



Case study

Fast-tracked refinery maintenance intervention

Client: Poly-metallic producer

Location: South Australia

Duration: July-October 2017

Context

Our client's refinery maintenance team identified the need to make a step change in asset performance. Urgency was underpinned by the imperatives of providing reliable equipment to support current production levels and preventing the refinery from becoming a production bottleneck in the future. Existing refinery performance was not at full capacity due to underperforming assets and frequent failures of critical equipment. A short-term intervention was needed to build the team's base capability so they could continue to identify and implement improvement opportunities into the future.

Approach

The intervention comprised a 12-week, high-intensity, multi-faceted program to support rapid improvement. It spanned people, systems and performance, driving the start of a cultural change. Key initiatives included:

- ▶ Reviewing supervisory practices and revising shift starts, task allocation and information transfer
- ▶ Developing and implementing work menus for supervisors and area specialists
- ▶ Improving the workgroup information centre content and use, introducing new methods for capturing and tracking the progress of workplace problems
- ▶ Reviewing task preparation to ensure the right tools, parts and equipment were available and ready to start work at scheduled times
- ▶ Reviewing the effectiveness of maintenance input into work planning and scheduling processes
- ▶ Analysing production interface, relationship, equipment isolation and handover effectiveness
- ▶ Facilitating a 2018 refinery maintenance improvement business planning activity
- ▶ Reviewing and revising more than 200 area PM02 tasks regarding content and planned durations
- ▶ Identifying and implementing performance techniques including introducing workplace standards and behaviours developed with workgroups, reorganising workshop areas using 5S Lean Manufacturing methodologies, and conducting information centre audits
- ▶ Facilitating a cathode stripping machine (CSM) 'Tighten, Clean, Lubricate' (TLC) activity to demonstrate the foundational elements of Total Productive Maintenance for future improvements

Results

Physical

- ▶ 976 resource hours saved from planned work requirements in 12 weeks alone
- ▶ Individual maintenance tasks reduced by approx. 33% cumulatively
- ▶ Work areas reorganised, optimising efficiency

Process

- ▶ Less productive shift times refocused on activity preparation, improving efficiency
- ▶ Crew handover documents streamlined
- ▶ Daily production and maintenance meetings instituted, improving reliability

People

- ▶ Team skills self-ratings improved – 3 points (10-point scale) for active listening and team development, and 2 points for objectives setting
- ▶ Team culture and performance improved via standards development and coaching
- ▶ Knowledge transfer program implemented to reinforce improvement techniques

