

# PRODUCT SAFETY ENGINEERING NEWSLETTER



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# President's Message



Hello Fellow PSES Members!

I hope you all had a great 2014 and wish you the best for 2015! From the PSES perspective, we did indeed have a great 2014! We held our 2014 Symposium in San Jose and tried some new things. The Symposium ended up having the highest attendance of any thus far and exceeded its budget by a good amount! We had a full technical program, two Keynotes, a demonstration of the Google Car, and a good number of Exhibitors whom attendees had ample time to visit. Thanks again to all who helped make it a great success. See the PSES Website for some highlights: <http://ewh.ieee.org/soc/pses/symposium/2014/index.html>. The team working on the 2015 Symposium is off to a great start, and they are working to make 2015 even better and brighter than 2014!

In 2014, we not only elected four Directors at Large to our Board, but we have several new officers as well who assume their duties starting in January 2015. Please see the article specifically related to "Changes on the Board" in this

newsletter on page 3.

We continue our efforts to increase our membership by looking for new ways to support our members. In 2014, specifically, we have worked with the Consumer Electronics Society to provide our members with their quarterly Magazine – we hope to continue this in 2015. We will be looking for articles from our members to contribute to the Magazine as a way of possibly working up to our own Magazine someday. We also are working on Virtual Chapter as well as a new joint Chapter in New Jersey to provide ways for members to connect and get more involved. Overall in 2014 we have seen a continued increase in membership so we are moving in the right direction!

The newsletter has received a face-lift starting with this issue. Coming in early 2015 will be a refreshed Website that will be more modern looking, easier to navigate, and mobile-friendly. There will be some additional items in 2015 that we hope will help us further add value for our members and increase our membership.

Another milestone for the Society is the elevation of Stefan Mozar to IEEE Fellow Grade. Please see the related article on page 4.

As I said – a great year for the PSES as we continue to grow – and more to come!

I would like to conclude by again thanking all those who support the society – our members and those who volunteer to assume leadership positions at the Chapter level as well as the Board of Directors. You all make it possible for us to keep growing and finding new ways to provide value to our members.

I encourage you all to provide your suggestions on what else we might do and get more involved in some of the leadership activities. There are even more benefits at that level through training offered by the IEEE as well as additional interaction with others in the organization.

As you probably have read in the past several newsletters, Gary Weidner is stepping down as Editor in Chief of the PSES Newsletter. He has been in that role since 2005 and received a Certificate of Appreciation at the 2013 ISPCE in Austin. We want to thank him again in this, his last newsletter in that position, for all his hard work these many years.

Once again, all the best for 2015!

## Newsletter Committee

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# Changes on the Board

Each year we elect a set of four ‘Directors at Large’ to the board and 2014 was no different!

For 2014, the terms for Paul Wang, Mike Nicholls, Steli Loznen and Juha Junkkarinen expired and Mariel Acosta-Geraldino, Thomas Lanzisero, Steli Loznen and Bansi Patel were elected as Directors at Large. The new Directors at Large will have a three-year term which expires at the end of 2017.

In addition for 2014, we had a number of officers transitioning out of their positions and new officers elected by the Board who have assumed their new roles in January 2015 as follows:

Position	Current	New
President	Kevin Ravo	no change – two year term
Immediate Past-President	Elya Joffe	no change - two year term
President-Elect		Mark Maynard
Secretary	Daniece Carpenter	no change
Treasurer	Jan Swart	Dan Arnold
VP Communications	Dan Roman	Mike Nicholls
VP Membership	Thomas Ha	Homi Ahmadi
VP Technical Activities	Ivan Vandewege	Luiz Araujo
VP Conferences	Doug Nix	Stefan Mozar

We couldn’t have made it to where we are without the support of the outgoing officers and thank them for all their contributions to the Society. We also welcome the incoming officers and look forward to their new ideas and contributions to the Board!

Note that some of the New Officers have had other committee positions and will need to fill those positions, so they will be looking for help. They will also likely be forming new Committees as well as we try to offer new services. Getting involved in Board committees is a great way to get involved in a limited way and gain more understanding of the Society leadership. This can be a great first step to possibly moving into other positions in the future.

Please see the Board of Directors page on the Website: <http://www.ieee-pses.org/bod.html> and also the Bylaws ([http://www.ieee-pses.org/Downloads/PSES\\_Bylaws.pdf](http://www.ieee-pses.org/Downloads/PSES_Bylaws.pdf)) and Constitution ([http://www.ieee-pses.org/Downloads/PSES\\_Constitution.pdf](http://www.ieee-pses.org/Downloads/PSES_Constitution.pdf)) for more information about the Board positions.

Though not on the board, but a very important role within our society, our newsletter editor of ten years, Gary Weidner, is retiring as of this issue. Gary has been in an editorial capacity for PSES since the first issue of the newsletter in September 2005. Over the years he has usually flown solo but his attitude, ability, experience, and professionalism have always managed to get a newsletter out, even when it was not certain from issue to issue whether we would have enough content. Gary has been a patient mentor to authors and brought a wealth of knowledge on newsletter publishing and editing to PSES. He has been an indispensable volunteer working quietly in the background year after year. Gary received recognition for his efforts with a Service Award at our 2013 conference in Austin. He will be missed and difficult to replace. We wish him all the best and hope he can make it to the conference in Chicago this year. Interested in being the editor or know someone who might fit the bill? We would love to hear from you!

# Stefan Mozar Elevated to IEEE Fellow

Our previous Director at Large and new VP Conferences Stefan Mozar has been elevated to Fellow Grade.

From the IEEE Website ([http://www.ieee.org/membership\\_services/membership/fellows/index.html](http://www.ieee.org/membership_services/membership/fellows/index.html)):

“IEEE Fellow is a distinction reserved for select IEEE members whose extraordinary accomplishments in any of the IEEE fields of interest are deemed fitting of this prestigious grade elevation...

...As it stands today, the IEEE Grade of Fellow is conferred by the Board of Directors upon a person with an extraordinary record of accomplishments in any of the IEEE fields of interest. The total number selected in any one year does not exceed one-tenth of one percent of the total voting Institute membership. Each new Fellow receives a beautifully matted and framed certificate with the name of the Fellow and a brief citation describing the accomplishment, a congratulatory letter from the incoming IEEE president, and a gold sterling silver Fellow lapel pin with antique finish.”



Congratulations to Stefan for this great accomplishment and for adding a Fellow to our ranks of PSES Members. The process of being nominated is quite extensive and requires the support of a number of others in the Society and we thank them all for their support in the successful nomination of Stefan.

Please note that in addition to Fellow, there is Senior Grade membership status which many members likely qualify for but have not taken advantage of the opportunity to apply. Please visit the IEEE Website at: [http://www.ieee.org/membership\\_services/membership/senior/index.html](http://www.ieee.org/membership_services/membership/senior/index.html) and see if you do! There are many of us in the Society who are available to serve as a reference, and it can all be done on-line!

Again, congratulations to Stefan, and we hope to welcome additional Fellow and Senior members in the future – will you be one of them?

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# Chapter and TAC Safety Probes

## News about Chapters and Technical Activity Committees

To see current chapter information and people looking to start chapters please go to the Chapter page at: <http://www.ieee-pses.org/Chapters/index.html>

Technical Activity Committee information can be found at: <http://www.ieee-pses.org/technical.html>

### Chicago Chapter

Meeting Date: 24 September 2014

Topic: Dielectric Testing – The basics and more.....

Speaker: Dwayne Davis is the Technical Service Manager at Associated Research, Inc. He has 45 years of experience in high voltage testing of a variety of products and equipment. He conducts safety seminars, authored articles and provides assistance to manufacturers and electrical utility companies in conducting these tests safely.

Dielectric Voltage Withstand testing has been around since the beginning of safety. It is a test conducted on just about every electrical product, both in design and it's required for most production line testing as the last check of safety. Learn the basics of conducting the test, hazards associate with it and old and new technologies available.



UL sponsored both the facilities and the food and drinks. Thank you UL!!

John read our mission, introduced the Executive Committee and welcomed the group. The Symposium was announced and ask for people to consider a paper or presentation. The webinar's the Committee has for

people new to presenting was introduced and pointed people to the website for additional information. Bill is working on the L31s for the official minutes. We also discussed fees and will be charging a fee moving forward. The executive committee will discuss and confirm the fee.

The Chicago Chapter had a great ending to the year of meetings with our annual Holiday party at the Tap House Grill. The group, and the restaurant, got a nice surprise from Santa and Mrs. Clause (Mr and Mrs Dwayne Davis). We had a small group but Holiday cheer was in the air!!



We look forward to a great 2015!! Here's a summary of the 2014 meetings:

March – IEC review of Micro Fuel Cells – Development of the Standard, requirements review and progress on various technologies and possible revisions; Harry Jones

May – NFPA 70E update – Electric Shock and Arc Flash; Dave Dini

August – Dielectric Testing – History, Equipment advances and hazards; Dwayne Davis

November – Holiday Party

For information about the Chicago Chapter contact John Allen at [Jrallen@productsafetyinc.com](mailto:Jrallen@productsafetyinc.com) or visit their website at <http://ieeechicago.org/pses/>.

## Central Texas Chapter

Meeting Date: 21 October 2014

Topics: “Driverless Cars - Implications for the Future “ and “Update on the Regulatory Environment in Southeast Asia”

Speakers: Gary Schrempp and Russell Ng

Meeting opened with general announcements. The first topic was introduced by Gary Schrempp, leading in with the question: Are driverless cars really driverless? Several arguments were presented to the group to start a discussion on the driverless aspect of these cars. Videos of the newest Google driverless car were reviewed. Gary covered many other controversial points of this new technology, including the various legal and insurance issues surrounding these cars and where it may possibly be headed in the future. After ending his presentation Gary took several questions from the group and explained some of the terminology used when presenting the topic.

Russell Ngo then gave us a quick synopsis of the regulatory climate in Southeast Asia. During his update a beautiful travelogue of Singapore was presented to the group. He mentioned the many changes in Chinese laws and also included Vietnam, Malaysia and Indonesia in his topic.

Next meeting will be in February, 2015.

For information about the Central Texas Chapter contact Daniece Carpenter at [Daniece\\_Carpenter@dell.com](mailto:Daniece_Carpenter@dell.com) or visit their website at <http://psescentraltexas.yolasite.com/>.

## CHAPTERS - WE NEED YOUR NEWS!

### Chapter of the Year Award

To All PSES Chapter Officers,

The IEEE Product Safety Engineering Society is pleased to announce the Chapter of the Year award.

This award is given to the most outstanding IEEE Product Safety Engineering Society chapter in recognition of their contributions to and promotion of the Society through its meetings, programs, and member services. This award is to be provided for activities in the previous calendar year.

Winner of the Chapter of the Year Award will be honored at the PSES Symposium Awards Ceremony in Chicago, IL.

Please use the form from the website at <http://www.ieee-pses.org/chapters.html> and return it to Mike Nicholls at

[mnicholls@a-m-c.com](mailto:mnicholls@a-m-c.com).

Previous Chapter of the Year Award recipients

- 2013 San Diego
- 2012 Santa Clara

## Northern NJ Section Chapter Forming

A joint PSES/EMCS chapter is forming in northern New Jersey. Adequate signatures from PSES and EMCS members were obtained and the Section has signed off on the paperwork. IEEE HQ is now processing the submittal and we expect the chapter to be approved by February 2015. An organizational kick off meeting is planned for shortly thereafter. If interested, contact Dan Roman at [dan.roman@ieee.org](mailto:dan.roman@ieee.org).

## Telecom Safety TAC

Paul Ng updated the group on work that TC 100 is doing on edition 2 of IEC 61204-7 for UPS systems, as well as IEC 62477-1, “Safety requirements for power electronic converter systems and equipment –Part 1: General”. The latter standard is, in some regards, a competing standard to IEC 62368-1.

Al Martin discussed protection of DC feeds to radio equipment at the top of towers. This is an issue that has a lot of interest with outdoor wireless installations.

- a. What protection is typically installed on equipment that will be located at the top of towers, and is any consideration given to the height of the tower?
- b. What lightning wave shape is considered when designing protection for equipment to be located at tower tops?
- c. Is there any information about the failure of installed protection to protect equipment located at tower tops?

The group is also having ongoing discussions on TC 108 US TAG meetings, a new RFT standard IEC 32368-3, UL Subject 1081 vs. IEC 61204-7 2nd edition, and Telcordia GR-3171-CORE Issue 2 TTF - Wireless Equipment.

For information about the TSTC contact Don Gies at [Don.Gies@ALCATEL-LUCENT.COM](mailto:Don.Gies@ALCATEL-LUCENT.COM).

## TACS - WE NEED YOUR NEWS!

# News and Notes

## Compliance News Shorts



### News To Know

The U.S. Department of Energy is proposing to revise its test procedure for external power supplies. These proposed revisions, if adopted, would harmonize the instrumentation resolution and uncertainty requirements with the second edition of the International Electrotechnical Commission (IEC) 62301 standard when measuring standby power along with other international standards programs. The proposal would also clarify certain testing set-up requirements. Finally, DOE is proposing an optional test to measure the active mode efficiency at a 10% loading condition and an optional recording of power factor at this loading condition and each of the other required loading conditions.

### Recently Published Standards

EN 50514:2014 - 9/19/2014 - Audio, video and information technology equipment - Routine electrical safety testing in production

EN 60601-1:2006/A12:2014 - 10/3/2014 - Medical electrical equipment - Part 1: General requirements for basic safety and essential performance

IEC 61010-2-010:2014, Ed. 3.0 - (9/25/2014) - Safety requirements for electrical equipment for measurement, control and laboratory use - Part 2-010: Particular requirements for laboratory equipment for the heating of materials

IEC TR 62354:2014, Ed. 3.0 - (9/25/2014) - General testing procedures for medical electrical equipment

IEC 60320-3 ed1.0 (2014-10) Appliance couplers for household and similar general purposes - Part 3: Standard sheets and gauges

Project IEC 60968 ed3.0 (2014-10) Self-ballasted fluorescent lamps for general lighting services – Safety requirements

Project IEC 62485-4 ed1.0 (2014-10) Safety requirements for secondary batteries and battery installations – Part 4: Valve-regulated lead-acid batteries for use in portable appliances

Project CISPR 13-am1 ed5.0 (2014-10) Amendment 1 - Sound and television broadcast receivers and associated equipment – Radio disturbance characteristics – Limits and methods of measurement

Project CISPR 14-2 ed2.0 (2014-10) Electromagnetic compatibility – Requirements for household appliances, electric tools and similar apparatus – Part 2: Immunity – Product family standard

IEC 61000-6-7 ed1.0 (2014-10) Electromagnetic compatibility (EMC) - Part 6-7: Generic standards - Immunity requirements for equipment intended to perform functions in a safety-related system (functional safety) in industrial locations

Project IEC 600335-2-58-am2 ed3.0 (2014-10) Amendment 2 - Household and similar electrical appliances – Safety – Part 2-58: Particular requirements for commercial electric dishwashing machines

Project IEC 60335-2-82-am2 ed2.0 (2014-10) Amendment 2 - Household and similar electrical appliances – Safety – Part 2-82: Particular requirements for amusement machines and personal service machines

Project IEC 61010-2-101 ed2.0 (2014-10) Safety requirements for electrical equipment for measurement, control and laboratory use – Part 2-101: Particular requirements for in vitro diagnostic (IVD) medical equipment



Project IEC 60335-2-81 ed3.0 (2014-10) Household and similar electrical appliances – Safety – Part 2-81: Particular requirements for foot warmers and heating mats

Project IEC 60335-2-111 ed1.0 (2014-10) Household and similar electrical appliances – Safety – Part 2-111: Particular requirements for electric ondol mattress with a non-flexible heated part

IEC/TRF 60335-2-2,69 ed3.0 (2014-10) This Test Report applies to: IEC 60335-2-2:2009 (Sixth Edition) + A1 : 2012 IEC 60335-2-69:2012 (Fourth Edition) IEC 60335-1:2010 (Fifth Edition) (incl. Corrigendum 1:2010)

IEC/TRF 60335-2-3 ed9.0 (2014-10) This Test Report applies to: IEC 60335-2-3:2012 (Sixth edition) in conj. With IEC 60335-1:2010 (Fifth Edition) incl. Corr. 1:2010 and Corr. 2:2011 + A1:2013

IEC/TRF 60601-1-10 ed2.0 (2014-10) This Test Report applies to: IEC 60601-1-10:2007 (First Edition) + A1:2013 for use in conjunction with IEC 60601 1:2005 (Third Edition) + CORR. 1:2006 + CORR. 2:2007 + A1:2012

IEC/TRF 60601-2-4 ed5.0 (2014-10) This Test Report applies to: IEC 60601 2-4: 2010 (Third Edition) for use in conjunction with IEC 60601-1: 2005 + CORR. 1 (2006) + CORR. 2 (2007) + AM1 (2012) or IEC 60601-1: 2012

IEC/TRF 61010-2-201 ed2.0 (2014-10) This Test Report applies to: IEC 61010-2-201: 2013 (First Edition)

IEC 60335-2-30/COR1:2014, Ed. 5.0 - (11/18/2014) - Corrigendum 1 - Household and similar electrical appliances - Safety - Part 2-30: Particular requirements for room heaters

IEC 62620:2014, Ed. 1.0 - (11/25/2014) - Secondary cells and batteries containing alkaline or other non-acid electrolytes - Secondary lithium cells and batteries for use in industrial applications



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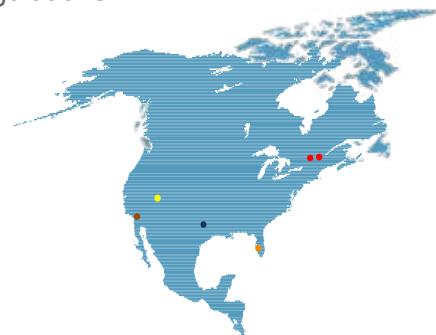
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## Call for Papers, Workshops, and Tutorials

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#### Conference Management

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

#### **EMC Compliance**

- Electromagnetic emissions, electromagnetic immunity, regulatory, and introductory topics (for safety engineer & compliance engineers)

#### **Energy Storage**

- Battery and energy storage designs, applications, manufacturing, testing and standards, including emerging chemistries, fuel cells, electrochemical capacitors (ultra-and super-capacitors), etc.

#### **Forensics**

- The latest findings in failure analysis
- General tools, techniques and best practices used for quality failure analysis

#### **Hazard-based Safety Engineering & Safety Science**

- Theory and application of HBSE and related safety science disciplines
- New hazard-based standard for A/V, IT & Communication Technology Equipment, IEC 62368-1

#### **Innovation**

- Emerging uses of technology, and associated challenges with safety & compliance, such as associated with 'smart' devices, wearable electronics, wireless power transfer, driverless cars, modular data centers, 3D printing, liquid cooling, PEDs/aircraft, virtual reality, technology & seniors, unmanned aerial vehicles (UAVs, aka drones), etc.

#### **Leadership**

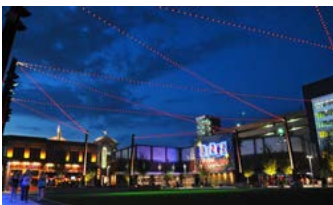
- Management strategies and techniques, and case studies
- Change leadership, team building, conflict resolution, time management
- Communication skills

#### **Medical Devices**

- IEC 60601-1, and collateral standards
- Risk Management process for medical devices

#### **Risk Analysis, Assessment & Management**

- Fundamentals and application of risk analysis, assessment and management, into both existing and new standards and applications



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#### Conference Management

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## Call for Papers, Presentations, Workshops and Tutorials

### Miscellaneous

- **New to ISPCE- Compliance 101 Track:** Basic, high level presentations on compliance for those new to compliance and designers. An overview of the Certifications landscape, how to submit a product to NRTLs, how to get the documentation in NRTL format, explain the difference between Component vs End Product Certifications, compliance tips like hard wired products must have 5VA flame rating, etc.
- **Anti-counterfeiting:** Challenges, regulations & strategies
- **Components:** Power supplies, insulation, opto-couplers, wire & cables, capacitors, connectors, current-limiters, transformers, fuses, ferrites, surge protectors, printed circuit boards, earthing (grounding), environmental, electromagnetic suppression & protection, etc.
- **Demonstrations:** Demonstrations of product safety testing techniques, including mechanical, electrical, fire, etc.
- **Environmental:** RoHS, WEEE, EuP (Energy-using Products), Energy Star, packaging Directives, REACH (Chemical), CeC, other 'green' topics, etc.
- **Functional & Software safety :** Theory, standards and application
- **Hazard-specific topics:** Electrical, mechanical, fire, thermal, chemical, radiation, etc.
- **Photobiological safety & compliance:** Lasers, LEDs, UV, coherent/incoherent, blue light, etc.
- **Product-specific topics:** Consumer, medical, computer (IT), test & measurement, power supplies, telecommunication, incandescent, fluorescent & LED lighting, industrial control, electric tools, appliances, wireless, robotic technologies, etc.
- **Product Liability & Recalls:** Challenges, government interface, public databases, laws, etc.
- **Research:** Physiological responses to energy sources, unique safeguard schemes, electrically-caused fire, forensic methods, etc.

### Author's Schedule (preliminary)

Indicated deadlines require that the associated documents be loaded into EDAS by the due date:

- |  |                          |
|--|--------------------------|
| • Review Manuscript/Presentation Submission        | <b>December 15, 2014</b> |
| • Acceptance Notification                          | <b>February 1, 2015</b>  |
| • Final Camera-ready Paper/Presentation Submission | <b>April 1, 2015</b>     |

\*Please go to the Author page (via Authors tab) on the ISPCE website for comprehensive submission instructions, including paper templates: [www.psessymposium.org](http://www.psessymposium.org). Review

# Legal Column

Dr. Arun Kapoor, Rechtsanwalt

## Introduction of Official Notification Obligation for Manufacturers, Importers, and Retailers of b2b-Products in Europe from 2016

**A**t the time of New Year, people tend to make good resolutions. In this regard, manufacturers should prepare for the changes in European product safety law coming up in 2016:

In the European Economic Area (EEA), with effect from April 2016, an official notification obligation for manufacturers, importers, and retailers of b2b-products will be introduced. So far such notification obligations applied only to consumer products and –only recently – construction products.

In particular, from 2016 onwards, manufacturers of electrical and electronic products, electronic components, pressure equipment, meters, or explosives must therefore pro-actively inform without delay the relevant market surveillance authorities in all EEA states if a risk for safety and health of persons or for the environment emanates from one of these products in the field.

The existing notification obligation for consumer products was introduced in 2004 to implement the General Product Safety Directive 2001/95/EC throughout Europe. This was modeled on the notification obligation in the USA to the CPSC. Economic players – primarily the manufacturers of consumer products – have since been obliged to pro-actively give notice to the relevant market surveillance authorities if they know or must know that a product distributed by them results in a risk for the safety and health of persons. The entire b2b industry was, however, spared this “self-incrimination obligation.”

With the obligation to inform the authorities, the latter are intended to be placed in a position to review whether the economic players react appropriately to risks emanating from their products and whether the corrective measures (e. g. product recalls, public warnings etc.) taken by them are adequate to minimize the risks acknowledged in the field. The notification must be sent to all relevant authorities in each member state of the European

*PSEN includes a regular column on product compliance from the European perspective. The column is provided by Noerr LLP's Product Compliance Team. This column offers an introduction to notification obligations coming into effect April 2016 for manufacturers, importers, and retailers of business to business products.*

Economic Area in which the product is distributed. In practice, the existing notification obligation for consumer products poses a considerable challenge for economic players in Europe. While the time and resource consuming identification of the more than 30 international authorities has been replaced by the introduction of an online-based report form of the EU Commission, the risk that individual member states of the European Economic Area demand different corrective measures from the economic players remains and the official notification thereby – in addition to the actual product problem – leads to a communicative dispute with various European authorities. Economic players must then deal not only with up to 26 different official languages, but above all, with different interpretations of European product safety law by the national market surveillance authorities. What is regarded in Greece as a risk subject to notification may not remotely be so classified in the opinion of the authorities in Germany, France or the UK. According to a decision of the EU Commission of 2004 (2004/905/EC), a notification obligation usually exists only if a “medium” category risk or higher arises after a risk assessment. For the assessment of a risk emanating from a product in the field only a risk assessment method explained comprehensively by the EU Commission in its decision of 16.12.2009 (2010/15/EG) (RAPEX guidelines) is used. The result of a risk assessment conducted according to this method differs not only from authority to authority. Even the manufacturers have considerable discretion in the conduct of the necessary risk assessment which they must use to respond to the official notification



obligation. It is advisable for them to use this discretion for their own advantage.

The penalties for breach of the existing official notification obligation for consumer products are considerably lower in Europe than in the USA. The severity of fines imposed is set by the individual member states. In Germany, failure to make such notification, making a late notification, or an incomplete notification is regarded as an administrative offense and may be punished with a fine of up to EUR 10.000,00. In other member states, the penalties are sometimes more severe and criminal penalties can also be incurred in countries such as the UK. Overall, the prescribed fines nevertheless remain lower than the sometimes very high penalties of the CPSC in the USA.

It has to be noted that the self-incrimination of an economic player about the product risk may be used by the authorities to take criminal proceedings against the responsible employees because of notified safety

relevant defect. Our experience so far is that the relevant criminal prosecution authorities resort comprehensively to the information provided by the economic players in the notification in order to impose criminal penalties in case the defective product already led to personal injury.

US manufacturers should – including and precisely with regard to their European sales companies – prepare for the extended official notification obligation from 2016 to b2b-products. If an official notification obligation in the European Economic Area must be considered, a careful review is required as to whether the obligation really arises and how the notification must be drafted in the individual case in order to avoid further trouble caused by the notification itself. This advice also applies with regard to possible product liability which can result from an unskilled notification and can be used by an injured party by means of inspection of the authorities' files in order to substantiate product liability claims.

## DR. ARUN KAPOOR, RECHTSANWALT

Dr. Arun Kapoor, Rechtsanwalt (e-mail: [arun.kapoor@noerr.com](mailto:arun.kapoor@noerr.com)) is Associated Partner in the Product Safety and Product Liability Department of Noerr LLP ([www.noerr.com](http://www.noerr.com)). Dr. Kapoor specializes in the fields of product liability and non-food product safety law (including litigation). He advises national and international clients in all areas of European non-food product law and provides legal representation before civil and administrative courts in these fields. He also regularly provides legal support in national and international product recalls for B2B and B2C products including the relevant notification issues. Dr. Kapoor maintains an excellent network with representatives of European market surveillance authorities, industry associations, standardisation organizations, and leading European product test institutes.

Noerr LLP is a European law firm founded in Germany with offices in Brussels, Alicante and various CEE-capitols. Noerr's Product Compliance Team advises its clients on all questions related to placing products onto the European market, defends them against complaints from European market surveillance authorities, and conducts product recalls.





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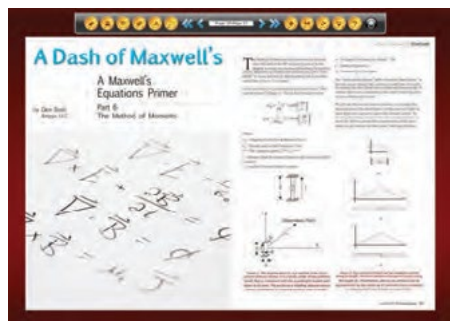




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# Products Safety Engineering as a Challenge for Academia

Steli Loznen, M.Sc., IEEE Senior Member

## The Role of Products Safety in the 21st Century

**T**he increase in quantity and complexity of products means an increase in the potential hazards which can endanger the safety of persons or properties when installed, maintained, and used for their intended purpose.

Specifically, new technological developments are generating an emerging science of Products Safety that will help to prevent adverse events by improving the methods used in the entire life cycle of a product, from the product conception to placing on the market with benefits relative to risks maximized. This new science will also give us the tools to prevent adverse events by rapidly identifying safety problems before they can cause injury.

There is a world-wide consensus that Product Safety issues are important in customer and professional areas, engineering, management, and other fields. This aspect is obvious due to the fact that Products Safety is now a global issue, because markets are global.

On such circumstances the manufacturers have responsibility to produce products that satisfy the safety expectations of society and for this a large amount of investments are allocated in the training and professional development of technical people.

Engineers, designers, and other technical people involved in products development need to take care of the application of the principles of Product Safety Engineering in the design, manufacturing, and marketing of products.

Building a safe and secure product requires that organizations have well-defined processes and methods for planning, designing, developing, testing, implementing, and decommissioning.

Small and medium-sized companies do not have the available engineering personnel who have the

fundamental knowledge to perform the required Products Safety objectives due to their lack of needed education and experience.

## The Knowledge Needed to Address Products Safety

The engineer or technical person associated with Products Safety Engineering must be versatile, creative and well informed.

The question here is: How the formative professional information requested to all of the practitioners of Product Safety Engineering are provided to help advance products safety and functionality, without compromising safety?

Over the last 30 years, the engineering community has made considerable technical progress, but unfortunately failures, product liability claims, and products safety litigation are still a problem.

The Engineer should understand the process of determining what, where, when, why, and how something could happen.

In many situations the engineer fails to estimate correctly, evaluate precisely, implement rigorously, test adequately, perform safety analyses, or to adequately instruct the user.

It seems that with all efforts to train good product safety engineers something is missing.

By opening a journal at the section "Jobs offered" for positions of product safety engineers, product safety officers or compliance engineers we find some skills needed as in the below example:

*"The candidate will primarily ensure that Product Safety aspects are implemented and maintained in compliance with global requirements. Write, review and maintain all Product Safety specifications, ensuring that the information complies with current global regulation. Keep abreast of regulatory changes and trends and take proactive measures to implement changes when required. Review and maintain*



*a working database of relevant design specification for internal use. Assist on preparation of the products for testing in accordance with relevant standards*

*Candidates should be educated to a minimum of degree level in Electrical or Mechanical Sciences, with a minimum of two years' experience in Product Safety or with relevant qualification or training.*

*Candidates should determine the applicable requirements to design safe products for compliance. In addition, candidates need to write accurate and concise design and purchase specifications for critical components to achieve safety compliance goals.*

*A good working knowledge of EU requirements is needed and some experience of US guidelines would be a distinct advantage. A good understanding of environmental regulation and prior knowledge of the advanced product safety principle would also be an advantage”.*

It is difficult to predict how many suitable engineers will apply for such a position. It is likely that many of them have a degree level in Electrical or Mechanical Sciences, but the basic experience in Product Safety was not obtained in the University.

Product Safety is not a top priority among schools of engineering—and the academic sector is not preparing engineering students to support or replace those engineers who are currently involved in Product Safety projects.

There seems to be a lack of long-term commitment to technical support. Most professional engineering associations point out that Products Safety is issues of utmost importance in engineering practice and management. But this is not enough.

Various authoritative texts, beginning with the general safety engineering literature, product specific safety literature, and recommended product safety standards are available for self-education in the field. Additionally, training sessions provided by consultants, private workshops, or by non-authorized education units are compromise solutions. This kind of education is incomplete, and sometimes superficial, due to absence of a unity in methodology and content. Thus, there are a limited number of resources available to engineering personnel for obtaining education in the areas of Product Safety. While there are various sources of Product Safety educational programs available to engineers, the requirement for a comprehensive formal educational program at the university level is urgently needed.

Appropriate training should be conducted to ensure

that those participating in the products safety activities know what their responsibility and role is and have the appropriate skills to properly carry out their contribution to the Products Safety activity.

It is essential that all Product Safety practitioners are deemed competent in the safe and effective design, manufacturing and/or use of the products and can demonstrate this.

They need to possess the knowledge, skills and ability to safely and effectively practice without direct supervision.

Some regions, especially Asia, pay much more attention to Standards and Product Safety education. The President of South Korea, for instance, has spoken about the importance of standards education as a marketing strategy for his country. Today, there are 40 universities and 6000 students in South Korea involved in standards education. It may be the most impressive program in the world.

China, India, and Japan are beginning to see the strategic value of standards and Product Safety and are also introducing these subject matters into university curricula.

In December 2005, the United States Standards Strategy established standards education as a national priority:

*“Establish standards education as a high priority within the United States private, public, and academic sectors. Education programs covering the development and implementation of standards need to become a high priority within the United States. These programs must focus on the needs of leaders and top executives, those who participate in the development of standards, university and college students, and other interested parties.”*

In a very interesting article “The Urgent Need to Integrate EMC and Product Safety into Engineering Curriculum of Technical Universities” published in 2012, Anthony A. DiBiase, nominate the US Academic Schools which pay attention to Product Safety:

- “Clemson University (Vehicle Electronics Laboratory –CVEL) – The Clemson University automotive engineering program awards degrees for a curriculum that includes EMC studies. These studies include courses in the development of EMC computer program modeling. The university has been involved in EMC research projects for over 20 years.
- University of Missouri of Science and Technology at Rolla – The University has recently opened a new EMC research center in partnership with a major corporation involving an aviation research project.
- University of Michigan – The University is working in con-

junction with The Society of Automotive Engineers of Eastern Michigan, a Chapter of the IEEE's EMC Society. The university is involved in cosponsoring seminars that are related to EMC considerations in automotive systems.

- University of Wisconsin at Milwaukee College of Engineering – Has been sponsoring seminars related to EMC topics.
- George Washington University Center for Professional Development – The University has presented educational seminars on EMC related subjects.
- The University of California at Los Angeles (UCLA) – Has a program that awards certificates in EMC studies.
- Oklahoma State University – Presents short courses covering EMC topics and testing considerations\*.

**If countries intend to spend considerable resources to educate their best and brightest engineering students in the field of standardization and Product Safety, these countries will gain a clear and distinct competitive advantage in the future complex global marketplace.**

## What is needed for a successful academic training of Products Safety engineer?

In the years to come, Products Safety Engineering will continue to evolve from an engineering art to an engineering science. Therefore, the need for understanding of the theoretical and the practical application of products safety principles becomes more essential. It needs to become an integral part of the engineering curriculum.

In order to address products safety engineering appropriately, a wide range of knowledge and skills are needed, including the following:

- A high technical understanding and ability to assess, recognize, and prevent all types of hazards and risk factors.
- Knowledge of relevant standards, regulations, codes, acts, laws, and liability.
- An ability to deal with and motivate people, communicate clearly, and develop and manage plans.

A Training Needs Analysis program was used to identify the training needs of all staff in relation to products safety. This Training Needs Analysis was carried out to ensure competencies for a product safety engineer.

It is our position that the proposed program in Products Safety Engineering has the following strengths:

- Meets the needs of industry and is market-driven and career-oriented.

- Meets the requirements for professional accreditation.
- Is based on interdisciplinary courses which include safety, legal, regulatory, economic, environmental and ethical considerations.
- Offers a complete engineering program along with a specialized focus in business and management.

Students will learn and gain experience via a flexible combination of lectures, laboratory tests, computer simulations, independent research and design tasks, and individual and group projects. They will have experience in documenting and presenting their findings to both technical and non-technical audiences. Each student's progress and accomplishments will be assessed in a variety of ways, including tests, written and oral examinations, and peer and independent evaluation of projects, reports, and presentations. Small groups design a realistic Product from concept to global marketing. A jury for evaluation consists of representatives from academic staff, industry, governmental organization, and regulatory bodies.

A typical plan of study of Products Safety Engineering would include the following issues:

- New Product Development – Safety by Design
- New Product Manufacture – Safety by Control
- New Product Evaluation – Safety by Testing
- Products Safety Hazards
- General Criteria for Compliance
- Products Safety Standardization
- Basic Safety Concepts and Considerations
- Failure Mode Analysis
- Abnormal Conditions
- Selection of Components
- Construction
- Safety Performance
- Labeling (Markings and Instructions)
- Electromagnetic Compatibility
- Safety of Equipment which uses Radiation
- Programmable Electronic Systems
- Environmental Requirements
- Dependability
- Risk Analysis
- Usability
- Regulatory Affairs

- Testing for Safety
- Instrumentation for Testing
- Safety Cost Estimation
- Global Market Access

The proposed curriculum takes into consideration the needs of industry and guidelines established by products regulatory bodies.

The only way engineers will be well prepared to play their Products Safety roles is through good academic preparation and continuing education.

**In summary, we believe the proposed program satisfies the criteria for accreditation and that the proposed curriculum exceeds the minimum practical quantitative requirements in each of the applicable Products Safety**

**categories. Products Safety education should also be taught in business schools, schools that produce many of our business leaders and technical marketing professionals.**

**It is our expectation that the program will receive accredited status in the Academia.**

**The program in Products Safety Engineering was developed to provide both the quality and the depth of knowledge and skills needed for entry level and progressive positions all around the world. Other longer-term actions may be considered based on available resources and emerging experience.**

**The author invites feedback and comments from interested parties and users so that the Program can be enhanced in the future.**

## STELI LOZHEN

Steli Lozhen is QA and Certification Manager at Israel Testing Laboratories Ltd. and is on the Board of Directors for the IEEE Product Safety Engineering Society. He is also the Convener of IEC/SC62A/MT29 and the Co-convener of IEC TC/SC 62A WG 14.

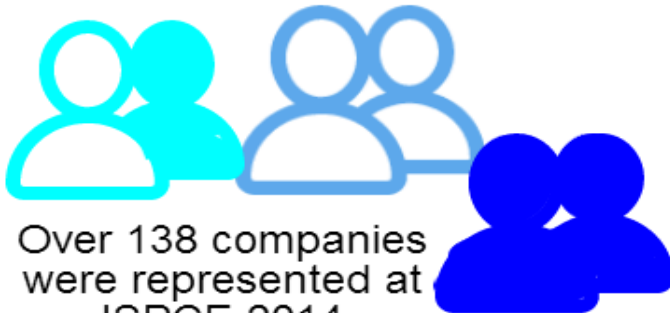
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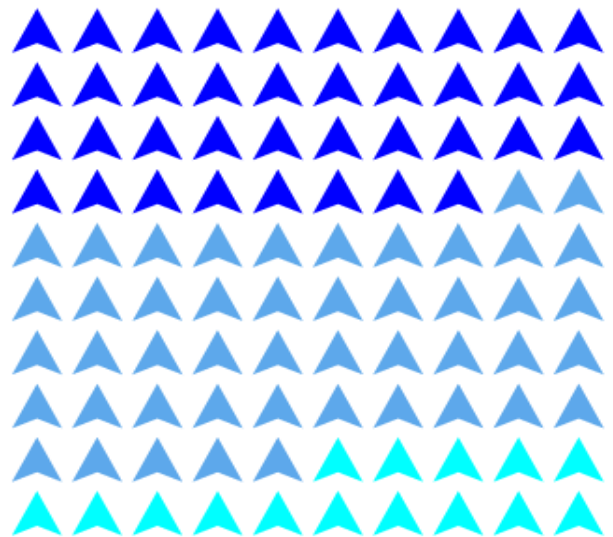
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- Hewlett-Packard [HP] Engineer



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## New PSES Members from 7 October 2014 through 31 December 2014

**O**ur new members are located in the following countries: Brazil, Canada, Germany, India, Ireland, Israel, Spain, Switzerland, Taiwan, United Kingdom, and USA.

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## We congratulate PSES Members who elevated to Senior Grade Membership in 2014

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**S**enior member is the highest grade for which IEEE members can apply. IEEE members can self-nominate, or be nominated, for Senior member grade. Please visit the IEEE Website at [http://www.ieee.org/membership\\_services/membership/senior/index.html](http://www.ieee.org/membership_services/membership/senior/index.html) for a list of eligibility requirements and benefits of becoming a Senior Member or to begin the Senior Member application process.

## Volunteer Positions Available

PSES members wanted to volunteer for small but important roles within the PSES organization. No in-person meetings required. E-mail and conference calls only. All it takes is a couple of hours a month to help improve and grow our organization.

- PSES Global Outreach Rep: Help establish the PSES Country Reps - the country reps will serve as a leader within each foreign country that currently has PSES members (make contact with our foreign membership). Work with the Chapter Coordinator to help the Country Reps start local chapters.
- PSES Strategic Partner Rep: Make contact with other societies and organizations that have Product Safety interest. Work to help integrate our safety content into their societies and organizations (i.e. PSES has partnered with the Consumer Electronics Society).
- PSES PR Rep: Prepare and issue press releases regarding our Symposium and other special events and activities. Invite news organizations and other interested parties to cover our events.
- PSES Marketing Team: Team members participate in plan review and refinement, and each member leads 1 item within the plan (work at your pace - pick an area that interests you - no marketing experience or background needed - many tasks are technically oriented that serve marketing purposes).

For more details, please contact Bill Bisenius at +1-919-469-9434.

**WANTED: Editor** - For the Product Safety Engineering Newsletter. Word-smithing, content soliciting, and author hand holding required. Interested? Contact Dan Roman, VP-Communications, at [dan.roman@ieee.org](mailto:dan.roman@ieee.org).



E-Mail List: <http://www.ieee-pses.org/emc-pstc.html>  
 Virtual Community: <http://product-compliance.oc.ieee.org/>  
 Symposium: <http://psessymposium.org/>

Membership: The society ID for renewal or application is "043-0431".

*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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