USAID/India

Mr. John Hammond, USEA

Mr. Matthew Gebert, USEA

Mr. Michael Hajny, USEA



The workshop coincided with the spring festival of Holi, providing several participants to observe one of India's biggest cultural celebrations.