LESOTHO ELECTRICITY COMPANY, LESOTHO

THE CLIENT

Lesotho Electricity Company (LEC) is a utility company who transmit, distribute and supply electricity and appurtenant works throughout Lesotho.

The Kingdom of Lesotho is a high-altitude, landlocked country encircled by South Africa, crisscrossed by a network of rivers and mountain ranges, including 3,500m-high peaks. The estimated population of 2 million inhabitants is scattered in remote villages, often only accessible by foot, horse, or helicopter. The country covers 30,355km2 (11,720sq. mi). One of the key exports of the Kingdom is water, sending it into the Republic of South Africa from the Katse Dam which generates hydro electricity for its inhabitants.

SITUATION

LEC have many regional offices scattered across the mountainous kingdom of Lesotho, but due to the terrain and landscape, communication between these centers, field staff, and management is not only costly, but often troublesome. LEC had previously made use of a combination of standalone analogue repeaters, cellular systems, and landlines for communication across the country.

As well as the need for clear communications, LEC also had to take into account the operational challenges that their users faced in their daily work. To understand their challenges and identify suitable sites that would give best coverage, a detailed field study was conducted. The study included extensive travel across the entire country, through snow, lightning, and rain in some of the wildest terrain. To find a nationwide multi-site linked state-of-the-art digital mobile radio system, LEC tapped into their long-standing relationship with Emcom wireless, a radio communications business, to help find a solution to alleviate these problems.

"Knowing firsthand what users faced in their daily work, we were able to tap into the experience within our organization to then engage with the client and find not only the appropriate technology, but product too that would meet their needs."

Tony Sipho Sibanda, Emcom Wireless Project Leader and Director for Sales and Business Development

KINGDOM OF **LESOTHO**

LOCATION

ELECTRICAL **DISTRIBUTION**

EXPERTISE

SOLUTION OVERVIEW

- DMR Tier 3 System
- RediTALK dispatch consoles with location services

BUSINESS BENEFITS

- Improved voice, data, and GPS location services
- TDMA technology to double channel capacity of the network
- Improved worker safety
- Operational security

Tait is a global leader in designing, delivering and managing innovative communication solutions that help utilities and public safety organizations to keep the lights on and communities safe.

www.taitradio.com

LESOTHO ELECTRICITY COMPANY, LESOTHO

SOLUTION

The study and planning was crucial in determining what system would be the best fit for LEC. Project Leader and Director for Sales and Business Development for Emcom, Tony Sipho Sibanda stated “Working in an environment this unique demanded we think out the box and saw us deliver a dependable fully customised solution that’s built with the needs of our customer in mind.”

A DMR Tier 3 system from Tait Communications was selected as the vendor of choice. The products are known to be robust, feature rich and secure. Having deployed several similar systems worldwide in this space, Tait Communications were confident in recommending and supporting Emcom in the deployment of the system in Lesotho.

DMR Tier 3 is an all-digital open standard radio protocol that covers the licensed trunked mode of operation. The protocol’s strength lies in its ability to deliver crucial voice and coded data signals (SCADA) over the same network at the same time. This is achieved through optimising the use of frequencies through what is called time slots, via Time Division Multiple Access (TDMA) technology. The technology has the effect of doubling the channel capacity of any network, better utilising limited frequency spectrum, and allowing more volume of data and voice communications.

An exciting feature of the LEC network is its integration with a RediTALK Dispatcher loaded with the Google Maps application. This allows head office operations to have real-time location visibility of all radios and vehicles on the network, talk to specific radios when required, and monitor elements such as standing time, speed and distance from an incident, all on one screen.

RESPONSE

Previously when a problem arose in the field, it would often take several days for LEC to pinpoint the location of the problem on the grid, and a further few days to get in communication with head office to dispatch a team with the correct repair tools. The new system has allowed LEC to optimize their grid operations and identify and resolve issues much faster, as communication is now seamless. “We can talk seamlessly from Maseru to Popa on one platform and even see the team’s location in real-time as they approach an incident,” added Mohlomi Seitlheko, General Manager of LEC.

At a time when the bulk of metropolitan cities in southern Africa are gripped by crippling power demand due to several factors, LEC have partnered with Emcom Wireless to both identify the correct digital technology to implement and take the time to design this around growing needs. At the same time, they’ve ensured a secure deployment of this mission-critical infrastructure. This has been recognized by the Director in the Ministry of Communications Science and Technology, Khiba Masiu, who said of the implementation “The path LEC has taken falls in line with government’s vision of optimizing expenditure through infrastructure sharing and we look forward to this network’s expansion to other state entities. We fully support this initiative by Emcom and LEC as it’s the key to the empowerment of our nation.”