

2016 Petroleum and Chemical Industry Technical Conference (PCIC 2016)

**Philadelphia, Pennsylvania, USA
19-22 September 2016**



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2016 PCIC CONFERENCE TECHNICAL PROGRAM – PRELIMINARY

The following is a list of technical papers that will be presented at the 2016 IEEE PCIC Conference.

Any last minute changes to the final program can be found on the PCIC 2016 Philadelphia Conference website or the EventMobi app.

GENERAL TECHNICAL SESSION I	
Monday, September 19, 2016 – 8:00 a.m. to 11:15 a.m.	
Room Assignment TBD	Presiding – Louis Barrios, PCIC Chair

PCIC-2016-01 IMPACT OF THE IEC EX SYSTEM ON THE NORTH AMERICAN HAZARDOUS LOCATIONS INDUSTRY

Paul T. Kelly	UL LLC, Global Hazardous locations
Thorsten Arnhold	STAHL Schaltgeraete GmbH
Marty Cole	Hubbell Canada

PCIC-2016-02 INTRODUCTION TO IEC/IEEE 60079-30 1 & 2 TRACE HEATING FOR EXPLOSIVE ATMOSPHERES

Ben C. Johnson	Thermon
Rich H. Hulett	Thermon

PCIC-2016-03 IEEE STANDARD 1566-2015 PERFORMANCE OF ADJUSTABLE-SPEED AC DRIVES RATED 375 KW AND LARGER

Roger Lawrence	RGL Solutions
Robert Hanna	RPM Engineering Ltd.
Bill Lockley	Lockley Engineering
Richard Paes	Rockwell Automation

GENERAL TECHNICAL SESSION II	
Monday, September 19, 2016 – 2:00 p.m. to 5:00 p.m.	
Room Assignment TBD	Presiding – Peter Baen, PCIC Vice Chair

PCIC-2016-04 HOT SURFACE IGNITION TEMPERATURES AND THE IMPACT ON ELECTRICAL AREA CLASSIFICATION PLANS

Paul E. "Eddie" Guidry	Fluor Enterprises, Inc.
Richard P. Anderson Jr.	Fluor Enterprises, Inc.
Gregory Clement	Fluor Enterprises, Inc.
Scott Westveer	Fluor Enterprises, Inc.

PCIC-2016-05 COMPARATIVE STUDY OF IEC 60270 COMPLIANT INSTRUMENTS FOR PARTIAL DISCHARGE PATTERN ACQUISITION

Saeed Ul Haq	GE Power Conversion
Meredith K. W. Stranges	GE Power Conversion
Barry Wood	Chevron Energy Technology Company

PCIC-2016-06 SIMPLIFICATION BY ELIMINATION

Jean Romersheuser	ExxonMobil Production Company
Rhett Long	ExxonMobil Development Company
Dwight Hulin	ExxonMobil Production Company
Steve Kerr	ExxonMobil Production Company

CHEMICAL TECHNICAL SESSION I	
Monday, September 19, 2016 – 2:00 p.m. to 5:00 p.m.	
Room Assignment TBD	Presiding – Mark Throckmorton, Subcommittee Chair

PCIC-2016-07 UPDATE ON DOE EXTENDED PRODUCT REGULATIONS – PUMPS, FANS & AIR COMPRESSORS

John Malinowski	Baldor Electric Co.
Bill Finley	Siemens Industry, Inc.
Peter Gaydon	Hydraulic Institute, Inc.
Trinity Persful	Twin City Fan

PCIC-2016-08 THE USE OF COMBUSTIBLE GAS DETECTION IN HAZARDOUS LOCATIONS

Allan Bozek	EngWorks Inc.
Tim Driscoll	OBIEC Consulting Ltd.
Jon D. Miller	Detector Electronics Corp.
Vince Rowe	Marex Canada Ltd.
William G. Lawrence	FM Approvals

PCIC-2016-09 INDUSTRIAL LIGHTING – A HOLISTIC APPROACH USING L.E.D. TECHNOLOGY

Cletus Mullin	Chemco Engineering Ltd.
Rene Koltes	Northwest Redwater Partnership
Jeff Krukowski	Chemco Engineering Ltd.
Mick Walton	ILS Products

PRODUCTION TECHNICAL SESSION I	
Monday, September 19, 2016 – 2:00 p.m. to 5:00 p.m.	
Room Assignment TBD	Presiding – Wayne Woodall, Subcommittee Chair

PCIC-2016-10 TEN IMPORTANT THINGS YOU SHOULD KNOW ABOUT INSTALLING, OPERATING AND MAINTAINING ELECTRIC MOTORS

Austin H. Bonnett	Retired US Electrical Motors
Helmuth M. Glatt	Nidec Motor Corporation

PCIC-2016-11 VARIABLE VOLTAGE TRANSFORMERS FOR MEDIUM VOLTAGE HEATER CONTROL

Paul G. Cardinal	Shell PTE/AELE
David Burns	Shell P & T Innovation / R&D
Daniel Sauer	Eaton

PCIC-2016-12 MOTORS AND GENERATORS: PREVENTING MOISTURE FORMATION

Rajendra Mistry	Siemens Industry Inc.
Vladimir Barinberg	Siemens AG
Scott Kreitzer	Siemens Industry Inc.

REFINING TECHNICAL SESSION I	
Monday, September 19, 2016 – 2:00 p.m. to 5:00 p.m.	
Room Assignment TBD	Presiding – Rick Bono, Subcommittee Vice Chair

PCIC-2016-13 IMPLEMENTING A SUBSTATION REPLACEMENT PROGRAM IN AN OPERATING REFINERY (THE 10 YEAR PLAN)

Giovanni Parra	Fluor Corporation
Mark Saldana	Tesoro Corporation
Jimmy Singh	Tesoro Corporation

PCIC-2016-14 GAS TURBINE GENERATOR GOVERNOR SPEED / VOLTAGE CONTROL FOR NON-COMPLEX, ISLANDING OPERATING SYSTEMS – “WHICH CONTROL STRATEGY SHOULD I USE?”

Roy E. Cossé	Chevron U.S.A.
Tuyen P. Nguyen	Chevron U.S.A.

PCIC-2016-15 TESTING OF IEC 61850-BASED PROTECTION AND CONTROL SCHEMES FOR A REFINERY ELECTRICAL SYSTEM

Jared Mraz	POWER Engineers, Inc.
Aaron Cowan	POWER Engineers, Inc.
Keith Gray	POWER Engineers, Inc.
Kirti S. Shah	Tesoro Corporation & Marketing Co.

ELECTROCHEMICAL TECHNICAL SESSION I	
Tuesday, September 20, 2016 – 8:15 a.m. to 11:15 a.m.	
Room Assignment TBD	Presiding – Patrick Loupe, Subcommittee Chair

PCIC-2016-16 APPLYING ARC RESISTANT TECHNOLOGIES TO MEDIUM VOLTAGE VARIABLE SPEED DRIVES

Richard Paes	Rockwell Automation
Brandon Cassimere	ExxonMobil
John A. Kay	Rockwell Automation

PCIC-2016-17 CONVERSION OF 230 KV SWITCHYARD TO GAS INSULATED SUBSTATION IN A GAS PLANT

Merwyn D'Souza	WorleyParsons
Mghwar Safwa	WorleyParsons
Saud Al Shammari	Aramco Services Company C/O WorleyParsons

PCIC-2016-18 SPECIFYING VFD DRIVEN LOW VOLTAGE MOTORS FOR SAFETY AND OPERATIONAL LIFE

Dale Basso	WEG Electric Corp
Pratik Shah	Fluor Enterprises. Inc.

INTERNATIONAL TECHNICAL SESSION I	
Tuesday, September 20, 2016 – 8:15 a.m. to 11:15 a.m.	
Room Assignment TBD	Presiding – Wolfgang Berner, Subcommittee Chair

PCIC-2016-19 ENGINEERING AND EXECUTION CHALLENGES IN POWER MANAGEMENT SYSTEMS IMPLEMENTATION FOR INDUSTRIAL POWER SYSTEMS

Sunita Singh	Bechtel OG&C
Neeraj Bhatia	Bechtel OG&C
Matthew Murray	Bechtel OG&C
Dragan Ristanovic	Bechtel OG&C

PCIC-2016-20 A STUDY FOR STARTING CHARACTERISTIC ANALYSIS METHOD OF LARGE SALIENT POLE SYNCHRONOUS MOTORS

Rockwon Son	Hyundai Heavy Industries Co., Ltd.
Moojong Jeon	Hyundai Heavy Industries Co., Ltd.

PCIC-2016-21 FLAME TRANSMISSION AT EXTREMELY LOW TEMPERATURES WHEN PRESSURE PILING IS PRESENT

Jim Munro, BE FIEAust CPEng	Jim Munro International Compliance PTY
Ye Jingnan	China National Quality Supervision & Test Center for Explosion protected Electrical Products
Kou Xiaoguang	China National Quality Supervision & Test Center for Explosion protected Electrical Products

MARINE TECHNICAL SESSION I	
Tuesday, September 20, 2016 – 8:15 a.m. to 11:15 a.m.	
Room Assignment TBD	Presiding – Richard Barker, Subcommittee Chair

PCIC-2016-22 HYBRID GROUNDING OF ELECTRICAL SYSTEMS

Sergio A. R. Panetta	I-Gard Corporation
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PCIC-2016-23 SIMULATION AND ANALYSIS OF VOLTAGE SAG DURING TRANSFORMER ENERGIZATION OF AN OFFSHORE PLATFORM

Srinath Raghavan	Schweitzer Engineering Laboratories, Inc.
Bruce J. Hall	Marathon Oil Company
Rekha T. Jagaduri	Schweitzer Engineering Laboratories, Inc.

PCIC-2016-24 THE POINT OF COUPLING OF ENERGY STORAGE TO MARINE/OFFSHORE ELECTRICAL NETWORKS

Milton Korn	American Bureau of Shipping
Weiguang Hu	American Bureau of Shipping
Shilpa Mesenini	American Bureau of Shipping

SAFETY TECHNICAL SESSION I	
Tuesday, September 20, 2016 – 8:15 a.m. to 11:15 a.m.	
Room Assignment TBD	Presiding – Ilan Balasubramanian, Subcommittee Chair

PCIC-2016-25 STANDBY PERSON FOR ELECTRICAL TASKS AND RESCUE GUIDELINES FOR ELECTRICAL INCIDENT VICTIMS

Shahid Jamil	Independent
Michael D. Fontaine	Electrical Safety Expert
Tammy Gammon	John Matthews & Assoc.
David Wallis	Electrical Safety Expert

PCIC-2016-26 MOVING FROM WITHDRAWABLE TO FIXED CIRCUIT BREAKER SWITCHGEAR IN ANSI MEDIUM VOLTAGE APPLICATIONS

Jyothsna Chandrapati	Schneider Electric
James K. Stacy	Schneider Electric
Van E. Wagner	Schneider Electric

PCIC-2016-27 ARC FLASH KPI COMPLIANCE AT A LARGE OIL & GAS COMPANY

Ritchie Pragale	Saudi Aramco
Roger Bresden	Saudi Aramco
Amar Patel	Saudi Aramco

TRANSPORTATION TECHNICAL SESSION I	
Tuesday, September 20, 2016 – 8:15 a.m. to 11:15 a.m.	
Room Assignment TBD	Presiding – Bill Stewart, Subcommittee Chair

PCIC-2016-28 THE MISUSE OF IEEE DEVICE 52 – MEDIUM VOLTAGE CONTACTORS & BREAKERS ARE NOT THE SAME!

John A. Kay	Rockwell Automation Inc.
David C. Mazur	Rockwell Automation Inc.
Lorraine K. Padden	Padden Engineering LLC
Herman Weber	The Dow Chemical Co.

PCIC-2016-29 PROTECTION OF MOTORS FED THROUGH ASD

Patrick Robinson	Altelec Engineering Services
Umar Khan	GE Digital Energy

PCIC-2016-30 FAILURE INVESTIGATION OF VACUUM CONTACTOR SWITCHED MEDIUM VOLTAGE ADJUSTABLE SPEED DRIVES AT A PIPELINE PUMP STATION

Peter C. Pietramala	Eaton Corporation Power Systems Engineering
Thomas J. Dionise	Eaton Corporation Power Systems Engineering
Pat Petrie	TransCanada Liquids Pipeline Group
Jim D. Sheppard	Eaton Corporation Power Systems Engineering

ELECTROCHEMICAL TECHNICAL SESSION II	
Wednesday, September 21, 2016 – 8:15 a.m. to 11:15 a.m.	
Room Assignment TBD	Presiding – Paul Guidry, Subcommittee Vice Chair

PCIC-2016-31 LIFE CYCLE OF A LARGE ADJUSTABLE SPEED DRIVE

Janet Flores	Rockwell Automation
Reina Fink-Finowicki	Fluor B.V.
Richard Paes	Rockwell Automation
Mark Throckmorton	Shell Canada

PCIC-2016-32 ROTATING MACHINES – PROS AND CONS OF MONITORING DEVICES

Rajendra Mistry	Siemens Industry Inc.
William R. Finley	Siemens Industry Inc.
Emam Hashish	Siemens Industry Inc.
Scott Kreitzer	Siemens Industry Inc.

PCIC-2016-33 EXPLOSION PROTECTION OF A MOTOR INTEGRATED WITH COMPRESSOR USING PURGING AND PRESSURIZATION TECHNIQUE WITH A FLAMMABLE GAS ABOVE THE UFL

Bharat Mistry	GE Power Conversion
Donald W. Ankele	UL LLC
Roberto Baldocci	GE Oil & Gas Thermodyn
Emilie Ourion	GE Power Conversion

INTERNATIONAL TECHNICAL SESSION II	
Wednesday, September 21, 2016 – 8:15 a.m. to 11:15 a.m.	
Room Assignment TBD	Presiding – Nicolas LeBlanc, Subcommittee Vice Chair

PCIC-2016-34 CURRENT TRANSFORMER SELECTION TECHNIQUES FOR LOW-VOLTAGE MOTOR CONTROL CENTERS

Scott Manson	Schweitzer Engineering Laboratories, Inc.
Ashish Upreti	Schweitzer Engineering Laboratories, Inc.

PCIC-2016-35 COMPLETE PERFORMANCE TEST OF A MV DRIVE WITH MODULAR MULTILEVEL TOPOLOGY FOR HIGH POWER OIL & GAS APPLICATIONS

Dietmar Krug	Siemens AG
Stephan Busse	Siemens AG
Max Beuermann	Siemens AG

PCIC-2016-36 CONSIDERATION FOR DEPENDABILITY OF THE MOTOR PROTECTION ON CURRENT TRANSFORMERS PERFORMANCE IN VFD APPLICATIONS

Umar Khan	GE Digital Energy
Patrick Robinson	Altelec Eng. Services
Ilia Voloh	GE Digital Energy

MARINE TECHNICAL SESSION II	
Wednesday, September 21, 2016 – 8:15 a.m. to 11:15 a.m.	
Room Assignment TBD	Presiding – Richard Paes, Subcommittee Vice Chair

PCIC-2016-37 IT'S ALL ABOUT RELIABILITY – COMMERCIAL VERSUS INDUSTRIAL UPS FOR PETROCHEM & OFFSHORE APPLICATIONS

Lothar Heinemann	AEG Power Solution
Shahid Jami	Independent

PCIC-2016-38 MARINE DUTY HARMONIC MITIGATION ON DC PROPULSION SAVES OIL SERVICE VESSEL PROGRAM

Marek Farbis	Mirus International Inc.
Anthony Hoevernaars	Mirus International Inc.
Mike McGraw	NSOEM

PCIC-2016-39 DEMONSTRATION OF FAULT RIDE THROUGH CAPABILITY FOR CLOSED BUS OPERATION ON DYNAMIC POSITIONING VESSELS

Michael Roa	ABS Americas
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SAFETY TECHNICAL SESSION II	
Wednesday, September 21, 2016 – 8:15 a.m. to 11:15 a.m.	
Room Assignment TBD	Presiding – Shahid Jamil, Subcommittee Vice Chair

PCIC-2016-40 ARC FLASH RISKS IN SWITCHGEAR METERING COMPARTMENTS REVISION 05/12/2016

Marissa A. Spencer	Eaton Corporation
Jeffrey A. Brode	Eaton Corporation
Thomas Natali	Eaton Corporation
William S. Vilcheck	Eaton Corporation

PCIC-2016-41 AN INNOVATIVE APPROACH TO HAZARDOUS AREA CLASSIFICATION – THREE DIMENSIONAL (3D) MODELING OF HAZARDOUS AREAS

Vaibhav Shrivastava	Bechtel OG&C
Neeraj Bhatia	Bechtel OG&C
Nir Feinstein	Bechtel OG&C
Ganesh Mohan	Bechtel OG&C

PCIC-2016-42 ELECTRICAL SAFETY WHEN USING TEMPORARY POWER

Dennis K. Neitzel	AVO Training Institute, Inc.
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TRANSPORTATION TECHNICAL SESSION II	
Wednesday, September 21, 2016 – 8:15 a.m. to 11:15 a.m.	
Room Assignment TBD	Presiding – Todd Huston, Subcommittee Vice Chair

PCIC-2016-43 PREPARING TO WITNESS A MULTI-MEGAWATT MOTOR AND ADJUSTABLE SPEED DRIVE ACCEPTANCE TEST – THE BASICS

Manish Verma	TMEIC
John Arnold	TMEIC
Izhak (Ike) Grinbaum	Consulting Elec. Engineer
James Nanney	TMEIC

PCIC-2016-44 THE ORIGIN OF THE ELECTROMAGNETIC VIBRATION OF INDUCTION MOTORS OPERATING IN MODERN INDUSTRY: PRACTICAL EXPERIENCE – ANALYSIS AND DIAGNOSTICS

Mikhail Tsyarkin

Vibration Specialty Corporation

PCIC-2016-45 ENSURING PIPELINE RELIABILITY WITH CABLE MAINTENANCE

Jason Larsen

ENBRIDGE

Richard Brinton

NOVINIUM

CHEMICAL TECHNICAL SESSION II	
Wednesday, September 21, 2016 – 2:00 p.m. to 5:00 p.m.	
Room Assignment TBD	Presiding – Joe Hillhouse, Subcommittee Vice Chair

PCIC-2016-46 EXPERIENCE WITH ON-LINE PARTIAL DISCHARGE MEASUREMENT IN HIGH VOLTAGE INVERTER FED MOTORS

G.C. Stone

Iris Power – Qualitrol

H.G. Sedding

Iris Power – Qualitrol

C. Chan

Iris Power – Qualitrol

PCIC-2106-47 NOT ALL ELECTRIC MOTORS ARE CREATED EQUAL; COMPARE BEFORE YOU BUY

Chuck Yung

EASA

PCIC-2016-48 EFFECT OF MOTOR VOLTAGE UNBALANCE ON MOTOR VIBRATION: TEST AND EVALUATION

Matthew Campbell

Toshiba International Corporation

Gabriel Arce

Toshiba International Corporation

PRODUCTION TECHNICAL SESSION II	
Wednesday, September 21, 2016 – 2:00 p.m. to 5:00 p.m.	
Room Assignment TBD	Presiding – Donna Hodgson, Subcommittee Chair

PCIC-2016-49 USING PLATE HEAT EXCHANGER (PHE) FOR TOTALLY ENCLOSED AIR-TO-AIR COOLED (TEAAC) MOTOR

Edward Chen

TECO-Westinghouse Motor Company

Gustav Nyman

Heatex America

PCIC-2016-50 CASE STUDY: INTEGRATING THE POWER MANAGEMENT SYSTEM OF AN EXISTING OIL PRODUCTION FIELD

Kei Hao

Schweitzer Engineering Laboratories, Inc.

Nevil Herbert

Chevron

Abdel Rahman Khatib

Schweitzer Engineering Laboratories, Inc.

Niraj Shah

Schweitzer Engineering Laboratories, Inc.

PCIC-2016-51 TRANSFORMER ENERGIZATION FROM LOW VOLTAGE SIDE WITH LIMITED GENERATION – POWER SYSTEM CONSTRAINTS AND PROTECTION CONSIDERATIONS – A CASE STUDY

Gautami Bhatt

Bechtel Oil, Gas & Chemicals

Dragan Ristanovic

Bechtel Oil, Gas & Chemicals

Terry Tadlock

Bechtel Oil, Gas & Chemicals

REFINING TECHNICAL SESSION II	
Wednesday, September 21, 2016 – 2:00 p.m. to 5:00 p.m.	
Room Assignment TBD	Presiding – Meredith Stranges, Subcommittee Chair

PCIC-2016-52 APPLICATION CONSIDERATION FOR OPERATING VSI-FED MV MOTORS IN HAZARDOUS LOCATIONS

Frederick L. Hoadley	ABB Inc.
Robert F. McElveen Jr.	Baldor / ABB
Timothy R. Obermann	Milwaukee Electric Tool

PCIC-2016-53 IMPLEMENTATION OF A MICROPROCESSOR-BASED MOTOR BUS TRANSFER SCHEME

Prasanna Muralimanohar	Schweitzer Engineering Laboratories, Inc.
Derrick Haas	Schweitzer Engineering Laboratories, Inc.
Rekha T. Jagaduri	Schweitzer Engineering Laboratories, Inc.
John R. McClanahan	Schweitzer Engineering Laboratories, Inc.
Stanley Singletary	Valero St. Charles Refinery

PCIC-2016-54 ENHANCING POWER TRANSFORMER DIFFERENTIAL PROTECTION TO IMPROVE SECURITY AND DEPENDABILITY

Lubomir Sevov	GE Digital Energy – Multilin
Umar Khan	GE Digital Energy – Multilin
Zhiying Zhang	GE Digital Energy – Multilin

