Optimize Turnaround Time, Throughput and Manpower at Remote Crude Gathering Facilities

Background

Oil production sites are generally in remote and sometimes inhospitable areas, and in many cases, pipelines do not fully extend to the sites. To complete the supply chain, trucks are employed to pick up produced fluids, such as crude or condensate, and offload at a central gathering location or terminal. Even the gathering locations can be in remote locations with little to no available manpower for truck offloading activities.

Once the product reaches the gathering location, it is typically stored in tankage until sufficient quantities have been accumulated for transfer into a connected pipeline for long-haul transport to refineries or ports. The gathering location may also act as a trading hub where product ownership is transferred with physical transfers of product between tanks or book stock transfers in commingled storage.

What's Your Challenge?

- Automatable processes are handled manually by on-site personnel.
- Unreliable internet communications require the site to run in a disconnected state.
- Receipt of multiple product types, each with varying quality, require scheduling of trucks and sample pots to track product quality.
- Custody transfers require measurement accuracy with API-compliant calculations and tracking of ownership of inventory, from receipt to storage and delivery.
- With carriers, drivers and other third parties often involved in the offloading process, operators also need the ability to fully automate the distribution of key operational reports.

What's Your Opportunity?

Emerson's TerminalManager™ Terminal Management System (TMS) Application provides an industry-tailored solution to meet the needs of the largest terminal to the smallest remote gathering location. These operations can range from large, staffed facilities to completely automated, unstaffed locations.

TerminalManager is a site-based, locally-hosted solution, ensuring there is never a concern about a problematic internet connection taking the operation down. TerminalManager can also be deployed in a hot standby, redundant setup for ultimate stability and reliability.

For gathering locations, TerminalManager can manage everything, from entry access to unloading to facility exit. This turnkey solution allows the process to be completed end-to-end by the driver alone, in a safe and secure manner. No site personnel intervention is necessary.

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What's Your Opportunity? *(cont'd.)*

To best facilitate the tracking of product and quality, TerminalManager provides a user-definable truck gantry schedule, allowing specific bay/pot combinations to be assigned to unique supplier/customer/product combinations. The automated gantry unloading sequence enforces the schedule in real time, preventing unloads at incorrect bays or pots.

TerminalManager tracks all inventory movements in and out of tankage along with product ownership. Operators know how much product is in each and every tank at any given time and who owns it. The system can use this information to automatically check for space in the tank before authorizing the unload to ensure proper operating levels are not exceeded.

TerminalManager seamlessly integrates with preset batch controllers, including Emerson's DL8000 Preset, for control of product transfer and custody measurement. It also integrates with Rosemount™ TankMaster, Rosemount 2460 System Hub or other automatic tank gauging (ATG) systems for real-time automatic tank gauging data, creating a complete terminal solution.

Custom reporting and fully automated distribution ensure users receive up-to-date schedules and any other operation-critical information in a reliable and timely manner.

Advantages of Emerson's Solution

- Automation from entry to exit allows site personnel to focus on higher value activities or allows a facility to operate completely unmanned.
- Automated gantry schedule management, movement control and tracking/auditing of the unloading process ensures a mistake free process.
- Accurate inventory tracking provides the information needed for planning and operations and customer position reporting.
- Automatic distribution of tailored operational reports allow operators to easily reconcile crude offload data, such as picked-up versus offloaded product.
- Easy-to-use, reliable system provides flexibility and supports additional growth as a terminal expands.
- Industry-tailored solution provides custom-level functionality with a commercial, off-the-shelf (COTS) product that is easier to support and upgrade.

What if you could...

- Schedule your crude offloading activities down to the day, bay and pot?

- Systematically enforce your schedule for accurate and reliable offloads and automatically trigger sample capture?

- Capture API-compliant custody transfers and accurately manage customer inventory?

- Seamlessly integrate with preset batch controllers and tank gauging systems?

- Have a completely unmanned facility with site access to product offload handled by drivers?

- Create custom reports and automatically distribute them to customers?

Streamline Your Terminal Activities with TerminalManager & DL8000 Preset

Performance Opportunities	How Your Operation Will Benefit
Sample Pots with Gantry Schedule	■ Definable schedule for gantry with bay/pot assigned to specific customers or products ■ Tie schedule to gantry sequence to enforce schedule parameters ■ Automatically trigger capture of product in sample pots during loading
Custody Transfer and Inventory Management	■ API-compliant calculations for custody transfer quality measurement ■ Flexibility to measure in mass or volume, by preset, weighscale or tank gauge ■ Easily manage customer inventory positions and tank levels, even in commingled storage
Site Automation	■ Terminal can operate and run unmanned ■ Identify and authorize drivers/vehicles ■ Trigger barrier gates ■ Print loading instructions and BOLs
Advanced Report Distribution	■ Allows a customizable report to be written once and sent to multiple recipients with different data, based on group/parameter definition ■ Parameters can be used to create filtered reports for each mailing list, ensuring only customer-specific data will be in the report; system also allows reports to be sent to third parties ■ Report distribution can be fully automated, allowing limited terminal personnel to focus on high-value activities
Modbus Communication	■ Standard Modbus integration allows TerminalManager to capture real-time tank data from a variety of sources ■ Support for the Rosemount 2460 hub provides a new option for ATG integration

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