44TH TURBOMACHINERY & 31ST PUMP SYMPOSIA
HOUSTON, TEXAS | SEPTEMBER 14 – 17 2015
GEORGE R. BROWN CONVENTION CENTER

API 670 5th Edition

An in-depth review and tutorial

CCC
MAN Diesel & Turbo
EMERSON
BECHTEL
SETPOINT™
WOODWARD
Dr.-Ing. Bloetenberg Turboservice
TURBOMACHINERY LABORATORY
TEXAS A&M ENGINEERING EXPERIMENT STATION
TEXAS A&M UNIVERSITY

Presenter (Overview)

A&M SHORT COURSE | API 670 5TH

Tim Hattenbach, P.E.

API 670 T/F Chairman

BSME	**U of Hou**	**1972**
MSME	**U of Hou**	**1974**
P.E.	**Texas**	
Bechtel	**35 Yrs**	**Retired 2013**
API	**Vice-Chair**	**SOME**
API T/F Chair	**616 & 670**	**Gas Turbines Mach Prot Sys**

Presenter (Systems/Sensors/Recips)

A&M SHORT COURSE | API 670 5TH

Brian Howard, P.E.
Signal Processing Engineer
Bently Nevada

Brian is a Senior Engineer focusing on diagnostic algorithm development and research. Prior to this role, Brian was the Global Technical Leader for Reciprocating Machinery Diagnostics where he provided support to the product development process and diagnostic expertise to help customers solve problems with rotating and reciprocating machinery.

Brian received his BSME degree from the University of Houston and his MSEE degree from the University of Washington. He is a registered professional engineer and a member of ASME and IEEE.

GE
Measurement & Control

Presenter (Overspeed)

Rich Kamphaus

Steam Turbine & Safety Market Manager

WOODWARD

Rich Kamphaus is currently Woodward's Steam Turbine & Safety Market Manager for Woodward's Industrial Turbomachinery Systems business. Throughout his career, he has spent the majority of his time at Woodward involved with servicing, commissioning and designing gas and steam turbine controls, safety systems and associated actuators and valves.

IPS

Presenter

A&M SHORT COURSE | API 670 5TH

Jeff McWhirter, P.E.
Houston/GC Sales Manager
API 670 Sub-Group Leader
Compressor Control Corp.

Jeff McWhirter is the Houston/Gulf Coast Manager for CCC. His extensive experience with Turbomachinery controls encompasses LNG plants - implementing both the APCI and COP processes, refineries utilizing fluidized catalytic cracking(FCCU) with PRT, NGL facilities, oil and gas production facilities including Separation, Injection, Gas Lift and Sales gas, as well Ammonia, Ethylene, and GTL plants. He has joint authored several patents including "Compressor-Driver Power Limiting in Consideration of Antisurge Control" in December 2012 and "Enhanced Turbomachinery Startup" in January 2014. Jeff received his B.S. degree in Mechanical Engineering from Texas A&M University and is a member of the ASME.

Presenter (Functional Safety)

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Dr.-Ing. Wilfried Blotenberg

Consulting Engineer
MAN Diesel & Turbo

Blotenberg Turboservice

Wilfried is a Senior Consulting Engineer and works for MAN Diesel & turbo since 40 years. He retired in 2007 and founded his own engineering company but still does a lot of business for MAN. Wilfried worked many years in MAN as head of control systems engineering. His main focus is now Dynamic simulation, control system retrofits and diagnostics. He is TÜV approved Functional Safety Engineer and Functional Safety Expert. He participated in the preparation of several international standards such as API, ISO and others.

Wilfried received his Dipl. Ing. degree from the Technical University Braunschweig and his Dr. degree from the Ruhr Universität Bochum, both Germany.

MAN Diesel & Turbo

Dr.-Ing. Blotenberg Turboservice

Presenter (Cond. Monitoring)

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Deane Horn
Product Manager
On-Line Machinery Monitoring

EMERSON

Deane Horn joined Emerson Process Management's Reliability Solutions as an online systems project consultant. He now serves as the Marketing Product Line Manager for Emerson's Online Machinery Health Monitoring Systems.

Deane has authored papers for Turbomachinery Magazine, Turbolab's Pump Symposium, Pumps and Systems Magazine, Modern Power Systems, Flow Control, Power Engineering, and Maintenance Technology, and holds a patent on the Easy Integration of the CSI 6500 with the DeltaV and Ovation process control systems. Mr. Horn holds a BSEE from the University of Tennessee.

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Presenter (Cond. Monitoring)

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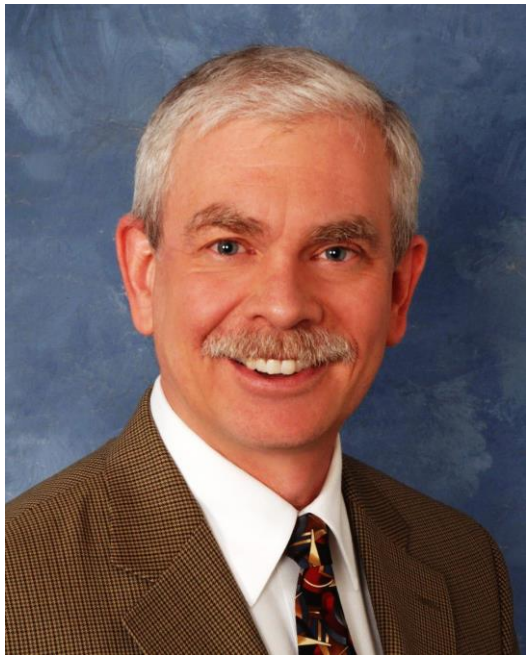

Steve Sabin
Global Marketing Director
API 670 Secretary

Steve Sabin is Director of Marketing and Product Management for SETPOINT Vibration, a position he has held since 2010.

He worked for Bently Nevada / GE for 22 years where he was a field sales engineer, ORBIT magazine editor, and Director of Marketing. He has authored more than 200 articles, papers, and presentations dealing with vibration condition monitoring. He has been the secretary for the API 670 Task Force since 1996, when 4th edition was in development.

Steve received his BSEE from Oregon State University in 1988.

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Machinery Protection Systems

API 670 5th Edition

An In-Depth Review and Tutorial

670 remains one of the top-selling and most widely used of API's standards. First introduced in 1976, machinery, control system, and reliability engineers have historically turned to 670 as the primary international standard of its kind when defining requirements for a machinery protection system (MPS) covering vibration, bearing temperature, and speed / overspeed. The standard has now been revised to encompass surge detection and emergency shutdown (ESD) systems, along with extensive new content on condition monitoring software, reciprocating compressor monitoring, Safety Instrumented System (SIS) considerations, and wireless technology. In addition to hardware requirements, the standard also covers installation, documentation, and testing. The differences between distributed and integrated system architectures are also covered. Combined, API 670 5th Edition introduces an additional 160 pages comprising 7 new annexes, 58 new figures, 15 new tables, and 150 new definitions.

Whether you are new to API 670, or a veteran user, this session is highly recommended due to the amount of new content introduced in 5th edition. Focus will be placed not only on reviewing existing and new material, but also on live demonstrations of the technology and systems discussed in the standard, presented by those that actually participated on the task force.