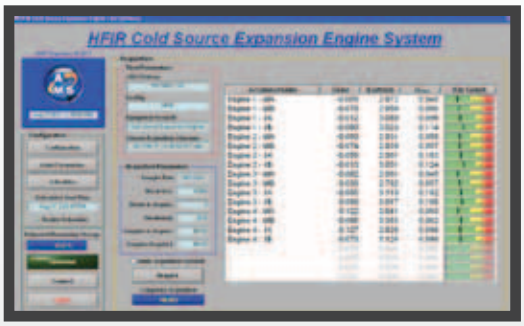
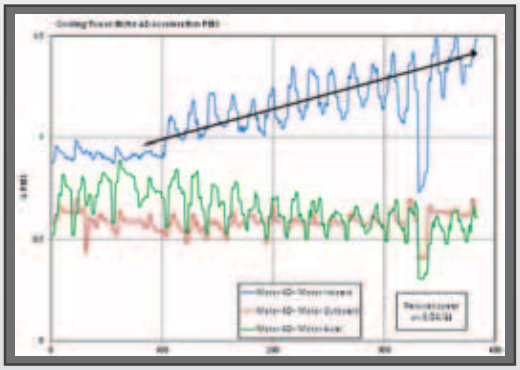
INNOVATING NUCLEAR TECHNOLOGY
ANALYSIS AND MEASUREMENT SERVICES CORPORATION

WIRELESS CONDITION MONITORING

For Rotating Equipment in Research Reactors





Detect Problems

As equipment ages, parts wear down opening up sizing tolerances which allow machines to vibrate. These vibrations accelerate the deterioration of moving parts potentially resulting in catastrophic damage, and lost production. Many of the world's research reactors have been in operation for several decades and are expected to operate for many more resulting in increased emphasis on equipment reliability.

Recording and analyzing vibration, bearing noise, and other parameters in rotating equipment can identify what parts are deteriorating and with some experience an analyst can also tell whether the damage has begun to spread to other components. This incite can provide the plant with the lead time needed to purchase new components and plan downtime rather than having it forced on them.

Combining Wireless

To address this need, AMS has developed a wireless condition monitoring system for research reactors. A research and development project was performed at the High Flux Isotope Reactor (HFIR) at ORNL to develop and deploy this technology. Through this process, the technology has been validated and is now ready for other research reactors. Historically, research reactors do not have the available staff to monitor all critical systems that might affect safety or operability. This technology offers the benefits of sufficient timely data without cost of manual collection of the high cost of long cable runs. This is especially true for difficult-to-access or troublesome equipment which has been the focus of the systems deployed at HFIR. Example applications include cooling tower fan motors, and gearboxes, secondary cooling pumps, exhaust fans, and stirling engines.

For more information please contact:

Dan Beverly (Chief Technical Officer)
Extension: 112 **Email:** dan@ams-corp.com

Darrell W. Mitchell (Technical Services Manager)
Extension: 108 **Email:** darrell@ams-corp.com

Analysis and Measurement Services Corporation

AMS Technology Center
9119 Cross Park Drive
Knoxville, TN 37923, USA

TEL 865 691 1756
FAX 865 691 9344

EMAIL info@ams-corp.com
WEB www.ams-corp.com

*10CFR50 Appendix B Program