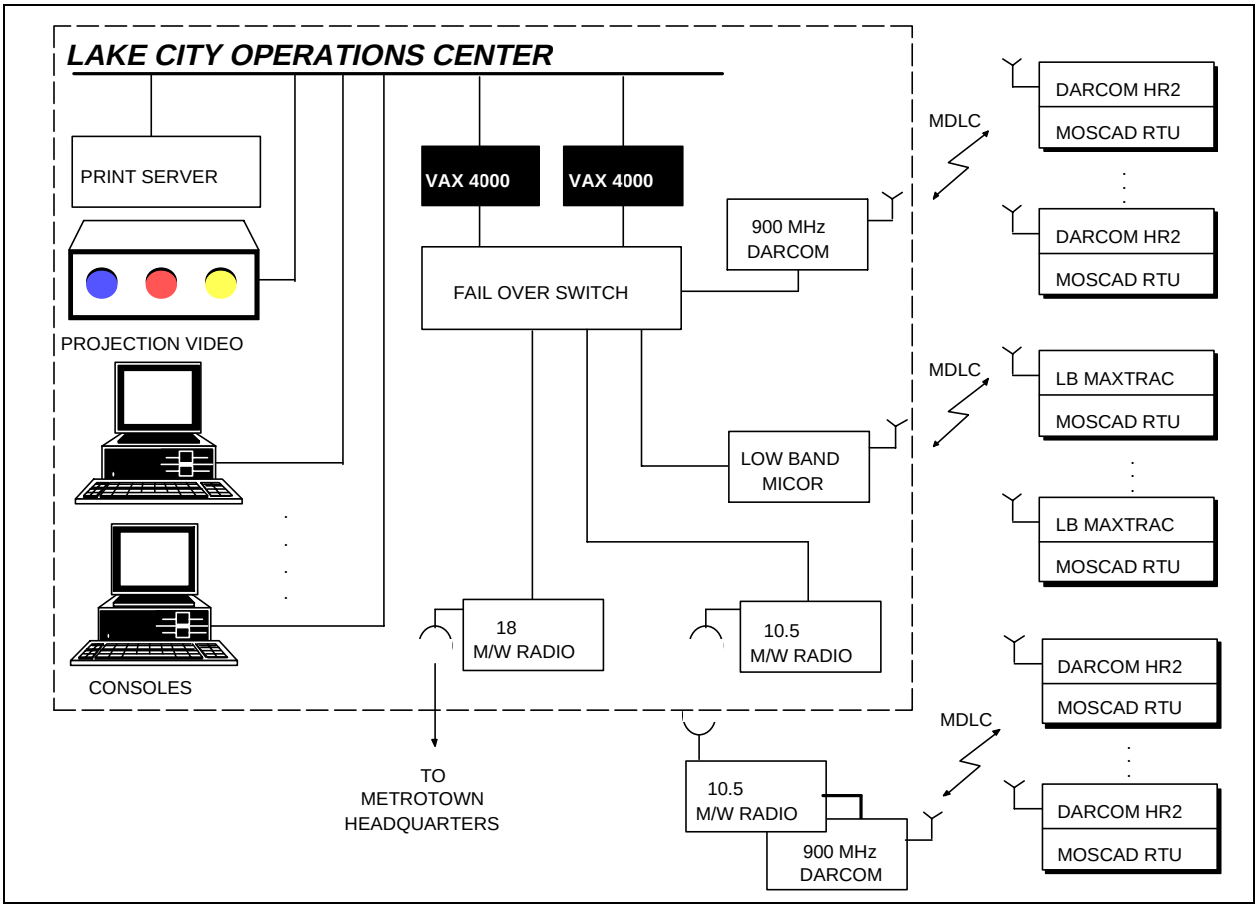
Greater Vancouver Regional District

Water Control System

Water/Waste SCADA Application

Project Description



GENERAL

The GVRD has placed an order with Motorola Inc. for the supply of an advanced radio control system for their water supply and wastewater collection facilities. Over one and a half million people in Vancouver area are served by a network of mountain storage lakes, dams, reservoirs, transmission mains and trunk sewers.

The new control system, based on Motorola's sophisticated MOSCAD RTU, monitors and controls 47 pumping stations, over 500 km of large water lines, 450 km of trunk sewers, 3 chlorination plants, 6 pressure regulating sites, and 113 flow metering stations.

MOSCAD & MDLC

The MOSCAD RTU monitors and controls various equipment such as pumping stations, trunk sewers, etc.

In this project, the MOSCAD RTU also interfaces to the Allen Bradley PLC5.

The MDLC communication is implemented over 9,600 bps 900 MHz radio link.

SYSTEM OVERVIEW

The Master Control Center (MCC) of the system is located at Lake City Operations center. It consists of redundant VAX 4000's, workstations, consoles, projection video, and map boards. The

VAX computers use the MDLC Driver for VAX/VMS to interface between a third-party SCADA software and the MOSCAD system.

The radio infrastructure includes three sets of Motorola DARCOM II hot-standby 900 MHz Master radios, Motorola MICOR low band radios, DARCOM II 900 MHz HR2 remote radios with remote diagnostics, Motorola MaxTrac low band remote radios, 18 GHz and 10.5 GHz microwave radios, 140 ft. self-supported tower, and 100 remote site antenna masts.

CAPACITY & FUTURE EXPANSION

The complete system includes 100 MOSCAD RTUs and a point count of 3,600. In the future, it will grow to as many as 550 MOSCAD RTUs and a total point count of 15,000.

GVRD will operate the most advanced state of the art SCADA system in North-America, possibly the world. □

FEATURES	BENEFITS
MDLC communication protocol	Optimized, efficient, and reliable data communication
MDLC–Allen Bradley connectivty	Allows to expand an existing system without any modifications
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 and downloaded to the RTUs in the field
Remote control of water pumps	Leak detection and faster response in case of emergency situations save precious fresh water
Remote diagnostics	Permits maintenance staff to identify and correct problems at the RTUs from any site in the system

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