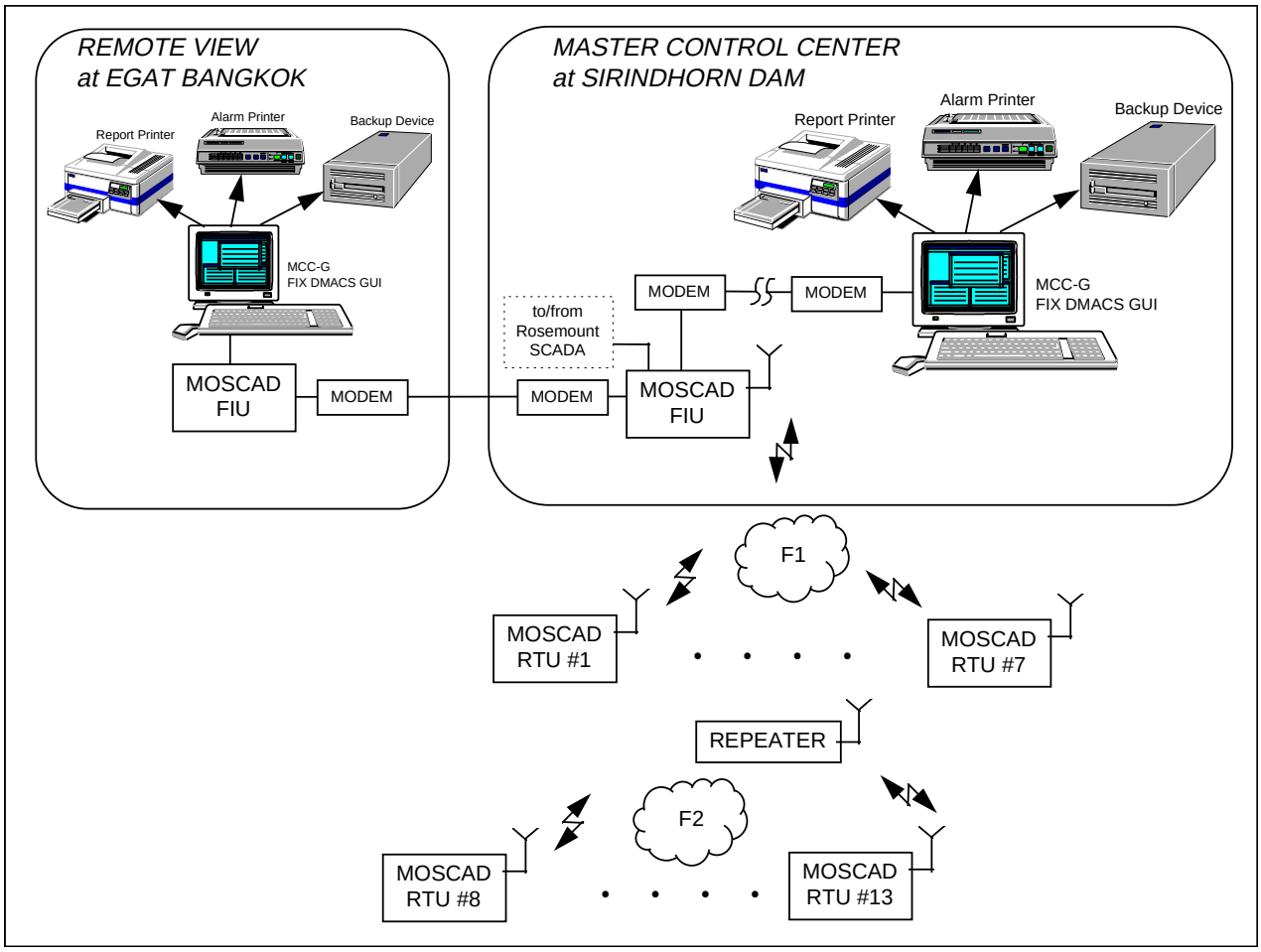
EGAT Pak Mun Dam Control System

Water Application

Project Description



GENERAL

EGAT, the Electricity Generating Authority of Thailand, has placed an order with UCOM, Motorola's distributor in Thailand, for the supply of an advanced integrated control and radio communication system to control the Pak Mun dam. This dam is built across the lower Mun-Chi river at Ban Hua Heo in northeast Thailand.

The new system, based on Motorola's sophisticated MOSCAD RTU, controls the water flow for efficient generation of electricity while preventing flooding as a result of seasonal monsoons. It also monitors the rain-fall around the dam's water collection area.

MOSCAD & MDLC

In this project, the MOSCAD RTU performs various measurements and calculations. One example is the calculation of the water discharge by means of a discharge equation stored in the RTU. The MOSCAD RTU also reports unusual events to the control center such as excessive rainfall, high water level, and other.

The MDLC communication is implemented over VHF radios in two coverage regions.

Using MDLC protocol, based on the ISO/OSI seven layers reference model, ensures efficient and reliable data communication over radio.

SYSTEM OVERVIEW

The system comprises two control centers: one as Master Control Center (MCC) at Sirindhorn dam, and one as Remote View Node (RVN) at EGAT-Bangkok headquarters. The communication link between the MCC and RVN is via line. The control centers are based on FIX DMACS software package of Intellution in Windows environment. The FIX DMACS software also interfaces with a Rosemount S4 SCADA control center for data exchange using DDE (Direct Dynamic Exchange) communication.

The MCC also includes a local station for collection of data at the Sirindhorn dam.

CAPACITY & FUTURE EXPANSION

The system currently includes 13 MOSCAD RTUs for hydro-meteorological telemetry .

In the future, the system will control the water flowing through the dam and the entire electricity generating process. □

FEATURES	BENEFITS
MDLC communication protocol	Optimized, efficient, and reliable data communication to handle large volumes of data over various communication media
Multi-protocol processor based on Motorola 68302	Allows multi-tasking operation with on-line network monitoring, traffic analysis, on-line diagnostics, remote monitoring and error logging
Upload/download capability	Application program can be easily changed or modified and downloaded to the RTUs in the field
Remote diagnostics	Permits maintenance staff to identify and correct problems at the RTUs from any site in the system

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