



## MDS – At Your Service

Approximately 22 years ago, I departed a VP position at Bently Nevada Corporation to establish my own machinery consulting business. Since that time, I have solved some fascinating problems, expanded my knowledge of machinery characteristics, developed proficiency in the analytical modeling of rotor systems, and published the book: *Machinery Malfunction Diagnosis and Correction—Vibration Analysis and Troubleshooting for the Process Industries*.

With my return earlier this year to the role of Global Machinery Diagnostics Services Manager after more than two decades, I've come full circle. While I have found that some things have changed (such as the ownership and the name—we're now GE Energy), many things have remained constant. Specifically, the desire to provide exceptional customer service, the professional level and dedication of the Bently Nevada Machinery Diagnostic Services (MDS) personnel, and the overall commitment to quality and integrity are all alive and well. These are fundamental concepts that form the foundation of our machinery consulting business, and I fully expect these concepts to perpetuate into the future. In terms of physical changes during the past two decades, I have discovered that the handful of MDS engineers on board in 1985 has expanded to over 100 MDS engineers world-wide as of this writing. Some of these engineers have basic knowledge, and others have multiple decades of direct field experience. Clearly this diverse personnel base provides some major challenges in terms of technical training and professional development. I expect that this requirement will consume a significant amount of my time in the months and years to follow. In fact, I consider it a mandatory obligation to pass along the lessons and experiences of my career to the next generation of machinery engineers.

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It is clear that providing high-level machinery diagnostics often requires more than an evaluation of shaft vibration characteristics. In this regard, we plan to pursue and incorporate additional transducers and measurement technologies. This includes measurement of Operating Deflection Shapes (ODS), plus natural frequencies and mode shapes of machinery elements and structures. In addition, we will provide measurements of free-free bending modes of turbomachinery rotors. These additional measurements will be supplemented with a substantial expansion of our analytical software capabilities to provide enhanced computation and evaluation of lateral and torsional rotor systems. This combination of measurements and calculations will be integrated with expanded training and understanding of machinery components, assembly details, and unit operational characteristics.

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The net result of these expansions in technology and investments in personnel will be a significant increase in our overall ability to accurately identify problems and recommend corrective solutions. It is anticipated that these enhancements will position MDS as the most cost-effective supplier of multiple levels of machinery consulting services. These services will be available for virtually any type or manufacturer of machinery, they will be available around the world, and increasingly they will be available remotely via network connectivity. In future issues of ORBIT, I’ll be providing specific details of these global enhancements to our MDS offerings. For now, I’ll simply introduce myself, let you know it is good to be back, and that I’m very optimistic about our current capabilities and our ability to meet the future needs of our customers. **Q**