



PAKISTAN UTILITY EXECUTIVES EXAMINE AUSTRALIA DISTRIBUTION SAFETY AND TRAINING BEST PRACTICES

EXECUTIVE EXCHANGE IN MELBOURNE AND ADELAIDE, AUSTRALIA

MELBOURNE AND ADELAIDE, AUSTRALIA – Senior managers from eight of Pakistan’s electricity distribution utilities recently met their counterparts to review Australian best practices in utility safety and training programs. The U.S. Agency for International Development (USAID) supported this exchange to improve Pakistan distribution utility performance.

USAID’s Power Distribution Program (PDP) is a three-year project conducted jointly with government-owned electric power distribution companies in Pakistan to improve their performance in the areas of loss-reduction, revenue collection, and customer services. As part of the Power Distribution Program’s capacity-building efforts in Pakistan, a delegation of ten distribution executives engaged in meetings, presentations, roundtable discussions, and technical site visits Citipower/PowerCor in Melbourne and SA Power Networks in Adelaide, Australia to identify the latest strategies in distribution training and safety programs.

EXECUTIVE EXCHANGE HIGHLIGHTS

The Pakistan executives spent five days visiting Citipower/PowerCor, Energy Skills Australia and SA Power Networks. The primary objectives of this program were:

- Training management & governance
 - Utility training department organizational structure
 - Scope of responsibilities
 - Training program planning & budgeting
 - Certification of training programs
 - Training center management
 - Training records and regulatory compliance tracking
- Training curriculum development & evaluation/assessment
 - Curriculum design
 - Curriculum evaluation & assessment methods
 - Refresher courses & retesting
 - Trainer evaluation & assessment
- Overview of training
 - Teaching methods
 - Technical training programs
 - Safety & health
 - Technical Training Programs for Linemen and Maintenance Personnel (eg. safety/equipment operation)



Pakistan distribution executives watch apprentices replace a crossbar at the PowerCor training facility.

- Technical skills
- Core competency
- Developmental courses
- Other
- Administrative training programs
 - Corporate & management
 - Safety & health
 - Information Technology and computer literacy
 - Developmental courses
 - Other
- Field, classroom and e-learning programs
- Workforce development - personalized development programs
- Participant evaluation of training

BACKGROUND ON PAKISTAN'S POWER & ELECTRICITY DISTRIBUTION SECTOR

Pakistan's power sector is confronted by significant challenges. These include the limited availability of reliable and affordable electric power, aging and inadequate transmission and distribution networks, and utility policies and practices that lag behind those of advanced utilities elsewhere in the world. Additionally, the distribution utilities have significant fatalities and injuries to workers on their systems due to poor work practices and a lack of a safety culture within each utility. As one participant noted, there is usually only one person responsible for safety at each utility and he spends all of his time reactively investigating accidents and has no time to proactively prevent them.

MEETINGS WITH CITIPOWER/POWERCOR – MELBOURNE

Citipower/PowerCor's combined networks deliver electricity to more than one million customers throughout Victoria, from central Melbourne, west to the borders of South Australia to New South Wales. **PowerCor Australia** is Victoria's largest electricity distributor, which supplies electricity to regional and rural centers in central and western Victoria, and Melbourne's outer western suburbs. PowerCor services approximately 700,000 distribution customers with more than 500,000 poles and 82,000 kilometres of power lines. **Citipower** owns and manages the 157 square kilometer electricity distribution network that services more than 310,000 customers in Melbourne's central business district and inner suburbs.



Captions:

Above left: Members of the Pakistani delegation watch Brendan Seskis, a consultant at the GppsTAFE training facility, demonstrate the safety harnesses used by Citipower/PowerCor that include double catching latches on pole straps so they cannot inadvertently open.

Above center: Riaz Ahmad Pathan of HESCO practices using a hot stick to open and close switches at PowerCor's training facility. Participants also watched apprentices change a crossbar and perform a bucket evacuation while at the training facility.

Above right: Jawad Ahmad of IESCO puts on Personal Protective Equipment (PPE) for live line maintenance. PPE is considered the last line of defense and Citipower/PowerCor emphasize all employees must use safe work practices and take safety and rescue refresher courses each year.

MEETINGS WITH SA POWER NETWORKS – ADELAIDE

SA Power Networks operates a distribution network that stretches across South Australia and delivers power to more than 830,000 customers. The network has a route length of around 87,000 kilometers, which includes 399 zone substations, more than 68,000 transformers and over 723,000 poles. SA Power Networks provides 99.97% network availability.



Captions:

Above left: Shahbaz Mahmood of FESCO and Iqbal Ahmed Sheikh of MEPCO talk with a SA Power Networks apprentice about their project building tool boxes. The delegation questioned why electrical apprentices were learning mechanical skills and were informed that SA Power Networks expects them to be able to perform all tasks inside a substation, including mechanical tasks like making boxes or racks.

Above middle: A SA Power Networks apprentice demonstrates a pole top rescue for the delegation at their training facility. SA Power Networks' safety culture has led to no fatalities in over 15 years. SA Power Networks has 20 staff with health and safety responsibility and has had over 300 days without a recordable incident.

Above right: Rod Iremonger of SA Power Networks discusses training and apprentice programs. Apprentices spend four years of training in the classroom and in the field with crews. After four years, they are considered fully qualified but cannot work on live line on the high voltage network without additional training. All SA Power Networks employees spend about 5% of their time in training and refresher courses.

RESULTS

The Pakistani delegation observed the training and safety strategies of two advanced electricity utilities for one week in Australia.

As a result of this program, the delegates:

- Learned **safety management systems** used by Australian utilities that have resulted in zero fatalities in the last 15 years. Specific strategies included making safety a company-wide priority, the creation of health and safety steering committees, yearly safety refresher courses for all field staff, and excellent **Personal Protective Equipment (PPE) that is required to be worn at all times.**
- Saw firsthand the extraordinary emphasis on **safety at Citipower/PowerCor and SA Power Networks** from safety logos and signs posted throughout facilities to health and safety committees that include employees at all levels, including linemen.
- Discussed how **Citipower/PowerCor and SA Power Networks** used **strong management support** and a **constant emphasis on safety** to “chip away” at fatalities and unsafe work practices.
- Received the following **safety documents** from **Citipower/PowerCor** and **SA Power Networks**:
 - AS 40-801, the Australian law that states the minimum requirements for safety management systems.
 - Safety incident report documents
 - Employees' training book called a Skills Passport that documents all training classes and certifications completed

- Occupational Health and Safety Regulations 2007
- Health and Safety Act 2004
- Safety Equipment Apparel Checklist
- The Green Book 2006: Code of practice on electrical safety for the distribution businesses in the Victorian Electricity Supply Industry
- Job Safe Work Procedure JSWP 107: Earthing In Low Voltage Service Pits
- Discovered both **Citipower/PowerCor** and **SA Power Networks** train apprentices for four years, compared to the five weeks to four months of training at Pakistani utilities.
- Learned how **Citipower/PowerCor** and **SA Power Networks** have created **training programs** and **yearly refresher courses** for all staff. Training amounts to 3-5% of all employees' time on the job.
- Received the following **training documents** from **Citipower/PowerCor** and **SA Power Networks**:
 - Individual Career and Development Planning
 - Training Program 1.01A: Powerline Fundamentals
 - Training Program 1.02: Plant, Tools and Equipment
 - Training Program 1.03: Underground
 - Training Program 1.05: High Voltage Switching
 - VESI Skills and Training Guide

UTILITY EXCHANGE PROGRAM PARTICIPANTS

1. Shahbaz Mahmood, Deputy Manager Training, FESCO - Faisalabad Electric Supply Company
2. Muhammad Shahid Sheikh, Principal RTC, HESCO - Hyderabad Electric Supply Company
3. Riaz Ahmad Pathan, Deputy Director, Safety, HESCO - Hyderabad Electric Supply Company
4. Tufail Ahmed Sheikh, Deputy Manager, HESCO - Hyderabad Electric Supply Company
5. Shehzad Ahmad Jalil, Acting Safety Manager, IESCO - Islamabad Electric Supply Company
6. Jawad Ahmad, Principal RTC, IESCO - Islamabad Electric Supply Company
7. Saqib Jamal, Principal RTC, LESCO - Lahore Electric Supply Company
8. Iqbal Ahmad Shaikh, Deputy Manager, Safety, MEPCO - Multan Electric Power Company
9. Shoukat Hussain Bokhari, DM/RTC Principal, MEPCO - Multan Electric Power Company
10. Zahid Qayyum, Principal RTC, PESCO - Peshawar Electric Supply Company
11. Muhammad Naeem Ullah, Principal RTC, QESCO - Quetta Electric Supply Company
12. Muhammad Hanif Meo, Deputy Manager Safety, SEPCO - Sukkur Electric Power Company



Energy Skills Australia

Delegates met with John Ingram of Energy Skills Australia (E-Oz). E-Oz is the government's declared Industry Skills Council for the energy sector trades. E-Oz was established to develop training standards for the energy sector, including distribution utilities. Mr. Ingram explained the structure and government regulations surrounding training in Australia and how E-Oz works with the utilities, regulators and government to create and improve utility training.

Left (from left to right): Shoukat Hussain Bokhari of MEPCO; John Ingram of E-Oz; and Zahid Qayyum of PESCO.

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