

# PEG 2008:

## Putting Real back into Reality



February 12-14, 2008

The Westin Peachtree Plaza \* Atlanta, Georgia

# PEG 2008 CONFERENCE

## HIGHLIGHTS

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This conference brings together, in a common venue, professionals and subject matter experts who are faced daily with the real world problems of protecting communications systems and facilities to ensure reliable end-user services. The two-and-a-half day program, a blend of 20 educational presentations and social events, addresses specific topics -- "Lightning, Surges, & Challenges," "New Codes & Means of Assessment," and "New Technologies & Solutions" - - that help address the over-arching theme of PEG 2008, namely "Putting Real back into Reality."

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## The Protection Engineers Group (PEG)

PEG, a forum under the auspices of the Alliance for Telecommunication Industry Solutions (ATIS), is a group comprised of specialists who meet annually in a conference to share their common interest in the arena of electrical protection for communication systems and facilities.

## The Westin Peachtree Plaza

210 Peachtree St  
 Atlanta, Georgia 30303  
 Phone: (404) 659-1400  
 General Information



SINGLES	\$139.00*
DOUBLES	\$139.00*

\*For hotel information & to reserve a room at the special PEG 2008 price, click [here](#).

<http://www.starwoodmeeting.com/StarGroupsWeb/booking/reservation?id=0711273493&key=697A4>

## PEG 2008 Conference Admission Fees

PEG Member Early Bird Registration (**prior** to January 18, 2008) - \$250  
 Non-Member Early Bird Registration (**prior** to January 18, 2008) - \$425  
 General Registration Fee (**after** January 18, 2008) - \$500

## To register for the PEG 2008 Conference

You may register online through our website:

<http://www.atis.org/peg/peg-conference-2008.asp>

or fax: 202-347-7125

or mail:

ATIS  
 PEG Coordinator  
 1200 G St NW  
 Suite 500  
 Washington, DC 20005

## Sponsorship

PEG is sponsored by the **Alliance for Telecommunications Industry Solutions**. ATIS is the leading organization of communication companies influencing the strategic direction and development of wireless and wireline communication standards. Additional sponsorships are encouraged.

## For Sponsorship & Further Information:

Please contact:

Jean-Paul Emard  
 PEG Director  
 Phone: +1 202-434-8824  
 E-Mail: [jpemard@atis.org](mailto:jpemard@atis.org)

Meisha Goodhue  
 PEG Administrator  
 Phone: +1 202-434-8859  
 FAX: +1 202-347-7125  
 E-Mail: [mgoodhue@atis.org](mailto:mgoodhue@atis.org)

# Program

# PEG Conference 2008 Atlanta, GA \* Feb 12-14

## Monday Night Reception

6-8pm

## Tuesday, February 12, 2008

*Lightning, Surges & Challenges*

- 7:30 Registration/Continental Breakfast**
- 8:00 – 8:15 Welcoming Remarks**  
*Richard Chadwick, PEG Chair, AC Data Systems*  
*Jean-Paul Emard, ATIS Director*
- 8:15 – 9:00 Keynote Speech: Electrical Protection Challenges for Adapting Metallic and Optical Fiber Cables to Support Broadband Transmission** *Larry Payne, AT&T Southeast*
- 9:00 – 9:45 Lightning related DS1 loss in optical transport system**  
*Jean de Seve, Hydro-Quebec*
- 9:45 – 10:00 Break**
- 10:00 – 10:45 Surge Protectors & VDSL Transmission: The Real Deal**  
*Don Turner, Corning Cable Systems*
- 10:45 - 11:30 Real Lightning & Compliance Testing Surges**  
*Michael Maytum, Bourns Limited*
- 11:30 – 12:15 Central Office GPS Grounding Considerations, Methods and Procedures** *George Nilsen, Bravado Consultants, Inc*
- 12:15 – 1:30 Lunch**
- 1:30 – 2:15 Review of Remote DSLAM Failures & Protection Issues**  
*John Fuller, AT&T & Ernie Gallo, Telcordia Technologies, Inc.*
- 2:15 – 3:00 IEEE 1590 & 487**  
*Dick Knight, Positron Inc.*
- 3:00 – 3:15 Break**
- 3:15 – 4:00 Ethernet Protection (once it has left the building; inside the cell site)** *Nissar Chaudhry, TII Network Technologies*
- 4:00 – 4:45 Electrical Protection of Wireless Cell Sites on Top of Buildings** *Bill Peterson, Protection Technologies Inc.*
- 4:45 – 5:00 All Attendees Open Microphone Session**

## Wednesday, February 13, 2008

*New Codes & Means of Assessment*

- 7:30 Registration/Continental Breakfast**
- 8:00 – 8:15 Administrative Announcements**  
*Richard Chadwick, PEG Chair AC Data Systems*
- 8:15 – 9:00 Grounding & Protection at Tenant Sites**  
*Ronald Jones, Ronald G. Jones, PE*
- 9:00 – 9:45 Safety Requirements – Choosing the Right Protector for the application** *Randy Ivans, Underwriters Laboratories, Inc.*
- 9:45 – 10:00 Break**
- 10:00 – 10:45 GR3111: Methods for the Measurement of ABCD Parameters** *Al Martin, Tyco*
- 10:45 - 11:30 Mitigation of Power Induction on Communication Cables** *Dwayne Schultz, TELUS Communications*
- 11:30 – 12:15 Cell Site Grounding and Bonding from a Wireless Perspective**  
*Bruce Fountain, Verizon Wireless*
- 12:15 – 1:30 Lunch**
- 1:30 – 2:15 National Electrical Code (NEC) Update**  
*Ernie Gallo, Telcordia Technologies, Inc.*
- 2:15 – 3:00 Rooftop Ampacity (and temperature) Adjustments**  
*David Brender, Copper Development Association*
- 3:15 – 6:30 Vendor Demo & Reception**

# Program



**Thursday, February 14, 2008**

*New Technology & Solutions*

- 7:30**                    **Registration/Continental Breakfast**
- 8:00 – 8:15**            **Administrative Announcements**  
*Richard Chadwick, PEG Chair, AC Data Systems*
- 8:15 – 9:00**            **Pre-emptive Isolation – the new OSP Protection Technology  
& Alset Lightning Shield field trial Update** *John Wruble, Alset Corp. & John Fuller, AT&T*
- 9:00 – 9:45**            **Continuation of Protection of Telecommunication Service to Cell Sites**  
*Bruce Melton Jr, AT&T Southeast*
- 9:45 – 10:00**        **Break**
- 10:00– 10:45**        **Multi-service Surge Protection Devices:  
Solving the Problems of Real-Life Equipment Installations**  
*Michael Maytum, Bourns Limited*
- 10:45 - 11:30**        **Steel for Stealing**  
*Eugene Lambert, Hydro-Quebec*
- 11:30 – 12:00**        **All Attendees Open Microphone Session & Closing Remarks**  
*Richard Chadwick, PEG Chair, AC Data Systems*  
*Jean-Paul Emard, ATIS Director*

# Speaker Information & Abstracts

**PEG Conference 2008**  
**Atlanta, GA \* Feb 12-14**

## David Brender

National Program Manager  
Copper Development Association  
New York, NY

### **Rooftop Ampacity (and temperature) Adjustments**

CDA has conducted extensive testing and monitoring over the last 6 years to determine the temperature within conduit that is exposed to direct sunlight. This elevated temperature is the temperature to which the insulation is exposed, and thus is correctly the ambient temperature used to apply ampacity adjustment factors. The temperature measurements have resulted in a change to existing Code language, required by the 2008 NEC. This data likely has applicability beyond electrical power conductors. This presentation will cover how the experiment was conducted, and the results obtained. Examples of how to derate will be shown. Handouts will allow easy application of this Code requirement.

## Nissar A. Chaudhry

Vice President-Electrical Engineering and Chief Technology Officer  
TII Network Technologies  
Millbrook, Ontario, CANADA

### **Ethernet Protection (once it has left the building; inside the cell site)**

Ethernet is most widely installed local area network technology. It was developed to link two or more computers together. BellSouth in their Fiber In The Loop (FITL) deployment used 10 Base-T Ethernet technology to transport 10 Mega bits per second data rate from ONU to the customer premises. BellSouth extended the loop length beyond the standard limits with increased exposure to heavy duty lightning induced surges. This presentation will go over surge protection and data transmission capabilities of the balanced Ethernet surge protection module.

## Thomas Croda

C.S.I. Telecommunications  
San Francisco, CA

### **High Voltage DC Power Plants\*for Telecommunications Facilities**

This speech will address the use of new approach to powering a telecommunications facility. It proposes to reduce cost and maintain the current level of reliability of telecommunications power systems.

## Jean De Sève

P.engineer Expertise support, telecommunications  
Hydro-Quebec  
Montreal, Quebec , CANADA

### **Lightning related DS1 loss in optical transport system**

Unexpected DS1 loss on strategic services has happened in two different telecommunication sites. Tests shows that the DS1 modules of the affected OC3 Sonet equipments where not damaged but just "frozen". Manual on site intervention were however required to restart these services. After investigation, the problem appears to be lightning related. Lab test were conducted on many equipments and DS1 links configurations, to reproduce the DS1 loss condition, and a setup allowing systematic reproduction of DS1 loss condition was found. A solution related to the shield grounding of DS1 cable shield inside telecommunication room shows to be very effective again lightning event.

## John Fuller

Transmission/Electrical Protection Engineer  
BellSouth  
Morristown, TN

See: **Review of Remote DSLAM Failures & Protection Issues**

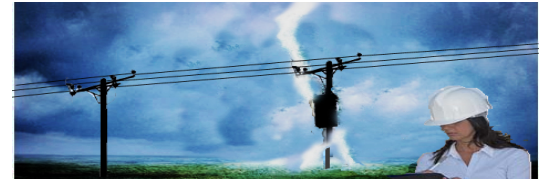
## Ernie Gallo

Principle Consultant  
Telcordia Technologies, Inc.  
Morristown, NJ

### **Review of Remote DSLAM Failures & Protection Issues**

This presentation will review the root cause failure & failure mechanisms associated with the installations DSLAMS in remote applications. The analysis is structured in three phases. Phase one was to visit remote sites and the field trial. Phase two was to conduct a statistically significant field trial with various protection technologies to determine if a specific protection technology installation would reduce the number of failures associated with DSLAM cards. In phase three, a fully loaded working cabinet with DSLAMS was analyzed under high temperature and humidity conditions. Various tests were performed on the ADSL cabinet. The lab tests showed that surges are conducted at the -48 Vdc power port of the (or the dc output of the rectifier) when surges are impinged at the ac input of the rectifier.

# Speaker Information & Abstracts



## Randy Ivans

Principle Engineer for Telecommunication and Network Infrastructure  
Underwriters Laboratories, Inc.  
New York, NY

### Safety Requirements – Choosing the Right Protector for the Application

This presentation is a follow-up on last year's presentation, "Safety requirements for Protectors and Protection at the Customer Premises" and will provide details regarding the various standards, requirements and tests that are used to evaluate the safety risks associated with protectors and their installation and use. Emphasis will be on the environmental conditions expected in the various types of installations and what requirements are in place to deal with these conditions. Just as important, why some of the limited test programs for special use protectors make them unsuitable for certain applications will be presented.

## Ronald G. Jones

Telecommunications Consultant  
Ronald G. Jones P.E.  
Euless, TX

### Grounding and Protection at Tenant Sites

The recent NEC Code changes have made the Grounding and AC Power surge Protection more critical. This paper will cover the difficulty and solutions in the AC power Grounded conductor/ grounding conductor master ground bar connections and the AC power surge protection, where there is a centralized metering location not associated with the equipment shelter.

## Richard L. Knight Sr

National Protection Manager  
Positron, Inc.  
Albuquerque, NM

### IEEE 1590 & 487/IEEE 1590 & 487: IEEE Recommended Practice for the Protection of Wireline Communication Facilities Serving Electric Supply Locations

The intent of this presentation is to identify and explain the Major changes in the standard as a result of the revision completed by the Wire Line Support Group.

## Eugene Lambert

Protection Engineer  
Hydro-Quebec  
Montreal, Quebec, CANADA

### Steel for Stealing

Due to the high price of copper, there are people who want to make money by taking copper from grounding installation and selling it to scrap metal yards. Different strategies could be employed to

reduce, and hopefully, stop this. One strategy is to discourage people from stealing by making it too difficult. The other strategy would be to replace copper with steel. Here we analyse the impact of using steel to replace copper. From a DC point of view, it is not the best option, but from a high frequency point of view it could be much more acceptable. We will present an overview of all options as applied at Hydro-Quebec.

## Al Martin

Compliance test Manager  
Tyco  
Menlo Park, CA

### GR3111: Methods for the Measurement of ABCD Parameters

A previous paper [*Discourse on GR3111*, presented at the 2007 PEG meeting] discussed the transmission requirements for network equipment and components intended for high speed digital circuits delivered over copper cable plant. The requirements of GR3111 are based on measurements of the ABCD parameters of the network equipment covered. It was proposed to determine the ABCD parameters of a test object by measuring the S-parameters of the object, and then converting these to ABCD parameters. In principle this method should work; but in practice there are issues. For direct conversion of S-parameters to ABCD parameters the setup is complex, requiring matching transformers and de-embedding of the device to be tested. This contribution discusses a simpler way, which does not require a complex setup. It may not be useable with devices requiring bias, as the method requires the input and output of the device to be shorted.

## Michael J. Maytum

Applications Manager  
Bourns Limited  
Bedford, England

### Real lightning and Compliance Testing Surges

The 2005 paper "Parameters of Lightning Strokes: A Review" is a comprehensive study of lightning by the IEEE Power Engineering Society Transmission & Distribution Committee, Lightning and Insulator Subcommittee. Part of this PEG presentation examines what this IEEE paper means in terms of lightning waveform extremes for multi-stroke negative lightning and positive stroke lightning. Particularly important is the neglected correlation between lightning waveform parameters. Modern telecommunications equipment has different damage sensitivities and system connections compared with the early electro-mechanical equipment. Comparison is made between the IEEE lightning waveforms, the standardized telecommunication test waveforms and equipment sensitivities to see if there are any testing blind spots.

# Speaker Information & Abstracts

**PEG Conference 2008**  
**Atlanta, GA \* Feb 12-14**

**Michael J. Maytum** (continued)

**Multi-service Surge Protection Devices — Solving the Problems of Real-Life Equipment Installations** Certain assumptions are made for the propagation of lightning surges in buildings based on code compliant installation and that the surge enters through a service coming into or going out of the building. In the real world there are code violations, magnetically induced surges into the building wiring, ground potential rises and imperfect bonding between the services of power and telecommunications. The Multi-service Surge Protection Device, MSPD, has been developed to protect equipment and localized equipment clusters from these real-life problems.

The discussion will drift towards MSPD design and construction, its new protection performance parameter, and the fact that the IEEE Power Engineering Society, Surge Protective Devices Committee is currently formulating a test and performance standard (C62.50) for MSPDs.

**Bruce Melton**

Contractor : Science & Technology – Transport & Access  
AT&T Southeast  
Atlanta, GA

**Continuation of Protection of Telecommunication Service to Cell Sites**

In the last few years, the number of cell sites has grown at a tremendous rate. The cellular/PCS industry has had to increase the number of these sites to accommodate the increased traffic and features offered by the “wireless” carriers. In addition, there are now multiple DS-1 data lines for each service provider to handle the traffic back to their “switch”. These data lines will soon be migrating to DS-3 and Ethernet to handle the increased bandwidth. The principle issue is how to assure reliable service in areas subject to direct strikes by lightning. This presentation will address the electrical protection issues facing both the wire line and wireless carriers in the provision of service to cell sites. This presentation will cover some of the finer details of AT&T-SE protection procedures, as well as some new issues discovered in the process. Discussions on different methods of protection will also be presented.

**George Nilsen**

Bravado Consultants, Inc  
Maitland, FL

**Central Office GPS Grounding Considerations, Methods and Procedures**

GPS hardware is strategically placed in the Central Offices based on the over all synchronization plan for the network in question. GPS systems are used to establish a precise synchronization timing signal for the digital network. Grounding & protection considerations must be employed to ensure of reliability of the operations of the system. This talk will outline some of the methods & procedures employed to ensure reliability of said system.

**Larry Payne**

BAT&T Southeast  
Headquarters Electrical Protection Engineer  
AT&T Southeast  
Atlanta, GA

**Electrical Protection Challenges for Adapting Metallic and Optical Fiber Cables to Support Broadband Transmission**

There are numerous challenges associated with reliability and electrical protection of high speed networks. This presentation will discuss some of the challenges unique to this type of service.

**Bill Petersen**

President  
Protection Technologies Inc.  
Fruita, CO

**Electrical Protection of PCS Cell Sites on Top of Existing Buildings**

With the proliferation of new PCS cell sites required in the industry today there is a continued pressure, on the part of local regulatory commissions, for PCS radios to be placed on existing structures. This includes office buildings, hotels, shopping malls, and a variety of other structures that offer a radio scatter pattern compatible with PCS cell site selection. Unfortunately, these structures were never intended to house radio receivers (BTS's) and present a variety of electrical protection challenges. This presentation will review a variety of existing installations that received damages from lightning, due to improper electrical protection consideration, as well as cover the theory of and some practical techniques for providing communications, grounding, and power to these locations.

**Dwayne Schultz**

Electrical Protection Engineer  
TELUS Communications  
Alberta, CANADA

**Mitigation of Power Induction on Communication cables**

This speech will explore 1) power line harmonics, including its definition & sources. 2) The mechanism of induction, including: C-message noise & telephone interference factor, residual I\*T, the effect of the power neutral, the effect of the communication cable sheath, and the effect of frequency on cable balance. 3) The mitigation of power induction using Induction Neutralizing Transformers, specifically: the assessment of power line exposure, criteria for placement of INT/DINT, and the question of optimizing the effectiveness of the INT/DINT.

## Speaker Information & Abstracts

### Donald B. Turner

Corning Cable Systems.  
Keller, TX

#### Surge Protectors and VDSL Transmission: The Real Deal

In 2006 and 2007, we explored the effect of various DSLAM or Central Office surge protector component technologies on ADSL2+ triple play transmission. The conclusion was that cable loop length was the determining factor, not protector type, and that in order to see the effects of protectors on digital transmission, the loop had to be extended beyond normal deployment length practices. In 2008, we propose to present the results of comparative tests of a matrix of DSLAM (5-pin) and CPE (station) protectors on the performance of a VDSL system with loop length and settings governed by the real world Telephone Operating Company VDSL deployment conditions. Because VDSL2 employs higher digital bit voltage levels than ADSL2+, the questions about voltage-dependant capacitance of protectors theoretically having a detrimental effect on transmission due to intermodulation distortion should be answered

### John Wruble

Co-founder and VP of Engineering  
Alset Corporation  
Seattle, WA

#### Pre-emptive Isolation – the New OSP Protection Technology

Pre-emptive Isolation is a new technology that provides intelligent protection against the severe power and lightning faults that overcome surge protection and grounding systems in remote terminal and tower installations. Intelligent isolation technology detects imminent GPR and commercial power threats and isolates the electronics, pre-empting exposure to the fault currents. Operations safely continue on battery power for the duration of the fault event. This intelligent protection pays for itself by pre-empting just one severe threat.

The theory and application of the technology are explained, with reference to field research and field trial results.

## Vendor Demo

### ACData - [www.acdata.com](http://www.acdata.com)

806 W. Clearwater Loop, Suite C.  
Postfalls, ID 83854

Phone: +1 800-890-2569  
FAX: +1 208-777-4466

ACData Solutions specializes in electrical protection solutions for commercial and public safety communications infrastructure. Designed and tested for severe environments involving direct lightning strikes to the facility or tower, ACData Solutions products include integrated load centers, protected power cabinets, and standalone AC, RF, broadband and backhaul protectors.

### ADC - [www.adc.com](http://www.adc.com)

13625 Technology Drive  
Eden Prairie, MN 55344

Phone: +1 800-366-3889  
FAX: +1 801-858-8915

ADC provides the connections for wireline, wireless, cable, broadcast, and enterprise networks around the world. ADC's innovative network infrastructure equipment and professional services enable the cost-effective delivery of high-speed Internet, data, video, and voice services to residential, business and mobile subscribers.

### Alset Corporation - [www.asetcorp.com](http://www.asetcorp.com)

601 NE 76th Street  
Seattle, WA 98115

Phone: +1 206-273-7890  
FAX: +1 206-322-1836

Alset Corporation is advancing the application of intelligent protection technologies. Pre-emptive isolation augments TVSS and grounding systems to provide complete protection against the GPR threat to remote telecommunications equipment. Optional software enables event logging and notification, remote testing and adjustment of protection parameters, and communication with a browser capable device.

### Bourns, Inc. - [www.bourns.com](http://www.bourns.com)

1200 Columbia Avenue  
Riverside, CA 92507

Phone: +1 877-426-8767  
FAX: +1 951-781-5006

Bourns is a leading manufacturer of electronic components and integrated solutions. Bourns circuit protection offering includes Thyristor and GDT overvoltage protectors resettable and telecom fuses, LFR's, magnetics as well as protection modules. Bourns also offers a line of OSP products including NIDS, CO and CPE station protectors and POTS splitters.

# Vendor Demo (Preliminary Program)



## Corning Cable Systems - [www.corningcablesystems.com](http://www.corningcablesystems.com)

P.O. Box 489  
Hickory, NC 28603-0489

Phone: +1 817-431-7310  
FAX: +1 817-431-7668

Corning Cable Systems offers a broad range of end-to-end copper and fiber optic product solutions for customers' telecommunications networks. Our customer-focused solutions include cables, connectors, related hardware, and network services that include network design, project management, installation and maintenance, equipment rental and training programs.

## Joslyn Surge Protection - [www.joslynsurge.com](http://www.joslynsurge.com)

5900 Eastport Boulevard  
Richmond, VA 23231

Phone: +1 804-236-3300  
Fax: +1 804-236-4047

Joslyn is a global leader in providing innovative technology, design, manufacturing and distribution of AC & DC power surge protection products.

## Positron, Inc. - [www.positronpower.com](http://www.positronpower.com)

5101 Buchan Street  
Montreal, Quebec  
H4P 2R9 Canada

Phone: +1 514-345-2200  
FAX: +1 514-345-2271

For the past 35 years, Positron has been providing high voltage isolation products to protect telecommunications circuits entering substations, power generating plants, cell site communications facilities and PCS sites. With its Teleline and TeleLite product lines, Positron is the only vendor to offer a complete line of copper and fiber based high voltage isolation solutions.

## RLH Industries, Inc. - [www.fiberopticlinc.com](http://www.fiberopticlinc.com)

936 N. Main St  
Orange, CA 92867

Phone: +1 714-532-1672  
FAX: +1 714-532-1885

RLH Industries, Inc. Is a world leader in fiber optic link products and engineering services for the telecommunications industry. RLH has pioneered solutions for High Voltage Isolation, PCS and Critical communications applications. Our Fiber Optic Link products are manufactured in the USA, where our manufacturing quality control is second to none.

## Sankosha Corporation - [www.sankosha-usa.com](http://www.sankosha-usa.com)

406 Amapola Avenue, Suite 135  
Torrance, CA 90501

Phone: +1 310-320-1661  
FAX: +1 310-618-6869

SAN-EARTH, the world's first conductive cement, is a permanent economical maintenance free product that dramatically lowers ground system resistance and surge impedance. Sankosha's Gas Discharge Tubes (GDT's) are well known for providing reliable equipment protection. In today's atmosphere of diversified supplier mergers, Sankosha still provides personal professional support in our niche in the GDT market.

## SNC Manufacturing Co, Inc. - [www.sncmfg.com](http://www.sncmfg.com)

101 West Waukau Ave  
Oshkosh, WI 54902

Phone: +1 920-231-7370  
FAX: +1 920-231-1090

SC features both fiber and copper based GPR protection equipment when telecommunication lines are installed at hazardous high voltage locations such as power substations, wireless transmission towers and wind farm applications. Isolation products for HDSL, T1 and Voice circuits. Pre-terminated turnkey weatherproof packages are available for PCS and substation application.

## Tii Network Technologies, Inc. - [www.tiinettech.com](http://www.tiinettech.com)

141 Rodeo Drive  
Edgewood, NY 11717

Phone: +1 631-789-5000  
Fax: +1 631-789-5063

Tii began as a pioneer of high-performance lightning and surge protection devices. Today, in addition to their legacy products, their solutions include IPTV distribution, VoIP, Network Interface Devices, and Residential Gateway Systems. These products enhance network performance and reliability and are designed for easy installation, minimum maintenance, and maximum protection.

## Trimm, Inc. - [www.trimminc.com](http://www.trimminc.com)

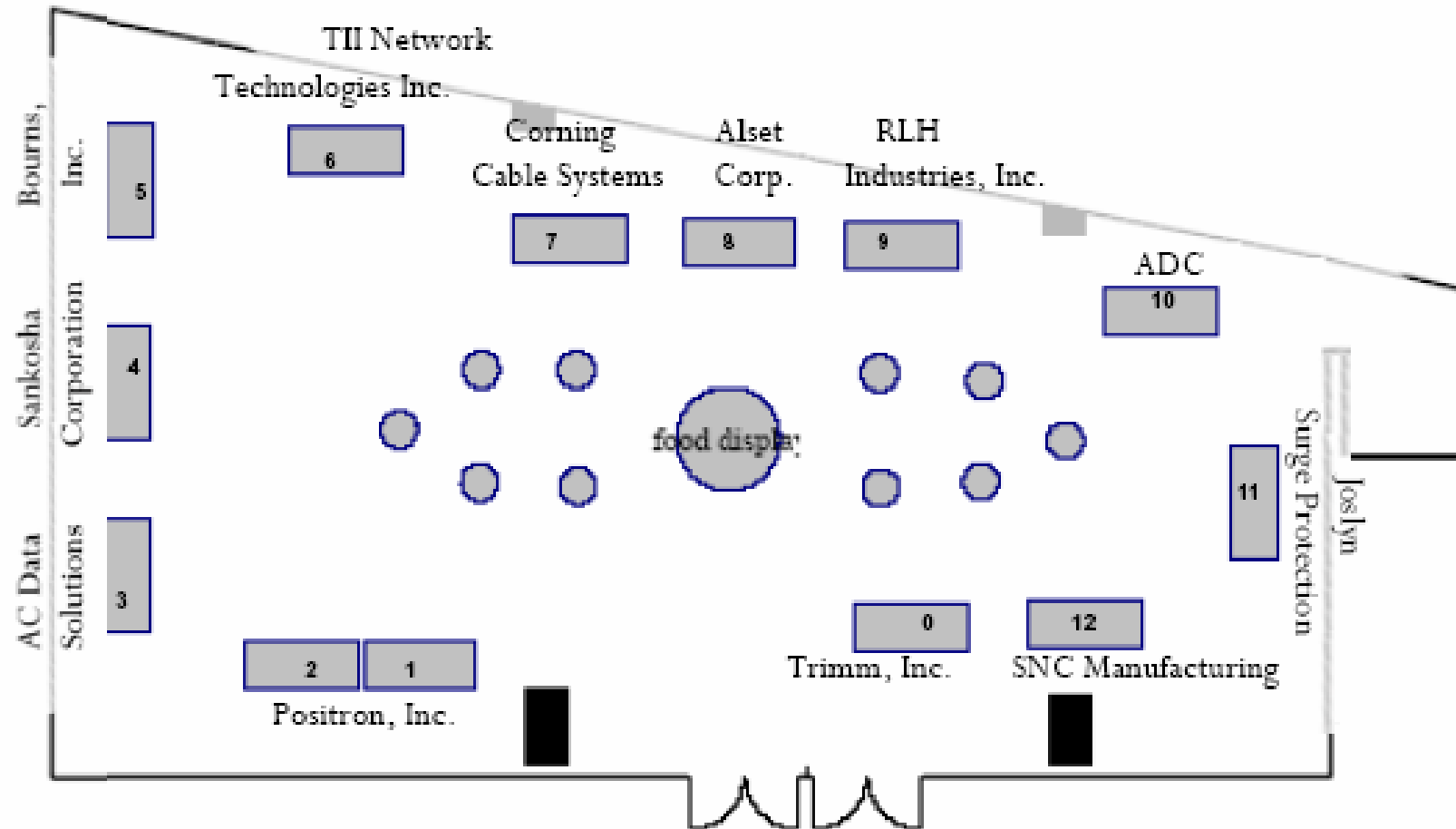
407 Railroad Street  
Butner, NC 27509

Phone: +1 919-575-6100  
FAX: +1 919-575-6200

Call Trimm to find a wide-ranging, versatile line of fuse and field-replaceable breaker panels for all your needs ranging from .18A to 125A per position. Most products are NEBS Level 3 certified ensuring they meet your highest performance standards. To purchase or specify power distribution solutions, look to Trimm.

# PEG 2008 – Vendor Demonstration -

## Roswell Room



# Registration Form

2008 Protection Engineers Group (PEG) Conference Registration Form  
February 12-14, 2008; Atlanta, Georgia -- Hosted by: ATIS  
Theme: *Putting Real into Reality*



Payment of the Registration Fee entitles each registrant to entry to the PEG Conference and Vendor Demo, food/beverages for morning/afternoon breaks, plus attendance at the Reception on Monday evening, February 11. All available presentations, and a list of meeting attendees, will be made available electronically to each registrant after the conference.

1. **▼ Last Name**  **▼ First Name**

**▼ First Name as it should appear on badge**  **▼ Title**

**▼ Company**

**▼ Address**

**▼ Room/Suite/Department**

**▼ City**  **▼ State**  **▼ Zip**  **▼ Country (if not USA)**

**▼ Telephone #**  **▼ FAX #**

**▼ E-mail Address**  **Will you be attending the Monday Reception?**  
 YES  NO

2. **PEG Status (check one):**  Member  Non-Member

3. **Registration Fee (check one below):**

\$250 (prior to January 18, 2008)	**Member Pre-Registration Fee (per person)
\$425 (prior to January 18, 2008)	Non-Member Pre-Registration Fee (per person)
\$500 (after January 18, 2008)	Member/Non-Member Registration Fee/At the Door (per person)
Gratis	Speaker. Admission is free if only attending on the day of speech. (If attending longer, speakers pay at the Member pre-registration rate.)

\*\* Individuals from member companies qualify for the member rate. For pre-registration fee to be applicable, your registration form with payment must be received prior to January 18, 2008.

4. **Method of Payment (check one):**

Check (made payable to ATIS)  American Express  MasterCard  Visa

ATIS and PEG do not support or endorse the presentations given at the conference.  
If paying by credit card, you may FAX this completed form to: +1 202-347-7125.

Confirmation of registration will be notified via email only.

2008 Protection Engineers Group (PEG) Conference Registration Form  
February 12-14, 2008; Atlanta, Georgia -- Hosted by: ATIS  
Theme: *Putting Real into Reality*



<b>▼ Credit Card #</b> <input type="text"/>	<b>▼ Expiration Date (mm/yyyy)</b> <input type="text"/>	<b>▼ V Code</b> <input type="text"/>
<b>▼ Print Name as it Appears on Card</b> <input type="text"/>		<b>▼ Authorized Signature (signature required)</b> <input type="text"/>

If sending a check, please send the completed form and payment (with check payable to ATIS) to:

Alliance for Telecommunications Industry Solutions (ATIS)  
Attn: 2007 PEG Conference  
1200 G Street, NW, Suite 500  
Washington, DC 20005

or if paying by credit card, you may FAX this completed form to: +1 202-347-7125

**Fee Policy:**

You may pre-register through January 18, 2008. The meeting fee for those who pre-register is listed on the first page. After January 18, 2008, the registration fee will be \$400.

**Cancellation Policy:**

Deadline for cancellation of the conference registration is January 28, 2008 (hotel sleeping room cancellations must be addressed with the hotel). Notification must be in writing and received by our office by that date. If you cancel before January 28, you are eligible for a 90% refund of your conference registration fee. Cancellations will not be accepted after January 28, and fees will not be refunded. Address cancellation notifications to:

**ATIS**

Attn: Meisha Goodhue  
1200 G Street, NW, Suite 500  
Washington, DC 20005  
FAX: +1 202-347-7125

**ADA Compliance:**

It is the policy of ATIS to ensure that all of our activities are accessible to qualified persons with disabilities in accordance with the Americans with Disabilities Act. If you need special accommodations to fully participate, please provide a written description and attach.

**Contact Information:**

Jean-Paul Emard  
ATIS Director, Industry Forums  
Phone: +1 202-434-8824  
E-Mail: [jemard@atis.org](mailto:jemard@atis.org)

Meisha Goodhue  
PEG Administrator  
Phone: +1 202-434-8859  
FAX: +1 202-347-7125  
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