

## **JOHN P. HARRELL, JR.**

*Consulting Mechanical Engineer  
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B.S. in Naval Science, United States Naval Academy, 1970

M.S. in Mechanical Engineering, Naval Postgraduate School, Monterey, California, 1977

Degree of Mechanical Engineer, Naval Postgraduate School, Monterey, California, 1977

Mr. Harrell is an expert in the reliability and root cause failure analysis of mechanical and fluid systems. He has specialized knowledge and experience with bearings, gears, lubrication systems, bolted joints, hydraulic systems, gas compressors and elastomeric hoses. In addition, he has detailed experience with the reliability issues of aging aircraft and industrial plant machinery with extensive work experience with the petroleum and petrochemical industries in offshore exploration activities, process plants, and pipelines. During his 11-year naval career he served in a variety of naval shipyards and repair activities where he gained comprehensive knowledge of shipboard operations, systems and machinery in aircraft carriers, surface combatants, and submarines.

Mr. Harrell routinely applies probabilistic and integrated system analysis techniques to provide operators and maintainers with deeper understanding of system behavior and failures. He is skilled in the techniques of Hazards Analysis, Failure Modes and Effects Analysis, Fault Tree Analysis, Safety Analysis and the study of maintenance practices for improved reliability and effectiveness. Mr. Harrell is also a recognized expert in the design and analysis of foundations for large horsepower reciprocating machinery, in the design and analysis of bolted joints; and in the behavior and selection of rolling element bearings; regularly teaching short courses to industry in these areas. He has taught engineering at the college level and through his career has led project teams involved with engineering, analysis, design, and failure analysis projects for all branches of the armed services and industrial companies, both foreign and domestic.

Mr. Harrell has been awarded two patents: Patent 4,731,744 for a subsea electro-optical position sensing device for use in the offshore drilling industry; and Patent 4,758,792 for a device and system for detecting flawed high voltage transmission line insulators. He received his Professional Engineer's license as a Mechanical Engineer from the State of California in 1978 and is a member of the American Society of Mechanical Engineers and the Vibration Institute. He has authored over 50 papers, presentations and short courses.

### ***Professional Chronology:***

1970 - 1975	Lieutenant, Unrestricted Line, United States Navy
1975 - 1981	Lieutenant Commander, Engineering Duty, United States Navy
1981 - 2007	Principal Engineer, Southwest Research Institute, San Antonio, Texas
2007- present	Consulting Mechanical Engineer