Chilime Hydro-electric Power Project
System Configuration







SIRIUS SCADA
Main Server
Data Acquisition& Control
Historical Data Server
Man-Machine Interface
System Engineering
PLC Programming

MS1

Online SCADA Server + Operator Stn.

Alarm / Event Printer

Epson Deskjet Printer

RS 232 / Rs 485

RS 232 based Modbus Connection

RS 485 Serial Communication Network (Modbus Master Protocol)

10/100 MBPS Ethernet LAN

Bridge

RS 485 Serial Communication Network (Modbus Plus Protocol)

PLC - 1

IC693CHS397

PSU	CPU	GBC
IC693PWR321	IC693CPU364	IC693BEM331

PLC - 2

IC693CHS397

PSU	CPU	GBC
IC693PWR321	IC693CPU364	IC693BEM331

PLC - 3 SOE Recorder

GEFanuc 90-30 SOE Recorder

PSU	CPU	
IC200PWR101	IC200CPUE05	I/O Modules

UNIT # 1

UNIT # 2

TEMPERATURE RECORDERS

DTL 595 UNIT # 1

DTL 595 UNIT # 2

GOVERNOR CONTROL SYSTEM

Genius Bus

DIN RAIL MOUNTED I/O

GBIU	DI	DO	AI
IC200GBI001	IC200MDL650 x12	IC200MDL750 x2	IC200ALG260 x7

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Chilime Hydro-electric Power Project System Description

- Personal Computer with Windows 2000 contains:
  - SIRIUS Server Software
  - SIRIUS Communication Front End
  - SIRIUS Man Machine Interface
  - SIRIUS Engineering Environment
  - PLC programming software
- DUAL CPU GEFanuc 90-30 PLC with Genius IO
- A Separate GEFanuc 90-30 PLC as SOE Recorder
- Printers:
  - TVSE MSP 245 Dot Matrix for Alarm/Event Printing
  - HP 845c Inkjet Color Printer for Graphics Printing
- 3 KVA Power-One Inverter for Power Supply to SCADA Equipment and PLC

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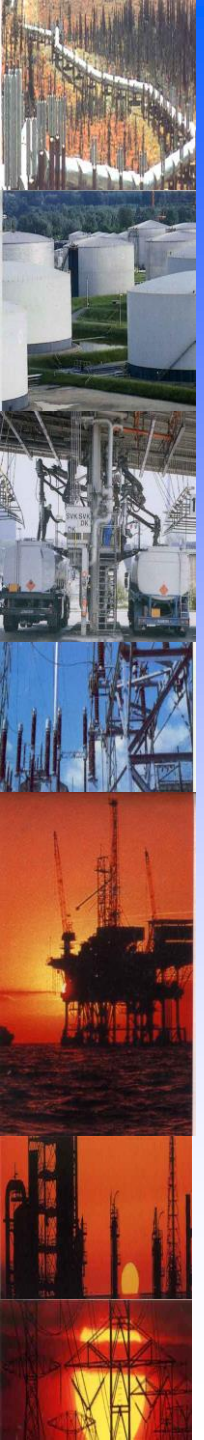

Chilime Hydro-electric Power Project Communication

- Communication with GEFanuc Dual CPU 90-30 PLC over 10 MBPS Ethernet LAN
  - Data read from ONLINE CPU,
  - Cyclic Health-Check of HOT-STANDBY CPU
  - Health of Genius LAN made available in SCADA system
- Communication with GEFanuc 90-30 PLC based SOE Recorder over 10 MBPS Ethernet LAN
- MODBUS Plus Communication with DTL-595 Governer Controllers.
  - A Bridge converts MODBUS+ messages of DTL-595 to MODBUS messages understood by SCADA, and vice versa.
- RS-485 MODBUS Communication with Temperature Recorders

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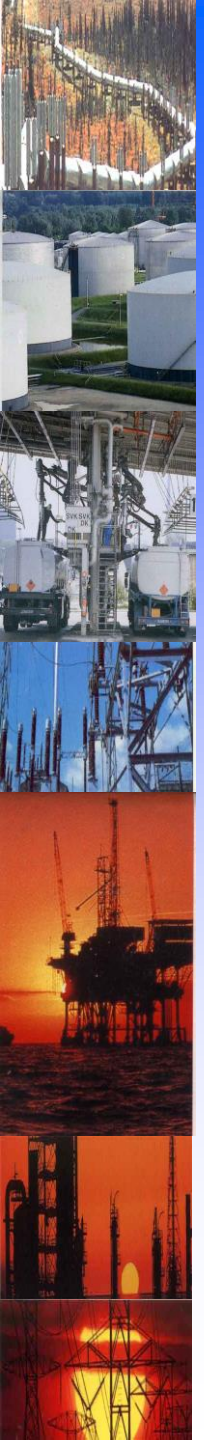

Chilime Hydro-electric Power Project Sequence Of Events Recorder

- GEFanuc 90-30 PLC based SOE Recorder
- Total capacity = 192 points.
- Absolute Time stamping at milli-second resolution by the PLC
- Time Synchronization of SER PLC from SCADA

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