

Product Highlight

SENSOR HIGHWAY II: A SOLUTION TO EVALUATE THE INTEGRITY & SAFETY OF INFRASTRUCTURE

Acoustic Emission (AE) is an example of a non-destructive testing (NDT) solution used to help ensure the integrity & performance of infrastructure. Our Sensor Highway II Monitoring System is one of the many solutions we offer for this type of testing.

Designed for outdoor unattended and remote monitoring of large areas in structural health monitoring management and condition monitoring applications, the Sensor Highway II is an AE monitoring system with up to 16 high speed channels and 16 standard parametric sensor input channels (expandable to over 100). A key feature of this system is its highly flexible sensor fusion interface for input and



The AE Sensor Highway II monitors the effectiveness of repairs/retrofits

processing, using a variety of our sensors including weather, strain, load, etc., and several wired and wireless interfaces available for data communication and remote control.

[CLICK HERE](#) for additional information.

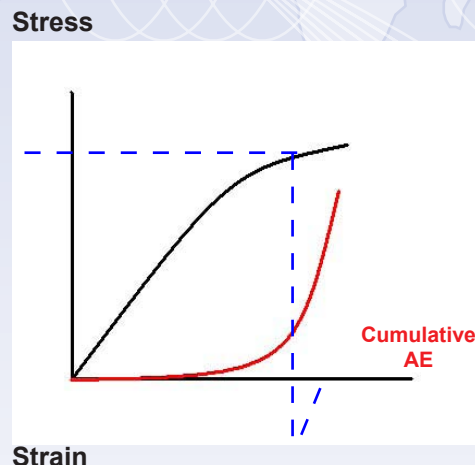
Featured Application

COMPOSITE MONITORING: AEROSPACE COMPOSITE STRUCTURE INSPECTION

Design engineers are extremely concerned with structural integrity issues of high performance materials used in aerospace composites. With our digital AE systems and specially designed sensors, we have the capability of providing essential information to improve on composite design and construction.

When unplanned damage or failure of test articles lead to program setbacks and high recovery costs, we are able to locate and assess damage as it occurs during the loading process and prevent the test article from failing or subsequent damage.

Our fast, accurate and cost-effective method of composite monitoring has shown to be very reliable with AE inspection



Stress-Strain (Black) response of composites compared to cumulative AE (Red)

technology, detecting defects long before possible catastrophic failures.

[CLICK HERE](#) for the application brief.

Spotlight

MARK CARLOS APPOINTED CHAIRMAN OF ASTM, E07 COMMITTEE ON NDT



MISTRAS Group announces the appointment of Mark Carlos to Chairman of the American Society for Testing and Materials (ASTM), E07 Committee on Non Destructive Testing (NDT).

ASTM International is a worldwide volunteer organization, providing a forum for [\[Continued on Next Page\]](#)

Research



ASSET PROTECTION SOLUTIONS FOR IMPROVED SMART GRID RELIABILITY

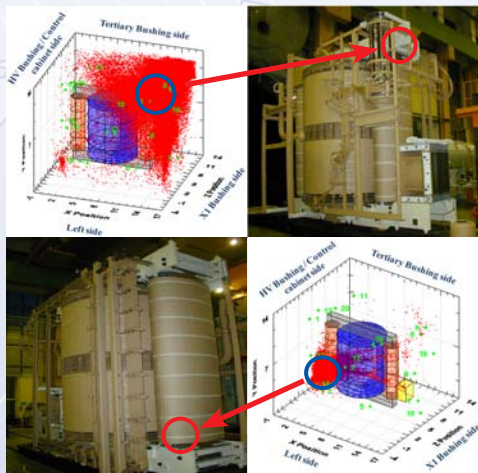
Working on an Electric Power Research Institute (EPRI) project with 15 participating electric utility members, MISTRAS has produced specialized hardware and expert system software. This software performs data analysis and characterization techniques for the effective screening and monitoring of mission critical transformers at power stations and substations located on power grids. "TAPS", our Transformer Asset Protection Solution, is able to detect and locate electrical, mechanical and thermal problems within transformers and switch gear.

[CLICK HERE](#) to view the announcement.

Featured Application

TRANSFORMER MONITORING: AUTOTRANSFORMER DEGRADATION

In 2003, a bank of three single phase autotransformers were installed on a substation on the east coast of the United States replacing three single phase units that had been in operation since 1965. After two years in operation, one of the three transformers started generating combustible gases, mainly Hydrogen and it was decided to perform an Acoustic Emission (AE) test to attempt to detect and/or locate the source of Hydrogen.



After monitoring the transformer, a technical report with the results successfully indicating the location of the gassing source, time when active, and its correlation with operating parameters was submitted and while discussing scheduling an outage, the transformer failed catastrophically. Once the unit failed, an internal inspection was performed making it possible to verify the accuracy of the predicted location by detecting significant degradation on the core of the transformer. It was concluded that the catastrophic failure was due to excessive overheating and eventual melting of the silicone steel core laminations.

[CLICK HERE](#) to read more about this case study performed by MISTRAS.

Spotlight [cont'd.]

MARK CARLOS APPOINTED CHAIRMAN OF ASTM, E07 COMMITTEE ON NDT

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producers, users, ultimate consumers, and those having an interest to create consensus standards for materials, products, systems and services.

The E07 Committee on NDT currently has jurisdiction over 175 NDT standards, published in Volume 03.03 Annual Book of ASTM Standards. E07 has 12 technical subcommittees that maintain jurisdiction over these standards. These standards have, and continue to play, a preeminent role in all aspects relating to traditional and emerging NDT methodologies (including thermal and visual), Radiology (X, Gamma and Neutron), Liquid Penetrant, Magnetic Particle, Acoustic Emission, Ultrasonics, Electromagnetics, Leak Testing and Reference Radiological Images.

As an active and participating ASTM member for over 20 years, Mark has progressed from Chairman of the E07.04, Acoustic Emission Subcommittee (which he still presides over), to Secretary of the Committee, Vice Chairman and now Chairman of the Committee for NDT. "Standards play a large role in the Non Destructive Testing business," said Mark Carlos. "I am happy to be a part of ASTM and contribute to the professional growth of the NDT industry."

Mark is the Group Executive Vice President for the Products & Systems Division of MISTRAS Group, Inc., responsible for research and development, engineering and manufacturing.

[CLICK HERE](#) for the announcement.

View Our Brochure

Products & Systems Division



Upcoming Events

Worldwide AE & NDT Events

April 20-22 2010 - San Diego, CA USA
COMPOSITES MANUFACTURING

May 18-20 2010 - Seattle, WA USA
SAMPE 2010

June 6-10 2010 - Pittsburgh, PA USA
INTERNATIONAL BRIDGE CONFERENCE

June 7-11 2010 - Moscow, Russia
ECNDT 10TH EUROPEAN CONFERENCE

AE Training Courses

Provided by:  **MISTRAS**
NDT TRAINING INSTITUTE

April 20-22 2010 - Princeton Junction, NJ USA
PACWIN SUITE

May 10-14 2010 - Princeton Junction, NJ USA
AE HIGH TECH WEEK

June 14-18 2010 - Princeton Junction, NJ USA
AE LEVEL II GENERAL

In Our Next Issue...

Summer 2010

- Intrinsically Safe AE Products
- Structural Health Monitoring

What would you like to see in our next issue?
[CLICK HERE](#) to submit your requests!

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