



BP Bulwer Island Refinery, Australia

Continuous Improvement Accelerator Project

KEY RESULTS

A sustainable review and learning structure

Improved management skills within the business

Alignment of business with daily operational goals

Continued use of root cause analysis

Enhanced operational control through ongoing development and installation of management control systems

The Bulwer Island Refinery, located in Brisbane, QLD Australia, is a 98,000 barrel per day refinery producing Jet, Diesel, Petrol, and Heating oil primarily for the domestic Brisbane market. BP's requirement to reduce operating costs and increase throughput across its refinery business at Bulwer Island resulted in engaging Renoir Consulting to complete an analysis to assess what efficiencies and cost saving measures could be pursued to bring about the realization of desired benefits.

ANALYSIS

Renoir conducted an initial Analysis of the BP Bulwer Island Refinery in August 2008. As a result of the findings, the Continuous Improvement Accelerator project began in December. The 45 week Project kicked off with Renoir's Focus Process™ to engage department managers in assessing areas of opportunity and identifying targets.

PROJECT APPROACH

Under the guidance of full time Renoir consultants, a 'taskforce' was created from BP Bulwer personnel, to jointly drive the opportunity identification, savings assessment, and target attainment. Management action teams (MATs) were created in key areas and headed by respective managers. Each MAT comprised a cross functional team along with the Renoir/taskforce Team. These teams were charged with achieving hard dollar cost reductions through improved control and execution.

• Maintenance:

- » **Focus:** Install a rigorous management control system to correct issues causing inefficiencies affecting daily execution and attainment of work.
- » **Desired Outcomes:** Maximize available hours through enhanced planning & scheduling, more proactive management of personnel, short interval controls & daily reporting to target achievement.
- » **Benefit Targets:** 35% Increase in efficiencies and a 20% Improvement in Equipment Spend.

• Procurement / Supply Chain:

- » **Focus:** Procurement policy & procedure compliance, vendor & contract owner rationalization, and a review of storeroom inventory to free up "locked" working capital.
- » **Desired Outcomes:** Policies, compliance & corrective action for all activities involved with "How we spend our money" activities. Procurement function better utilized and involved more strategically with developing the vendor base versus its current role as a transactional purchasing department. Inventory levels are rationalized, with stocking levels based on a standardized, logical approach and direction, to convert a greater percentage of inventory from owned to consignment, decreasing carrying costs, working capital value, and overall liability.

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- » **Benefit Targets:** Improvements of 5% in Sole Source spend, 3% in Contract spend, and 30% in working capital.
- **Operations:**
 - » **Focus:** Identify & standardize ‘crude change’ best practice across shifts and enact after-action reviews to carry out root cause analysis to address poor performance.
 - » **Desired Outcomes:** Decrease ‘Throughput Loss’ during ‘Crude Changes’ through developed and installed best practices and root cause analyses.
 - » **Benefit Targets:** A 20% increase in production during ‘crude changes’.
- **Inspection:**
 - » **Focus:** Identify & standardize ‘crude change’ best practice across shifts and enact after-action reviews to carry out root cause analysis to address poor performance.
 - » **Desired Outcomes:** Decrease ‘Throughput Loss’ during ‘Crude Changes’ through developed and installed best practices and root cause analyses.
 - » **Benefit Targets:** A 20% increase in production during ‘crude changes’.
- **Management of Change:**
 - » **Focus:** Identify & standardize ‘crude change’ best practice across shifts and enact after-action reviews to carry out root cause analysis to address poor performance.
 - » **Desired Outcomes:** Decrease ‘Throughput Loss’ during ‘Crude Changes’ through developed and installed best practices and root cause analyses.
 - » **Benefit Targets:** A 20% increase in production during ‘crude changes’.

PROJECT RESULTS

- **Maintenance:** Improved planning, scheduling and execution of maintenance work orders has reduced break-in work from 40 to 11% and compliance from 65 to 86%.
- **Procurement/Supply Chain:** Enhanced systems & processes to allow for greater visibility & compliance. Forced purchasing transactions through prescribed channels and conducted proper market analyses to realize significant savings across a decreased vendor base. Inventory reduction of 38%, special project purchases contracted on consignment, delivery on demand and a project closeout process to ensure surplus material is credited.
- **Inspection:** New planning process, tools, KPI's and improved supervision of inspection activities. Restructured the department & applied RACI to improve role clarity and team work. Reduction of break-in work by 50% and overtime by 66%. Increased work attainment using lower than budgeted labour resources.
- **Operations:** Improved throughput loss during crude changes by 34% and average change duration by 38%, made possible through better usage of analyzers & furnace outlet temperature controls along with the new Crude Change “After Action Reviews” to assist in scoring crude change performance, problem identification & corrective actions.
- **Management of Change:** Web based eMOC system configured and installed. Development of automated reporting with meaningful KPI's to assist in continuing improvement and timely assessment of MOC requirements.

The Bulwer Island project goal was to have paid for itself by the end of 2009. The goal was achieved in October 2009 and forecasted to exceed goal by \$1,075,000.

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