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Case Study
St. Maarten—*Storage Tank Facility*

Photo of the St. Maarten storage tank facility.

Independent Liquid Level Monitoring Offers Increased Overfill Protection!

When a tank storage facility in St. Maarten needed a reliable way to prevent overfill incidents and satisfy aviation fuel storage code, they turned to L&J Technologies. The storage facility is made up of eight low pressure storage tanks containing aviation fuel levels monitored with Radar Level Gauges. Looking for a way to satisfy the code requirement for aviation fuel storage which requires an independent HLA (High Level Alarm), the Operations Manager realized that their existing radar gauges did not satisfy the redundancy he needed. For this reason, L&J Technologies suggested the L&J engineering MCG 1090 Level Alarm Probes along with an MCG 7030 Touch Panel Alarm Monitor.

The MCG 1090 Level Alarm Probes that were installed on all eight storage tanks utilize two displacers, one for high and one for high-high level alarms. These high-level alarm probes are typically mounted in difficult environments which makes regular scheduled testing challenging. To make testing easier, the MCG 1090 Level Alarm Probes each contain a solenoid to physically move the displacers as an actual level change would. By simulating the mechanical actuation that the rising liquid level would trigger, the MCG 1090 Level Alarm Probes are able to offer a truly complete self-testing capability. This self-testing capability makes scheduled testing less time consuming and increases the reliable protection available against an overfill incident.

Location: **St. Maarten**

Products: **MCG 1090 Level Alarm Probe/ 7030 Touch Panel Alarm Monitor**

Facility Size: **Eight Storage Tanks**

Benefits:

- True Complete Self-Testing Level Alarm Probe
- Meets State Fire Codes for Independent Alarms
- Reliable Protection Due to Simplified Mechanics
- Optional Remote Self-Testing
- Multiplexing or Independent Wiring

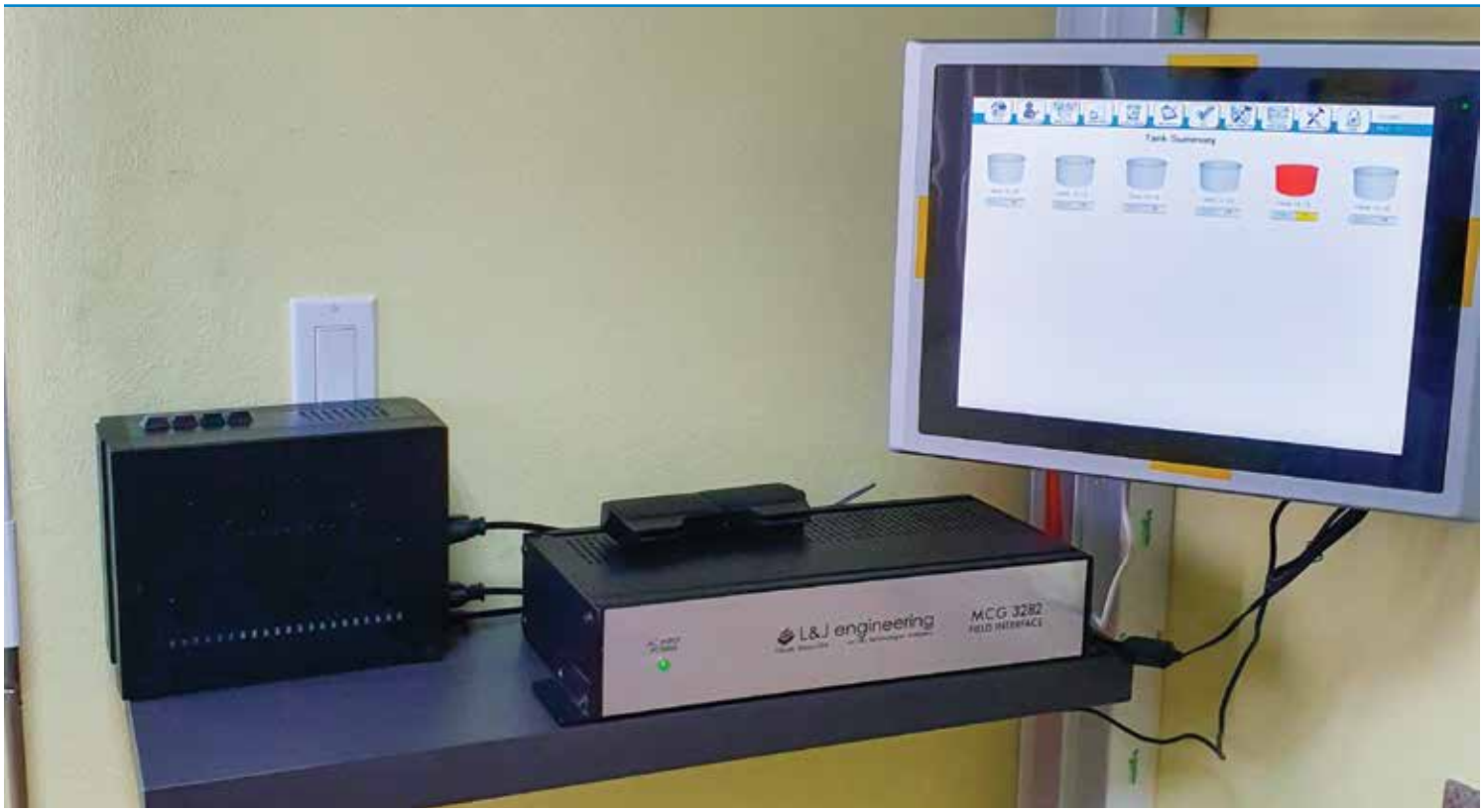

Photo of the High Level Alarm (HLA) System installed in the control room.

By pairing the MCG 1090 Level Alarm Probes with the MCG 7030 Touch Panel Alarm Monitor for the redundant tank HLA system, the Operations Manager is now able to independently monitor and manage the entire system. They can schedule automatic self-checking at pre-programmed intervals, with status reporting, prior to any scheduled receiving operation and implement emergency shut-offs if necessary from the operations office which is remote from the eight storage tanks. Besides handling communications to the storage tanks, the MCG 7030 Touch Panel Alarm has a relay to energize a horn, and it also includes four other relays to perform functions for additional alarm conditions.

Since the installation of this system the Operations Manager was able to verify that one tank in the facility was overfilled passed its safe fill height, but still below its high-high level. This allowed time to adjust the tank fill operation avoiding a potential overfill incident. The success of the system in this facility has led the Operations Manager to implement this system in all of their 26 tank storage facilities across the Caribbean utilizing both the MCG 1090 and the wireless version, the MCG 1095 Level Alarm Probes.

System Layout