SKF 2015 User Group Meeting

October 12 - 14 | San Diego, CA | US Grant Hotel

Registration form

Please complete one registration form per person and return it to Paula Urschel at paula.urschel@skf.com or fax to (858) 496-3546. Questions? Call 1-858-496-3554, (or 970-282-6090 about Electric Motor Test Equipment classes)

First Name:_____ Last Name: _____

Company Name_____

Job Title: _____

Work Phone:_____ Mobile Phone: _____

Email Address: _____ Address:_____

City:_____ State or Province: _____

Postal Code_____ Country_____

Training classes – Monday and Tuesday - please select one

Microlog Inspector training

_____**Microlog Inspector basic start-up class.** This class is designed for users who are just starting their inspection program. It will cover the basics of the @ptiude Inspector software, Microlog Inspector hardware, and using the WMCD. This will be hands-on training and lab exercises.

_____**Microlog Inspector advanced class.** This hands-on training class will include instructions and lab work around the advanced features of the @ptitude Inspector software and Microlog Inspector, including scheduling, compliance and custom reporting, filtering, plots, administrative tasks, work notifications, Microlog Service, photo uploads, derived and conditional points and more. This training will include lab exercises and customer case studies.

Microlog Analyzer training

_____**Microlog Analyzer class.** Learn how to get the maximum benefits from your Microlog Analyzer by using the many modules - Recorder, Run up Coast down, Analyzer and bump, FRF, Data Recorder, and Conformance Check. Setting up machines in SKF @ptitude Analyst - single, 2 and 3 channels; how to setup and use gE. Learn the Analysis and Reporting Manager software - post-processing data, analyzing data, creating reports. Also includes customer case studies. *Customers should bring their Microlog CMXA 75 OR 80 with them to use for the hands-on training and we will upgrade your Microlog to license all of the modules as part of the class.* Note: This training and upgrade offer is not available for the CMXA 70 or 44 Microlog Analyzer hardware

Electric Motor Test and Monitoring Equipment training

_____Introduction to electric motor test and monitoring. Day one of the course provides practical overview of how SKF electrical tests products perform on static-state (de-energized) motors. Information and demonstration of these tests provide visibility into insulation and motor health to help reduce or eliminate premature motor failures. Day two provides a high-level but hands on course on how to monitor motors in their dynamic operating state with SKF electrical test equipment. Attendees will learn the basics of assessing motor/machine system conditions such as power quality, load, and motor performance, and how that information can be used to improve motor maintenance and management.

_____Electric motor test and monitoring advanced class (**applications & case studies)** This track emphasizes lessons learned and practical application of both static and dynamic electric motor test and monitoring equipment. User case study presentations, intensive discussion encouraging networking and best practices will be included. Learn about innovative capabilities such as partial discharge testing with the Baker DX, precise DC armature testing and VFD motor system monitoring.

Multilog On-Line System IMx-S

_____Multilog On-Line System IMx-S

- How to properly deploy the IMx-S system
- How to take advantage of local alarms and send spectrum based on exception rather than continuously
- How to use and program the local Modbus interface to poll or send data to other systems
- Troubleshooting techniques for internal system faults
- Troubleshooting techniques for communications issues (IP and Modbus)
- Wired versus wireless communications
- Remote communications via GPRS (cell comm)

Training Workshops for Wednesday – please select three workshops.

_____WMCD vibration data – what does the Wireless Machine Condition Detector (used with the Microlog Inspector) data tell you and how can it help you with your predictive maintenance program. Learn how to set up the WMCD in your Inspection program starting with determining what is important to measure, and what the measurements tell you. Taught by an SKF customer who has been using the WMCD for years in his plant to identify potential failures.

_____Slow speed machinery and other slow speed applications The measurement and diagnosis of "slow" speed machinery has become a hot topic. There are many techniques available but some of them fall into the bear traps that exist: for example using frequency / FFT / order based analysis. Under many circumstances this will work and work well, which will be demonstrated. But there are many slow speed and ultra slow speed applications where frequency based analysis is impossible. We will share some of the trade secrets, that only a bearing manufacturer will know, and armed with this knowledge there should be no limit as to how slow you can go.

_____**Introduction to vibration analysis** All machines obey Newton's universal laws of motion - from a small electric toothbrush through to a steam turbine in a power station. This introduction to vibration is therefore pertinent to any application or any segment. The session discusses the main cause of vibration (rotational forces) and the basic units of measurement. Learn from one of SKF's experts about the basics. **Robert Collyer** is the principal engineer with SKF Condition Monitoring. His interest in sound and vibration started 36 years ago while working on military fighter aircraft at British Aerospace where he studied the extreme sound and vibration environment that structures and avionics must survive during gunfire, engine runs and weapon firing. Since then Robert has continued with the use of FFT based signal analyzers for the measurement and diagnostics of machinery related sound and vibration problems.

_____**Smartifying the industry with industrial mobile solutions**. Experience the new smart phone, iPad and Android apps that SKF is developing for the industrial market. This hands-on workshop will walk you through the newest developments including single plane balancing, vibration data collection and alignment applications.

_____**ODR / Inspection programs - keys to success**: This workshop is designed to help participants start their Operator Driven Reliability/Inspection programs right the first time based on best practices. Participants will learn how to prioritize their business goals and reliability strategy, how to identify the right assets to include in the program and what inspections and measurements to make on those assets. Program assessments and sustainability will be addressed for long term success of your program. By starting your ODR program right the first time, programs realize results immediately by mitigating failures and subsequent consequences. **Instructors: Dave Staples,** has over 25 years of industrial experience specializing in asset reliability technologies and asset management services. He has excellent knowledge of plant wide maintenance reliability strategies for rotating machinery across many industries. Since 1997, Dave has been focused on helping customers implement and sustain Operator Driven Reliability programs and has presented and published several articles on related topics. **Greg Toomey** has over 30 years of supporting customers globally in many industries with optimizing their maintenance programs using FMEA techniques. **Charlie Unfricht** is the SKF ODR Application Engineer. He is a certified CMRP and has 10 years of varying levels of maintenance management experience. His last position as a Reliability Superintendent allowed him to become involved in all areas of equipment reliability. **John Yolton** is a 50 year veteran of the global Pulp & Paper industry. In addition to working for a number of different paper companies he has also worked for solution providers to the industry. Yolton first designed and implemented a 'Basic Care' program for a west coast market pulp mill in 1980. NOTE: this workshop runs for half a day, allowing for one additional class to be taken in the afternoon

_____**Torque signature analysis** Learn how SKF dynamic motor monitoring equipment acquires torque measurement data from working motors. This data is used for analysis that helps diagnose problems that reduce motor life or performance. Torque signatures can provide evidence of damaged equipment (such as a broken impeller or bent shaft), or misapplications of load or equipment to a given motor, Instructor: **Drew Norman,** Applications Engineer, electric motor condition monitoring. NOTE: this workshop runs for half a day, allowing for one additional class to be taken in the afternoon

_____**Balancing with the Microlog Analyzer** – Do you think that Balancing is a "black art?" This is often a misconception that many users have; however, it could not be easier using the SKF Microlog Analyzer. The Balancing module guides you through the steps required to reduce the level of vibration caused by imbalance on your machines. Using built in algorithms, graphical displays and easy to understand instructions, Balancing has never been easier! We'll guide you through a balance run, explaining each of the steps within the process to enable you to realize the benefits of using this module. **Instructor: Barrie Rodgers:** Product Line Manager for the SKF Microlog Analyzers and previously worked as a hardware design engineer on the Microlog CMXA 75 and 80 products.

_____**Rolling element RCFA – everything you wanted to know about bearings but were afraid to ask!** This workshop will cover the basics of bearing construction, life, failure modes, causes, and analysis. Practical field-learned experiences will be presented using the ISO terminology.

Reliability of rotating equipment is heavily dependent on bearing reliability. The bearings that support the shafts are complex machine components whose service life is directly affected by:

- Contamination (both particulate and water)
- Lubrication method and lubricant type
- Mounting and dismounting techniques
- Selection of components
- Control of inactive bearing rolling elements
- Proper housing support and alignment

In addition, there are major risks to bearings from unexpected loading conditions as well as exposure to vibration while idle. The effects of these conditions and how to avoid the risks need to be considered in order to maximize service life. With this presentation we hope you will have a better understanding of rolling element bearing operation and failure modes. **Instructor Tom McDermott** is a Sr. Applications Engineer at the SKF Solution Factory in Houston and is a Cat I certified vibration analyst.

_____**Application and benefits of partial discharge analysis** Partial discharge detection and analysis technology has advanced beyond the clunky RF antennas and blurred signatures of conventional PD products on the market. Learn how SKF's innovative resistive measurement approach captures high-resolution PD signatures that clearly distinguish real problems from "noise" in motor winding insulation that RF-based could never identify. Instructor: **Mike Teska,** Strategic Product Line Manager for SKF electric motor condition monitoring products and solutions. NOTE: this workshop runs for half a day, allowing for one additional class to be taken in the afternoon

_____**FMEA and MSR:** Failure Mode and Effects Analysis and Maintenance Strategy Reviews – This workshop provides a brief introduction on how to use tools to determine what equipment is important to your business goals and how to optimize your maintenance program including PDM and ODR to prevent or mitigate failures based on the importance of assets and their failure mechanisms. We will show the use of a failure modes and criticality analysis (FMECA) to determine what the importance of equipment is as it relates to their failure consequence to your business goals and then a practical use of failure modes and effect (FMEA) to determine dominant failure modes and the corresponding activities to prevent or mitigate them. **Instructor Greg Toomey** has over 30 years of supporting customers globally in many industries with optimizing their maintenance programs using these techniques.

_____**Static motor testing basics** – Insulation failure in windings account for more than 80 percent of the root causes of motor failure. Learn not only why a full spectrum of low- and high-voltage tests are critical for an accurate assessment of the state of a given motor's insulation, but how SKF performs these invaluable tests with negligible impact to a motor. This course includes hands-on testing of static-state (powered-down) motors.

_____**Alignment** – This workshop focuses on specific procedures for using today's state of the art laser alignment systems and the fundamental concepts and skills required to perform precision alignment. This unique approach provides an understanding of why and how the system performs and specific procedures to follow for the laser system. This session includes a guide, hands on activities. **Instructor Karl Veitsch** Karl has worked as a Project Manager in repairs and building of new Industrial and Marine Gearboxes. For the past 13 years he has built up his expertise on Alignment specifically.

_____**Dynamic motor monitoring basics** – Motorized systems include three basic elements: the power supplied to the system, the motor, and the load placed on the motor. Both mechanical and electrical problems can occur that impact motor performance and life. Learn how SKF dynamic motor monitoring solutions can identify when a problem is either mechanical or electrical, and how hard-to-find problems can be detected with motor monitoring equipment.

_____**System networks** This workshop will cover the various connection options for Microlog Inspector: USB, LAN and Wireless. It will cover a range of topics including basic networking concepts; suitable hardware; setup pros and cons, and lastly some real life case studies to highlight a number of the more common setup "gotchas!" **Instructors: Alex Pinkerton and Travis Bottalico**. Alex has worked as a Software Engineer with SKF since 2000 and actually designed the Microlog Inspector communications layer that this presentation will be covering. Travis has worked as a software Engineer

with SKF since 2004 and designed not only the Microlog Inspector user interface, but also the entire Data Collection Engine that drives that interface.

Location: The 2015 User Group meeting will be held at the US Grant hotel located at 326 Broadway, San Diego, CA 92101 in San Diego's historic Gaslamp Quarter. SKF's room rate is $199.00 per night. Space is limited – please book your room early as the hotel usually sells out.

Hotel Reservations

Hotel reservations can be made through the US Grant hotel website using the link below to ensure the SKF discounted rate:

SKF Customers:
https://www.starwoodmeeting.com/events/start.action?id=1504149913&key=176C4245

SKF Employees:
https://www.starwoodmeeting.com/events/start.action?id=1504149921&key=3A59869C

Registration Fee: Registration is $795.00 per person. This includes meals, USS Midway event, and three full days of training and materials. For every two registrations received from one company, a third registration will be **offered at a 50% discount.** Early bird discount**: *Full price registrations* received before August 15 will receive a 20% discount**. *Don't wait! Last year this user group meeting sold out.*

Credit Card Payment Method

Credit card information:

☐ Visa ☐ MasterCard ☐ American Express

Name of bank issuing card: _____

Card number: __/__/__/__/__/__/__/__/__/__/__/__/__/__/__/__

CVS Number on back of card: __/ __/ __/__/

Expiration date: _____

Cardholder's name: _____

Billing address: _____

City: _____

State: _____ Zip: _____

Cancellations:
Registrations may be refunded if the cancellation is made in writing up to 15 business days prior to the start of the event. Substitution of registrations may be made at any time up until October 5, 2015.

Purchase Order Payment Method

Total to be paid with Purchase Order: _____

TMS / TINA Company Number: _____

Approving Manager/Responsible: _____

Purchase Order number/Project Number: _____

Cost Center/Responsibility Center: _____

Attention: _____

Purchase Order Form may also be faxed to (858) 496-3546.

Guest ticket for USS Midway

Tuesday, October 13 Evening Event

SKF will have an exclusive event aboard the USS Midway aircraft carrier, berthed at the San Diego Navy pier. Guests can explore more than 60 exhibits including a collection of 29 restored aircraft as docents offer personal stories, anecdotes, and amazing statistics. Those who dare can "take to the sky" aboard one of the flight simulators.

Entrance to this event is included in the User Group registration fee

Guest Midway Pass: For customers attending the User Group meeting who would like to bring their spouse or adult guest to the USS Midway event, we are offering additional tickets for $65.00.

First Name:_____Last Name: _____

I am attending the USS Midway event with (registered customer's name):

_____

Credit Card Payment Method

Credit card information:

☐ Visa ☐ MasterCard ☐ American Express

Name of bank issuing card: _____

Card number: __/__/__/__/__/__/__/__/__/__/__/__/__/__/__/__

CVS Number on back of card: __/ __/ __/__/

Expiration date: _____

Cardholder's name: _____

Billing address: _____

City: _____

State: _____ Zip: _____