

A refinery in Taiwan had endured 7 unplanned compressor trips on two Naphtha cracker trains over the past two years.

During each trip, operations, safety and the environment were seriously affected, causing losses to the business and impacting the local reputation of the plant.



BENEFITS

- Maintained license to operate
- No further impact to the environment
- Safer operating conditions restored
- Full production restored

OBJECTIVES

1. Decide on the best method to solve this ongoing problem
2. Analyse the historical performance data of the plant
3. Develop a solution that would eliminate the trips
4. Work with the refinery to test and validate the solution to ensure compliance

METHODOLOGY

Previous attempts by the maintenance department to find a solution to the trips had failed.

Examining the problem in isolation using FMECA did not and would not resolve the root causes as the problem related to the way in which the plant operated.

ProAIM decided to use FTA bringing process, operations and maintenance together to conduct a RCA of the situation. 6 compressors were examined in the Naphtha trains, 140 trip events examined identifying process conditions that caused the compressors to trip, and the reason for this was due to the trip limits within the equipment were set too low.

These were recalculated and validated using a HAZOP trips study to ensure that the new set points would not impose any risks and tested these new set points on the plant with our engineers before updating the operational philosophy and documentation.

ABOUT PROAIM

A reliability-engineering consultancy based in the U.K. with operations across the globe.

Providing specialist bespoke consultancy with integrated RAM technology and training solutions in the area of reliability and maintenance engineering.

We enable our clients in asset centric process industries, to achieve the safety, production output and costs targets for their business.

ProAIM is one of the leading companies able to quantify the true life cycle costs from design to decommissioning by combining RAM and Process Synthesis with ProAIM's patented RAM-int.



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