

S. Rao Palakodeti, P.E

Summary

Experienced Consulting Executive with a demonstrated history of working the power industry. Skilled in operation, maintenance of power plants, Reliability Engineering and Asset Management. Strong engineering professional with a Bachelor of Science (BS) in Mechanical Engineering, Masters in Engineering Management, a Six Sigma Black Belt, Certified Energy Manager (CEM) and Certified Maintenance and Reliability Professional (CMRP). Rao is a Professional Engineer (PE) licensed to practice in the State of Michigan, USA.



Experience

Executive Consulting Engineer

July 2009 - February 2017

Rao Joined Alstom Power in July 2009 after working for a major Midwest utility for 30 years. He was responsible for setting up the reliability program at Alstom and providing the services to their customers - mostly utilities.

Set up a standardized reliability process and integrated various reliability tools such as Weibull Analysis, Reliability Block Diagrams, FMECA and other.

Rao and his team completed analyzing more than 20 power plants around the world comprising 40 units and 121 substations.

Published many papers and presented them at various international conferences.

Rao Palakodeti trained a number of young engineers in the application of statistical tools for predicting power plant reliability and equipment failures.

Developed 'Plant CheckUp', an asset management tool, where a systematic analysis of the asset condition, processes, KPIs etc. are reviewed and recommendations are made for improving the asset Reliability, Availability and Maintainability (RAM).

Performed 'Run/Retire' assessment of a six unit power plant, impact of cycling on a supercritical plant and cycling impact on 2 on 1 combined cycle plants.

Rao retired from Alstom/GE in February 2017.

Sr. Project Manager

February 2007 - November 2008

After retiring from DTE Energy, Rao was hired as a Sr. Project Manager and assisted the team in implementing Maximo and SAP in the natural gas business owned by DTE. Created predictive monitoring models for Fossil Generation Performance Center using EPICenter, an algorithm based program developed by SmartSignal. Created around 2000 models reviewing more than 200 million data points.

Reliability Manager at DTE Energy

1999 - 2006 November

Established and supervised the Reliability Department. Rao was tasked with improving the reliability of fossil fleet consisting of 8 plants and 24 units. Introduced reliability processes, analyses and methods for fleet reliability improvements. Improved the availability of the fleet by 4% saving the company \$30M in purchase power costs in two years.

Managed the implementation of PM and PdM processes, Maximo and Plant Reliability Optimization (PRO) and Maintenance Basis Optimization (MBO) in the Fossil Generation. Standardized the work flow processes, equipment identification and naming conventions utilizing Hierarchical System Index (HSI). Standardized more than 75,000 pieces of equipment and developed 'parent-child' relationships for better tracking the repair history and spare part utilization.

Maintenance and Technical Manager at DTE Energy

1984 - 1999

Managed maintenance, supply chain and engineering teams at various power plants. Supervised engineers and first and second level supervisors. Responsible for day-to-day maintenance, preventative maintenance, scheduled maintenance, capital maintenance, plant performance and KPIs. Developed budgets, tracked spending and KPIs. Initiated and successfully completed many reliability and asset management projects.

Plant Engineer and Technical Expert at DTE Energy

1978 – 1984

As a Plant Engineer, performed Root Cause Analyses, thermal performance tests and boiler efficiency tests. As a start up engineer on the waste water treatment systems, identified the shortfalls with the systems and initiated design changes and revisions.

As a Technical Expert, responsible for rotating equipment and heat exchanger trouble shooting, repair replacement decisions, asset management and project initiation and implementation. Used Kepner Tregoe (KT) and Cause Mapping root cause analyses for identifying equipment failure

causes. Rao received the DTE's prestigious 'Alex Dow' award in 1990 for his Root Cause Analysis expertise.

**Engineer at US Utilities Services Corp, Monroeville, PA
1976 - 1978**

Designed and built solid waste management sites and leachate collection and treatment systems. Performed land surveying to design the landfills and ash disposal sites.

**Plant Engineer, Power Plant, Hindustan Steel Limited, India
1971 - 1976**

Power plant engineer responsible for operation and maintenance of the captive power plant. Supervised maintenance crew both in general maintenance and turbine capital repairs. Initiated and managed projects such as conversion of oil fired boilers to gas, construction of new water clarifier etc.

Education

University of Detroit Mercy

Master of Engineering Management, 1978 - 1980

Andhra University

Bachelor of Engineering (B.E), Mechanical Engineering, 1965 - 1970

Honors Awards, Skills and Certification

Alex Dow Award

Six Sigma and Lean Manufacturing Black Belt

Certified Energy Manager (CEM)

Certified Reliability and Maintenance Professional (CMRP)

Member, ASME Reliability and Performance (RAP) Committee

Professional Engineer (PE) licensed to practice in the State of Michigan

Kepner Tregoe Root Cause Analysis

Cause Mapping Root Cause Facilitator

Reliability Centered Maintenance (RCM) facilitator

Kaizen facilitator

Papers and Presentations

- “Cracking in Super heater Headers” – Jim Mullens, Rao Palakodeti, Jack Schaefer, American Power Conference, Chicago, 1991
- “L-1 Blade Failure Analysis and Correction” – S. Rao Palakodeti, John Schaefer, David B, Smith, EPRI Conference, Orlando, 1991
- “Integration of Technologies & Standardization of Processes Across the Fossil Generation Fleet - DTE Energy” – S. Rao Palakodeti (Consultant), John C. Kapron (DTE Energy), Sumanth K. Makunur (DTE Energy), Oussama Chehimi (DTE Energy) – 11th Annual Electric Power Conference, Chicago, May 2009.
- “Change your Maintenance Philosophy When You Convert A Base Loaded Unit To Cycling Operation” – S. Rao Palakodeti, Gregory Doelger (Sigma Energy Solutions_ - ASME Power Conference, Chicago, USA 2010
- “Integration of Various Tools Into A Reliability Process for Evaluating Power Plant Equipment” - Christopher Barella, S. Rao Palakodeti –Sigma Energy Solutions, 2010 ARS Symposium, Reno Nevada, USA 2010
- “Standardization of Systems, Processes, and Tools for Seamless and Consistent Transfer of Information”, S. Rao Palakodeti, Sigma Energy Solutions, The 2010 Western Turbine Users Conference – San Diego, USA, 2010
- “*iLifeCycle*[™] Dynamic Reliability Assessment of Power Plant Assets” (Presentation), S. Rao Palakodeti, Alstom Power, EPRI Australian Major Component Reliability and Materials & Chemistry Group Workshop and User/Group Meeting and Vendor Exhibit Surfers Paradise, Australia, 2011
- “Steam Turbine Modifications Required for Repowering Older Steam Turbines in New CC Applications” Session 4-6 – S. Rao Palakodeti, Alstom Power, ASME Power Conference, Boston, USA, 2013
- “Upgrade Opportunities for Combined Cycle Plants - Steam Turbine Upgrades” Session 8-1, S. Rao Palakodeti, Alstom Power, ASME Power Conference, Boston, USA, 2013
- “Application of Modeling and Statistical Tools for Predicting Reliability of Power Plant Equipment and Systems.” (Presentation) – S. Rao Palakodeti, Alstom Power, Fall EPRI Fleet wide Monitoring Interest Group Meeting, 2014
- “Advantage of Asset Management and Optimization with a Lifetime Aspect” (Chapter)– S. Rao Palakodeti, Executive Consulting Engineer, Sigma Energy Solutions – “Reliability and Maintainability Impact to Asset management stakeholders – A practical guide for Asset Owners (Book), An ESReDA Project Group Report, published by European Safety Reliability & Data Association (ESReDA) in 2014. ISBN:978-82-515-0318-1

- “Reliability Assessment in Asset Management – An Utility Perspective – S. Rao Palakodeti, Alstom Power, 10th World Congress on Engineering Asset Management (WCEAM 2015), Tampere, Finland 2015
- “Use of Statistical Models for developing fact based maintenance budgets and making repair replacement decisions” – S. Rao Palakodeti, Executive Consulting Engineer, Alstom Power; David Groebel, Director Software Development, ReliaSoft Corporation, 2016 Euro Maintenance Conference, Athens, Greece 2016.