

RCA Case Study #7: PEMMAX Consultants

Waterloo, ON, CN

Undesirable Event Summary:

In a leaching operation, titanium shell-and-tube heat exchangers are used to cool from 250°C to 130°C a water based slurry with 30% mineral solids and a pH = 1; The plant uses 10 of these coolers and their average life was 20 days for annual production and maintenance losses of approx. \$11,500,000.

When leaching became the production bottleneck, a cross-functional team (6 employees led by Tony Rodriguez of Pemmax Consultants using the PROACT® RCA methodology) was given the challenge of increasing the average operating life of these units from 20 to 40 days.

Effect on Bottom Line:

- MTBF increased from 20 to over 60 days
- Estimated savings as a result of the RCA were calculated at \$7.6 MM/yr or just over \$600,000/month. Savings are 2/3 of the initial losses; remember we tripled the MTBF of the coolers

Additional Comments:

- Consulting plus labor costs of company employees: approx. \$300,000
- Payback at current savings less than 2 weeks

RCA Team Statistics

- Start Date: November/2005
- End Date: December/2006
- Estimated Cost of Performing the Analysis: \$300,000
- Approximate Savings: \$7.6 MM/Yr
- Estimated ROI: >2,500%