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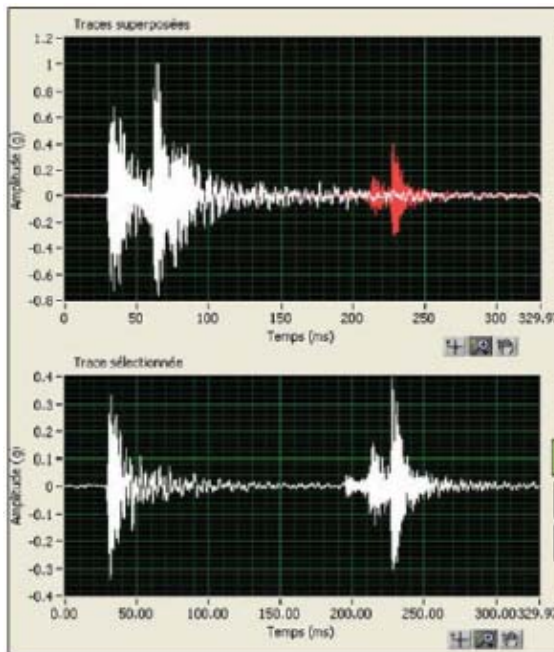
**No-Outage Electrical Testing**

## CIRCUIT BREAKER SIGNATURE VIBRATION ANALYSIS

### Purpose

This developing technology is used to determine circuit breaker condition during “first trip” operation. Sensors that detect vibration are applied to the circuit breaker, just prior to a maintenance outage and the breaker is then tripped. Special software records the resulting waveforms, which are then compared to our breaker waveform data library, to detect problems related to mechanical defects.

The technology allows critical “first trip” timing information to be measured, which is the most important information related to breaker operation under real conditions. If not recorded, this critical “first trip” information is lost, after the breaker is operated; therefore traditional breaker testing does not provide a true indication of breaker condition.



The information obtained by the recordings provides critical “timing” information related to the breaker. Arc-flash incident and coordination calculations are based upon optimum breaker trip time characteristics. Without confirming the first trip breaker timing, these studies are invalid.

A sample waveform is shown

**TDS wants to help you  
avoid unexpected outages  
and catastrophic failures**

For complete information contact

Don Genutis at 813.752.6051  
[dgenutis@groupcbs.com](mailto:dgenutis@groupcbs.com)

Ken Standley at 817.465.9494 x224  
[kenneth@technicaldiagnostic.com](mailto:kenneth@technicaldiagnostic.com)

Technical Diagnostic Services

15825 Trinity Boulevard • Fort Worth, Texas 76155

Tel: 817/465-9494 • Fax: 817/465-9573

[www.technicaldiagnostic.com](http://www.technicaldiagnostic.com) • [info@technicaldiagnostic.com](mailto:info@technicaldiagnostic.com)