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USEA/USAID Mozambique Utility Partnership

ELECTRICIDADE DE MOÇAMBIQUE (EDM) EVALUATES DISTRIBUTION PRACTICES IN MINNESOTA AND OREGON

During the week of June 26 – 30, 2006, five Regional Distribution Managers and an Advisor to the Board of Directors of EdM met with XCel Energy, the Minnesota Public Utilities Commission, the Phillips Community Energy Cooperative in Minneapolis, MN, and with the Douglas Electric Cooperative in Roseburg, OR. The meetings were part of the Energy Partnership Program managed by USEA and funded by the United States Agency for International Development (USAID).



Repairing lines without compromising service
Mark Doty, Operations Superintendent at Douglas Electric Cooperative, demonstrates hot sticks for live wire repairs

The exchange visit focused on reducing distribution losses, customer service, regulation, reliability and economic development (USAID).

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ment. It featured both meetings with both a U.S. urban utility and a rural cooperative in order to address the diversity of regions served by EdM.

Reducing Distribution Losses
EdM was introduced to the best U.S. practices for identifying and addressing distribution losses, managing, and training linemen.

EdM posed extensive questions to Douglas Electric and XCel Energy about their policies and procedures to ensure against internal corruption, consumer theft of electricity or

- Results:**
- EdM may adopt U.S. procedures for billing & collections
 - EdM learned importance of establishing an internal department to work with regulators, and the value of the regulator
 - EdM exposed to the specific role of electric utilities in economic development
 - EdM to adopt some U.S. training standards for line crews
 - EdM may propose the cooperative model as a potential means for rural electrification in Mozambique

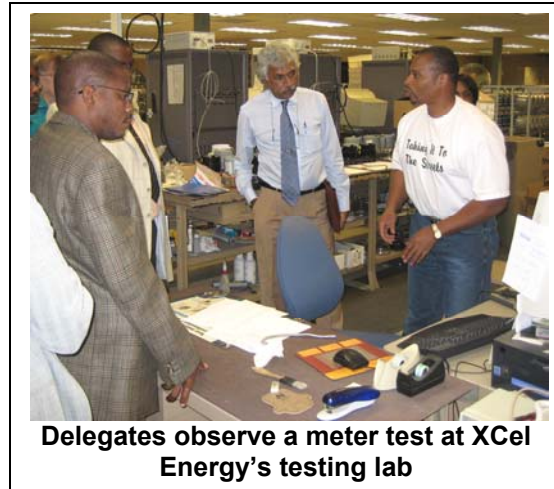
equipment, and delinquent bills. The delegates hope to implement these procedures in Mozambique. The EdM delegation was also introduced to Douglas's linemen apprentice policies and procedures, provided with its safety standards, and familiarized with its equipment, storage, and crew maintenance schedules and procedures.

Documents given to EdM:

- Douglas Electric Trouble or Interruption Report form
- Douglas Electric Apprenticeship Policy & Procedures Handbook

Customer Service

In Minnesota, EdM learned how call centers are organized and saw how customer calls are routed and efficiently handled at XCel Energy. The delegation took home information on how to respond to outages,



Delegates observe a meter test at XCel Energy's testing lab

billing questions and payment arrangements.

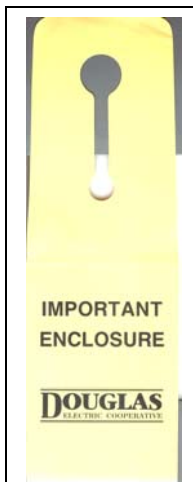
In Oregon, the delegates received a comprehensive overview of electric cooperatives. The delegation compared the origins of cooperatives in the U.S. with the current rural population in Mozambique, especially regarding the inability to pay market prices for electric service and geographic locations far from the grid. In addition to aiding rural business and farms with electric power, the delegation was also impressed by Douglas Cooperative's high speed internet service for rural customers.

Documents given to EdM:

- Douglas Electric Articles of Association and By-Laws
- Douglas Electric Bill Collections Schedule
- Consumer notices of delinquent bills, charges and cut-off schedules

Regulation

A new regulatory body has been established in Mozambique, but is not yet fully functioning. EdM received an introduction from the Minnesota Public Utilities Commission on regulation, the relationship between utilities and regulators, and the role the regulator plays in ensuring standards of customer service and reliability. A presentation by the Consumer Affairs Office provided some of the same examples of consumer issues faced in Mozambique, such as tenant vs. landlord responsibility for delinquent bills, cut-off times, collections and programs for the indigent.



Door Hanger for Service Cuts

EdM reviewed the steps taken to cut someone's service for lack of payment, including this door hanger notice at Douglas Electric Cooperative.

Documents given to EdM:

- MN Rule 7820.1000 Permissible Service Disconnection with Notice
- MN Rule 7820.0300 Complaint Procedures
- Northern States Power Standard Rules and Regulations

Reliability

At XCel Energy in Minneapolis, the delegates were walked through the steps on how delinquent bills are collected -- a problem that needs creative solutions in Mozambique -- and toured the Call Center to observe how customer calls are routed and addressed. They were also able to see the equipment, computers and personnel used in the distribution control center, including meter testing techniques.

Documents given to EdM:

- Douglas Electric 2005 Right of Way Report
- Douglas Ten-Year Vehicle Replacement Schedule

Economic Development

EdM learned about the best practices used by U.S. utilities to promote community economic development. They discussed these matters with XCel's Manager for Economic Development, the Economic Development Director of the Dakota Electric Association, and the Director of Business Development for the State of Minnesota's Department of Employment and Economic Development. The EdM delegation learned that utilities in the U.S. see their mandate as encompassing their direct involvement with local governments and communities to create job growth and encourage businesses to locate in their service territories -- particularly in poor urban areas and rural communities. This is of particular interest to Mozambique because of its approximately 21%

unemployment rate and lack of development in rural areas. As EdM expands into rural areas, the cooperative model, such as the one in Minnesota, could be used to enhance the economic benefits of electricity's availability.

EdM also learned about the role Douglas Electric Cooperative plays

in the economic development of rural Douglas County, Oregon, and of the Phillips Community Energy Cooperative in working with poor urban residents to bring energy efficient appliances and weatherization to lower home utility costs. The Mozambicans



EdM Receives Introduction to Regulation from MN PUC
L-R: **Luís Mucanjo**, EdM Commercial Technician of Quelimane District; **Alberto Banze**, EdM Distribution Director of Tete District; **Burl Haar**, Executive Secretary of the Minnesota Public Utilities Commission; **Neves Xavier**, Commercial Technician of Xai-Xai District; **Josué Nunes**, EdM Distribution Director of Pemba District; **Lourenço da Cunha**, EdM Distribution Technician of Nacala District; **José Donato de Melo**, EdM Adviser to Board; **Phillip Assis**, Senior Program Coordinator with the US Energy Association.

found these models to be particularly relevant to its rural and urban populations, and would like to emulate the cooperative model at home to bring energy resources to its large unserved areas.

Documents Given to EdM:

- Report on the Social, Environmental and Economic Impacts of XCel Energy
- Dakota Electric Association 2005 Annual Report
- Promotional packet for business development from the MN Department of Employment and Economic Development

U.S. Contacts

This was the third executive exchange between EdM and United States utilities. It followed a transmission delegation to the Bonneville Power Administration in November of 2005, and a generation, transmission and distribution exchange in Mozambique in March of this year. EdM has benefited from established contacts in the United States from which to draw experiences from as it reaches its expansion goals and interacts with its new regulator.

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