

The Product Safety Engineering Newsletter

Vol. 2, No. 1 March 2006



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President's Message

Changing of the Guard

Welcome to another issue of the PSES newsletter. This is my second and final President's message, only because the Society is new and it takes time to develop benefits such as this newsletter, a Journal, a yearly conference, and the like. It took 18 years to create the Society. It is time to retire, turning over leadership to Henry Benitez whom I have known for nearly 24 years as a friend and professional associate. Henry will take the Society to new levels. Although I am retiring from daily administration, everyone will find me available, probably forever as a mentor, friend, and founder of PSES.

This Society will eventually become the premier professional organization for safety engineers worldwide. Success will be achieved only with participation by many. Participation includes maintaining Society membership as either an IEEE or Affiliate, subscribing to our exciting new Journal, attending our yearly conference, and participating as either a member of the Board of Directors or as a member associated with a Technical com-

mittee under the leadership of Rich Pescatore. Creating a Society from scratch was difficult, as there was no model or guidance document telling us what to do and how to do it. Getting involved at any level within a startup operation is a lot of fun.



It is my dream to watch the Society grow and prosper, eventually becoming one of the larger IEEE Societies. It will take a lot of hard work by many to achieve this goal as it is projected that about 15-20 Societies will be bankrupt and out of business by year 2010. There are those within the IEEE executive staff that support our efforts to exist, even though our membership numbers are too small to support the Society financially. Changes in the methods of technical document delivery using Xplore, a reduction in entitlements offered to engineers by employers (i.e., someone else paying membership dues), the cost to host and attend conferences, and other items associated with So-

**The
Product
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Newsletter**

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IEEE PSES Web Sites

- www.ieee-pses.org/
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- www.ieee-communities.org/emc-pstc
- www.ieee-pses.org/emc-pstc.html
- www.ieee-pses.org/newsletters.html
- www.ieee-pses.org/pses.html



ciety membership places a strain on all of us. Regardless how the social-economic situation will develop over the course of the next five years, keep this in mind, being a member of PSES is worth the cost. Knowledge learned from one technical paper may give you a professional advantage that elevates one to a higher level and may eventually end up saving your employer millions of dollars, minimizes liability, or allows faster time to market. One cannot put a price on knowledge. Professional affiliation will give one the advantage to succeed in a competitive engineering environment.

To those that have supported PSES in our first two years of existence, we thank you. Please continue to support the Society in any manner possible. Retirement looks nice but in reality, my work has only begun, and will be evident by my behind-the-scene work to keep PSES a viable entity.

Mark I. Montrose

Mark I. Montrose
President (2004-2005)

2006 IEEE Product Safety Engineering Symposium October 2006



Message from the President (2006-2007):

Welcome to year three of the IEEE Product Safety Engineering Society. It is my honor to serve as President of this Society for the next two years. First of all, I thank Mr. Mark Montrose for the outstanding contribution he has made toward setting the foundation for this Society. I will continue to rely on Mark's experience during his tenure as PSES Past-President.

This will be a pivotal year for the PSES. We have set high goals for advancement in membership, new chapter development, greater technical paper contributions, and increased attendance at our international PSES Symposium.

We have an excellent group of volunteers on our PSES Board. These members include:

Mark Montrose, Immediate Past President
Dan Arnold, Treasurer
Murlin Marks, Secretary and BoD Member
Daniece Carpenter, Vice-President Membership
Richard Pescatore, Vice-President Technical Activities
Richard Georgerian, Vice-President Conferences
Jim Bacher, Vice-President Communications
Dan Roman, Webmaster and BoD Member
Jack Burns, BoD Member
Bansi Patel, Chairman 2006 PSES Symposium and BoD Member

Continued on Page 6

Chapter Safety Probes

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Check the newsletter for updates on chapter activities (www.nepss.org). All events are published there, so keep an eye on this site.

Rochester NY Chapter

Chairman : James Shipkowski
james.shipkowski@kodak.com

Santa Clara Chapter

IEEE PSES - Silicon Valley Chapter news (website: <http://www.ewh.ieee.org/r6/scv/pses/>)
Past meeting topics and speakers:

9/27/2005 Circuit Breakers Ashley Harkness
10/25/2005 Ethics James Balassone
11/15/2005 Lithium Batteries J. Swart & C. Mikolajczak
1/24/2006 Toy Safety Steve Leitner

Next meeting topics and speakers:
2/28/2006 Arc Lamps Orin Laney

We would like to thank the outgoing (2005) Silicon Valley Chapter officers for their hard work and dedication:

Chairperson: Thomas Burke,
Vice-Chairperson: John McBain,
Treasurer: Mark Montrose,
Secretary: Gary Eldridge,

We would like to congratulate the new Officers - 2006:
Chairperson: John McBain, johnmcbain@ieee.org

Orange County Chapter

www.ieee.org/oc-pses

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Want to start a chapter? Send your contact information to Stefan Mozar and it will be included in the chapter news. If you haave chapter updates please send them to Stefan Mozar as well at s.mozar@ieee.org.

John Freudenberg, BoD Member
Ken Thomas, BoD Member (Past Chair 2005 PSES Symposium)
Ted Freeman, BoD Member
Elya Joffe, BoD Member

I also welcome Irv Engelson, member of the IEEE Technical Activities Board (TAB) Management Committee, as an advocate and mentor for our PSES Board. Irv is immediate past President of the IEEE Engineering Management Society and next year's IEEE Division VI Director. We will rely on Irv's wealth of knowledge and experience to help the PSES be successful.

The PSES, as a new Society, is designated a provisional Society. This means it must meet certain criteria before becoming non-provisional. These criteria include increase membership (1000 minimum), successful conferences, successful Journal with approximately 400 pages of peer reviewed papers per year and a financially stable budget.

I thank the PSES Board members for their excellent work in brainstorming and strategizing the future of the PSES at our Board meeting March 15–16, 2006 in Phoenix, AZ. The areas of concentration included technical activities, membership, conferences and communications. I would like to extend an invitation to all PSES members to provide feedback and ideas on how we can continue to evolve the PSES to best serve the needs of its membership and the discipline of product safety engineering.

Please enjoy this newsletter and share with anyone that may benefit from it. I look forward to relaying areas of progress as we continue the develop this exciting new Society.

Sincerely

Henry Benitez
IEEE Product Safety Engineering Society
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IEEE PSES needs Volunteers
Please contact any Board Member on page two and
discuss how you can help!

Product Safety Overview of PoE

by Maxi Tsai

Power over Ethernet (PoE) is rapidly gaining adoption in the marketplace. General applications include powering hardware for VoIP, wireless, AP, and web cameras. The chief advantages of this technology are reduced cost of network setup, elimination of power adapters, and savings in layout space.

Searching the internet yields much history and introductory material about PoE technology and applications. A simple block diagram found on TI's web site (<http://focus.ti.com/vf/docs/blockdiagram.tsp?family=vf&blockDiagramId=2021>) clearly describes the basic system application of PoE products (Figure 1). The PoE Power Source Equipment (PSE) and Powered Devices (PD) are linked together in a star network manner.

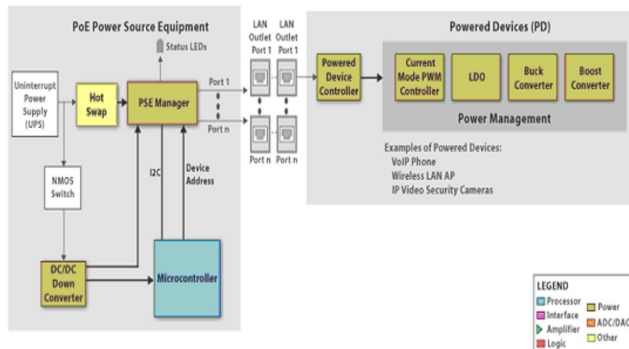


FIGURE 1

PoE product application system.

IEEE 802.3af (*IEEE Standard for Information technology—Telecommunications and information exchange between systems—Local and metropolitan area networks—Specific requirements*) defines the specifications and requirements for PoE, including the PSE and PD. The standard governs the PoE IC designer and manufacturers of these kinds of terminal products for office or home use. Most of these

products comply with the safety requirements of IEC 60950-1 (*Information technology equipment*) in addition to the IEEE standard. The following discussion also includes safety requirements of ECMA-287 (*Safety of electronic equipment*).

General Specifications for PoE Products

IEEE 802.3af tells us that a PSE is similar to a power supply with a rated output power. Output is via the typical RJ-45 connector, and CAT-5 or similar twisted cable is used to deliver power to the connected devices. A PD is a connected device which can be powered while exchanging data.

IEEE 802.3af, clause 33 states the working voltage, current, and power for PoE products, as well as the design principles for overcurrent and overpower protection circuits in PSEs (Figure 2).

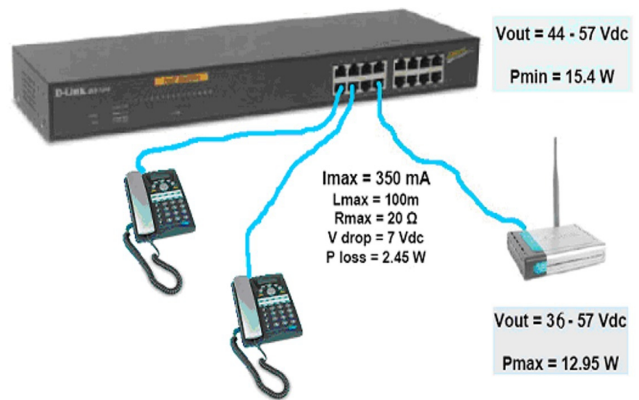


FIGURE 2

Working voltage, current, and power of PoE products.

- **Voltage** — PSE rated output voltage is 48 Vdc and can vary from 44–57 Vdc. The SELV (Safety Extra Low Voltage) requirements of IEC 60950-1 require less than 60 Vdc under normal or single-fault conditions. The PD rated input voltage is also 48 Vdc, but the allowable

voltage range is from 36–57 Vdc. The lower voltage limit for the PD is less than for the PSE because of transient voltage drop when booting up.

- **Current** — Maximum output current of the PSE is limited to 350–400 mA, a value intended to prevent excessive resistance heating of the twisted pair wires in typical CAT-5 cables.
- **Power** — Maximum output power of the PSE is limited to 15.4 W, but because of cable power loss the received power limit for the PD is 12.95 W.

PoE Product Hazards

Electric shock hazards and fire hazards should be concerns for PoE products.

Electric Shock Hazard

“Electric shock hazard results from the current passing through the human body.” The definitions are identical in ECMA-287 and IEC 60950-1 except for limits of “Touch Current.” Table 1 presents the different limits for PoE products.

energy source is classified as ES1 (Energy Source 1) according to ECMA-287, clause 3, and no protective safeguard for ordinary persons is required. This is because the working voltage at the output connector or accessible parts of the products is limited to less than 42.4 V peak or 60 Vdc under normal and abnormal conditions. The same requirements are stated in IEC 60950-1.

Additional electrical isolation requirements between LAN ports and the power interface are stated in IEEE 802.3 and IEEE 802.3af. From the safety point of view, these requirements mean functional separation for the pulse transformer. In general, when digital signals (data) are exchanged between two PCs or other network devices, say PC-A and PC-B, their “reference point” varies from PC-A to PC-B; a voltage differential exists between these two reference points.

Because of that, the digital signal from PC-A must first be converted to analog by a pulse transformer in PC-A, then delivered via CAT-5 cables to PC-B. The pulse transformer of PC-B converts the signal to digital once again. The

Output/Input 60 Vdc (SELV)	
ECMA-287 (Table 3.1)	IEC 60950-1: 2001 (Table 5A)
No limitation for All equipments	0.25 mA for all points with accessible parts and circuits not connected to protective earth
	0.75 mA for handheld equipment points connected to main protective earthing terminal (if any)
	3.5 mA for all points connected to main protective earthing terminal (if any)

TABLE 1

Touch current limit in ECMA-287 and IEC 60950-1:2001.

For PoE products compliant with IEEE 802.3af, electrical isolation between mains and SELV (<42.4 V peak or 60 Vdc) circuits is provided in the internal/external power supplies. The

main purpose of these transformers is to isolate the transient voltage from LAN ports and provide protection for devices. Additionally, the transformers filter noise generated in the process of data exchange between devices. This aspect is excluded from our discussion.

The relationship of dc current and human body resistance can be obtained from IEC TR60479-1 (*Effects of current on human beings and livestock*). In Annex C we find that the human body's resistance is 1500 ohms against SELV (60 Vdc), and frequency is ignored due to the dc voltage. The touch current requirement is not mentioned in ECMA-287, and it may need to be considered for PSEs.

Fire Hazard

IEC 60695-1-1 (*Guidance for assessing the fire hazard of electrotechnical products - General guidelines*) distinguishes between "fire hazard" and "fire risk." Fire hazard is "the potential for injury or loss of life and/or damage to property by a fire." Fire risk is "the probability of a fire."

ECMA-287, clause 4 says, "Electrically-caused fire is electrical heating followed by ignition. Such risk of ignition may result from excessive fuel temperature resulting from overload, component failure, loose connection, arcing, etc."

IEC 60950-1, clause 0.2.3 tells us, "Risk of fire may result from excessive temperatures either under normal operating conditions or due to overload, component failure, insulation breakdown or loose connections."

Arcing due to high voltage and excessive power consumption may cause fire hazards. Component failure is one of the major concerns in safety standards, and it is the major concern in office IT equipment. That is the root cause of fire hazards in office ITE. Lowering the potential for electrical failure minimizes the possibility of fire hazard. If there is fire ignition within IT equipment, appropriate fire enclosures will reduce fire spreading from the equipment.

Limited Power Source (LPS), components with proper flammability rating, and Fire Enclosures are typically used in IEC 60950-1 and ECMA-287 to reach the goal of minimizing the possibility of fire hazard. LPS devices for Ethernet must be evaluated for compliance with

requirements. IEEE 802.3af requires that overcurrent and overload protection circuits be provided for the output connectors of PSE. That prevents the PD from drawing more than 12.95 W from the source when faults occur in the PD.

The overload protection circuits of PSE shall act within 75 ms to eliminate the output of power. In Figure 3, which depicts the protection of PSE, "T_{cut}" means the activation time interval of the overcurrent protection. More details can be found in IEEE 802.3af, Figures 33C.4 and 33C.6.

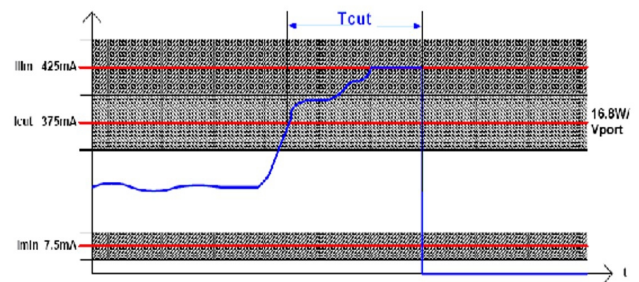


FIGURE 3

PoE overload protective mechanism. (*All You Need to Know About Power Over Ethernet (PoE) and the IEEE 802.3af Standard*: Galit Mendelson, PowerDsine proprietary information, June, 2004.)

The output power of Ethernet PSE is rated as 15.4 W, which exceeds the telecommunication network requirement of 15 W. Similar requirements are mentioned in ECMA-287, where PSE is classified as PS1 (Power Source Class 1). It means the fire risk has to be evaluated.

Many ITE peripheral devices, such as external CD/DVD ROM or hard drive, keyboard, and mouse are intended to be connected to PCs or laptops via IEEE 1394, USB, or PS/2 ports. Now it is becoming possible to connect via LAN ports with typical RJ-45 connectors. Most of these products, such as IP phones, wireless AP, and web cams, employ only HB flammability plastic enclosures because they are designed to be supplied by LPS. Consequently, the output of a PSE shall be evaluated for compliance with LPS requirements in IEC 60950-1 or ECMA-

287 PS2 (Power Source Class 2) under normal or abnormal conditions.

The UL PAGOS (*Practical Application Guidelines Online Service*) for IEC/UL 60950-1 can be a reference for conducting the relevant tests. With confirmation of LPS status for PSE output connectors, fire risk is minimized.

Additional abnormal operation for PSE has to be considered per IEC 60950-1, clause 5.3.6 and 5.3.8, and ECMA-287, clause 4.3.6. Relevant components in the PSE shall be short-circuited, disconnected, or overloaded. Output connectors which deliver power or signal outputs also must be overload-tested. This is to ensure that the risk of ignition will not occur due to excess power consumption within PSE and PDs, and to assure the efficacy of employed electrical insulation.

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<http://pdfserv.maxim-ic.com/en/an/AN1168.pdf>
8. UL PAGOS for IEC/UL 60950-1:
<http://data.ul.com/pagos>

Maxi Tsai (PSES Taiwan Chapter) works in the D-Link regulatory group and is responsible for D-Link product lines such as wireless, LAN, switching, VoIP, and PoE Switch. In September 2005 he joined UL Taiwan as Designated Engineer of the NWGQ product category and responsible to serve local customers from IT industry-wide. Questions about this article should be directed to Maxi Tsai at maxi.tsai@tw.ul.com.

Conclusion

This discussion has focused on a safety overview. EMC testing shall also consider the CAT-5 cable conducted emission.

It is unclear why different Touch Current limits exist in IEC 60950-1 and ECMA-287 while the rated output voltage of PSE complies with SELV requirements.

Most Ethernet PDs employ plastic enclosures having HB flammability. Therefore, LPS evaluation shall be carried out on PSE output connectors to reduce the possibility of fire hazard.

When the LPS test is conducted on PSE, the PoE IC is usually treated as a regulating network. The single-fault condition is reached by short-circuiting the PoE IC, which for the most part disables the regulating function of the PoE IC. Is it proper to do that? It seems that we are conducting the LPS test directly on the 48 Vdc output of the power supply.

Technically Speaking

**Watch this space for the return of
Rich Nute's column!**



Advantages of Membership in the IEEE PSES

Makes you part of a community where you will:

- Network with technical experts at local events and industry conferences.
- Receive discounts on Society conferences and symposiums registration fees.
- Participate in education and career development.
- Address product safety engineering as an applied science.
- Have access to a virtual community forum for safety engineers and technical professionals.
- Promotion and coordination of Product Safety Engineering activities with multiple IEEE Societies.
- Provide outreach to interested engineers, students and professionals.
- Have access to Society Publications.



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Membership: The society ID for renewal or application is "043-0431". Yearly society fee is US \$35.

UL Standards Technical Panels

UL STPs: What You Should Know

Expansion of Interest Categories on UL's Standards Technical Panels Improves Balance and Introduces Opportunities for New Members

By Sonya Bird

Underwriters Laboratories Inc. has been developing standards for safety for more than 100 years, with the first UL standard covering tin-clad fire doors published in 1903. During the century following publication of that first standard, UL has established formal procedures for developing its standards for safety, and has revised its standards development process as needed. The most significant change has been introduced within the last few years, as UL has organized and implemented Standards Technical Panels (STPs) for most UL standards. This article explains the nature and function of an STP, the role of STP members, STP membership categories, and STP membership opportunities.

The UL Standards Technical Panel

UL Standards are developed under a procedure that provides for participation, review, and comment from groups representing a broad range of interests including industry, government, insurance groups, consumers, other interested parties, as well as the general public. This procedure takes into consideration the needs and opinions of a wide variety of interests concerned with the subject matter of the standard.

Most UL standards are recognized as American National Standards, or ANSI standards. ANSI/UL Standards are developed and reviewed through the UL Standards Technical Panel (STP). An STP is a balanced group of individuals representing a variety of interest categories formed to provide input on UL standards such as offering proposals and reviewing and balloting proposals. The group may also meet to discuss UL standards-related issues. The STP serves as the consensus body to review and vote on proposals prior to publication.

Currently, there are 319 STPs, many of which cover multiple standards. UL has formed STPs to cover a broad spectrum of standards scopes—from fire protection interests such as smoke detectors or fire extinguishers; to electrical categories such as transformers or computer equipment; to areas of renewable energies such as fuel cells or photovoltaic equipment; to the very unique marine categories such as Personal Flotation Devices (PFDs). Not all of the more than 800 UL standards for safety are currently covered by STPs, and additional STPs continue to be formed.

Each STP is responsible for a standard or group of standards in a related field. UL staff members serve as STP chair and STP secretariat, both non-voting positions, in order to facilitate standards development and to ensure that proper procedures are followed.

Responsibilities of STP Members

The STP develops proposals and reviews and ballots all proposals, including those generated by others, for the standards assigned to it. The STP may also meet to discuss UL standards-related issues, such as to discuss proposals that are being considered, or to resolve comments submitted on proposals. Membership requires regular and active participation. STP members are responsible for:

- Reviewing proposals, and submitting comments and ballots in a timely manner;
- Participating on task groups;
- Developing proposed changes to the Standard, complete with rationales and proposed text changes to the standard where appropriate;
- Preparing draft responses to comments received on proposals submitted.

STP members are encouraged to participate in STP meetings and task group meetings as appropriate, but meeting attendance is not required. With respect to meetings, each STP member is responsible for being prepared, including reviewing the agenda prior to the meeting, and for participating in the discussions at the meeting. Although no official ballots occur during an STP meeting, the STP may discuss options and define future direction of the standard or standards.

Above all, STP members are encouraged to appreciate that the STP process is one of compromise and consensus, not of winning and losing. Together, many individuals form a strong STP capable of developing better standards than would have been developed by one individual. An STP member may be removed from a panel for consistent lack of participation, including failure to return ballots.

Eight is Enough - STP Membership Categories

UL had implemented the concept of a Standards Technical Panel with three distinct panel membership categories: User, Producer, and General Interest. UL's procedures required that no single category comprise more than 50 percent of the STP.

This structure has proved workable, but UL strives for a better balance of members, working towards having no single category comprising greater than one-third of an STP. With only three categories in place, it has been nearly impossible to attain and maintain the desired balance. To be balanced to a point where no single interest category comprises more than one-third of the STP requires the same number of participants from each category. For some STPs, attaining and maintaining balance has been a juggling nightmare.

Therefore, UL recently revised its *Regulations Governing ANSI/UL Standards Technical Panels*, the ANSI-approved procedures defining UL's process, to allow for eight STP membership categories. The stated balance rule remains the same—no single category should comprise more than 50 percent of an STP. However, UL will continue to strive to form STPs with no membership category comprising more than one-third of the panel. (Although eight separate STP membership categories exist, not all eight need to be represented on every STP.)

Under the new system, members of the STP will be classified according to the following interest

categories:

- Authority Having Jurisdiction
- Consumer
- Commercial/Industrial Users
- General Interest
- Government
- Producer
- Supply Chain
- Testing and Standards Organization

We Want You! - STP Membership Recruitment

STPs are open, consensus bodies, so UL is always looking for qualified participants. Given the movement from three membership categories to eight, UL STP chairs and project managers are working to reassign current STP members according to the new category designations. Now is a great time for those not involved in a UL STP to apply for membership.

UL is looking to increase membership in all categories except for producers. Several outreach initiatives are under way to improve balance on various STPs. UL is turning to trade associations and professional societies, as well as individuals involved in the STP process, to help identify qualified representatives in any of the identified categories. Many STPs particularly need AHJ and consumer representatives, and UL is working hard to identify potential members in these areas.

IEEE PSES members have shown an active interest in product safety by virtue of membership in PSES. UL welcomes PSES members to apply for STP membership. UL also encourages PSES members to use their contacts to help identify other potential candidates. Good candidates include retired IEEE or PSES members, or other retired colleagues, who may be interested in promoting public safety through UL standards development.

Please note that membership is on an individual basis, meaning that an organization is not automatically able to replace a representative if that person leaves the organization or sees a change in job responsibilities. Furthermore, if an individual leaves an organization, that person is not automatically maintained as a member. In both cases, new membership applications need to be completed.

There are no membership fees or dues associated with UL STPs. Anyone interested in membership on one or more panels is encouraged to complete an STP application. Go to <http://ulstandardsinfontet.ul.com> for more information, or contact Deborah Prince by phone at 919-549-1460 or email at deborah.r.prince@us.ul.com.

Sonya Bird is a senior staff engineer in UL's global standards department, where she coordinates harmonization activities and serves as chair for several STPs. She holds a BSEE from North Carolina State University.

SIDEBAR

UL STP Membership Categories

Producer: Those who produce the products covered by the standard, hire other contract manufacturers to make products to their own specifications, and, in some cases, consultants.

Supply Chain: Component producers for an end-product STP or end-product producers for a component STP; installers; distributors; and retailers. Manufacturers of the products covered by the standard and any others that meet the definition of producers are considered producers and are not eligible for STP membership under this interest category.

Commercial/Industrial User: Representatives of organizations that use the product in a commercial or industrial setting. Examples include a restaurant owner/operator serving on an STP for commercial cooking equipment, or a gas station owner/operator serving on an STP for flammable liquid storage tanks. Representative of organizations that manufacture products covered by the standard, whose organization also use the product, are not eligible for STP membership under this category.

General Interest: Consultants, academia, scientists, or others who are not covered by the other participation categories, such as professional societies, attorneys, and safety experts and trade associations.

AHJ: Those involved in the regulation or enforcement of the requirements of codes and standards at the state and local level. Where public safety is primary, the authority having jurisdiction may be a state, local, or other regional department or individual such as a fire chief; fire marshal; chief of a fire prevention bureau, labor department, or health department; building official; electrical inspector; or others having statutory authority. For insurance purposes, an insurance inspection department, rating bureau, or other insurance company representative may be the authority having jurisdiction.

Government: Representatives from federal agencies. These may include CPSC, FDA, EPA, DOT, DOE, DOD, NIST, or other government body. Also, representatives of state, local, or regional government bodies that do not fall under the category of AHJ.

Testing and Standards Organization: An individual from an organization that tests and/or certifies products covered by the standard, or that develops standards/codes related to the products covered by the Standard.

Consumer: Consumer organizations, consumer departments at universities, home economic departments at universities, professional consumers, individuals who use the product as part of their livelihood and are not eligible for STP membership under another interest category.



IEEE PSES Membership savings

UL University Offers IEEE PSES Members 15 Percent Discount

UL University (ULU) has established a discount code which will provide all IEEE-PSES members with a 15 percent discount off the price of all ULU instructor-led workshops, online programs, videos, books, and other services/products offered under the ULU brand. The discount is automatically applied during registration or purchase of ULU products. Registration or product purchase can be accomplished online at www.uluniversity.com or by calling 888-503-5536 in the U.S. or the country-specific number posted on the ULU website.

To receive the discount, members must enter or mention the discount code found in the Members Only section of the PSES website.

If you or any member has specific questions regarding ULU products or services, please call or email me or call the local country specific number posted on the UL University website.

Tony Robertson
Manager –Customer Training

2005 AUGUST INDUSTRY-WIDE INVITATION

Date: 2005-08-27
Time: AM 11:30 - PM 2:30
Location: DELL, TDC

Session 1:
 Networking
 AM 11:30 - PM 12:30

Session 2:
 Technical Presentation
 PM 12:30 - PM 2:30

Topic 1: Hazard-Based Safety Standard

Topic 2: Radiation Hazard in the Great Technology War

Hazard-Based Safety Standard

...(Electric Shock Hazard)...to determine the minimum clearance. The transient voltage from "external circuits" e.g. outdoor antenna system is not taken into account in IEC 60950-1 but, in ECMA 287, 10/700 μ s waveform with 1.5 kV peak voltage should be used for determination testing. The testing applicable to telecommunication network connections in the draft hazard-based standard and TC 108 expects 4 kV peak transient voltage if equipment is connected to a coaxial cable, 5 kV peak for power fed repeaters and 10 kV from outside antenna system connections. Additionally it maybe needed to define external circuits outside the building. Tables 2a, 2b and 2c shows transient voltages used in difference circuit connection. They should be used as initial charge voltage in impulse generator of transient voltage... (Mechanical Hazard)... Imploding and exploding are considered in practical application of high pressure lamp e.g. CRT. Clauses 4.2.8 and 4.2.9 in IEC 60950-1 are used in ECMA 287 for non-intrinsically pro-

TECTED picture tube and IEC 62965 should be used to evaluate intrinsically protected CRTs. Parts or solid media which may be separated or thrown from a rotating part is additionally considered in the hazard-based standard draft by TC 108. 8000 rpm is considered as the limit to cause a hazard if solid media directly mounted on such rotating capable drivers. Mechanical enclosures provided shall be constructed to bear the static force, $m v^2 / R i \dots$

Radiation Hazard in the Great Technology War

...(Microdisplay Projection Technology)...Two major categories include those that shine the light through panels which either block or transmit light to create an image (transmissive) such as amorphous LCD (AM-LCD) and high-temperature polysilicon LCD (HTPS-LCD), and those that reflect the light off of a surface like a mirror (reflective) like Texas Instruments' digital light processing (DLP™) and liquid crystal on silicon (LCoS). They essentially consist of... (Estimation of UVR Irradiance) ...Our eyes are designed to detect a small portion of the elec-



Photo 1 - Audience in technical session



Photo 2 - Technical presentation in August activity

Chapter Chair Note:

- Zenon Wang -

"Industry-Wide Invitation," I like to name the activity. It is not only to share the safety knowledge but also provides a chance to promote Taiwan Chapter to Industry-wide.

Taiwan Chapter likes a new born baby, it excite to try every interesting task and looking forward to recognized by Industry-wide. We hope that the activity could be hold regularly and be a beginning of a professional platform that able to delivers safety standard update and useful worldwide safety news.

Taiwan Chapter should be a platform that connect Taiwan with worldwide communities.

Officer Contact:

Zenon_Wang@ieee.org
 Maurice_Wu@ieee.org

tromagnetic spectrum – visible light region which ranges in wavelengths from about 380/400 nm to 700/780 nm depending upon which source is used, and also depends on the sensitivity of a specific persons eyes. However, excessive UV and IR (Infrared, often referred as heat) may possibly damage the DMD chip in accordance with the recommendations specified by TI... Somehow, the projector engineers and safety engineers are aligned in a common end – to interpose safeguards...

ONE DAY SEMINAR PLAN...

Taiwan Chapter estimates the possibility to hold an one day seminar in end of 2005 or 2006 early. In this seminar, temporarily, there are two primary session to present the knowledge in safety standard, one is focus on hazard-based standard in current development and the

other one will introduce the basic safety standard called "human-factor". In hazard-based safety session, presenter will discuss the detail of each clause. Several safety standard e.g. IEC TR 60479-1, IEC 60825-1, IEC 61140, IEC 60664-1, EN 563, etc are planned to

introduce in session of "human-factor." These two session will be hold separately and locate in different room. We will discuss the necessary logistic, estimate the cost and looking for at least 5 voluntary lecturers who familiar to related topics. Also, we are looking for possible sponsorship.

Origin of the PSES Logo

Origin of the PSES Logo

by Jim Bacher

Those of you new to the IEEE Product Safety Engineering Society you might wonder where our PSES logo came from. It started back in 2004, when the IEEE PSES Board of Directors asked people to submit ideas for a logo. We received 25 different logos from all over the world. To keep it fair, we did not identify those who submitted the logos.

On February 11, 2004 we set up a poll on the Community site to provide for voting on the candidate logos. During the first round, 12 of the logos did not get any votes. We had two rounds of voting, but by the end of the first round it was clear which logo would be the winner. For the second round, six logos competed. The winning logo had 58 percent of the votes. There were two runner-ups, each with 13 percent of the votes.

The winner was actually a team rather than a single person. The team members are in China as well as the U.S. Below are the members of the team that Siemic put together and the parts they played in the team.

Qinhui Ma (Core logo designer)

Jeff Jin (Suggest to participate the logo contest)

Leslie Bai (Propose to use Qinhui's core design)

Hongya Zhang (Finalize PSES Logo)



After the logo was chosen by the members, the IEEE PSES Board of Directors asked that it be converted to a higher resolution for publishing purposes. We had Mel Berman and Associates enhance the image. While they worked on it, Mel suggested that we modify the colors slightly to the ANSI Standard Safety Colors. We agreed, and the PSES logo was finalized in the ANSI safety colors.

Jim Bacher
IEEE PSES Vice President–Communications





2006 IEEE Symposium on Product Safety & Compliance Engineering



Sponsored by the IEEE Product Safety Engineering Society
Irvine, Southern California, 23-24 October 2006

Call for Papers, Workshops, and Tutorials

The IEEE Product Safety Engineering Society seeks original, unpublished papers and tutorials on all aspects of product safety and compliance engineering including, but are not limited to:

- **Products:** Consumer, medical, computer (IT), test and measurement, power supplies, telecommunication, industrial control, electric tools, home appliances, cellular and wireless, etc.
- **Safety Subjects:** Electrical, mechanical, fire, thermal, chemical, optical, software, functional, reliability, etc.
- **Components:** Grounding, insulation, opto-couplers, capacitors, transformers, current-limiters, fuses, power line filters, ferrite, environmental, electromagnetic emissions, electromagnetic immunity, regulatory, etc.
- **Certification:** Product safety, electromagnetic emissions, electromagnetic immunity, environmental, processes, safety testing, regulatory, etc.
- **Standards activities:** Development, interpretations, status, interpretations, country requirements, etc.
- **Safety research:** Body physiological responses to various hazardous energy sources, unique safeguard schemes, etc.
- **Environmental:** RoHS, WEEE, EuP (Energy-using Products), Energy Star, Packaging Directives, REACH (Chemical), etc.

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Dan Roman
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At-Large Members
Jack Burns
Daniece Carpenter
Elya Joffe
Henry Benitez
Ken Thomas
Bob Latouche
Paul Herrick

Technical Paper Formats

Papers	Informal e-paper, workshop, or tutorial (e-presentation)	Formal e-paper, workshop, or tutorial	
		(e-publication version)	(e-presentation version)
Format:	Presentation (typically PowerPoint)	IEEE Xplore® PDF	Presentation (typically PowerPoint)
Acceptance document:	Draft e-presentation	Draft e-paper	none
Acceptance review:	Suitability review	Formal peer review	none
Proceedings CD:	No	Yes	No
Symposium CD:	Yes	No	Yes
Presentations:	20, 40, or 60 minutes	n/a	20, 40, or 60 minutes
Workshops and Tutorials	2 or more hours	n/a	2 or more hours
Media:	Personal laptop or symposium-provided computer	n/a	Personal laptop or symposium-provided computer
Presentation mode:	Video projector	n/a	Video projector

Author's Schedule

Event	Informal e-paper (e-presentation)	Formal e-paper	
		(e-publication version)	(e-presentation version)
Intent to present and topic:	28 Apr 06	28 Apr 06	28 Apr 06
Draft e-paper:	26 May 06	26 May 06	26 May 06
Notification of acceptance:	30 Jun 06	30 Jun 06	30 Jun 06
Begin peer review:	n/a	07 Jul 06	n/a
Completed peer review:	n/a	11 Aug 06	n/a
Completed e-paper:	25 Aug 06	25 Aug 06	25 Aug 06
Speaker registration:	25 Aug 06	25 Aug 06	25 Aug 06

www.ieee-pses.org/symposium

2006 Call For Symposium Papers continued

Formal and informal papers and presentations: A formal paper is prepared according to IEEE publication standards and is peer-reviewed. Formal e-papers are published as the official proceedings of the Symposium. A formal paper is accompanied by an e-presentation version of the paper.

An informal paper is an e-presentation only (usually in PowerPoint), and is reviewed by Symposium staff for suitability. E-presentations are published, but are not included as official proceedings.

Workshops and tutorials are also available. A workshop or tutorial is a hosted longer time slot with either a single speaker (tutorial) or multiple speakers (workshop) on related topics.

Both formal and informal presentations may include demonstrations, visual aids, animations, pictures, video, etc., which are highly encouraged.

Paper acceptance: Acceptance of a formal paper, informal paper, workshop, or tutorial is based on the draft e-paper or e-presentation. Drafts of formal e-papers are peer-reviewed by select members of the IEEE Product Safety Engineering Society. Acceptance is based on:

Importance of Topic: Does the subject matter have direct significance to the safety community and/or any aspects of product safety engineering?

Technical Sophistication and Depth: Does the paper, workshop, or tutorial present information that is of a significant contribution, advancement, application or refinement in the state of the art? Does the presentation expose the reader to a higher knowledge level than currently available from other sources?

Readability, Clarity and Presentation: Is the objective of the submission clearly defined? Is the material written in a clear and concise fashion, in proper English, and with topics presented in a logical and organized manner?

Novelty and Originality: Does the paper propose a new and unique aspect of product safety engineering, or clarify or expand on an existing premise from a unique point of view?

Drafts of informal papers (e-presentations) are reviewed by Symposium staff for suitability of the subject in context of the topics listed elsewhere in this Call for Papers.

If the draft e-paper is accepted, the author or presenter and organizers must pre-register for the symposium no later than August 25, 2006. Failure to pre-register by the due date will be cause for the paper to be withdrawn from being presented and published in the conference proceedings.

Paper format: Formal e-paper must be prepared and submitted in IEEE Xplore® PDF format. See <http://www.ieee.org/confpubcenter> for details on the submission format. Paper format can be checked by the IEEE web-based tool to at <http://216.228.1.34/pdfexpress/log.asp>.

E-presentations, both formal and informal, usually are in PowerPoint for presentation, and converted to PDF for publication. An e-presentation should include both the IEEE logo and the PSES logo on the opening and closing pages.

Paper schedule: Prospective authors, workshop organizers, and tutorial organizers should submit an "intent to present" e-mail (or e-mail attachment) describing the title, topic, objective, synopsis of the paper, expected duration of the presentation, and the type of paper, i.e., formal paper, informal paper, tutorial, or workshop. The "intent to present" is used for preliminary organization of the technical program, and to provide some initial feedback to the author on the paper and its position in the technical program. The "intent to present" does not commit the author or organizer to the paper or session. However, the "intent to present" will be taken as a strong indication that the paper or session will take place; the symposium will hold a place for the paper pending the draft e-paper and acceptance.

Receipt of the draft e-paper is taken as a commitment to present the paper at the Symposium. The Symposium schedule will be developed after receipt of all e-presentations.

Prospective authors are encouraged to submit before the due dates.

Presentation:

All papers and presentations must be orally presented at the Symposium by the author or by his designated presenter.

Paper submittal:

All communications, including "intent to present," draft e-paper, and completed e-paper should be sent to the Chairman of the Technical Program, Richard Nute, richn@ieee.org

Richard Nute
Chairman, Technical Program 2006 IEEE PSES Symposium
San Diego, California, USA

Tel/FAX: +1-858-592-2620

e-mail: richn@ieee.org

IEEE Member-Get-A-Member Program

When you experience something good, you want to share it with others. It's the natural thing to do.

This is the idea behind the IEEE **Member-Get-A-Member (MGM) Program**. Most members know how beneficial IEEE membership is in their professional lives and what it has meant to their technical and career development. With this campaign, IEEE members themselves can get the word out about IEEE's membership benefits.

Beginning 1 September 2005 and running through 15 August 2006, the IEEE will conduct the MGM Program to encourage members to recruit their colleagues to join IEEE. In return, the person who recruits a member will earn a US\$5. credit voucher for each member recruited. The voucher can be used toward 2007 IEEE dues, IEEE Society fees, or the purchase of IEEE products and services.

Rules of the Program

- IEEE members may recruit members above the grade of Student for the MGM program. Society affiliates, non-members and past members are not eligible. *See MGM Recruiting Tips below.*
- Completed applications, with full dues payment, must be submitted with the recruiter's name and membership number—both are required—in the recruiter box on the prospective member's application.
- Applications received without a recruiter's membership number will be disqualified, and there will be no retroactive qualifying of recruiters.
- The MGM Program may not be combined with other membership incentive programs such as discounted Society conference promotions.
- Applications may be submitted in hard copy or online. To request a hard copy application, please send your request (with your fax number and/or mailing address) to application-request@ieee.org.
- Prospective member applications must be received at IEEE before 15 August 2006. Cash award vouchers will be mailed to qualified recruiters prior to 1 October 2006 and will be valid through 31 December 2006.

MGM Recruiting Tips

- 1 Invite at least one non-member colleague to attend an IEEE Section or Chapter meeting.
- 2 Follow up a discussion about IEEE membership with a note emphasizing membership benefits; be sure to provide an application.
- 3 Have IEEE membership applications available for prospective recruits.
- 4 Keep issues of IEEE Spectrum and Society publications on display to attract the eye of non-member employees.
- 5 Publish an article in your company newsletter telling how the IEEE helped you in your career or helped the company.
- 6 Post announcements of IEEE meetings and IEEE conferences, seminars, and educational programs on company bulletin boards.
- 7 Welcome your company's newly hired technical employees and use the opportunity to discuss the benefits of IEEE membership.
- 8 When discussing membership with a prospect, listen for clues as to what they look for in a professional society. Stress those member benefits that meet their needs!
- 9 Suggest they check out the IEEE Website and apply online. Whether your recruit applies using a hard copy or online, make sure they fill in your name in the recruiter box with your membership number to become eligible for this program.
- 10 Coordinate an IEEE event at your place of employment.

For more information about MGM, contact Dyana Barnosky of IEEE Membership Development at d.barnosky@ieee.org.

News and Notes

Society

■ **Society Statistics:** By the end of November 2005, the IEEE Product Safety Engineering Society had 532 full members, including about 25 percent outside the United States. Ten Chapters (including three international chapters) are active in their regions. However, Technical Chapters are still under formation.

■ **2005 IEEE Symposium on Product Safety Engineering was held in Schaumburg, IL on 3–4 October 2005.** (See article for details.)

■ **Henry Benitez is elected as Product Safety Engineering Society president for the next two years.** Jack Burns, Murlin Marks, Rich Pescatore and Ken Thomas were elected to the board of directors of the PSES.

■ **IEEE launches Member-Get-A-Member (aka. MGM) Program.** Recruiter will be awarded \$5 credit voucher for each recruit. (See below for details.)

■ **UL University Offers PSES Members 15 percent Discount.** The discount code can be found in the Members Only section of the PSES website. (See below for details.)

What's new

■ **Created in 1906, IEC has launched several projects to celebrate its 100th anniversary.** Among all of these projects, one is in partnership with IEE, IEEE and VDE, to call for the papers about the economic, business, and social impact of International Standards. (See www.iec.ch/100years.)

■ **Kenya—represented by KEBS, and Indonesia—represented by BSN, joined IECEE, the IEC System for Conformity testing**

and Certification of Electrical Equipment. The total membership of IECEE becomes 44 now. (See www.iecee.org/html/whatsnew.htm.)

■ **CQM of China is recognized as ExCB within the IECEx scheme.** Three Chinese testing labs—CQST, NEPSI, and PCEC are recognized as ExTL under CQM. (See www.iecex.com/bodies.htm)

■ **The Low Voltage Directive (LVD) 73/23/EEC has been amended to modernize the text in order to deal with new risks that were not foreseen at the time of its adoption.** The LVD is one of the oldest Single Market Directives and has been published for 30 years. The current consultation closed on 14 October 2005. (See http://europa.eu.int/comm/enterprise/electr_equipment/lv/direct/lvdconsult_en.htm.)

■ After TÜV Nord, TÜV Hannover Sachsen-Anhalt, and RW TÜV finalized their merger, the landscape of these oldest technical inspection organizations in Germany has been changed. At this moment, three groups—TÜV South, TÜV Nord and TÜV Rheinland are operating under the name of TÜV independently.

Notes

■ **Richard Nute has recently retired from Hewlett Packard in San Diego.** In the IEEE PSES, Rich is well known as author of “Technically Speaking,” a regular column of the *Product Safety Newsletter*. Rich has been involved in the field of product safety since 1973. After his retirement, Rich will remain as a society member. He can be reached at richn@ieee.org.



■ **WANTED All society members** are looking forward to hearing from you. Please send your news and notes to Lingfeng Chen at clf@ieee.org. As for Chapter updates, please contact Stefan Mozar at ccmlma@yahoo.de.

■ **IEEE Member-Get-A-Member Program** When you experience something good, you want to share it with others. It's the natural thing to do. This is the idea behind the IEEE Member-Get-A-Member (MGM) Program. Most members know how beneficial IEEE membership is in their professional lives and what it has meant to their technical and career development. With this campaign, IEEE members themselves can get the word out about IEEE's membership benefits. Beginning 1 September 2005 and running through 15 August 2006, the IEEE will conduct the MGM Program to encourage members to recruit their colleagues to join IEEE. In return, the person who recruits a member will earn a US\$5. credit voucher for each member recruited. **See Details on Page 22.**

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We are looking for Product Safety Articles!

Please send proposals for articles to:

Gary Weidner
Editor, IEEE PSES PSE Newsletter
GW Technical Services Inc.
2175 Clarke Drive
Dubuque, IA 52001-4125
phone = 563-557-0717
fax = 563-557-0725
e-mail = gweidner@ieee.org

Volunteers Needed!

READER COMMENTS

Gentlemen,

Hallelujah! I've come home! Your editorial [in issue #1] is exactly on the mark.

I live and work in Canada's industrial heartland. I graduated from Sheridan College in Toronto in 1985, and I can tell you that they had absolutely nothing in our program dealing with product safety. In the last year one of my nephews graduated from the University of Waterloo as a Chemical Engineer and he had absolutely no safety training as part of his honours program. Waterloo is one of the top engineering schools in Canada.

Currently I work for an accredited Certification and Inspection Body based in Toronto. We also have an accredited electrical safety laboratory and hazardous locations laboratory. My work involves engineering safety reviews for all sorts of industrial machinery as well as CE marking

for the same equipment. I have a working knowledge of Canadian, U.S., and European standards and I come from a machinery design background, on the control system side.

The near absolute lack of knowledge among product designers and engineers frustrates me daily. I spend a large part of my time educating my clients about standards and design methodologies that are required to meet even the most basic safety requirements. It is clear to me that something must be done, and I want to be part of the solution.

The creation of the PSES is very timely. I joined IEEE specifically because of this society and I am currently volunteering on the TAC....

Doug Nix, A.Sc.T.

IEEE PSES, Waterloo Region, Canada

2006 IEEE Product Safety Engineering Symposium October 2006



EDITORIAL

The previous issue of this newsletter offered an editorial commenting on the apparent lack of product safety material in engineering school curricula. (See Doug Nix's response letter in this issue.) The demographics of the attendee population at our Chicago Symposium seem to provide more anecdotal evidence—attendees appeared to mostly be in the 40-and-up age range, with virtually no one below 30.

It's possible to construct more than one explanation for that, but it seems likely that product safety is something engineers typically haven't gotten involved with until they've been around for a while. And quite possibly a prime reason for that scenario is that as budding engineers are working their way through academic curricula, product safety never even appears on their radar screens. They aren't even aware of it as an engineering concept.

Enter the PSES? Perhaps the first step is taken. Member Jack Burns is developing a letter to go from the PSES to the deans of engineering schools, inviting academic participation in the PSES. In the draft of his letter, Jack hints at the possibility of the PSES developing a course module on product safety that could be included in a design course.

As Jack comments, that module could be the basis for further enlarging the presence of product safety on-campus. If the module takes hold, it could be augmented in ways such as developing a corresponding lab; setting up visiting speakers; and perhaps ultimately developing a product safety course.

One concern is that engineering curricula are already packed with material. True enough. However, Co-Editor Michael Morse (University of San Diego) explains that academic staff are typically as overloaded as the rest of us and would likely be inclined to accept an offer of a meaty, well-constructed module on product safety.

If we assume thorough coordination (a key factor), there seems no reason why development of a module of, say, 10 or 15 hours' duration couldn't be broken into sub-tasks addressed by various individuals. I'd be glad to get your comments.

Gary Weidner
Editor
gweidner@ieee.org

2006 IEEE Product Safety Engineering Symposium October 2006



IEEE Journal on Product Safety Engineering Call For Papers



Information for prospective authors for the IEEE Journal on Product Safety Engineering

Contact: Mike Sherman, JPSE Editor-in-Chief
952-361-8140, msherman@fsi-intl.com

What is Product Safety Engineering?

The design and evaluation of equipment, devices and systems such that they can be used at an acceptable level of risk.

The Journal is intended to:

- * Promote, develop, recognize and archive original work that advances the theory and practice of product safety engineering.
- * Provide those interested in product safety with an incentive and vehicle to formalize and share their research, theories and practices across disciplines, potentially enriching all.
- * Create a centralized knowledge base of theory and proven practice.
- * Encourage practicing product safety engineers to strengthen their profession by distilling their successes into articles that stimulate others and promote best practices.

The following types of products fall within the scope of the Journal:

- * medical devices and instrumentation
- * consumer appliances, both personal and commercial
- * transportation (e.g., vehicles, systems)
- * industrial and scientific equipment
- * information technology equipment
- * life support
- * telecommunication systems

Topics include the following sample list:

- * risk assessment, design review, and failure analysis
- * validation (i.e., testing)
- * product liability and litigation
- * standards
- * system reliability and maintainability
- * functional safety associated with electromagnetic compatibility
- * manufacturing processes

Suggested Topics to Stimulate the Thought Process

- * alternative clinical trial designs for medical devices
- * allowable electrical fault currents in human brain tissue
- * a model for allowable shear or crush forces on fingers
- * interactions between product safety and management systems (e.g., GMP, ISO 9000)
- * alternative approaches to controlling product liability costs
- * EMC (emissions and immunity) effects on product safety
- * effect of USA “expert” court decisions on risk assessment record keeping
- * hazard-based safety engineering (HSBE)
- * accident investigation (e.g., forensic analysis)
- * user manuals and documentation (e.g., what is appropriate and realistic)
- * safety of software, networks and systems
- * life support system design
- * cost/benefit analysis applied to product safety
- * human factors and accident avoidance
- * integrating risk assessment into the design process
- * fire protection applied to product design
- * integrating arc flash protection into equipment

The schedule for the premiere issues:

- * submit abstracts (up to 200 words) to msherman@fsi-intl.com
- * written articles submitted 30-60 days after abstracts accepted
- * 90-day peer review window after articles submitted

Contact Information

Editor-in-Chief, Mike Sherman, at msherman@fsi-intl.com, phone 952-361-8140 (USA Central time zone).

Aids for Authors

The following from the IEEE web site provide useful guidance for authors.

General Information: Information for Authors

http://www.ieee.org/portal/cms_docs/pubs/transactions/auinfo03.pdf

Formatting: Preparation of Papers of IEEE Transactions and Journals (March 2004)

<http://www.ieee.org.my/micc-icon2005/MICC&ICON2005template.pdf>

Proper Crediting of Work: Updated Plagiarism Policy

[http://www.ieee.org/portal/site/tionline/
menuitem.130a3558587d56e8fb2275875bac26c8/
index.jsp?&pName=institute_level1_article&article=tionline/legacy/inst2004/dec04/
12w.pub.xml&](http://www.ieee.org/portal/site/tionline/menuitem.130a3558587d56e8fb2275875bac26c8/index.jsp?&pName=institute_level1_article&article=tionline/legacy/inst2004/dec04/12w.pub.xml&)

http://www.ieee-pses.org/Downloads/call_for_J_P.pdf

Report on IEEE Product Safety Engineering Society Second Annual Symposium, Schaumburg, IL

by Douglas Nix

In 2004 the Institute of Electrical and Electronic Engineers took an unprecedented step and formed a new society without following their traditional sponsorship approach. The Product Safety Engineering Society (<http://ewh.ieee.org/soc/pses>) was born from the EMC Society following years of interest from EMC society members. The mission of the PSES is to draw together engineers involved in product safety engineering and to provide them with a forum for discussion and a vehicle for sharing technology, best practices, and approaches to this increasingly important work.

The society publishes a regular newsletter with articles by members and non-members on significant safety issues. In addition to the newsletter, a peer-reviewed journal will be published twice a year. Each issue of the Journal will bring technical and non-technical articles to the reader on subjects like EMC and product safety, risk assessment, hazard-based safety engineering, test methods and other related subjects.

This year the PSES held its second symposium in Schaumburg, Illinois, a suburb of Chicago, on 3/4-Oct-05. The two-day event drew a large number of attendees and featured technical sessions put on by presenters from UL, Dell, NARTE, TUV Rheinland of North America, Intertek Testing Services and many others. A full listing of the sessions can be found on the Symposium web site (<http://ewh.ieee.org/soc/pses/symposium/index.html>), but here are a few highlights:

- Light Emitting Diode Safety And Safety Standards
- Television Flammability Demonstration Experiments Using External Ignition
- Safeguards Other Than Insulation For Protection Against Electric Shock Hazard
- New Product Safety Requirements For ITE In Taiwan
- Usability For Medical Devices
- Hazard Considerations For The Aircraft Environment
- Electrical Effects On Barges, Tows, And People By The Chicago Sanitary And Ship Canal Electric Fish Barrier: Preliminary Results
- Risk Management Of Product Safety
- The European WEEE And RoHS Directives - Quo Vadis?

NARTE, the National Association of Radio and Telecom Engineers, put on a training session for those looking to obtain their Product Safety Certification. The NARTE product safety certification provides documented evidence of expertise for product safety engineers and technicians. Examinations were held following the symposium for those studying for this certification.

Certifications for Engineers, www.narte.org/h/psengineer.asp, and Technicians, www.narte.org/h/ps technician.asp, are available.

UL ran a two-day seminar on Hazard Based Safety Engineering (HBSE) following the symposium. The seminar teaches product safety design strategies in terms of fundamental engineering concepts. The program teaches the basic mechanisms by which products can cause injury to the human body. Tools are provided to help in analyzing those processes and determine how best to prevent injuries from occurring. At the conclusion of the program students are prepared to address difficult product safety issues in a team-oriented manner, supported by science as well as experience and engineering judgment.

In addition to the sessions, exhibitors put on an excellent show of safety products and services. Exhibitors included Advanced Test Equipment, Clare Instruments, D.L.S. Electronic Systems, ED&D, NARTE, Nemko, Pilz Automation, TUV America, and TUV Rheinland of North America.

Attendees to the Symposium came from Canada, China, Japan, Norway, Singapore, Switzerland, Taiwan, the United Kingdom and the U.S. There were many opportunities to network with colleagues and to meet old friends and make new ones.

In 2006, the symposium will be held next in Orange County, California on the 23/24-Oct-06. Hope to see you there!

Doug Nix, A.Sc.T., is Program Manager, Industrial CE Marking and Machinery Safety Services at QPS Evaluation Services Inc. in Toronto, Ontario, Canada, www.qps.ca. His background spans more than 15 years of engineering technology experience, including product testing, industrial control system design, and machinery safety.



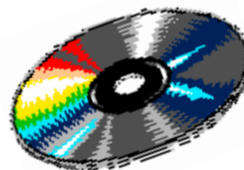






2004 / 2005 IEEE-PSE Symposium

CD Purchasing Information



SYMPOSIUM PAPERS ON CD:

The Product Safety Engineering Society continues to offer the 2004 IEEE PSES records for sale. The cost for the CD is \$35 plus shipping and handling for IEEE members; \$50 plus shipping and handling for non-IEEE members. At this time, check or money orders are the means for payment. Please provide the following information:

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Depending on stock availability allow 2 to 3 weeks for delivery.

**We are looking for
Product Safety
Articles!**

Please send proposals for articles to:

Gary Weidner
Editor, IEEE PSES PSE Newsletter
GW Technical Services Inc.
2175 Clarke Drive
Dubuque, IA 52001-4125
phone = 563-557-0717
fax = 563-557-0725
e-mail = gweidner@ieee.org

**IEEE PSES needs
Volunteers
Please contact any Board
Member on page two and
discuss how you can help!**

New Senior Members

We would like to congratulate the following Product Safety Engineering Society members on their election to the senior member grade last November.

Mark Maynard, Central Texas Section

Paul Rostek, San Diego Section

Information on how to apply for the senior member grade is on the IEEE website. If you need any assistance with applying for senior membership please contact Stefan Mozar at s.mozar@ieee.org.

Institutional Listings

We invite applications for Institutional Listings from firms interested in the product safety field. An Institutional Listing recognizes contributions to support publication of the IEEE Product Safety Engineering Newsletter. Rates are \$150 per issue and \$400 for four consecutive issues. To place ad with us, please contact Jim Bacher

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