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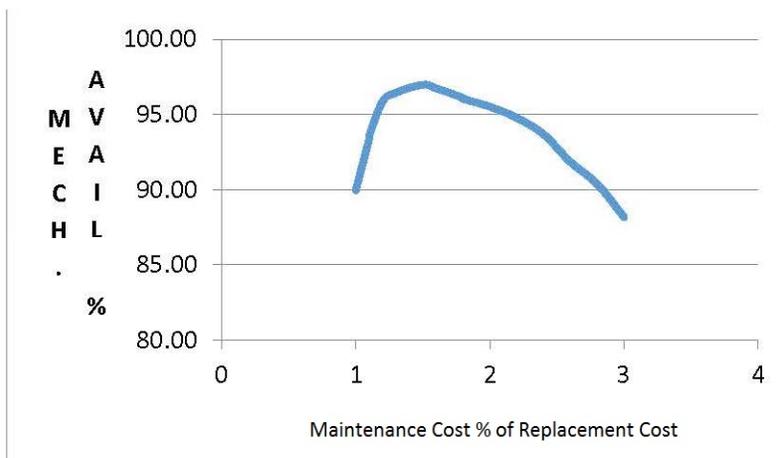
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Finding the Reliability – Maintenance Sweet Spot

By Walter Lambertin

Benchmarking consultants provide information suggesting your maintenance costs and availability are not competitive. Many tell you that you can reduce maintenance costs and increase availability. This often seems counterintuitive particularly when they don't tell you how to make such improvements except in general terms. Senior Management is eager to capitalize on cost reduction while reliability and operations personnel are concerned about operational shutdowns and surprises.

The truth is you can achieve higher availability and lower maintenance costs to a point as shown in the chart below:



Work Highlights

Fired Equipment

- Provided revisions to Boiler Design Guide and separate related boiler engineering standards for a major refining company.

Flexicoking

- Provided Flexicoker onsite process support on behalf of the licensor after the start-up, plus remote follow-up assistance. Coordinated site visits for licensor's clients to operating units.

Layout

- Developed initial plot plant/layout for addition of a diesel hydrotreater and sour water stripper for a client in Malaysia.

Materials

- Provided materials/corrosion engineering support for an Alaska North Slope production facility. Work involved review of inspection data provided by others, and provided recommendations regarding corrosion rate and mitigation plans, planned inspection locations, minimum required pipe thicknesses, remaining life estimates, etc.

Process Design

- Provided long term process design and equipment layout support services at client's offices.

To determine the right path to create a sustainable improvement requires an in-depth analysis of your high maintenance cost contributors and your sources of unavailability.

The analysis should start with an analysis of routine and programmed maintenance costs vs. annualized T/A costs. If your annualized T/A costs are greater than 20% of your budget, this is an area that needs to be investigated.

The next step of the analysis is to evaluate the sources of unavailability. Lost capacity is produced by a combination of unscheduled and scheduled downtimes. The solutions for unplanned capacity lost and planned capacity lost are different and each must be investigated.

Carmagen Engineering has extensive experience in assisting clients to develop detailed plans to find the reliability – maintenance sweet spot.

About the Author

Walter Lambertin has over 40 years experience in refinery technical support positions in the maintenance, mechanical, and materials engineering areas. He has extensive experience in refinery technical organization, mechanical and technical procedures, reliability and maintenance programs, and cost effective work practices. Walt has developed and assisted in the implementation of cost-effective general maintenance and turnaround best practices worldwide.

Please contact Vince Carucci (vcarucci@carmagen.com) if you'd like more information on Carmagen's expertise in this area.

