

PM2 Control System Solvay Paperboard L.P.



Dual fiber supply and data-highway limitations presented unique challenges

When Solvay Paperboard L.P. installed their PM2, it wanted to build on the success of PM1 but take the mill to "the next level" by using the latest automation technology and lowering operating costs by using alternative fiber sources.

Siemens had provided a comprehensive electrical and automation equipment package for PM1 and Solvay continued its unique relationship with Siemens for PM2. Using this hardware effectively doubled the installed base of Siemens PLCs, substantially increasing network traffic. To accommodate this, a traffic limiting bridge was installed between the new and existing systems.

The alternative fiber source required special equipment and two separate operating modes:

- **parallel** that allows PM1 and PM2 to operate independently
- and, **integrated** which allowed PM1 and PM2 to operate as a single system processing two different grades of fiber

The implementation of this scheme required a "one button" sequence to transition between the two operating modes "on the fly". Similar one button sequences were also developed for startup, shutdown and grade changes in both the stock prep and paper machine areas.

The field architecture consisted of:

- extensive use of field bus for communication between I/O clusters and individual I/O
- AS-I bus, Profibus DP and Siemens H1 bus
- copper and fiber optic cables for communication between the I/O clusters and PLCs

Dick Engineering's role in the project included :

- definition of control requirements
- I/O wiring
- system connections
- coordination of hardware supplied with equipment (e.g. Metso's supplied several PLCs associated with the paper machine)
- logic testing
- commissioning and startup

Project statistics

Location	Syracuse, NY
I/O for all areas	2,235
Operator stations	8
Plant areas	4
Hardware	9 Siemens S5 PLCs