

Dairy Plant Upgrades Control Systems

The manufacturer needed to update its cultured products plant and existing Square D SY / MAX PLC system.



Main Objective

The manufacturer wanted complete control system upgrades and training to gain independence and self-sufficiency going forward.

Customer Results

MAVERICK helped the manufacturer meet its startup schedule and achieve vertical startup goals. All managers, engineers and operators received the training they needed to operate and maintain the yogurt processing and control systems.

Application Description

Cultured Products Area

- MAVERICK served as the Main Automation Contractor (MAC) for the complete fluid plant controls upgrade, including a cultured products plant in Compton, Calif. The control architecture comprised Allen-Bradley ControlLogix, Wonderware InTouch for terminal services, ArcestrA, InSQL and web-based reporting.
- MAVERICK worked early on with plant operators and corporate production personnel to build a recipe editor that allowed all corporate recipes to be verified prior to cut-over to the new system. These recipes are stored in SQL and can be accessed through the recipe editor.
- The recipe editor calculates the amount of each raw ingredient needed for a batch based on a specified size, including dry ingredients. This editor was integrated into the Wonderware InTouch® HMI. The ingredient amounts are standardized based on butterfat, solids non-fat and total solids targets.
- The process was programmed from start to finish, including batching, pasteurization, fermentation, CIP, filling and packaging.

Fluid Milk, Mix and Ice Cream Areas

- In addition to yogurt production, the plant control system also produces ice cream, fluid milk and byproducts.
- The fluid milk plant consists of milk receiving, raw storage silos, three HTST systems, pasteurized silos, five CIP systems and filler routing.
- The recipe editor also included recipes for ice cream, byproducts and drinks.
- This upgrade consisted of 11 new ControlLogix control panels, 10 thin-client HMIs, ControlNet and Ethernet networks, and six servers.
- A phased installation of the plant control system kept downtime to a minimum.
- Installation of mass flow meters throughout the plant allowed the manufacturer to track product loss.

The MAVERICK Difference

MAVERICK Technologies applied its dairy process knowledge and yogurt product expertise in order to meet all the goals for this project. The new recipe editor enables the plant to calculate the amount of each raw ingredient needed for a batch based on a specific size, including dry ingredients.

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