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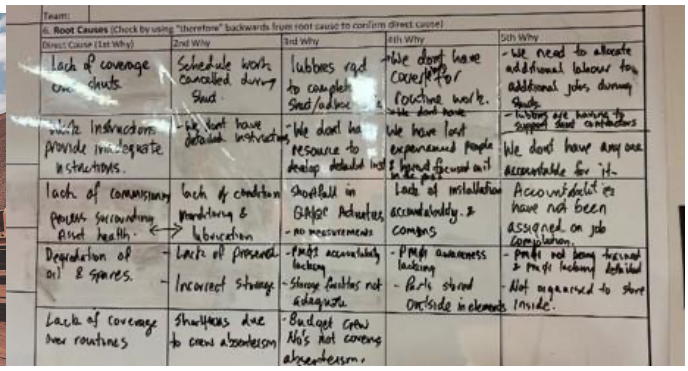
100% Reduction in Hydrocarbon failures

OVERVIEW

A large Iron Ore site was having a large number of hydrocarbon failures. The hydrocarbon failures were causing downtime at the stockyards resulting in missed ore loading opportunities onto trains which would transport the iron ore by rail to the ships waiting at the port.

THE CONTEXT AND CHALLENGE

The site senior leadership team had growing concerns that hydrocarbon failure rates were increasing. Despite full time lubrication teams the fixed plant team were unable to detect the hydrocarbon failures before they turned into usually major breakdowns, resulting in significant equipment downtime and train loading delays. A previous Business Improvement problem solving initiatives had been held that generated over 40 actions which did not result in a reduction in breakdowns. Rather than focusing on all equipment in the stock yards we focused our efforts only on the stacker/reclaimers.



FINDINGS

Initially we held a 'practical problem solving' (PPS) session. Team makeup consisted of maintenance supervisory staff, lubrication technicians and condition monitoring staff. The objective of the PPS session was to avoid generating 40 actions but to focus on the vital few actions that would generate real results.

The PPS started out with a fishbone analysis identifying and prioritizing the potential root causes leading to the lube technicians not picking up the potential hydrocarbon failures. The fishbone analysis revealed 5 key areas to focus on; lack of lubrication technician coverage during shuts, lack of notification during shift handovers of major equipment replacement, Inadequate work instructions for lubrication work, degradation of oil and spares and lack of lubrication technician coverage for leave an absenteeism.

After the PPS was completed a 5 Whys was carried out to determine the root causes from which an action plan was developed and implemented.

THE SOLUTION

The following solutions were implemented; ensured a full complement of lubrication technicians, implemented appropriate shift handovers between crews, implemented lubrication instructions, project initiated to ensure correct stores and preservation of spare parts, and improvement in commissioning processes.

THE RESULTS

Hydrocarbon failures on the Stacker/Reclaimers were reduced to zero within 2 weeks and had operated without breakdown for 6 months at time of this writing. This enabled a potential of loading an extra 900k tons of ore per annum onto the trains.