Leading Agriculture Company Reduces Alarms and Improves Efficiency Through Alarm Management

A leading agriculture plant helping to improve global food security engaged MAVERICK to improve the alarm system for a batch process.

Objective

The team utilized the ISA 18.2 standard to conduct alarm rationalization and state design meetings for a DeltaV™ control system to ensure consistency with the customer's alarm philosophy. The batch process consists of 26 units producing two different products bi-annually. State-based applications were developed after the alarm rationalization to potentially replace a legacy state manager implemented within the DeltaV control system.

Results

MAVERICK's alarm management expert reduced 70% of the configured annunciated alarm priorities for all units and provided an alarm priority distribution aligned with the alarm philosophy. In addition, fifty-eight (58) state-based logic definitions were created for managing alarms during production of the two different products. MAVERICK's report included detailed state-based design documentation.

Solution

MAVERICK led all facilitation meetings to justify over 14,000 configured alarms in the DeltaV database.

The team utilized the installed PlantState Suite (PSS) alarm management software provided by the company for rationalization and state-based design.

MAVERICK exported the DeltaV alarms after rationalization to provide a Master Alarm Database and identified the changes, additions and removal of alarms during the process.

A detailed report delivered the results of the alarm rationalization process and included the amount of improvement and the new alarm priority distribution.

The alarm rationalization process resulted in a 70% reduction of all configured alarms.

The alarm priority distribution before the project was 53% Advisory, 27% Warning and 20% Critical alarms.

The alarm priority distribution after rationalization was in alignment with the alarm philosophy with 75% Advisory, 20% Warning and 5% Critical alarms.

MAVERICK configured the alarm management software for the 58 pieces of equipment identified for state-based design.
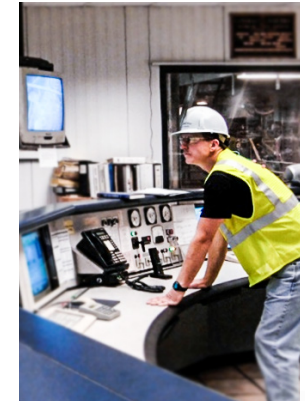
State-based design provided the ability for the customer to eliminate the Product Manager system that could no longer be supported.

MAVERICK facilitated the state-based alarm rationalization to identify 803 alarms associated with the 58 identified state-based pieces of equipment.

State-based alarms accounted for approximately 12% of the total annunciated alarms in the DeltaV system and would typically be standing alarms without state-based design.

A detailed state-based design report was created based upon the specifications required by the customer.

The process promoted high team synergies and included highly-experienced operators to not only deliver high quality results, but also ensured operator acceptance.

The PSS alarm management software provided the ability to rationalize an average of 164 tags per day.

MAVERICK's alarm rationalization expert, experienced project management and detailed quality process ensured smooth communication with quality results.

The MAVERICK Difference

MAVERICK's alarm rationalization process empowers operators to handle abnormal situations more safely and effectively. MAVERICK combines broad industry experience with off-the-shelf software tools to apply the latest alarm management principles, including alarm shelving, masking and proper prioritization.

MAVERICK ®
TECHNOLOGIES

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