Utility Communications
Middle East and Africa
Utility Communications, Middle East Overview

Customer: Various

- Abu Dhabi LDC (ADWEA), United Arab Emirates
  - SDH Com Network with more than 400 terminals

- Oman LDC Project, Oman
  - Integrated nationwide communication network with power line carrier, optics, teleprotection and telephony

- DEWA, Dubai
  - Emirate wide operational optical com network with over 100 terminals, teleprotection equipment and telephony

- MEW Bahrain,
  - SDH Fiber Optic Network

- Saudi Electric Company, Saudi Arabia
  - Major supplier of telecom solutions for: ECC Riyadh, LDC Qassim, optical networks in Jeddah, Dammam and entire Eastern region of Saudi Arabia

- NEPCO, Jordan
  - Nationwide Fiber Optic Network

- PGEET, Syria
  - Nationwide Fiber Optic Network

- MoE, Iraq
  - Integrated nationwide communication network featuring Power Line Carriers and Radio Systems

- KAHRAMAA, Qatar
  - Countrywide communication network consisting of SDH (STM-4) for Control, Voice and Protection

References by regions

Transmission
Distribution
In Plant
Communication
Railways
Oil & Gas
Smart Grids
Utility Communications, Middle East

Customer need
- International cross-border interconnection of power lines

ABB response
- Communication network to control and supervise grid interconnection between Syria, Egypt, Jordan, Lebanon, Turkey and Iraq (future)

Customer benefits
- Control and protection of trans-border substations and transmission lines
- Interconnection of Control Centers

Customer:
National Utilities
- Egypt
- Jordan
- Lebanon
- Syria

References by regions
- Transmission
- Distribution
- In Plant Communication
- Railways
- Oil & Gas
- Smart Grids
Utility Communications, Algeria

**Customer need**
- Distribution network
- 2 new SCADA systems
- No physical communication media available

**ABB response**
- Radio solution with point-multipoint radio
- 56 redundant UHF radios and more than 386 remote stations

**Customer benefits**
- Reliable partner
- Reliable communication for SCADA
- Strong knowledge on radios/systems
Utility Communications, Bahrain

Customer:
Electricity & Water Authority

Customer need
- Redundant SCADA channels with extension possibilities of sites and services, e.g. for other departments and ministries

ABB response
- Turnkey supply of communication network with FOX multi-service PDH/SDH multiplexers for
  - LAN, voice, legacy data
  - xDSL communication on copper lines
- Management System UNEM
- Telephony Backbone using SOPHO

Customer benefits
- Reliable & secured communication for SCADA/Metering as well as spare capacity for future expansion.
Utility Communications, Ethiopia

Customer: EEPCO
Ethiopian Electric Power Corporation

Customer need
- Internal communications in a power plants
- External communications

ABB response
- FOX multi-service PDH/SDH multiplexer for
  - Protection signaling
  - LAN, voice and legacy data
  - xDSL communication on copper lines
- Local radio
- Public address system
- Power line carrier equipment

Customer benefits
- Complete communication inside the power plant including integration of the external network
Utility Communications, Ghana

Customer: VRA
Volta River Authority, Ghana

Customer need
- Broadband communication system of power utility for operational needs

ABB response
- Turnkey broadband transport network on STM-1 (155Mbit/s) - upgradable to STM-4
- 2Mbit/s access links for 3rd parties: 11 based on optical fiber, 19 based on radio links

Customer benefits
- Support for modern decentralized IT infrastructure
- Prepared for system extensions

References by regions
- Transmission
- Distribution
- In Plant
- Communication
- Railways
- Oil & Gas
- Smart Grids

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Utility Communications, Nigeria

Customer: NEPA
National Electric Power Authority, Nigeria

Customer need
- Refurbish communication infrastructure
- Avoid outages in the power grid
- Increase revenues

ABB response
- Planning, engineering and integration of a reliable communication network
- Power line carrier equipment, coupling, protection signaling, telephone switches (PAX)

Customer benefits
- Less outages
- Reduced operating and maintenance cost
  => More revenues
Utility Communications, Libya

Customer: GECOL
General Electricity Company of Libya

Customer need

- Distribution network of 1800 Substations
  33kV / 22kV / 11 kV
- “Electricity to everybody”

ABB response

- FOX515D multiplexer equipment
- ETL Power Line Carrier
- ABB wireless solution

Customer benefits

- Reliable partner with professional knowledge on solutions and systems
- Reliable communication for SCADA
- Use of latest technology
Utility Communications, Senegal

Customer: CMEC for SENELEC  
Société National d'Électricité du Sénégal

Customer need
- Reliable communication network for SCADA, voice and IP-services throughout the city of Dakar’s 90kV power lines
- Cope with increased communication demand
- Redundant communication channels

ABB response
- Turnkey project including project management and Engineering from ABB
- Full product portfolio: PDH/SDH multiplexer, radio, PABX, routers and 48VDC power supply
- 14x FOX515 and 1x FOXMAN network management system

Customer benefits
- Highly reliable communication for operation of the power grid
- Broadband communication network generating revenues for SENELEC
Utility Communications, Qatar

Customer: KAHARAMAA
Qatar General Electricity & Water Corporation

Customer need
- Flexible and reliable telecom network inter-connecting power plants & industrial substation for monitoring, protection, metering & SCADA control

ABB response
- FOX SDH multiplexer for STM-4 backbone and sub rings on STM1 for transmission of
  - LAN, voice, data & PLCC network
  - Teleprotection for 400kV lines
- Network Management System with trail management for 64kbit/s up to STM-1 & STM-4

Customer benefits
- Reliable & secure communication network for national control centre, distribution control centre & emergency control centre
- Reliable path for teleprotection
Customer need

- To extend the power network.
- To add new communication services for substation automation.

ABB response

- Substation Automation SAS570 based on IEC 61850 protocol.
- Communication with FOX multi-service PDH/SDH multiplexer for all services using optical fibers.

Customer benefits

- The installed solution for substation control and wide area communication assures efficient operation & maintenance of the power network.
Utility Communications, United Arabs Emirates

Customer: TRANSCO
Abu Dhabi Transmission Company (TRANSCO)

Customer need
- To ensure safe and efficient operation of growing Power and Water network
- New services requiring broadband communications
- Integration with control systems (SCADA, SCMS, Metering) and protection

ABB response
- Turnkey design, supply of fiber optic network with FOX multi-service PDH/SDH multiplexers, teleprotection, telephony and network management.
- > 500 PDH/SDH nodes in the network

Customer benefits
- Reliable and fully integrated communications solution
- Enhances TRANSCO’s role in communication in the unbundled Water and Electricity Sector
Utility Communications, United Arabs Emirates

Customer: DEWA
Dubai Electricity and Water Authority

Customer need
- Communications network for operational services

ABB response
- Fiber optic communication network throughout the Emirate of Dubai with more than over 100 FOX multi-service multiplexers
- Additional teleprotection and telephony equipment

Customer benefits
- Control and protection of all substations, power transmission lines and cross-border lines
Customer need
- Most reliable communication for oil production fields

ABB response
- Fully redundant FOX multi-service multiplexers
- Supporting all services such as SCADA, voice and data

Customer benefits
- Reliable communication for all required services in the oil production fields
- Communications in extremely difficult environment conditions
Utility Communications, South Africa

Customer:
Municipality of TSHWANE

Customer need
- Operational and Corporate Services
- Communication capacity for 3rd Parties
- One Network for all services such as voice (POT), VoIP, data and protection signaling

ABB response
- General Contracting, including Project Management, Engineering, Procurement, Commissioning, Training
- Solution with FOX multi-service multiplexers for high capacity SDH-transmission on optical fiber and Nx 2Mbit/s on copper wire

Customer benefits
- Adaptation for growing power network
- Providing on capacity to 3rd parties