

## T and D / ICC Joint Meeting At-A-Glance October 28 – November 2, 2001

<u>DAY</u>	<u>TIME</u>	<u>EVENT</u>	<u>ROOM</u>
<b>Sunday</b>	6:00-9:00 p.m.	T and D Reception	The Georgia Freight Depot
<b>Tuesday</b>	9:00-5:00 p.m.	5 Panel Presentations	GWCC-264, 261 & 267
	2:00-5:00 p.m.	Training Session	GWCC-264/265
	6:00-7:30 p.m.	ICC Reception	Sheraton Courtyard
<b>Wednesday</b>	7:00-8:00 a.m.	All Chairs Meeting	GWCC-266
	8:00-8:45 a.m.	Opening Session	GWCC-264/265
	9:00-12:00 noon	Station, Control & Utilization Cables (Sub D)	GWCC-264/265
	1:30-5:00 p.m.	Cable Systems (Sub C)	GWCC-264/265
<b>Thursday</b>	8:30-11:45 a.m.	Cable Construction and Design (Sub A)	GWCC-264/265
	12:00-2:00 p.m.	Transnational Lunch	GWCC-367
	2:15-5:30 p.m.	Accessories (Sub B)	GWCC-264/265
<b>Friday</b>	8:30-12:00 noon	Poster Session: Cable Construction & Design	GWCC-261
	8:30-12:00 noon	Poster Session: Accessories	GWCC-267
	8:30-12:00 noon	Poster Session: Cable Systems	GWCC-260

### Tuesday, October 30, 9:00-12:00 noon – Room GWCC-261

**Panel Session (PN01):** *Companion Devices Using the Separable Connector Interface*

**Chair:** Thomas Champion ([thomas.champion@neetrac.gatech.edu](mailto:thomas.champion@neetrac.gatech.edu))

**Abstract:** A number of companion devices are available that connect to the underground distribution system using the interfaces defined in IEEE Standards 386. However, IEEE 386 does not cover the function or operation of these devices beyond the interface. Panelists will discuss a number of these unusual or “exotic” devices, their function and how they can be used on a distribution system. Examples of such devices include encapsulated interrupter switches, arresters, fuses, etc.

**Panelist:** Roy Jazowski, Hubbell Power Systems

**Topic:** The Application and Test Requirements of MOV Elbow Arresters Used to Protect URD Systems

**Panelist:** Ken Banas, Thomas & Betts, Elastimold Division

**Topic:** Cable Accessory Products and Circuit Protective Devices for Underground Distribution Systems

**Panelist:** John Makal, Cooper Power Systems

**Topic:** Protection and Operation of the Underground System Using Separable Connector Technology

**Panelist:** John Markham, G&W Electric Company

**Topic:** Companion Devices for Protection, Switching, Transition and Joining of Circuits Using the Separable Connector Interface

**Tuesday, October 30, 9:00-12:00 noon – Room GWCC-267**

**Panel Session (PN02):** *Latest Advancements in URD Technologies*

**Chair:** Art Westrom ([westrom@mindspring.com](mailto:westrom@mindspring.com))

**Abstract:** This panel will discuss solid insulation (oil free) submersible distribution transformers, cable fault detection using a single point monitor and also advanced FCI devices, economical distribution automation communications through the national cellular network system.

**Panelist:** Andre Dupont, CITEQ & A.C. Westrom, Westrom Technologies

**Topic:** Total URD Has Become a Reality with the Submersible Solid Insulation Transformer

**Panelist:** Gene Baker, Florida Power, J.P. Steiner & Dan Rockwell, RMS Inc.

**Topic:** Validated Performance of the Fault Distance Monitor for URD Cable Circuits

**Panelist:** Dave Donovan, Fisher Pierce

**Topic:** Economical Distribution Automation Utilizing the Nation's Cellular Network Systems

**Panelist:** M.S. Mashikian, Imcorp

**Topic:** Preventative Diagnostic Testing of Underground Cables

**Panelist:** Fran Angerer & Bob Ducan, Power Delivery Products

**Topic:** Utilization of Faulted Circuit Indicator Products

**Tuesday, October 30, 9:00-12:00 noon – Room GWCC-264/265**

**Panel Session (PN07):** *Field Experience with the new ANSI/ICEA Standard*

**Chair:** William Taylor ([wltaylor1@mmm.com](mailto:wltaylor1@mmm.com))

**Abstract:** Cable manufacturers, utilities, and accessory manufacturers will address their experiences with the new standard. What works well, what areas to address to avoid problems, etc., when installing cable to the new ICEA standard will be discussed by the panel.

**Panelist:** Lauri Hiivala, Nexans

**Topic:** New ICEA Standard for Power Cables

**Panelist:** Ed Walcott, BICC General

**Topic:** A Manufacturer's Perspective

**Panelist:** Richie Harp, TXU Electric & Gas

**Topic:** How the New ANSI/ICEA Cable Standards Will Affect Utility Cable and Accessories

**Panelist:** John Spence, BG&E

**Topic:** Impact on BGE's Cable Accessories Resulting from the new ANSI/ICEA Cable Standards

**Panelist:** Michael Malia, Thomas & Betts, Elastimold Division

**Topic:** Effects of the New Cable Standard Dimensions on Slip-On Size Selection

**Panelist:** AJ "Jim" Braun, Xcel

**Topic:** Impact of ANSI/ICEA Standard to Utility Splice Selection

**Panelist:** Bill Taylor, 3M

**Topic:** Design of Splices and Terminations and Effects of New Cable Standard on Sizing Accessories

**Tuesday, October 30, 2:00-5:00 p.m. – Room GWCC-267**

**Panel Session (PN06):** *New Cable Accessory Equipment*

**Chair:** Robert Gear ([gear@aol.com](mailto:gear@aol.com))

**Abstract:** Panel discussion on advances new cable accessory products introduced since since the 1999 Transmission and Distribution Conference.

**Panelist:** Mike Jackson, Elastimold

**Topic:** New Concepts in Three Phase Multi-Way Solid Dielectric Switchgear

**Panelist:** Don Johnsen, ComEd

**Topic:** Precast Concrete Technology Use to Accelerate Pipe Cable Construction

**Panelist:** Milian Uzelac, G&W Electric

**Topic:** Transmission Cable Termination using Composite Insulator

**Panelists:** Robert Gear & Joseph DiCostanzo, USi

**Topic:** Development of a 230kV Termination for High Pressure Gas Pipe Cable

**Tuesday, October 30, 2:00-5:00 p.m. – Room GWCC-261**

**Panel Session (PN05):** *Conflict Between ASTM F855 Grounding Requirements and IEEE 386 Separable Connectors*

**Chair:** Thomas Champion ([thomas.champion@neetrac.gatech.edu](mailto:thomas.champion@neetrac.gatech.edu))

**Abstract:** Issues have arisen about the possible application of the requirements in ASTM Standard F855 to the temporary protective grounds used on underground distribution systems. Many of the grounding devices used on URD systems comply with the requirements in IEEE Standard 386 for separable connectors. There appear to be some conflicts between the requirements in these two standards. The issue is further clouded by the requirements in OSHA regulations for protective grounds, which reference the ASTM F855 standard. Panelists will discuss the various sides of this issue and possible ways of resolving the differences.

**Panelist:** Roy Jazowski, Hubbell Power Systems

**Topic:** Conflict Between IEEE 386 and ASTM F855, The Connector Manufacturer's Perspective - Separable Connectors Used as Grounding Devices

**Panelist:** Frank Stepniak, Thomas & Betts, Elastimold Division

**Topic:** Conflict Between IEEE 386 and ASTM F855, the IEEE 386 Perspective - Grounding Device Rating for 200A and 600A Separable Connectors

**Panelist:** Ewell Robeson, Carolina P&L Company

**Topic:** Grounding for the Protection of Employees, IEEE 386/ANSI C119.2 versus OSHA 1910.269/ASTM F855

**Panelist:** Dave Wallis, US Department of Labor, OSHA

**Topic:** Conflict Between IEEE 386 and ASTM F855 - The Perspective from the Regulatory Side, Differences Between IEEE 386 Elbow Use for Grounding Applications And ASTM F855 Grounding Equipment Requirements

**Panelist:** Clayton King, Hubbell Power Systems, Chairman, ASTM F855

**Topic:** Conflict Between IEEE 386 and ASTM F855 – The ASTM F855 Perspective

**Panelist:** Dennis Pratt, Southern Company

**Topic:** Conflict between IEEE 386 and ASTM F855 – The Perspective of a Large Investor Owned Utility

**Tuesday, October 30, 2:00-5:00 p.m. – Room GWCC-264/265**

**Training Session (PN22):** *Cable Characteristics and Design*

**Chair:** Steve Szanizslo ([szaniss@dow.com](mailto:szaniss@dow.com))

**Abstract:** Training session on the electrical characteristics of cable and the properties of insulation materials such as crosslinked polyethylene (XLPE) and paper/oil insulation. Attendees receive certificates earning 3 PD hours. Register for the program on the T and D registration form.

**Instructor:** Carl Landinger, Hendrix Wire & Cable

**Instructor:** Bruce Bernstein, Consultant

**Topic:** Basic Electrical Characteristics Part II

**Topic:** Fundamentals of Electrical Insulation Materials

**Wednesday, October 31, 7:00-9:00 a.m.**

**7:00-8:00 a.m.** All Chairs Meeting / Room GWCC-266

**8:00-9:00 a.m.** Opening Session / Room GWCC-264/265

**Wednesday, October 31, 9:15-12:00 noon – Room GWCC-264/265**

**Paper Session (PN29):** ICC Subcommittee D – *Station, Control and Utilization Cables*

**Chair:** Kent Brown ([kwbrown@tva.gov](mailto:kwbrown@tva.gov))

**9:15-9:35 a.m.** – Subcommittee Business

Kent Brown

**9:35-9:55 a.m.** – Changes in the 2002 National Electric Code

Jim Daly, General Cable

**9:55-10:15 a.m.** – Penetration Firestop Testing

Scott Groesbeck, Duke Engineering

**10:15-10:35 a.m.** – Industrial Cables – A Standards Update

Austin Wetherell, UL

**10:35-10:55 a.m.** – Qualification of Fiber Optic Cables for Nuclear

Power Plants – An Update

Jan Pirrong, CableLAN Products, Inc & Jim Gleason, GLS Inc.

**10:55-11:15 a.m.** – Fire Testing: UL 910 and 1685

Steven A. Galan, UL

**11:15-11:35 a.m.** – WG D6 Report – IEEE P1428, Guide for Installation of Fiber Optic Cables in Power Generating Stations and Industrial Facilities

John White, Chairman D6, TXU

**11:35-11:55 a.m.** – WG D13 Report – Reaffirmation of IEEE 848-1996, IEEE Standard Procedure for the Determination of the Ampacity Derating of Fire Protected Cables

Ajit Gwal, Chairman D13, Nuclear Defense Safety Board

**Wednesday, October 31, 9:00-5:30 p.m.**

**9:00-10:15 a.m.** Working Groups (Room): B10W (171), A13W (266), C3D (363), C8W (369)

**10:15-10:30 a.m.** Break / Room 264/265

**10:30-12:00 noon** Working Groups (Room): B8W (171), A2D (266), A7W (363), C23D (369)

**2:00-3:15 p.m.** Working Groups (Room): D3W (266), A1D (363)

**3:15-3:30 p.m.** Break / Room 264/265

**3:30-5:30 p.m.** Working Groups (Room): D4D (266), A6D (363)

**Thursday, November 1, 8:00-5:30 p.m.**

**8:00-10:15 a.m.** Working Groups (Room): B1W/B2W (266), D5W (363), C14W (369), C12W (171)

**10:15-10:30 a.m.** Break / Room 264/265

**10:30-12:00 noon** Working Groups (Room): B17W (266), D6W (363), C7D (369), C10D (171), C19W (171)

**2:00-3:15 p.m.** Working Groups (Room): D8W (266), A11W (363), C1D (369)

**3:15-3:30 p.m.** Break / Room 264/265

**3:30-5:30 p.m.** Working Groups (Room): D13D (266), A4W (363)

**Wednesday, October 31, 2:00-5:00 p.m. – Room GWCC-264/265**

**ICC Subcommittee C - Cable Systems**

**Subcommittee Chair:** John Cooper ([j.h.cooper@ieee.org](mailto:j.h.cooper@ieee.org))

**Author:** Earle C. (Rusty) Bascom III, Power Delivery Consultants

**Title:** 115 kV Underground Loop in San Juan, Puerto Rico

**Author:** Dr. Gerhard Weissmueller & Lutz Zuehlke

**Title:** Testing of Transmission Cables in Germany

**Author:** Edward Davis, Washington Group International

**Title:** Mystic 345 kV XLPE Cable Installation

**Author:** Dr. Herman Koch, Siemens AG

**Title:** Second Generation GIL Installed in Geneva

**Author:** Lance Lewand, Dobbie Engineering Co., Carl Manger, Consultant & Noel Monardes, FTI Consulting

**Title:** Water Content in High-Voltage Cable Paper – Laboratory Evaluation and Field Determination

**Thursday, November 1, 8:30-11:15 a.m. – Room GWCC-264/265**

**ICC Subcommittee A – Cable Construction & Design**

**Panel Session (PN20):** *Non-Partial Discharge Diagnostic Testing: Utility Field Experience*

**Subcommittee Chair:** Allen MacPhail ([a.macphail@ieee.org](mailto:a.macphail@ieee.org))

**Panel Chair:** Serge Pelissou ([pelissou@ireq.ca](mailto:pelissou@ireq.ca))

**Abstract:** There has been much recent interest, activity and development work in the area of partial discharge diagnostic testing of power cables and accessories. Continuous advancements promise to locate discrete defects and increased success is being realized. At the same time, there have been significant improvements in development of non-partial discharge cable condition assessment tools, but awareness does not seem to be as high among users. This panel session will describe the main non-PD tests that can be applied to determine ‘global’ cable insulation condition, and the recent experience of power utilities who have applied them in the field.

**Panelist:** John Densley, Aborlec Solutions

**Topic:** Overview of Diagnostic Testing of MV Power Cables

**Author:** Pierre Mirabeau & Daniel Paulin, Nexans

**Title:** 400 kVAC Qualification Tests for EDF’s INCA Project

**Panelist:** John Hinkle, PPL Utilities

**Topic:** Cable Testing Experience at PPL Utilities

**Author:** Daniel Paulin, Nexans

**Title:** DC Solid Dielectric Cable Design for HV and EHV Land Applications

**Panelist:** Bill McDermid, Manitoba Hydro

**Topic:** Correlation between Leakage Current and Breakdown Voltage of Service Aged 15 kV XLPE Distribution Cables

**Panelist:** Dr. Ing Peter Birkner, LECH Electrizaetswerke AG (Subsidiary of RWE)

**Topic:** Field Experience with a Condition based Maintenance Program of a 20 kV XLPE Distribution System utilizing IRC-Analysis

**Authors:** P.J. Caronia & J.M. Cogen, The Dow Chemical Company

**Title:** Improved XLPE Insulation for High Voltage Cable

**Author:** Pierre Argaut, Sagem

**Title:** Seam Welded Aluminum Water Barrier

**Thursday, November 1, 12:00-2:00 p.m.**

**ICC Transnational Luncheon**

**Presentation Session:** *Cable Installations and Technology*

**Chairs:** Harry Orton ([heorton@email.msn.com](mailto:heorton@email.msn.com)) & Willem Boone ([w.boone@kema.nl](mailto:w.boone@kema.nl))

**Presenter:** Peter Carstensen, ABB

**Title:** An Update on HVDC-light Solid Dielectric Extruded Cables and Materials

**Presenter:** G. Weissmueller & L. Zuehlke, Stadtwerke Karlsruhe

**Title:** German 110 kV CLPE Cable Projects in South East Asia

**Presenter:** Glen Bertini, Utilx

**Title:** A Case Study of Silicone Life Extension Technology at BNG, Germany

**Presenter:** Ken Barber, Olex Cables

**Title:** 220 kV XLPE Cable Projects in South East Asia

**Presenter:** Candelario Saldivar, Conductores Monterrey

**Title:** Underground Installations in Historic Downtowns of Mexican Cities

**Presenter:** Alain Bollinger, HV Technologies

**Title:** HV Testing, Monitoring and Diagnostics

**Presenter:** Henk Green, Pirelli Cables and Systems NV

**Title:** Load Evaluation of an Aged Paper Insulated Cable System in the Netherlands

**Presenter:** Cam Dowlat, Nexans

**Title:** 400 kV XLPE AC Qualification for the EDF INCA Project

**Thursday, November 1, 2:15-5:00 p.m. – Room GWCC-264/265**

**ICC Subcommittee B – Accessories**

**Panel Session (PN21):** *Diagnostic Testing of Accessories*

**Subcommittee Chair:** Robert Gear ([gear@aol.com](mailto:gear@aol.com))

**Abstract:** The role of diagnostic testing of accessories in ensuring the reliability of accessories and cable systems will be the subject of this panel. Testing of distribution cable accessories and the insulation condition of cable links will be covered as well as the use of database stored knowledge rules to interpret test data.

**Panel Chairs:** Harry Orton ([heorton@msn.com](mailto:heorton@msn.com)) & Willem Boone ([w.boone@kema.nl](mailto:w.boone@kema.nl))

**Panelist:** Harry Orton

**Topic:** Opening/Key Note Speech

**Panelist:** Carlos Katz, Cable Technologies Laboratories, Inc.

**Topic:** Laboratory Evaluation of Cables and Accessories Showing Partial Discharge

**Panelist:** Nezar Ahmed, DTE Energy

**Topic:** PD in Cable Accessories

**Panelist:** Danial Fournier, IREQ

**Topic:** Diagnostic of Overheating Underground Distribution Cable Joints

**Panelist:** Matt Mashikian, Imcorp

**Topic:** PD Test Data Obtained at 50/60 Hz on PILC and Extruded Cable Accessories

**Panelist:** Ed Gulski, Tettex Instruments

**Topic:** PD Knowledge Rules Support for CBM of Distribution Power Cables

**Panelist:** Willem Boone, KEMA

**Topic:** PD Field Testing of Accessories, an Effective Diagnostic Tool!

**Panelist:** Craig Goodwin, HV Diagnostics

**Topic:** Effectiveness of High Voltage Field Testing

**Friday, November 2, 8:30-12:00 noon – Room GWCC-261**

**NOTE: 8:30-9:15 Session format is to allow each presenter 5 minutes to highlight their poster. 9:15-12:00 are poster visits.**

**Poster Session (PP25):** *Cable Construction & Design*

**Chair:** Ken Bow ([kebow@dow.com](mailto:kebow@dow.com))

**Session Chair:** Allen MacPhail ([a.macphail@ieee.org](mailto:a.macphail@ieee.org))

**Author(s):** Cinquemani, Maunder, Kuchta, Runyon, Bareggi & Caimi

**Paper Title:** Self-Repairing Secondary Underground Residential Distribution Cable, Part I – Design & Testing

**Author(s):** Lindler, Cope, Caporale, Cinquemani & Cherry

**Paper Title:** Self-Repairing Secondary Underground Residential Distribution Cable, Part II – History, Applications & Demonstrations

**Author(s):** Nishimura, Cicarelli, Coelho, Trager & Soares

**Paper Title:** Covered Cable Comparative Testing: HDPE & XLPE Evaluation

**Author(s):** Meurer, Stürmer & Hiiivala

**Paper Title:** Reduced Insulation Thickness for Extruded Medium – Voltage Power Cable Systems – Cable Performance and First Network Applications

**Author(s):** Sarma, Cometa, Walton & Smith

**Paper Title:** Breakdown Strength of TRXLPE Insulated Cables after Extended Aging Under Moderate Test Conditions

**Author(s):** Szaniszlo

**Paper Title:** 105°C/140°C Rated TRXLPE Medium Voltage Power Cables

**Author(s):** Armstrong, Nuckles, Reece, Spruell & Ware

**Paper Title:** Theory, Design, and Testing of a New Corrosion Resistant, Self Sealing, 600V Underground Cable

**Author(s):** Gau

**Paper Title:** Lab Testing of Neutral Corrosion in Semiconductive Jacket

**Friday, November 2, 8:30-12:00 noon – Room GWCC-267**

**NOTE: 8:30-9:15 Session format is to allow each presenter 5 minutes to highlight their poster. 9:15-12:00 are poster visits.**

**Poster Session (PP26):** *Accessories*

**Chair:** Ken Bow ([kebow@dow.com](mailto:kebow@dow.com))

**Session Chair:** Robert Gear ([gear@aol.com](mailto:gear@aol.com))

**Author(s):** Bish, Howson, Howlett, Fawcett & Hilder

**Paper Title:** Combined Use of Intelligent Partial Discharge Analysis in Evaluating High Voltage Dielectric Condition

**Author(s):** Porcheray

**Paper Title:** Evolution of Insulation Piercing Connector Technology

**Author(s):** Yaworski & Bukovnik

**Paper Title:** Silicone Gel Technology For Power Cable Accessories

**Author(s):** Strobl, Haverkamp, Malin & Fitzgerald

**Paper Title:** Evolution of Stress Control Systems in Medium Voltage Cable Accessories

**Author(s):** Cardinaels & Chatterjee

**Paper Title:** Cold-Shrinkable Joints for Higher Voltages

**Author(s):** Ridder & Chatterjee

**Paper Title:** Compact 170 kV Transition Joint

**Friday, November 2, 8:30-12:00 noon – Room GWCC-260**

**NOTE: 8:30-9:15 Session format is to allow each presenter 5 minutes to highlight their poster. 9:15-12:00 are poster visits.**

**Poster Session (PP27):** *Cable Systems*

**Chair:** Ken Bow ([kebow@dow.com](mailto:kebow@dow.com))

**Session Chair:** Nagu Srinivas ([srinivasn@teenergy.com](mailto:srinivasn@teenergy.com))

**Author(s):** Ahmed & Srinivas

**Paper Title:** Partial Discharge Severity Assessment in Cable System

**Author(s):** Ahmed & Srinivas

**Paper Title:** On-Line Partial Discharge System in Power Cable System

**Author(s):** Ahmed & Srinivas

**Paper Title:** Experience Gained with On-Line Partial Discharge Testing in Power Cable System

**Author(s):** Ahmed & Srinivas

**Paper Title:** On-Line Versus Off-Line Partial Discharge Testing in Power Cables

**Author(s):** Kelley, Wakefield, Nassi & Jipping

**Paper Title:** HTS Cable System Demonstration at Detroit Edison

**Author(s):** Buchholz, Colwell, Crine, Rao, Cherukapalli & Bernstein

**Paper Title:** Condition Assessment of Distribution PILC Cables

**Author(s):** LuGouJun

**Paper Title:** New Method to Locate the Oil-Leakage Point of an Oil-Filled Paper Insulated Cables

**Author(s):** Bertini

**Paper Title:** Strategic Reliability Analysis