

STRATEGIC PROVIDER SOLUTIONS FORUM:



Richmond Engineering Works

710 PARKWAY VIEW DRIVE	▪ PITTSBURGH, PA	▪ 15205	▪ 412-787-9640
936 95TH AVENUE N.E.	▪ BLAINE, MN	▪ 56434	▪ 612-783-7023
2270 WOODVIEW RD. SUITE 393	▪ YPSILANTI, MI	▪ 48193	▪ 734-485-6099

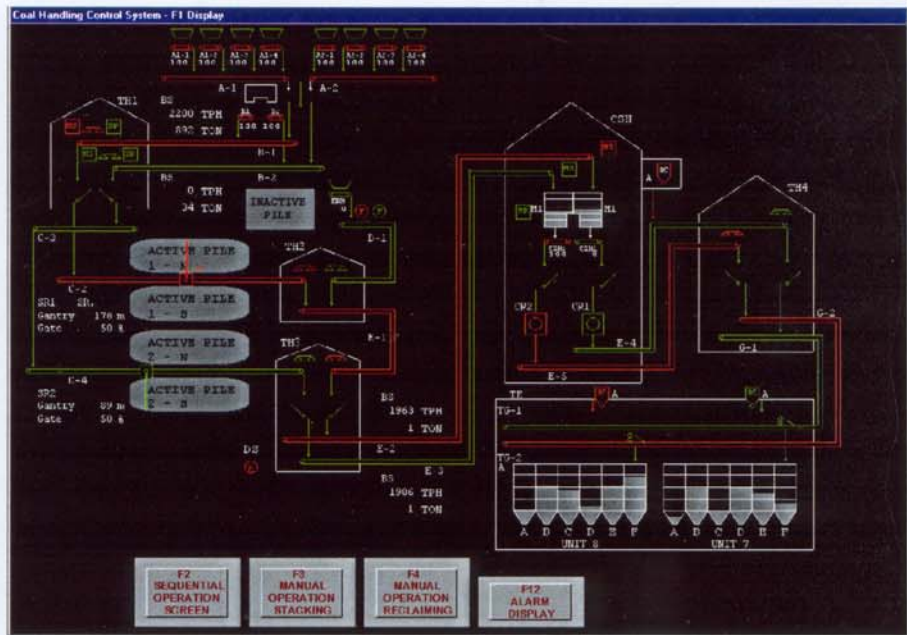
Rockwell Software Strategic Provider members are Original Equipment Manufacturers (OEMs), Value Added Resellers (VARs), and Allen-Bradley System Integrators (ABSIs) that resell Rockwell Software products by incorporating them into customer solutions. The Strategic Provider Solutions Forum outlines key Strategic Provider applications to share solutions with those of you who might have needs similar to those described here.

In this article, Richmond Engineering Works describes how it designed a system for a firm based in Indonesia that provided plant-wide coal handling controls and MMI graphic coverage.

Burning Coal for Power in Indonesia

A privately operated, fossil fuel-burning station in Indonesia is entering the final stages of construction and start-up. When complete, this plant will generate additional power for the 107 million inhabitants of the island of Java, Indonesia's political and industrial center. Richmond Engineering Works (REW) designed and supplied programmable controls and Man Machine Interfaces (MMIs) for the entire coal yard.

The power-generating station required redundant, automated coal handling system controls and MMI graphic displays for the entire coal yard, from ship to silo. A custom graphic interface was necessary, capable of displaying the entire plant overview on one screen. Both the REW-supplied RSVIEW32™ workstations and the Distributed Control System (DCS) workstations access the control system's extensive database. System availability and reliability are extremely important;



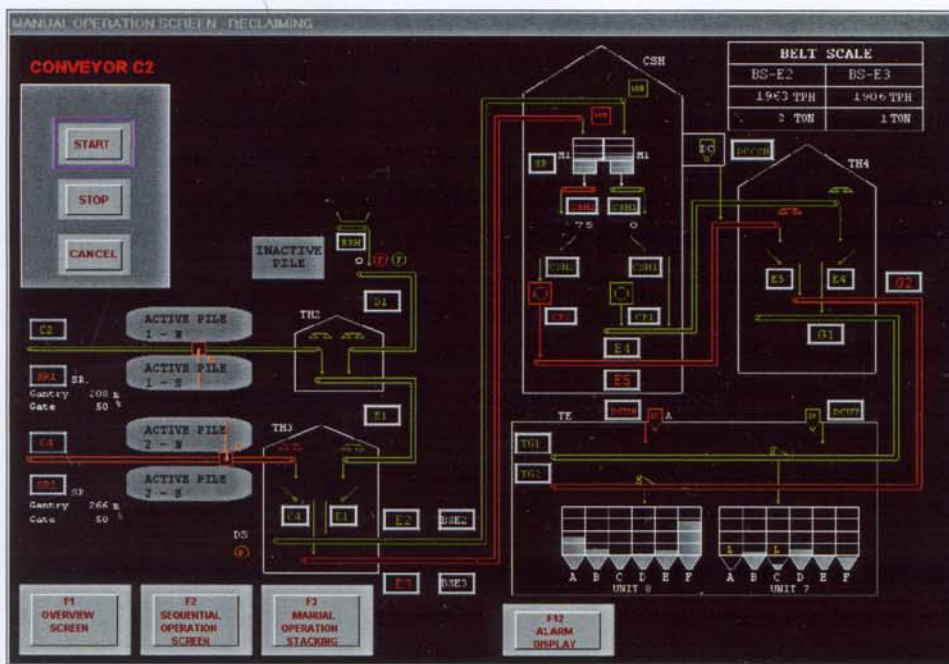
System Overview Display Screen

the control system must function in order for the power plant to generate electricity.

"Powering Up" with REW and Rockwell Automation

To meet the plant's requirements, REW designed and supplied four Allen-Bradley redundant PLC-5® systems:

- ▶ Coal Handling Control System
- ▶ Coal Unloading Control System
- ▶ Stacker / Reclaimer #1 Control System
- ▶ Stacker / Reclaimer #2 Control System



Starting Conveyor C2

REW chose Rockwell Software's PLC-5 A.I. Series™ programming software, WINTelligent LINX™ communication software, and RSView32 MMI software for the control system. REW also installed three networked RSView32 MMI workstations, one for an engineer, and two for operators.

Putting the Pieces Together: How the System Works

REW designed the engineer's workstation for troubleshooting, configuration, and maintenance during operation as follows. The WINTelligent LINX communication driver package allows the engineer to switch between PLC-5 A.I. Series Online/Offline programming software and RSView32 Works MMI software without conflict. The engineer can troubleshoot and configure any PLC-5 processor in the system or configure MMI graphic displays all from one workstation, without interrupting operators.

The two operator workstations control and monitor the coal handling and coal unloading systems on a twenty-four hour basis. These workstations run RSView32 runtime and have project paths for graphics, key files, and event models mapped over the network to the engineer's workstation. This centralizes MMI development and allows the engineers' changes to automatically update files on the operators' workstations. To provide redundancy, each workstation individually polls the processor rather than tag sharing over the network.

System control must occur from any workstation, and any workstation should be able to go off line for maintenance without sacrificing normal operation. The PLC-5 processors accept momentarily pulsed start/stop controls from the MMIs. This configuration allows any workstation, including the plant DCS workstations, to send controls to the PLC-5 processors

without contention from other workstations.

REW converted the existing Microsoft Excel tag database to a comma separated variable file suitable for import directly into both PLC-5 A.I. Series and RSView32 software. This database of almost 2,000 tags imported effortlessly into RSView32 to create the final database, saving many hours of development time.

Testing the System

Customer representatives from both the USA and Japan came to a simulation and factory witness test at REW. Language was not a barrier due to

RSView32's highly graphical nature and simple interface. The customers operated the system for testing purposes with little or no instruction.

The seamless integration of Rockwell Software's communication, programming, and MMI products combined with REW's system design and implementation experience is causing a real "buzz" in Java.

For More Information

Richmond Engineering Works (REW) is a Rockwell Software Strategic Provider in Pittsburgh, Pennsylvania. For more information about REW, contact the Rockwell Software Channel Marketing Group in West Allis, Wisconsin, at 414-321-8000. [SE](#)