

2019

INMR

WORLD CONGRESS

Westin La Paloma Hotel & Conference Center
Tucson, Arizona, USA
Oct. 20-23, 2019



Conference Program*

100 practical technical presentations by experts in design, testing, operation & maintenance of key components for:

- overhead lines
- substations
- underground cables

Plus a PRODUCT & TECHNOLOGY EXHIBITION featuring over 60 industry leaders from across the globe. Don't miss this unique event for engineers and other professionals from the power and HV industries.

Host Utility:



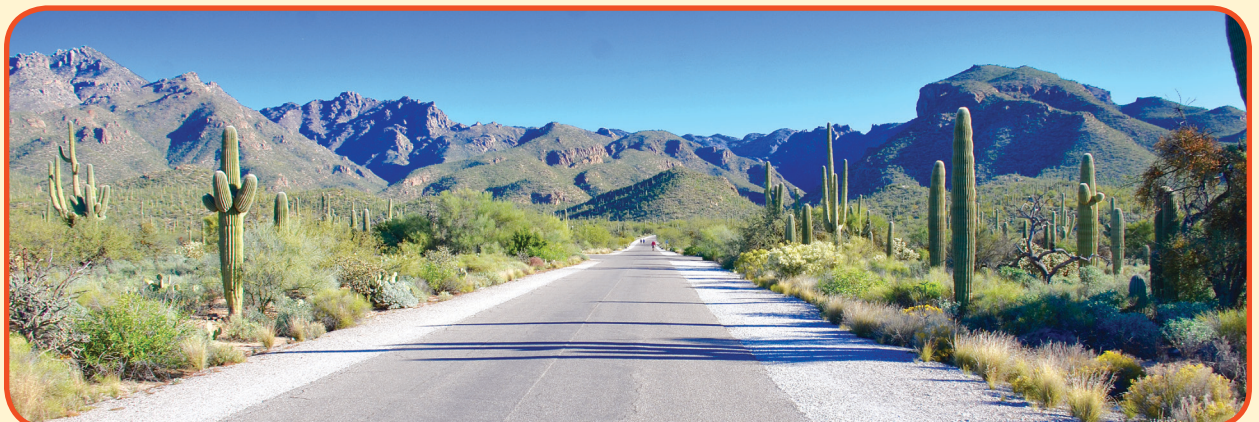
Platinum Partner:



Key Partners:



Partners:



* as of May 31. Subject to possible modification

Sunday, October 20

Time	CANYON FOYER
10:00 to 16:00	Sightseeing to nearby Sabino Canyon. Complimentary bus shuttles will run in both directions originating from the Westin La Paloma Hotel every 45 minutes. Circa 15-minute bus trip each way
13:00 to 19:00	Registration desk opens. Attendees pick up badges and conference materials
20:00 to 21:00	Welcome Reception for Attendees

Day 1: Monday, October 21

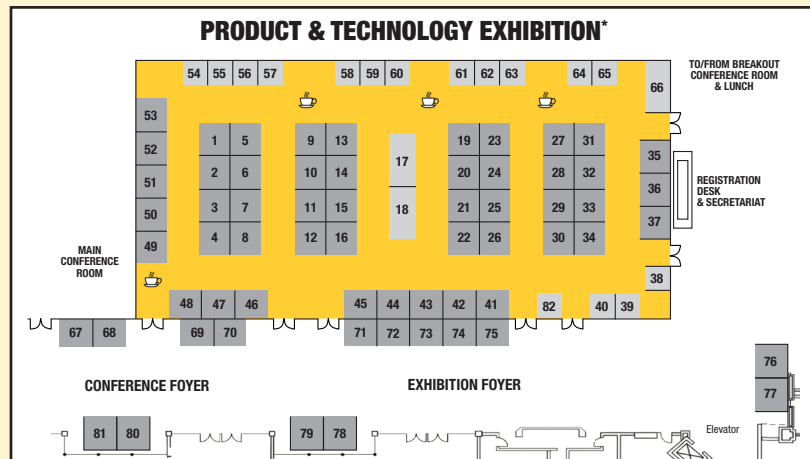
Time	CANYON CONFERENCE ROOM
08:00 to 13:00	Plenary Session Part 1
14:00 to 18:30	Plenary Session Part 2
18:30 to 20:00	Exhibitor Reception in Exhibition Area

Day 2: Tuesday, October 22

Time	CANYON CONFERENCE ROOM	SONORAN 1 & 2 CONFERENCE ROOM
08:00 to 13:00	Plenary Session Part 3	
14:00 to 18:30	Insulator Technologies & Application Part 1	Arrester Technologies & Applications Part 1

Day 3: Wednesday, October 23

Time	CANYON CONFERENCE ROOM	SONORAN 1 & 2 CONFERENCE ROOM	MURPHEY CONFERENCE ROOM
08:00 to 13:00	Insulator Technologies & Applications Part 2		Cable & Accessory Technologies & Applications
14:00 to 18:00	Insulators Technologies & Applications Part 3	Arrester Technologies & Applications Part 2	



*Subject to possible modification

EXHIBITOR	SPACE #	EXHIBITOR	SPACE #
ABB Components	26	ElectroMagneticWorks (EMWorks)	75
Agni Fiber Boards	64	Electric Power Research Institute (EPRI)	77
BPG International	58 & 59	EPRECSA USA	1
Brugg Cables	35	Eximprod Power Systems	49
CESI	39 & 40	Global Insulator Group (GIG)	7
CIGRE	76	Gruppo Bonomi/EB Rebosio	54 - 55 - 56
CSL Silicones	-	Hebei Kangao	11
Dalian Sunrise Hardware	36	H-J Family of Companies	29
Dekuma Rubber & Plastic Technology	4	Hubbell Power Systems	17 & 18
Desma Elastomertechnik	27 & 28	Huphen Fabricators	65
DKSH Korea	78	Integrated Engineering Software	2
EDF Lab Les Renardières	50	KEMA Laboratories	13
EGU HV Laboratory	45	K-Line Insulators	47 & 48

EXHIBITOR	SPACE #
La Granja Insulators	14
MacLean Power Systems	21 & 22
Manitoba Hydro International	68
Nanju Polymer Material	60
NARI Group Corporation	70
Ofil	8
Pfisterer Holding	51
Pioneer Technology Solutions	71
PPC Insulators	9 & 10
Polyone - Glasforms Advanced Composites	37
Reinhausen Power Composites	43 & 44
RHM International	6
Saver	23 & 24
Sediver	19 & 20
Shaanxi Taporel Electrical Insulation Technology	34
Shenzhen Square Silicone	25
Sichuan Yibin Global Group	3
Siemens AG	31 & 32
STRI	12
TÜV Rheinland (Shanghai)	66
Ugur Turkyurt	41
UMEK Group	33
Uniflex Hydraulik	38
Uvirco Technologies	52 & 53
Verfahrenstechnik Hübers	46
Victor Insulators	57
Vogel moulds and machines	69
Wacker Chemie	15 & 16
Wellwin Precision Mould	30
Xi'an Gaoqiang Insulation Electric	42
Yizumi Rubber Machinery	61 - 62 - 63
Zhengzhou Xianghe Group Electric	82
Zibo Taiguang Electrical Equipment	5

Monday, October 21

PLENARY SESSION: PART 1 Canyon Conference Room

Session Chairman: Marvin L. Zimmerman, INMR, Canada



08:00
Welcome Address
Susan Gray, Tucson Electric Power, United States



08:10
Keynote Address
Konstantin Papailiou, Dresden Technical University, Switzerland/Germany



08:25
Optimizing Design & Materials for High Voltage Transmission Applications
Jeff Butler, Hubbell Power Systems, United States



08:50
Application of Station Posts
Jens Seifert, Reinhausen Power Composites, Germany



09:15
Specifying RTV Silicone Coatings for Overhead Transmission Lines
Jean-Marie George, Sediver, France



09:40
Longitudinal Loading: Fact Versus Myth
Ed Niedospial, MacLean Power Systems, United States

10:05 Coffee Break & Visit to Exhibition Area



10:50
Self-Cleaning Properties of Injection Molded Super-Hydrophobic Silicone Rubber for HV Insulators
A.J. (Tony) Carreira, K-Line Insulators, Canada



11:15
Various Benefits of Line Surge Arrester Application & Advantages of Externally Gapped Line Arresters
Florent Giraudet, Siemens, Germany



11:40
Porcelain Insulators Under Cyclic Loading
Patrick Maloney, PPC Insulators, United States



12:05
Silicones in T&D: Advantages of this Versatile Material
Andrei Szabo, Wacker Chemie, Germany



12:30
Laboratory Experience in Type Testing Insulators & Cables
Bas Verhoeven, DNV GL KEMA Laboratories, the Netherlands

12:55 Summary of Session/Questions

13:00 Lunch

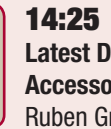
Monday, October 21

PLENARY SESSION: PART 2 Canyon Conference Room

Session Chairman: Aram Khalil-Pour, FortisBC, Canada



14:00
Composite Insulators: Problem Cases & Solutions to Increase Reliability & Service Life
Alexander Zlakazov, Tatyana Symonova
Global Insulator Group, Russia/Estonia



14:25
Latest Developments in High Voltage Cable Accessories
Ruben Grund, Pfisterer, Germany



14:50
Cases of Non-Standardized Testing
Dan Windmar, STRI, Sweden



15:15
Asset Replacement Strategies in Ageing Grids: Maintenance versus Condition-Based
Robert Ross, Technical University of Delft, the Netherlands

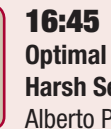
15:35 Coffee Break & Visit to Exhibition Area



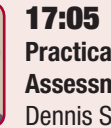
16:00
Funding the Next Global T&D Investment Cycle 2020-2040: How Much It Will Cost
Steve Aubertin, Goulden Reports, United Kingdom



16:20
Impact & Mitigation of Icing on Power Network Equipment
Masoud Farzaneh, Université de Québec à Chicoutimi, Canada



16:45
Optimal Insulator Type & Dimensioning in Harsh Service Environments
Alberto Pignini, T&D Consultant, Italy



17:05
Practical Field Inspection & Condition Assessment of Transmission Insulators
Dennis Schlender, DBS Energy Services, Canada



17:25
Lessons from 25 Years Experience Testing Polymeric Insulators
Jan Lachman, EGU HV Laboratory, Czech Republic



17:45
Research & Experience with Coatings on Glass Insulators & Conductors
 Michele de Nigris, Ricerca sul Sistema Energetico - RSE, Italy



18:05
Impact of Biofouling on Performance of Outdoor Bushing Insulation
 Lars Jonsson, ABB, Sweden

18:25 Summary of Session/Questions

18:30 Cocktail & Canapé Reception in Exhibition Area (until 20:00)

Tuesday, October 22

PLENARY SESSION: PART 3

Canyon Conference Room

Session Chairman: Igor Gutman, Independent Insulation Group, Sweden



08:00
Quality Evaluation of MV/HV Network Components at TNB: Experience with Failures & Lessons Learned
 Iryani Mohamed Rawi, Tenaga Nasional Berhad, Malaysia



08:25
Optimizing Insulator Selection with Regard to Performance, Installation, Stocking & Maintenance
 Daniel McCullough, San Diego Gas & Electric, United States



08:50
Performance of RTV-Coated Glass Insulators in Zones of High Contamination
 Samuel Arturo Asto Soto, Red de Energía, Peru



09:15
Lessons from 20 Years' Experience with Composite Insulators on Transmission Lines
 Glenn Stapleton, Tony Gillespie Powerlink Queensland, Australia



09:40
Transmission Structures for Reduced Cost & Increased Public Acceptance
 Karl Emil Steenholt-Eliasson, Energinet, Denmark

10:05 Coffee Break & Visit to Exhibition Area



11:00
Effect of Cooling Towers on External Insulation of Substations
 Ramiro Hernández-Corona, Instituto Nacional de Electricidad y Energías Limpias, Mexico



11:20
Selection of Optimal Outdoor Insulation for Refurbishment of 400 kV Substation Under Coastal Pollution
 Milan Radosavljevic, Svenska Kraftnät, Sweden



11:45
Development of Small-Scale Test to Verify Corona Performance of Polymeric Insulators
 Fabio Bologna, EPRI, United States



12:10
Operating a Test Station in a Polluted Environment
 Christian Pons, EDF Lab Les Renardières, France



12:35
Replacing Insulators in Ageing Long Span Lake Crossing
 Alison Meredith, FortisBC, Canada

12:55 Summary of Session/Questions

13:00 Lunch

Tuesday, October 22

ARRESTER TECHNOLOGIES & APPLICATIONS - PART 1

Sonoran 1 & 2 Conference Room

Session Chairman: Jonathan Woodworth, ArresterWorks, United States



10:40
Methodology & Mitigation of Lightning Induced Arcing to Pipeline Hazard
 Mazana Armstrong, BC Hydro, Canada



11:10
Arrester Technology Today: Lessons Learned & Developments to Watch
 Volker Hinrichsen, Technical University of Darmstadt, Germany



11:40
Surge Arrester Considerations in Microgrids
 Jesse Hoffman, Stantec Consulting Services, United States



12:05
Arrester Protection of Lower Voltage Circuits on Multi-Voltage Towers: Issues & Opportunities
 William Chisholm, Consultant, Canada



12:30
Application of Surge Arresters in MV/HV Capacitor Banks
 Tim Rastall, Enspec Power, United Kingdom

13:00 Lunch



14:00
Mechanical Testing of Connection Leads for Transmission Line Arresters
 Martin Hughes, EPRI, United States



14:30
Innovative Compact Line Design: Reducing Clearances by Integrating EGLAs on HV Transmission Lines
 Bastian Robben, Siemens, Germany



15:00
Braced Line Post Testing Considerations
 John SchoneWolf, Hubbell Power Systems, United States

15:30 Coffee Break & Visit to Exhibition Area



16:00
Experience Applying Surge Protection at Hydro One
 Jody Levine, Hydro One Networks, Canada



16:30
Development of 765 kV Externally Gapped Line Arresters
 John M. Schneider, Complex Energy Solutions, United States



17:00
Optimizing Structure Design on 500 kV Lines Using Transmission Line Arresters
 Chenyang Wang, Manitoba Hydro, Canada



17:30
Surge Arrester Sizing for Ungrounded Sub-Transmission Systems
 Xuan Wu, American Electric Power, United States

18:00 Summary of Session/Questions

Tuesday, October 22

INSULATOR TECHNOLOGIES & APPLICATIONS - PART 1

Canyon Conference Room

Session Chairman: Alberto Pignini, T&D Consultant, Italy



14:00
Adding Intelligence to Ceramic Insulators
 Markku Ruokanen, PPC Insulators, Austria



14:20
Rod to Housing Adhesion in Composite Insulators: Practical Evaluation in Collaboration with Utilities
 Igor Gutman, Independent Insulation Group, Sweden



14:45
External Insulation Alternatives for EHV & UHV Bushings
 Paolo Cardano, GE Grid Solutions, Italy

15:15 Coffee Break & Visit to Exhibition Area



16:00
Manufacturing Quality of Toughened Glass Insulators
 Ed Niedospial, MacLean Power Systems, United States



16:20
Pollution Performance of Composite Hollow Core Insulators with HTV/LSR Housings
 Eric Moal, Reinhausen Power Composites, Germany



16:40
Optimal Selection of Post Insulators for AIS Disconnectors & Other Substation Applications
 Marco Nosilati, GE Grid Solutions, Italy



17:00
Insulator Performance & Characteristics Required of Innovative Materials from Renewable Sources
 Derek Oliver, Manitoba Institute for Materials, University of Manitoba, Canada



17:20
Evaluation of Field Returned Insulators from U.S. Grid Through Laboratory Tests
 Ron Duckstein, Sediver, United States



17:40
Developments in RIS Bushing Technology
 Eric Euvrard, RHM International, United States



18:00
Brittle Fracture Failure of Polymeric Insulator on 400 kV Transmission Line
 Cristian Gutiérrez Aguirre, Corpoelec (retired), Venezuela

18:20 Summary of Session/Questions

Wednesday, October 23

INSULATOR TECHNOLOGIES & APPLICATIONS - PART 2

Canyon Conference Room

Session Chairman: William Chisholm, Canada



08:00
Maximizing & Validating Ultimate Capacity in High Strength Applications
 Ed Niedospial, MacLean Power Systems, United States



08:20
Design Rules for Long-Term Reliability of Composite Insulator Strings
 Isaac Bohlken, Pfisterer-Lapp, United States



08:40
Research Findings Linking Corona to Brittle Fracture
 Daniel Luder, Israel Electric, Israel



09:05
Digital Solution for Transmission Line Risk Assessment
 Jean-Marie George, Sediver, France



09:25
EPRI Sensor Suite: A Step Towards an Intelligent Electrical Power System
 Andrew Phillips EPRI, United States



09:45
New Technology for Coated Glass Suspension Insulators
 Alexander Zlakazov, Tatyana Symonova, Global Insulator Group, Russia/Estonia

10:05 Coffee Break & Visit to Exhibition Area



10:40
Dust & Sea Salt Pollution Mapping: Satellite versus Ground Truth Results
 William Chisholm, Consultant, Canada



11:05
Thermally Diffused Galvanizing & Application to Insulators
 A.J. (Tony) Carreira, K-Line Insulators, Canada



11:25
Field & Laboratory Assessment of RTV Coated Insulators in Harsh Desert Environments
 Raouf Znaidi, T&D Consultant, Tunisia



11:55
Advanced Coatings for Insulators & Conductors: Overview of EPRI Research
 Chris Engelbrecht, EPRI, United States



12:20
Progress on Revision of IEC 60383
 Dan Windmar, STRI, Sweden



12:40
Access Enabling Technology for Silicone Bushings in MV Transformers
 Jeff Door, The H-J Family of Companies, United States

13:00 Lunch

Wednesday, October 23
CABLE & ACCESSORY TECHNOLOGIES & APPLICATIONS
 Murphey Conference Room

Session Chairman: Prof. Klaus-Dieter Haim,
 Zittau-Görlitz University of Technology, Germany



08:00
Requirements & Challenges in Technology & Application of HV Cable Joints
 Hansjoerg Gramespacher, ec4ac, Switzerland



08:25
Future Challenges for Cable Accessories for MV Networks
 Lukasz Chmura, Royal Lovink Enertech, the Netherlands



08:50
Interesting Aspects of Special Cables with Silicones
 Detlef Klingberg, Wacker Chemical, United States



09:15
Shearbolt Connectors for LV/MV Underground Power Cables: Reliability & Failure Modes
 Falk Hardt, Pfisterer, Germany



09:40
Long-Term Experience with Cable Joints under Water Stresses
 Stefan Kornhuber, Zittau-Görlitz University of Technology, Germany

10:05 Coffee Break & Visit to Exhibition Area



10:40
Efficient Simulation of Electric Line Parameters for Cables
 Doug Craigen, Integrated Engineering Software, Canada



11:05
Damped AC for Commissioning & Diagnostic Testing of HV Cables
 Paul Leufkens, Power Projects Leufkens, United States



11:30
Designing & Optimizing HV Cables & Accessories to Withstand High Short Circuit Current Faults
 Guoyan Sun, Brugg Cables, Switzerland



11:55
Reliability of HVDC Cable Joints: Today & Future Challenges
 Hansjoerg Gramespacher, ec4ac, Switzerland



12:15
Experience from Long Duration Tests on Extruded Cable Systems up to 525 kV DC
 Uberto Verceletti, CESI, Italy



12:35
Cable Accessory Technologies: Current Situation & Developments to Watch
 Klaus-Dieter Haim, Zittau-Görlitz University of Technology, Germany

12:55 Summary of Session/Questions

13:00 Lunch

Wednesday, October 23
INSULATOR TECHNOLOGIES & APPLICATIONS - PART 3
 Canyon Conference Room

Session Chairman: William Chisholm, Canada



14:00
Case Study for Application of 400 kV Interphase Spacers
 Steve Bell, K-Line Insulators, Canada



14:20:
Monitoring Performance of Outdoor Insulators in Polluted Environments
 Héctor de Santos, La Granja Insulators, Spain



14:40
Silicone Gel: More Than Gap Filler
 Jens Lambrecht, Wacker Chemie, Germany

15:00 Coffee Break & Visit to Exhibition Area



15:30
Hybrid Insulators for Distribution Lines: Advantages & Application Experience
 Eduardo Hilsdorf, PPC Santana, Brazil



15:50
Application of Interphase Spacers to Transmission Systems
 Giovanni Giobbe, EB Rebosio/Gruppo Bonomi, Italy



16:15
Innovative Applications & Developments of Hollow Core Composite Insulators
 Jens Seifert, Reinhausen Power Composites, Germany



16:40
Software for Line Design & Operation: Case Studies
 Igor Gutman, Independent Insulation Group, Sweden



17:00
Insulator Diagnostics Using Drones
 Adam Dienes, Energost, Hungary



17:20
Conducting Corona & Infrared Inspections of Power Lines
 James Brady, Brady Inspections, United States



17:40
Application for Liquid Silicone Rubber in the Electrical Power Industry
 LEE Yanmin, Square Silicone, China

18:00 Summary of Session/Questions

Wednesday, October 23
ARRESTER TECHNOLOGIES & APPLICATIONS - PART 2
 Sonoran 1 & 2 Conference Room

Session Chairman: Jonathan Woodworth, ArresterWorks, United States



10:40
Protecting Neutral Terminals of Power Transformers in Distribution Substations
 Michael Champagne, Waldemar S. Nelson & Co., United States



11:10
Development & Application of Polymeric Surge Arresters for Transmission Lines in China
 HE Jinliang, Tsinghua University, China



11:40
Advantages of Enhanced Silicone Polymer for Distribution Arresters
 Haley Engel, Hubbell Power Systems, United States



12:10
Application of Surge Arresters in Mitigating Breaker Transient Recovery Voltage
 Rogerio Verdolin, Verdolin Solutions, Canada



12:35
Developments to Watch in HV Surge Arresters
 Paul Leufkens, Power Projects Leufkens, United States

13:00 Lunch



14:00
Strategies for Effective Application of Line Surge Arresters on the 400 kV Network in Hong Kong
 Konstantinos Velitsikakis, DNV GL Energy Advisory, the Netherlands



14:30
Best Practices in Lightning Protection of Distribution Systems
 Jonathan Woodworth, ArresterWorks, United States



15:00

**Line Arrester Installations on ATC System:
What Was Done Right & Further Improvements**

Bryan Beske, American Transmission Company,
United States



17:00

**Metal Oxide Surge Arresters for HVDC Circuit
Breaker Applications**

Nadew A. Belda, DNV GL Energy, the Netherlands &
Peter HOCK, Technical University of Darmstadt, Germany



17:30

**Bushing/Arrester Failure Root Cause Analysis:
Case Experience**

Wenceslao Torres, MEC Engineering, Puerto Rico

18:00 Summary of Session/Questions

15:30 Coffee Break & Visit to Exhibition Area



16:00

**Using Grid Analytics to Evaluate Lightning
Protection**

John Lauletta, Exacter, United States



16:30

**Overview of Progress on Harmonization of IEC
and IEEE Arrester Standards**

Jonathan Woodworth, ArresterWorks, United States

PLAN NOW TO ATTEND

Registration Fee per Person

(includes access to all conference sessions, access to Exhibition, copy of PROCEEDINGS,
all breakfasts, all lunches, all coffee breaks & invitation to two evening receptions):

General Registration

US\$ 895

Group Registration*

US\$ 795

(min. 3 people from same company register & pay at same time)

Special Reduced Registration Packages for Electric Power Utilities

Utility Registration

US\$ 695

Group Utility Registration*

US\$ 595

*(min. 3 people from same utility register & pay at same time)

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Name of Company / Electric Utility: _____

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City: _____ Country: _____

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Name of Attendee (1): _____ Job Title: _____

Email Address of Attendee (1): _____

Name of Attendee (2): _____ Job Title: _____

Email Address of Attendee (2): _____

Name of Attendee (3): _____ Job Title: _____

Email Address of Attendee (3): _____

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