U.S. & International Energy Experts Share Best Practices in Loss Reduction & Customer Service

Metering, Billing & Loss Reduction: A Regional Workshop for Distribution Utilities

Lagos, Nigeria – Utility executives, regulators and ministry officials from more than thirty-five organizations gathered in Lagos to participate in a regional workshop funded by USAID and Power Africa.. The three-day conference, held at the National Power Training Institute of Nigeria (NAPTIN) Akangba Regional Training Center, focused on best practices in collections, billing, smart meter integration, theft reduction, employee engagement and customer service. Participants from Nigeria, Benin, Burkina Faso, Cote d'Ivoire, The Gambia, India, Niger, the Philippines, South Africa and the United States met with their peers and subject matter experts to discuss strategies to improve distribution utility performance. The presentations covered a range of issues including reduction of technical losses, employee performance, community engagement, combatting pilferage, pre-paid metering and smart grid applications.

Workshop participants from ten countries gather with international experts in Lagos, Nigeria.

Launched by President Obama in June 2013, the Power Africa Initiative aims to double the number of people who have access to electrical power in Sub-Saharan Africa. Power Africa will bring to bear a wide range of U.S. government tools to support investment in Africa's energy sector. From policy and regulatory best

practices, to pre-feasibility studies and capacity building, to long-term financing, insurance, guarantees, credit enhancements and technical assistance, Power Africa will provide coordinated support to help African partners expand their generation capacity and access.

This workshop was organized and conducted by the U.S. Energy Association (USEA) on behalf of USAID, in collaboration with NAPTIN.

LOSS REDUCTION: TACKLING ENERGY THEFT AND OUTAGE MANAGEMENT THROUGH COMMUNITY ENGAGEMENT

Commercial loss reduction/control programs are paramount to the success of any electricity distribution company. Many of the West African distribution companies present cited outage management, and the customer relationship problems fueled by frequent outages, as one of their biggest challenges. Mr. Joe-Mel Zaporteza, Technical Specialist and System Loss Project Manager at MERALCO, described some of the many causes of outages that his company faces – both in the Philippines and in Nigeria. He explained the importance of managing and preparing for planned outages for maintenance or repair, including modeling the anticipated impacts in an appropriate software program, providing a suitable back-up supply if possible, and ensuring that affected customers are notified well in advance. Managing customer expectations and keeping them informed is just as challenging and critical to smooth operations as the physical repairs. Relatedly, good customer relationships help the utility during unplanned outages, when customers contact the utility to report an outage, inquire about service restoration and so forth. In this case, the utility company must quickly identify the problem and resolve it. Mr. Zaporteza noted the most common solutions for forced outages are: fault location, isolation, load shifting, and manual load dropping.

American and International experts answer questions from the audience. From left to right: Joe-Mel Zaporteza, MERALCO; Gert Booysen, GE Energy Management; and Dr. Lawrence Jones, PhD, Alstom Grid.

Proper planning and an efficient system control center can help mitigate outage management issues. However, billing inefficiencies, a lack of meters and energy theft are multifaceted problems hindering the commercial viability of West African utility companies. Energy theft, bill estimation, falsified meter readings and lead to inaccurate billings, lost revenue for the utility, higher costs for the remaining customers who pay their bills, poor quality service and ultimately customer disdain and disloyalty towards the utility on a broad scale. Ultimately, the utilities are unable to ensure reliable energy provision. Experts from the Philippines, India, and the United States offered their perspectives on tackling the situation. Dr. Lawrence Jones, Vice President of Utility Innovations & Infrastructure Resilience at Alstom Grid recommended technological solutions to prevent outages. Dr. Jones discussed various smart grid applications – including selective introduction of microgrids in appropriate areas - that are capable of capturing and processing information and responding to system changes in a rapid and predictable fashion. On the revenue side, automated meter reading reduced the opportunity for theft by the customer, dishonesty by the utility employee, or disagreements between the two parties. Many African distribution utility executives remarked that their company representatives are in danger when visiting customers' homes. In other instances, the company reported losses due some representatives accepting bribes or unofficial payments from customers.

Mr. Sarvadeva Majumder, General Manager of New Initiatives, shared photos and experiences of the different forms that energy theft has taken in CESC's Kolkata, India service territory. Similar to the communities served by the African utility companies, energy theft often occurs either through the illicit tapping of distribution lines and/or meter tampering. Mr. Majumder advised that utility companies provide better security and protection of their assets by installing their meters in hard-to-reach locations, providing surveillance of key distribution lines and working with their regulators to enact laws against power theft. Furthermore, Mr. Joe-Mel Zaporteza, followed with anecdotal examples how the energy utilities in the Philippines engage their communities in reporting energy theft, followed by publication in the local newspapers of the prosecuted individuals' names and photos to raise awareness (and also discourage future incidents). Both speakers advised that engaging their respective communities helped them tackle the issue of energy theft through customer enumeration and community awareness.

EMPLOYEE ENGAGEMENT AND CUSTOMER SERVICE

While outage contingency plans, efficient metering and better billing systems are vital for an any energy distribution utility, many conference participants also learned about the importance of internal human resource management and customer engagement. As Mr. Majumder shared, "engaged employees lead to happier customers who lead to greater revenue." Smart meters may be more powerful tools than electromechanical meters, but if employees are not properly trained on how to use new technologies, the utility's meter readings will not be any more accurate. Drawing from his experience at CESC, Mr. Majumder shared the outcomes of using employee incentive programs through the use of Engagement, Learning, and Development (L&D) as well as retention and talent management programs. He recommended that companies have regular technical trainings for any new technology as well as regular customer service training. With the combination of both technical and customer service training, the company can ensure that their representatives are both knowledgeable on the concerns of their customers as well as empathetic to their needs. In addition to promoting employee technical training programs, Majumder advised that senior-level executives organize company-wide events to boost employee morale and motivation.

Sarvadeva Paul Majumder, CESC and Noel Obiora, California PUC discuss the importance of customer engagement vis-à-vis improving collections.

Other speakers discussed the importance of customer service. Mr. Jacob Abela, Marketing and Customer Care, Ibadan Electricity Distribution Company and Mr. Elijah Abinah, Assistant Director, Utilities Division, Arizona Corporation Commission presented techniques for increasing customer engagement and improving customer service. Conference participants commented that many of their companies were often unclear as to the regulations they needed to follow. Unfortunately, this confusion impacts how the company interacts with its customers. Mr. Abinah advised relationship-building strategies between both regulators and utilities as well as between utility and their customers. Building this relationship allows the utility to better help their customers and the regulator to understand what the company is attempting to accomplish and advise accordingly. When there is a communication breakdown, utilities are unable to inform the customer because the regulator does not understand the customer and company's needs. To enhance this process, Mr. Abinah advised that regulators work with the distribution companies to encourage their customers to have a more participatory role in the resolution process. Mr. Abinah suggested that customers should be encouraged to engage in the process through the use of "Town Hall"-style meetings, educational workshops, and open community meetings where customers can voice their concerns and be a part of the resolution process.

In addition to improving customer relations, both speakers strongly advocated that utility companies improve their customer loyalty by also making it easier and more convenient for them to pay their bills. During Mr. Abela's presentation, he illustrated some possible ways, such as: pre-payment cards, community collection centers, payment kiosks, and mobile/online payments.

RESULTS & RECOMMENDATIONS

Over the course of the workshop, participants were able to meet with their peers and discuss the varying technologies, strategies and best practices presented. All 114 participants were placed into groups to create action plans. Upon workshop completion, participants presented their recommendations, which included some of the following:

Customer Service

More than 70% of the participants specifically noted the need to improve customer service/customer engagement. All groups believed that improving customer service would not only build customer loyalty, it would minimize energy theft and vandalism.

Energy Theft

All groups reflected on energy theft and provided perspectives on how to minimize losses. More than 25% of the participants specifically mentioned using innovative installation techniques (i.e. pole-mounting, securing area around meters, etc.) as a way to decrease energy theft. Another quarter of the participants recommended doing randomly scheduled meter readings as well as customer enumerations.

Metering (Implementation/Installation of Physical Meters)

All groups discussed the importance of implementing meters. Roughly one-third of the participants committed to recommending smart meters and/or pre-paid meters for their respective companies.

Metering (Billing)

All of the participants commented upon current issues around bill collection as well as meter reading issues. The action plan working groups proposed some of the following actions: personnel safety training and customer service training; more accurate accounting of customer usage; and electronic payment channels.

Outage Management

More than 50% of conference participants recommended strategies to reduce outages, either through equipment maintenance/replacement or implementing newer technologies to monitor system operating patterns and make better future usage projections.

WORKSHOP PARTICIPANTS

- African Development Bank (AfDB)
- ALSTOM Grid - USA
- Arizona Corporation Commission
- Benin Electricity Distribution Plc - Nigeria
- California Public Utilities Commission
- CESC Limited, RP-Sanjiv Goenka Group
- Compagnie Ivoirienne d'Electricité (CIE) - Côte D'Ivoire
- Federal Ministry of Power of Nigeria
- Eko Electricity Distribution Plc - Nigeria
- Enugu Electricity Distribution Plc – Nigeria
- French Development Agency

- GE Energy Management – South Africa
- Ibadan Electricity Distribution Plc - Nigeria
- Ikeja Electricity Distribution Plc – Nigeria
- ISON BPO - India
- Itron – South Africa
- Jos Electricity Distribution Plc - Nigeria
- Kaduna Electricity Distribution Plc - Nigeria
- Kano Electricity Distribution Plc - Nigeria
- National Water and Electricity Company Limited (NAWEC) – The Gambia
- Nigelec - Niger
- Nigerian Market Operation
- Nigerian Electricity Regulatory Commission (NERC)
- Nigerian Bulk Electricity Trading Plc
- Manila Electric Company (MERALCO) - Philippines
- Port Harcourt Electricity Distribution Plc – Nigeria
- Powertech Nigeria
- Presidential Task Force on Power – Nigeria
- PWC - Nigeria
- Rural Electrification Agency of Nigeria
- Société Béninoise d'Energie Electrique (SBEE) - Benin
- Sonabel – Burkina Faso
- Transmission Company of Nigeria (TCN)
- Yola Electricity Distribution Plc - Nigeria

WORKSHOP SPEAKERS

- **Jacob Abela,** Marketing and Customer, Ibadan Electricity Distribution Company, Plc
- **Elijah Abinah,** Assistant Director, Utilities Division, Arizona Corporation Commission
- **Gert Booysen,** Software Solutions Leader, Africa, GE Energy Management
- **Haliru Dikko, PhD,** Deputy General Manager, Nigeria Electricity Regulatory Commission (NERC)
- **Abba Ibrahim, PhD,** Commissioner, Government & Consumer Affairs, Nigeria Electricity Commission (NERC)
- **Amb. Godknows Igali, PhD**, Permanent Secretary, Nigerian Ministry of Power
- **Lawrence Jones, PhD,** Vice President, Utility Innovations & Infrastructure Resilience, Alstom Grid
- **Noel Obiora,** Senior Public Utilities Counsel, California PUC
- **Sarvadeva Paul Majumder,** General Manager, New Initiatives, CESC
- **Reuben Okeke**, Director General, National Power Training Institute of Nigeria (NAPTIN)
- **Thomas Onyeka Uwah**, Director of Transmission Service, Transmission Company of Nigeria (TCN)
- **Bokar Ture,** Senior Energy Economist, African Development Bank
- **Len Schaller,** Product Manager, Pre-payment Meters, Itron
- **Joe-Mel Zaporteza**, Technical Specialist and System Loss Project Manager, Ibadan Electricity Distribution Company, Plc

Utility executives from throughout West Africa gathered with subject matter experts in Lagos, Nigeria. From left to right: Ms. Josette Adjagboni, SBEE; Dr. Lawrence Jones, ALSTOM Grid; Ms. Josephine Bassolet Toe, Sonabel; Ms. Kissy Aimée Kouame Dey, CIE; Mr. Mamoudou Ousseini, Nigelec; and Mr. Elijah Abinah, Arizona Corporation Commission.

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