HYDROCARBON LOSS CONTROL

ENERGY MARKETING CASE

TRINDENT CONSULTING



Our client, a leading integrated energy company with an extensive global network of pipelines and refineries, sought to improve refinery and unit mass balance accuracy. Over a seven-month engagement, Trindent implemented and sustained more than 20 targeted processes that delivered annualized savings of $28,400,000, while reducing the refinery mass loss by 72%. This initiative focused on maximizing the value of existing assets through process optimization, system enhancements, and cultural transformation, achieved entirely without the need for capital investment.

72%
REDUCTION IN REFINERY MASS BALANCE LOSS

$28,400,000
ANNUALIZED SAVINGS

31%
METER LOSS REDUCTION

How we Made it Happen™

Refinery Mass Balance Improvement

- Installed a robust Standard Operating Procedure to leverage findings from Loss Control Review Meetings, incorporate material losses, and integrate out-of-period adjustments, resulting in a 72% mass loss reduction
- Implemented a month-end Work-Day 5 process to verify densities to enhance accuracy of reported monthly refinery mass balance, identifying incorrect static default densities in 12% of product inputs

Unit Mass Balance Improvement

- Established a standardized work process for model validation and unit mass balance reviews, increasing unit convergence within ±2% by 61% and enabling effective LP backcasting that realized $12,000,000 in commercial opportunities
- Integrated unit mass balance metrics and performance scorecard to monthly Unit Health Monitoring, achieving model integrity for Process Engineers and justifying break-in maintenance work for high priority instrumentation and equipment

Meter Loss Reduction

- Achieved oversight on 17 custody transfer meters by implementing Meter Factor Control Charts and Meter Factor Regression Tools in Power BI, reducing meter losses by 11.5% for inbound crude and 31% for outbound products
- Automated data collection and transformation of 3rd party data including meter tickets, proving reports, and calibration results to enable real-time meter accuracy monitoring
- Implemented a 3rd party escalation process, resulting in successful meter ticket corrections, meter re-proves, 100% increase in meter proving frequency, and a reduction meter calibration frequency by 2 years

Sediment & Water Measurement Enhancement

- Implemented API-compliant training material to improve consistency in S&W measurement, resulting in a 73% increase in 3rd party reported S&W results
- Installed a monthly Witnessing Program at a 3rd party terminal to identify gaps to ASTM standards such as toluene preparation, temperature fluctuation, and method repeatability

"What we valued most was the firm's approach to execution - your team did not just identify opportunities for improvement but also worked hand-in-hand with us to make lasting changes. The focus on cultural transformation, process adherence, and practical implementation has positioned us for sustained success. Your ability to not only highlight areas of improvement but also to help implement and sustain those improvements sets your firm apart."

- Refinery Optimization & Performance Manager