

Middle East Refinery

Performance Improvement Project

This major refinery in the Middle East has the capacity to process 305,000 bbls/d of crude from sources within the region. The refinery was owned by a 50/50 joint venture between the host national oil company and a major multinational. Employing recent technology, the refinery includes crude distillations units, a hydrocracker and an aromatics plant. Our client has asked not to be identified.

"I would recommend a Renoir program to any company that needs a fresh look at their management systems and practices and needs a third party to drive the changes required"

Phil Green
Chief Executive Officer

Key Results

13% Reduction in manpower requirements

Action Teams with plans in progress to deliver and additional 7-12% reduction

Development of a more effective contracting strategy

Profitability up \$2,750,000 per annum

Development on how the vision is to be achieved

Development of a high level Phase 2 structure

ANALYSIS

A broad section of senior and middle managers had developed their vision in terms of Solomon Benchmarking Indices. Consequently, several initiatives were set up to determine how they were to achieve this vision and Initiative 6 (Organizational Review) determined that the vision was attainable through a combination of restructuring and workload reduction.

Renoir Oil & Gas was invited by senior management to validate Initiative 6's findings. The ensuing survey concluded that restructuring would be beneficial, but weaknesses in processes and systems must be addressed before embarking on such a restructuring.

In summary, the survey concluded:

- By improving effectiveness of systems, processes and practices, a 20% reduction in manpower was possible
- Thereafter, by restructuring the organisation, a further 10% was achievable
- This would allow the refinery to achieve the vision within a 3 year timeframe

Additionally, the survey recommended the vision be achieved in two phases:

- **Phase 1:** Improvements in systems and processes to be implemented.
- **Phase 2:** Restructuring of the organization.

It was agreed that Renoir would support the client in Phase 1 and to lay the foundations for the second phase.

PROJECT APPROACH

The Project started by setting up a Task Force involving the client's staff and Renoir consultants. Several Focus Areas were identified covering functions such as Maintenance, Operations, HR, Finance, etc. In addition, additional three cross-functional Focus Areas were identified as Workload Reduction, Project Management and Contracting Strategy. The purpose of the Action Teams was to facilitate improvements in each of the Focus Areas.

The Task Force began by supporting individual Action Teams as they progressed through the stages of the Focus Process™ for their own individual departments. The Task Force ensured that improvements in one area were co-ordinated across the organization to avoid duplication or possible conflicts.

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Given an understanding of the opportunity and potential benefits, the Action Teams then developed solutions to ensure that the benefits were realised. Forming the Steering Committee, the Refinery Management Team retained overall control of the process, lending leadership and support so that changes were implemented at the appropriate pace and therefore ensuring operational and HSE performance was not compromised. As turnaround performance forms significant base criteria for Solomon Benchmarking, a review of the major turnaround was additionally undertaken early on in the Project. Recommendations were developed for incorporation into the next turnaround (due in approximately 4 years) and the impact of these recommendations on the relevant Solomon Index was calculated.

PROJECT RESULTS

Improvement in Solomon Benchmarking Indices were realised during the initial months of the Project. During the course of Phase 1, the following benefits were delivered compared with the baseline set during the survey:

- Reduction in manpower requirements of ca. 13% mainly through lower usage of contracting staff
- Action Teams with plans in progress to deliver an additional 7-12% reduction
- Plans in progress to attain 'Pacesetter' performance for Maintenance & Engineering in the region
- Development of a more effective contracting strategy
- Profitability improvements of \$2.75m pa in progress
- Development of the high level Phase 2 structure (based on the outcomes of Phase 1) to fully achieve the vision
- Development of an organization with clarity on how the vision will be achieved along with the confidence and capability to ensure the vision is met.

MAJOR OIL REFINERY IN SOUTH EAST ASIA

Renoir was also invited to undertake an analysis of this 120,000 bbl/d refinery in order to identify and implement improvements across a range of functions. The team conducted studies focused on improving gross margin and improving productivity in oil movements/blending, laboratory, maintenance and contractors.

As with many refineries there were an overwhelming number of performance parameters that lead to review by exception with the result that operators and technicians had no idea if the day was profitable or not. Most reviews were focused on areas of poor performance rather than critical success factors.

The gross margin initiative identified key process constraints (bottlenecks) that limited profitability. The 16 gross margin indicators were then reviewed at the panel at least twice per shift to ensure that the current parameters were maximising profit.

Extensive training and coaching supported the system. In addition, work measurement systems were installed that ensured quality of output and improvement in plant availability.

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To enhance productivity, formal work assignment and review mechanisms were introduced with an appropriate focus on the duration to complete a task. The result was a 20% reduction in hours in the laboratory, 20% increase in productivity in oil movements/ blending, 20% reduction in maintenance hours and a 30% reduction in contractor hours.

The culture of the organisation changed from reactive to pro-active, with a tight focus on performance and the changes have delivered a significant improvement in GRM.

THE RENOIR GROUP

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