World Leaders in Sustainable Change

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South East Asia Oil & Gas Producer
Improving turnaround performance

One of the largest oil and gas producer in South East Asia, supplying 350,000 barrels of oil and gas equivalent every day and operating an extensive and complex infrastructure on land and offshore. It has over 200 offshore structures linked by over 2,000km of pipelines, recovering oil and gas from over 4,500 individual reservoirs produced through more than 800 wells. The company supplies local, regional and global markets and is one of the largest companies in the area.

ANALYSIS

ORMC (Offshore Reliability Maintenance & Construction) is the activity of executing maintenance work and project construction. The objective is to assure the client’s offshore asset integrity and deliver projects for both oil & gas production and to enhance safety. These activities are carried out during turnarounds, where producing platforms are shutdown and production is halted. Therefore, it is critical for the ORMC organisation to carry out execution, as per business plan in order to secure the client’s commitments to its shareholders.

Renoir was appointed to conduct an analysis, produce a business case for change and implement an improvement program for the turnaround organisation of the client. The project objective was to improve existing systems, business processes, and working practices; focusing on long-term continuous improvement and sustainability within the organization.

Key findings during the analysis were

• Lack of process clarity and work processes not standardized.
• Unclear roles and responsibilities across the organisation.
• Poor departmental interface/communication.
• A new contractor was assigned by the client to execute ORMC. The setup, transition of old to new contractor, and management of the new contractor was critical for project success.

In order to measure the effectiveness and success of the Project – and by extension of the new contract – the following ‘Overall Measures of Success’ were agreed:

1. Successful completion of offshore scopes.
2. Reduction of Shutdown extensions.
3. Compliance with milestones and plans.

By achieving these 3 measures of success, ORMC could then install the required scope offshore to meet the Business Plan on safety, production, and commitments to clients and shareholders.

Using Renoir’s Project Methodology, The Focus Process®, the 3 main steps below were taken to achieve the project’s measures of success:

1. Revise working processes, remove barriers to performance and increase both the productivity and preparation for turnarounds.

Key Results

138% improvement on offshore earned manhours against Business Plan
58% reduction in cost per earned manhour offshore
110% reduction in shutdown extension against the Business Plan
28% increase on time-on-tool offshore
76% improvement on material availability by the required date

“What I really like about Renoir is that the Procedure is the final product after the process of design, testing, listening and get the buy-in so it is already implemented, unlike other consulting firms where that they just go in, go top-down, give the report and leave.”

Head of ORMC

BRUNEI

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2. Improve coordination of activities in preparation of the offshore turnarounds, including those relating to Fabrication, Logistics, Marine, and Procurement.

3. Sustainably change behaviours in order to increase the amount of scope that is effectively planned and executed during the turnaround period.

**PROJECT APPROACH**

This Project followed Renoir’s Focus Process® where:

- Active participation and collaboration of all client stakeholders and contractors was achieved during the initial brown paper exercise. This ensured development of the optimum solutions and their subsequent implementation.

- Critiques of the existing systems and processes were converted into opportunities and aligned with the business needs and company KPIs.

- Supporting Management Control Systems, focusing on tracking tools and reporting, were developed to improve the decision making process by providing visibility at the right level of the organisation. Engagements across all levels of the organisation were carried out during the design and development of the White Paper.

- The ORMC Turnaround White Paper process was developed, which was based on the Projects & Technology Guidelines and derived from the relevant assessment of business performance and procedures. The process included a Milestone Plan developed to track and provide timely delivery of key steps to ensure readiness for the turnaround, execution progress and timely close out of work in the system.

The Business Improvement project was structured in the following 6 areas:

1. Planning & Scoping for Asset Group 1
2. Likewise for the West Asset Group 2
3. Fabrication & Interface with the main contractor
4. Logistics & Warehousing
5. Marine, and
6. Procurement

These 6 areas covered all the key steps required to execute a successful turnaround:

Due to the large scale nature of turnarounds and contractor ramp up, Planning and Interface areas (areas 1 to 3) were planned for 150 weeks whilst the other three areas lasted for 40 weeks.

**IMPLEMENTATION**

Steering Committee members, chaired by the client’s Managing Director, endorsed the design during the Strategic Integration Meeting, which officially kicked off the Implementation for the 6 areas once the design had been completed and reviewed with all client stakeholders and Contractor.

Implementation involved a significant re-organisation of about 60 people into a new turnaround team structure as well as integrating it.
with a newly awarded managing contractor for execution of the work. The kick off phase included a 2-week training exercise, comprising both operational and soft skill content to ensure sustainability. Roll-out and on-the-job coaching of the new system elements were conducted, following the implementation project milestone plan sign off by Senior Managers in order to ensure readiness for the turnaround. Weekly updates and support areas were reviewed at the Management Action Team meetings, chaired by the Head of each Department. Monthly updates and guidance was sought at the Steering Committee meetings, chaired by the Managing Director.

These meetings were embedded in the process and handed over to the client personnel so they became sustainable over time and become the key drivers for progress and removal of barriers. During the implementation, an external top-down re-organisation was conducted. Renoir and the Department Managers reviewed the RACI matrix to ensure roles and responsibilities were clarified to the shop floor and department heads.

Part of the overall success of the project was the roll over to local contractors, which was progressively carried out and increased by 26% the proportion of local workforce versus foreign experienced personnel. Change and compliance with the new practices were monitored by carrying out behavioural audits to provide visibility on the implementation status.

The following steps were conducted to ensure that implemented practices are sustainable and remain in the client’s ORMC Organisation:

• Creation and agreement of Standard Operating Procedures (SOP) and Sustainability Plans for the departments involved with ORMC, namely Procurement, Logistics, Marine, Fabrication, Installation and Planning & Scoping.

• Coaching of the Turnaround Excellence Organisation, (the ORMC Process Owner) and progressive hand over of the tasks carried out by Renoir to ensure performance is sustained and to foster continuous improvement and deliver best-in-class practices.

• Job descriptions were updated reflecting the re-organisation along with roles, responsibilities and interfaces, such as between the Assets and Projects organisations, which are the two sources of scopes being executed by ORMC.

RESULTS
As a result of the implementation of the ORMC White Paper, first cycle turnarounds had to work with a significantly compressed timeline in comparison with the normal 23-month process. The overall scope preparedness for both maintenance and project scope in the turnarounds has shown a significant improvement for the turnarounds for 2015 second cycle.

The ultimate objective was to execute more scope under ORMC contracts in the given time to meet the approved deferment.

• 130% more scope was executed in 2014 and latest estimates for 2015 are showing 195% more scope than in 2013.
• As a consequence of being more efficient when following the process, the associated cost per earn manhour decreased by 58% at the same time duration was 2% shorter than the original plan, starting up and going back to production ahead of the committed dates to Shareholers:

The table below reflects the 3 fundamental Measures of Success agreed by the senior leadership:

<table>
<thead>
<tr>
<th>Measure</th>
<th>Baseline</th>
<th>Target</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Planning and Scoping</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scope Completion</td>
<td>37%</td>
<td>85%</td>
<td>88%</td>
</tr>
<tr>
<td>Extension of Shutdown Days</td>
<td>20%</td>
<td>0%</td>
<td>-2%</td>
</tr>
<tr>
<td>Milestone Plan Compliance</td>
<td>46%*</td>
<td>85%</td>
<td>66%</td>
</tr>
</tbody>
</table>

*Before this project, Implementation Milestone Plans were not developed so the baseline was based on the Projects & Technology Guidelines assessment.

These Measures of Success led to the improvement of turnaround preparation and execution for CPCB this year, achieving the best results so far yet. 2015 CPCB maintained the front end turnaround readiness despite double the work to be executed. The early completion of fabrication and load out was required to enable better material readiness prior to shutdown.

As a result of the improvements in readiness and offshore productivity, CPCB’s daily earned manhours doubled, which resulted in an increase in year-on-year total earned manhours by 182%.

- 2015 CPCB maintained the readiness percentage with nearly double the scope to be executed.
- Early materials delivery improved the pre-SD progress prior to shutdown.

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Other key improvements:

**Procurement:**
- 52% reduction on procurement processing time
- 76% improvement on material availability by the required date

**Warehouse:**
- 68% reduction in inbound backlog
- 80% reduction in outbound backlog
- 34% increase of stock accuracy

**Fabrication:**
- 35% improvement on fabrication completion by the cut-off date
- 28% reduction on extension of fabrication timeline

**Marine:**
- 28% increase on available time offshore

**Installation:**
- 35% increase on offshore productivity
- 62% reduction in shortage of manning mobilised offshore

**THE RENOIR GROUP**

Renoir Consulting is a world leader in sustainable, implemented change. Founded in 1994, Renoir has offices located in North and South America, UK, Europe, Turkey, Middle East, Southern Africa, India, Pakistan, China, South East Asia and Australasia. With over 350 fully employed and highly trained consultants, their work across a wide range of industry sectors gives them a broader perspective of the issues facing your business, allowing them to be sensitive to your unique challenges, culture and specific business issues. This cross-pollination ensures truly effective, rapid and sustainable solutions.

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The project not only delivered impressive results for on-going turnarounds but has also fostered sustainability and improved 2016 readiness. The graphs below show readiness indicators throughout 2014 to 2016. The overall readiness for both maintenance and project scope has already shown a significant improvement for the 2015 turnarounds. For 2016 this improvement trend will be sustained for both Projects and Maintenance. These leading indicators point towards more successful future turnarounds.

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