

Areva Power Substation in Costa Rica



Project Introduction

Areva T&D, joined Alstom and Schneider Electric in 2010, was one of the biggest worldwide solution providers for the energy transmission and distribution. They offer solutions to bring electricity from the source onto the power network, build high and medium-voltage substations and develop technologies to manage power grids worldwide. Substation project Tejar 230/34.5KV is a main substation located in the city of Tejar, Costa Rica. Areva T&D chose Kyland SICOM3000 IEC61850 compliant Ethernet switches to provide the reliable communication backbone and IP connectivity for their high reliability and advanced performance.

System Requirements

- IEC61850 compliant products
- Real time transmission of GOOSE/GSSE packets
- Redundant network and a single point of failure won't affect the entire system
- Resistant to harsh substation environments: strong EMI, extreme temperature variation, high surge, etc

Kyland Solution

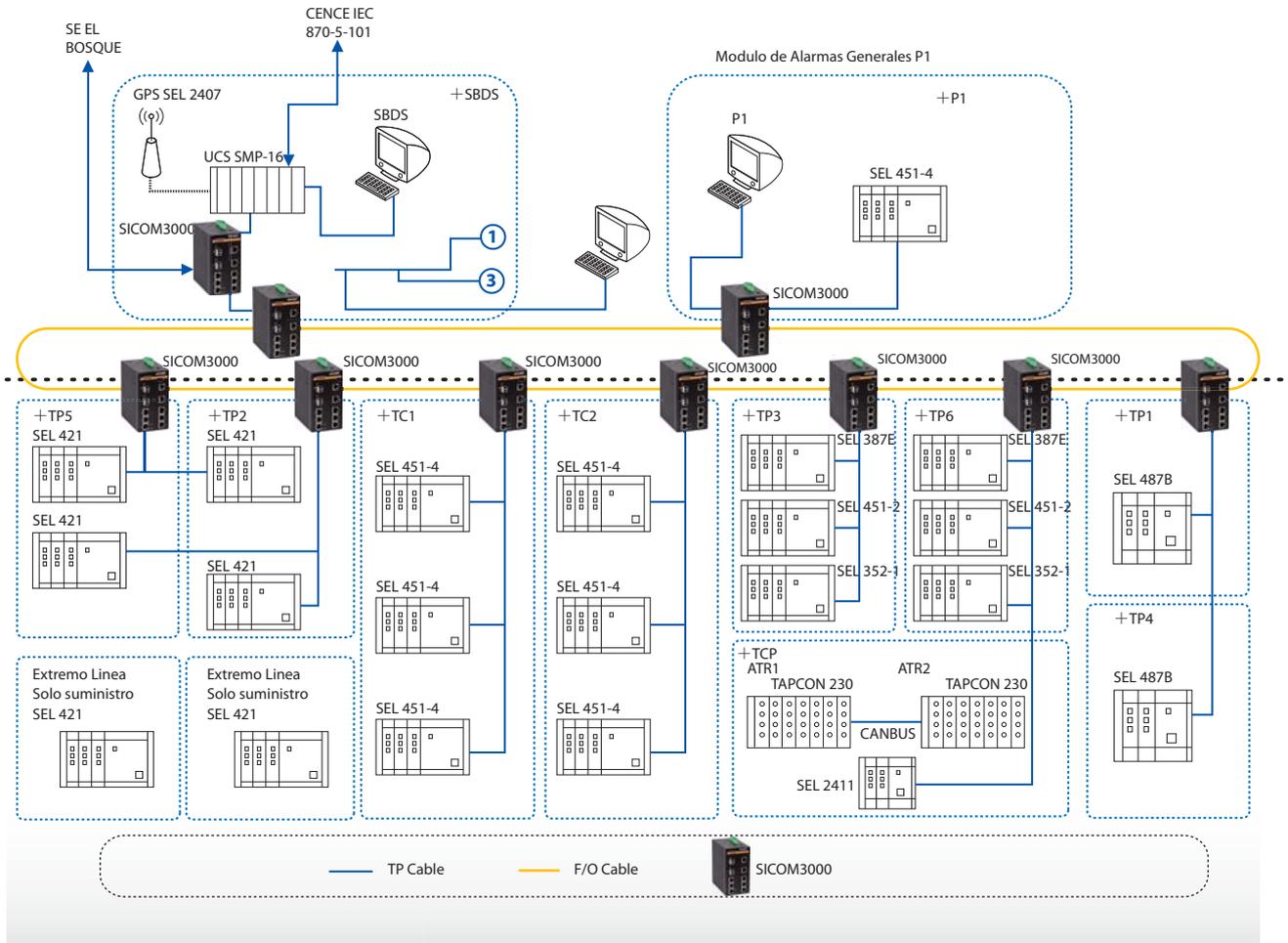
To obtain the benefits of IEC 61850, the underlying communications backbone must operate reliably in harsh substation environments. This is why IEC 61850 also specifies environmental criteria for EMI immunity. Areva T&D chose Kyland products to construct a rugged substation backbone because Kyland is a supplier with the richest IEC61850-3 & IEEE1613 products in the world, and its products have also passed the full certification testing conducted by KEMA, a well respected independent consulting and testing laboratory for certification services in the energy and utility markets.

Kyland SICOM3000 Series are industrially hardened, fully managed Ethernet switches specifically designed to operate reliably in electrically harsh and climatically demanding utility substation and industrial environments. They support QoS and fast store and forwarding mode to ensure the real time transmission of GOOSE/GSSE packets, along with supporting VLAN for segment isolation to guarantee the real time, and reliable transmission of important data. They work in a wide temperature range of -40 to 85°C (-40 to 185°F) with the protection class of IP40.

Kyland SICOM3000 Series are deployed in this project to connect all the SEL protection relays forming a 100M fiber optical ring topology protected by Kyland DT-Ring protocol to guarantee recovery in the event of network failure.

Company: Areva T&D
Location: Costa Rica

System Diagram



Why Kyland?

EMC design meet the requirements regulated in IEC61850 standard.

Supports VLAN, QoS functions to guarantee the real time transmission of important data with zero packet loss.

Redundant ring network with fast recovery time to increase network reliability.

Operating temperature is -40 to 85°C (-40 to 185°F) .



SICOM3000

- 2 Gigabit SFP slots, 6 10/100Base-TX ports and 2 Fast Ethernet fiber/RJ45
- optional ports
- Supports DT-Ring protocols, RSTP and MSTP
- Supports GMRP, DHCP, SNMP, QoS
- SNMPv3, HTTPS, SSH/SSL enhance

► Please refer to www.kyland.com for more details