



Energy Sector PROJECT PROFILE

April 2012



National Electric Power Company delegates tour an Arizona substation to observe maintenance procedures for transmission equipment during an exchange to the United States.



Sacramento line worker trainers demonstrate aspects of a safety course to Jordanian distribution company representatives visiting California.

PROJECT SNAPSHOT

Implemented by: United States Energy Association (USEA)

Duration: 2009 – 2012

Total Funding: \$1.378 million

Beneficiaries: Jordanian electric utilities, regulators and electricity consumers

Geographic Coverage: Nationwide

Electricity Utility Transmission and Distribution Partnership

BACKGROUND

Operated by the National Electric Power Company of Jordan and three electricity distribution companies, Jordan's electric system is poised to undergo major transformation. Economic growth has been accompanied by significant increases in electric demand and commensurate strains on the electric grid. As the economy continues to grow, Jordan will need more electric generation resources and better electric transmission and distribution infrastructure to ensure the reliable, efficient and cost-effective delivery of electricity to consumers. In 2007, Jordan's Ministry of Energy and Mineral Resources mandated a 20% increase in energy efficiency by 2020 and that 10% of Jordan's electricity will come from renewable resources. This poses several challenges to the electric utilities charged with implementing this legislation.

Consequently, USAID supported establishing two partnerships, one for Jordan's transmission utility and one for Jordan's three distribution utilities. Their overall objective is to develop long-term cooperative relationships between U.S. and Jordanian utilities that will:

1. Facilitate the transfer of knowledge and utility best practices
2. Help ensure the reliability, stability, efficiency and cost-effectiveness of Jordan's electric transmission and distribution system

ACTIVITIES

- Arranging informational dialogues between U.S. and Jordanian utility executives, technical and administrative staff on issues of critical importance to Jordanian utilities, including improving transmission/distribution system planning and operations, integrating renewable energy resources into the grid, energy efficiency, safety and human resources
- Conducting six executive exchanges annually for senior management and engineers from U.S. and Jordanian utilities
- Visiting power plants, technology research facilities, training centers, utility headquarters and other critical infrastructure facilities to offer hands-on learning opportunities for senior Jordanian utility managers and engineers
- Transferring informational resources and documents to Jordanian utilities for their reference in implementing utility best practices



Sacramento (California) Municipal Utility District representatives and their Irbid District Electricity Distribution Company counterparts tour the northern Jordanian city's newest high-tech substation, which will serve as a model for Irbid's future substation upgrades.



Jordan is currently evaluating renewable energy technologies to meet its 10% renewable energy mandate by 2020. Here, Jordanian National Electric Power Company delegates visit the APS Solar Test and Research Center®, one of the world's most advanced solar test facilities, in Tempe, Arizona.

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PROGRESS & ACHIEVEMENTS

- Conducted eight executive exchanges in Jordan and the United States during 2009 and 2010, reaching over 200 Jordanian utility managers, engineers and support staff
- Improved Jordan's electric transmission dispatch and control operations by incorporating features of Arizona's transmission control center and operator training
- Created a regulatory affairs department at Electricity Distribution Company to facilitate interaction and coordination with its regulators
- Created a department to manage Irbid District Electricity Distribution Company's energy efficiency programs and requested further assistance from Sacramento Municipality District in developing its organizational structure and program frameworks
- Prepared for increasing renewable energy resources on Jordan's power system by reviewing Arizona and California's interconnection standards and procedures
- Received and disseminated information on successful U.S. approaches to reducing electricity demand through energy efficiency and demand side management
- Received and disseminated information on successful electricity loss reduction programs in Arizona and California
- Produced a memorandum of Understanding between Sacramento Municipal Utility District and the three distribution companies to formalize the current and future cooperation and transfer of technical information

PARTNERS

- United States Energy Association
- Arizona Public Service
- Sacramento Municipal Utility District
- National Electric Power Company of Jordan
- Electricity Distribution Company
- Irbid District Electricity Distribution Company
- Jordanian Electric Power Company