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Career Summary

Over twenty-two years experience performing equipment troubleshooting, plant engineering and reliability consulting. I have held positions in management, and taught numerous public and private seminars for twelve of those years. I have been a speaker at conferences all over the United States, and in the United Kingdom, Canada, and Australia. Currently work as an independent consultant providing training and reliability engineering services to a variety of industries.

Professional Experience

Pedagogy

As an independent consultant, I have developed twenty-three courses for both public and private offerings. These courses range in topic from vibration analysis, rotordynamics, and modal analysis to reliability centered maintenance and root cause failure analysis. As a teaching assistant at Colorado State University for the Dynamics of Machines course, I wrote lectures on rotordynamics and dynamic balancing. I also assisted with the Introduction to Thermal Sciences course.

Publications/Lectures

"Applying Disruptive Learning Techniques in a Manufacturing Environment", presented at the MARTS conference, Chicago, IL, April 2010.

"*Introduction to Applied Vibration Analysis*", Pioneer Engineering Company, 2009.

"*Intermediate Applied Vibration Analysis*", Pioneer Engineering Company, 2009.

"*Advanced Applied Vibration Analysis*", Pioneer Engineering Company, 2009.

"*Dynamic Balancing*", Pioneer Engineering Company, 2009.

"*Redesign of Overhung Fan Using Vibration and Finite Element Analysis*", presented at MFPT Annual Conference, Virginia Beach, Virginia, April 2007.

"*Gear Vibration Analysis on Lift Drives*", presented at the Rocky Mountain Lift Association conference in Grand Junction, Colorado, May 2004.

"*Gear Vibration Analysis*", presented at the Colorado Chapter of the Vibration Institute Meeting in May 2004.

"Screw Compressor Vibration Analysis and Machine Theory", presented at the Colorado Chapter of the Vibration Institute Meeting in July 2004.

"*Detecting Electrical Faults Using Spike Energy Spectrum*", Maintenance Technology magazine, February 1997.

"*Gear Analysis Using Vibration Technology*", presented at Maintenance Technology Show in Edmonton, Alberta, Canada, September 1997.

"*Detecting and Correcting Resonance in Sheet Aluminum Winder Using Vibration Signature and Finite Element Analysis*", Thesis Submitted for Completion of Masters Degree, Mississippi State University, May 1996.

"*Practical Applications for the Frequency Response Function*", presented at Enteract 1998, 1999, Cincinnati, Ohio and Orlando, Florida.

"*Advanced Vibration Analysis with Machine Theory*", presented at Enteract 1999, Orlando, Florida.

"*Reliability Program Assessments*", presented at Enteract/Southeast Asia 1998, Sidney, Australia.

"*Time Domain Analysis*" and "*High Frequency Demodulation Fundamentals*", presented at User Group Seminars for Entek IRD in several different locations around the United States.

"*Fundamentals of Vibration Analysis*", presented at Cargill Corporate Maintenance Conference, 1999, Minneapolis, Minnesota.

"*Using Vibration Analysis in a Condition Monitoring Program*", presented at the ASME Centennial Section Meeting, April 2001, Fort Collins, Colorado.

Consulting

Since March 2000, I have been the owner/operator of Pioneer Engineering Company, Inc. We provide reliability engineering services and technology training for several major corporations, including Amgen, Sinclair Oil, MillerCoors Brewing, and Suncor Energy.

From July 1997 to March 2000, I was Reliability Services Manager for Entek IRD International, whose headquarters are in Cincinnati, Ohio. My responsibilities included developing and managing new reliability services, such as Reliability Program Management and Assessments, Remote Program Management, High End Analysis, Performance Metric Benchmarking, and Database

Standardization. General duties included employee development, equipment justification and purchase, sales support, direct customer support, and budgeting.

Prior positions for Entek were Instructor and Analyst from June 1995 to October 1996 and from April 1992 to March 1993.

From October 1996 to July 1997, I operated my own consulting company, MS Engineering Solutions, Inc. We grew to three employees in ten months. Entek purchased us in July 1997.

Plant Engineering

From March 1993 to June 1995, I was Plant Engineer for Chemdal Corporation in Aberdeen, Mississippi. My responsibilities included managing all plant engineering functions and the maintenance department. Significant accomplishments included the implementation of a complete predictive maintenance program, a computerized maintenance management system, a change of design procedure, and a work control system. Within two years, we reduced maintenance cost per pound of super absorbent polymer from over $0.06 to $0.029 on production of 7 million pounds per month. We also completed expansion projects that increased production capacity from 10,000 tons per year to 70,000 tons per year. I traveled to our sister plant in Birkenhead, England to assist with the implementation of their maintenance systems.

From October 1990 to April 1992, I was a Maintenance Engineer for AP Technoglass in Bellefontaine, Ohio. My responsibilities included implementing a predictive maintenance program using vibration analysis, equipment design changes, and new equipment installation.

From May 1988 to October 1990, I was a Maintenance Engineer for Westinghouse – Savannah River Company in Aiken, South Carolina. I had similar duties to those at AP Technoglass.

Education
Ph.D., Mechanical Engineering, Colorado State University, May 2010. Dissertation "Application of Force Prediction to Rotating Equipment Using Pseudo Inverse Techniques"
M.S.M.E., Mississippi State University, Mississippi State, Mississippi, 1996
B.S.M.E., Ohio Northern University, Ada, Ohio, 1988

Certifications
Professional Engineering License, State of Colorado, #33804
Vibration Institute Category IV Analyst

Societies
American Society of Mechanical Engineers

Vibration Institute