

The Product Safety Engineering Newsletter

What's Inside

President's Message	1
Officers of the IEEE PSES	2
Chapter Activities	4
Product Safety Requirements in Argentina	6
News and Notes.....	5

Vol. 7, No. 1 June 2011

President's Message

Hard to believe that we are already half way through the year! Perhaps a suitable time for a bit of philosophy about why our IEEE society is important...

Recently, there have been two major catastrophes, one in Japan and one locally here in the Silicon Valley/San Francisco Bay Area, that bring important philosophical concepts to my mind. Concepts that reinforce the importance of the IEEE PSES for society and for our careers. Please keep in mind that the opinions expressed are my own, and do not represent our society or anyone else.

The Japan event is, of course, the terrible earthquake and tsunami that hit the Sendai area of Japan in March. The other event is the gas pipe explosion in San Bruno, California last year that killed a number of people and demolished 38 homes. Could the bulk of the Japan damage and lingering nuclear problems have been avoided or at least kept to a manageable level? Could the San Bruno disaster have been avoided (well of course it could, since there was a whole list of blunders and oversight errors that led to the catastrophic

failure)? Then there is the Toyota "problem" and various other less newsworthy/memorable situations that occur for various reasons.

In the case of Japan, it seems to me that we need to think in terms of a higher level of "catastrophe" than is normally contemplated. A catastrophic catastrophe. Something so horrific that the likelihood of it occurring is on the order of one in a billion or one in a trillion. Thousands of deaths and hundreds of billions of dollars' damage is unacceptable in any circumstance. What is the likelihood of the event itself? A Richter 9 earthquake and a 20 meter tsunami are (obviously) possible events where tectonic plates are pushing together as they are in the area around Japan. Preparing for a one-hundred year event likelihood is (again, with hindsight, obviously) inadequate. They should have used at least a one thousand year calculation. Either that or used a one or two magnitude increase from the



Newsletter Committee

Editor:

Gary Weidner 1-563-557-0717 (v) 1-563.557.0725 (fax) gweidner@ieee.org

Co-Editors:

Michael S. Morse Ph. D. mmorse@sandiego.edu
 Richard Nute richn@ieee.org
 Nosh Medora nmedora@exponent.com
 Lal Bahra Lal_Bahra@Dell.com

News & Notes:

Your name here

Chapter Activities:

Your name here

Page Layout:

Jim Bacher 1-937.865-2020(v) 1-937.865.2048 (fax) j.bacher@ieee.org

IEEE PSES Officers

Executive Committee	Name	Term
President	Murlin Marks	(10-11)
Past President	Jim Bacher	(10-11)
President Elect	Elya Joffe	(11)
Secretary	Daniece Carpenter	(NA)
Treasurer	Jan Swart	(NA)
Vice President - Communications	Dan Roman	(11-13)
Vice President - Member Services	Thomas Ha	(11-13)
Vice President - Technical Activities	Ivan Vandewege	(11-13)
Vice President - Conferences	Doug Nix	(11-13)

Directors At Large

Term Expires 12/11	Term Expires 12/12	Term Expires 12/13	Ex Officio (without vote)
Jack Burns	Daniece Carpenter	Doug Nix	Chapter Chairs
Jim Pierce	Kevin Ravo	Stefan Mozar	Standing Committee Chairs
Richard Pescatore	Elya Joffe	Silvia Diaz Monnier	IEEE HQ
Ivan Vandewege	Rich Nute	Thomas Shefchick	IEEE TAB Division VI Director
	Douglas Kealey		Gold Member: Ashish Arora

IEEE PSES Web Sites

<http://www.ieee-pses.org/>
<http://psessymposium.org/>
<http://product-compliance.oc.ieee.org/>
<http://www.ieee-pses.org/emc-pstc.html>
<http://www.ieee-pses.org/newsletters.html>
<http://www.ieee-pses.org/pses.html>



one hundred year estimate.

Would upgrading the nuclear plants and building adequate sea walls have cost a lot of money? You bet it would! A lot of money, and the political will. Whereas it might be debated whether that upfront cost would be more than Japan now faces (on the order of a half trillion U.S. dollars), I don't think there's any doubt that the heartache and misery of tens of thousands of people and businesses in the region would have made the investment worthwhile. Just today, I'm reading about farming families in the hillside twenty kilometers from the nuclear plants that have excessive radiation and will have to move. It's hard to compare the high cost of adequate design to the thousands of lives that have been devastated.

The San Bruno event was on a smaller scale than the Japan disaster, but it could have much more easily been avoided. Investigations have shown that the pipes were welded incorrectly, and were not properly inspected. Improper maintenance, routine pressure tests omitted, and then, apparently, upstream supply errors all were factors that could have been avoided, in this case, with a rather nominal expenditure, especially compared to the lawsuits and fines that PG&E is going to have to deal with.

So what has this to do with our IEEE society? It seems to me that our society can provide the knowledge and skills to understand levels of risk and how to deal with them. In most cases, the issues become political, either within your own company or a public entity, such as a government or regulating body. Our challenge is a matter of time and money. Time in the sense that problems may be far in the future—beyond the timeframe of executives—and money in the sense that there won't be a clear return on investment.

In Japan, the decisions were at high company or regulator levels, or were political decisions, all based on cultural decisions driven by what could be afforded without undue political sacrifice. Compromises were made. In PG&E's case, it was a matter of oversight, cutting corners, and not having redundant systems functioning properly.

Standards, codes and regulations are there for us to lean on to avoid physical and property damage on a mundane, routine level. From time to time

when I was at UL, I would see a product that clearly would have hurt someone or caused property damage if not brought in line with current standards. In most cases and for most of us, the issue is compliance with a regulation or code. Non-compliance can be an immediate big deal from a marketing and sales standpoint and will have a pretty immediate financial impact. That's something executives can understand. We all know the fly-night companies that market products quick and dirty without an effort to comply with requirements. In most cases, they don't survive. Marketing products that comply with requirements reduces the short and long-term risks to the responsible company. Done with engineering skill, the cost is predictable and reasonable.

Times are getting more complicated—we have to deal with global issues that include political and cultural differences. Even a simple marking isn't so simple any more. More and more, we will have to deal with environmental concerns. We want to market products that are energy efficient and safe. We have to deal with digital interconnectivity and all the implications. If software can be hacked, will that smoke detector that is connected to the internet work properly?

These issues we deal with don't seem so potentially catastrophic as what happened in Japan. But what would happen if software controlling power equipment is compromised and the power grid is brought down? Or because of the interconnectivity of your TV with Amazon.com with your credit card a hacker can cause massive ID theft? Things are getting more complicated and more interconnected. Information spreads immediately. Misleading and wrong information can be distributed faster than a press release. Once the implication is out there, which is going to be the perception?

We may grumble about complex requirements in different countries, but in some respects it makes our jobs easier: we can blame a requirement for having to do something that would be difficult to justify on its own. Our conferences and chapter meetings provide the opportunity to dialog and get background that you need or may need at some point. In some cases, our society provides an independent sounding board beyond your company resources. The society discourse can provide justification and support for managers and administrators to guide their design engineers, and to make

Continued on Page 8

Chapter Safety Probes

To see current chapter information please go to the chapter page at:

<http://www.ieee-pses.org/Chapters/index.html>

People Looking To Start Chapters

Dallas Texas

Jonathan Jordan
jonathan@goodsonengineering.com

Denver Colorado

Richard Georgerian
richardg@ieee.org

China

Paul Wang
paulwang@gmcompliance.com.cn

North Carolina

Warren Fields
ncps@bellsouth.net

Ohio

Jim Bacher
j.bacher@ieee.org

Japan

Hiroshi Sasaki
hiroshi_sasaki@jema-net.or.jp

Congratulations to the new San Diego Chapter

The San Diego Chapter Formation Meeting was on Tuesday, March 29, 2011 at Advanced Test Equipment Rentals' headquarters. ATEC has volunteered to Host the meeting each month through the end of the year. 12 people were in attendance for this first meeting. It was decided that it would be best to hold the meetings on the second Tuesday of each month. Topic ideas were discussed.

□ April 12, 2011 meeting had 8 attendees. Michele Nash-Hoff founder of ElectroFab Sales, an independent manufacturer's representative agency, presented information from her book, "Can American Manufacturing Be Saved? Why We Should and How We Can".

□ May 10, 2011 meeting had 12 attendees. Richard Nute presented – "What is a Safety-Critical Component?"

On June 1st the PSES San Diego Chapter was official with 17 signatures on the petition.

□ June 14, 2011 meeting had 11 attendees. William Wenthold of TÜV SÜD America, Inc talked about changes to IEC 61010-1 3rd Edition, which provides an overview of the main changes for this edition.

□ July 12, 2011 meeting will take place at Nemko in Carlsbad, CA

They will give a tour of their new facility & Grant Schmidbauer will present "Market Access overview for MED EU, Canada, USA" & other Emerging Issues.

□ August 9, 2011

George White co-founder of Pacific Coast Process Solutions, Inc. a Forensic Engineering firm will present "Investigating Lithium Battery Fires".

Meetings will be held Advanced Test Equipment Rentals' headquarters, located at 10401 Roselle Street in Sorrento Valley at 6:00pm on every 2nd Tuesday of the month unless stated otherwise.

CHAPTER OFFICERS

Jill Berg
Leszek M. Langiewicz
Byron Yakimow

Please follow us on
[www.linkedin.com/ PSES San Diego Chapter](http://www.linkedin.com/PSES%20San%20Diego%20Chapter)
For more info or to receive the monthly notices please email PSES@atecorp.com

News and Notes

Registration Open for 23rd Annual Product Liability Conference

The University of Wisconsin will present its annual product liability conference September 27–29, 2011 at the Madison, Wisconsin campus. The following topics will be covered:

- Essential elements of an effective product safety management program;
- Basics of design hazard review;
- Techniques and tools to avoid development of a defective product;
- Usability testing of products and manuals;
- Workshop – Evaluating a new product for hazards and liability issues;
- Effectively managing a product recall;
- Preparing company personnel for deposition;
- Managing information pre- and post-notice;
- A plaintiff lawyer's perspective on product liability cases;
- Overview of the 2011 updates to ANSI Z535;
- Workshop—Understanding the plaintiff and defendant positions in preparing for product liability cases;
- Overview of the 2011 Consumer Product Safety Commission Safety Database;
- How to sustain and continuously improve a product safety management program.

Portland IEEE PSES Board of Directors' Meeting

On June 26, your Board of Directors' met at the new Intertek facility in Portland, Oregon. Our conference next year, will be in Portland, and we wanted to meet the ISPCE 2012 committee and provide our support for a great event. Anna Klostermann of Case Forensics (annak@case4n6.com) is the conference chair and has some great plans. If you are interested in joining the committee or have suggestions, let her know.

The Board discussed other many issues as well. The San Diego conference on October 10-12 (<http://www.psessymposium.org/>) will be our best ever! For the first time, we are planning to have a special issue PSES Newsletter that will help get the word out about this opportunity for everyone in the product safety/compliance engineering field to have a memorable professional experience. We are also arranging information about companion/family activities in the San Diego area. The board also spent a lot of time discussing how we can build chapters so that everyone can enjoy regular meetings and workshops in their local area. Your ideas for how to improve our IEEE society can be emailed to murlinm@ieee.org.

The board thanks Jim Pierce and Intertek for their hospitality.

Continued on Page 9

Product Safety Requirements in Argentina

by *Silvia Díaz Monnier and Andrea Méndez*

Since 1998 electrical and electronic products and materials for electrical installation of buildings are required to fulfill the Essential Safety Requirements according to Resolution 92 of the former Miner, Commerce, and Industry Secretary. This regulation establishes the conformity assessment procedure to be applied to equipment before placing it into the market, and surveillance controls after that.

The Essential Safety Requirements are considered to be met if products comply with requirements of applicable IRAM standards (national standards) or IEC standards, according to the equipment under consideration.

In conformity assessment, third party intervention is required. Certification Bodies are notified by national authorities and are responsible for undertaking the conformity assessment procedure. Products must be certified according to applicable national or IEC standards to be allowed to commercialize. In case of foreign products, the same requirements apply prior to the entrance to the Argentinean market. If the product bears a certification from a Certification Body that has a mutual recognition agreement with a National Certification Body notified by Argentinean authorities, the latter is allowed to issue the certificate without re-tests. If foreign products are not previously certified, there is a procedure to import samples for tests.

The Resolution 92 of 1998 applies to low voltage electrical equipment. That means equipment with a voltage between 50 and 1000 V for alternating current and between 50 and 1500 V for direct current. It should be noted that these voltage ratings refer to the voltage of the electrical input or output, not to voltages that may appear inside the equipment.

Resolution 76, issued in 2002 by the Consumer Defense, Deregulation, and Competence Secretary specifies which products require certification. These include:

- Electronic and electrical appliances with con-

sumption up to 5 kVA;

- Materials for electrical installations of buildings and electronic and electrical appliances rated no more than 63 A;
- Electrical cable and conductors;
- Equipment for generation of electrical energy up to 5 kVA;
- Materials for protective bonding installations and protective devices against overvoltage caused by natural phenomenon for electrical and telecommunication installations of buildings;
- Electrical products for skin treatment, independent of power consumption.

Appliances and materials specifically designed for exclusive use on automobiles, craft, aircraft, railways, and other transportation means are excluded from mandatory certification.

The same Resolution lists some products exempted from mandatory certification. Equipment for production of goods in industrial processes, which requires the operation of qualified personnel in electrical matters and other special products, must be commercialized with a declaration of conformity with the Essential Safety Requirements presented by manufacturer or importer to National Authorities. Equipment for diagnosis, treatment, and prevention for medical, odontological and laboratory use (medical products) is regulated by another Argentinean authority, ANMAT (National Administration for Food, Medicine, and Medical Products) and is not affected by all the regulations mentioned in this article.

In 2004 Resolution 198 of the Technical Coordination Secretary was issued. It covers products rated for less than 50 V. Products with rated voltage less than 50 V supplied by batteries are not required to be certified. Products with the same rated voltage but supplied by external power supplies are also exempt from mandatory certification but must be commercialized with instructions in the user manual about all electrical characteristics of the power supply compatible with the product or the specific model of power supply and a warning to the user about risks arising from connecting a pow-

er supply with different characteristics from that specified in the instructions. In case the product is sold together with the power supply, in addition to the previously referred instructions, the power supply must be certified according to Resolution 92 of 1998 of the former Miner, Commerce and Industry Secretary.

There are five products which must be certified even if their rated voltage is below 50 V:

- Luminaries and supply systems for luminaries supplied through sources connected to more than 50 V of alternating current;
- Dichroic lamps and lamp holders;
- Handheld portable tools;
- Fence electrifiers;
- Electro muscle stimulators, for complementing physical activity.

According to Resolution 197 issued in 2004 by the Technical Coordination Secretary, the person responsible for manufacturing or importing a product can select one of the following certification methods:

- Certification Scheme ISO No. 5 – Mark Certification: Type testing plus factory inspection and Argentinean market surveillance. The manufacturer must undergo an annual factory inspection. Market surveillance according to Resolution No. 96/2003 requires an “in country” reduced test every 12 months. The first verification must be performed within 180 days after certificate issue.
- Certification Scheme ISO No. 4 – Type Certification: Type testing and Argentinean market surveillance. In this case market surveillance according to Resolution No. 96/2003 requires an “in country” reduced test every 6 months. The first verification must be performed within 90 days after certificate issue.
- Certification Scheme ISO No. 7 – Lot Certification: Batch testing in Argentina. Sampling criteria are under the series of Standards IRAM 15, *Sampling systems for inspection by attributes*.

Market surveillance test according to Resolution No. 96/2003 consists of verification of samples taken from the marketplace and/or from manufacturing facilities and shall be conducted at any recognized Argentinean laboratory.

The Resolution 197/2004 also establishes that

products with mandatory certification must bear the certification mark of Argentina (S-mark) corresponding to the selected certification system and the certificate number. This marking can be over the product, its label or its packaging. This requirement allows consumers to identify easily which products comply with Essential Safety Requirements.

For the Mark Certification Scheme, the certification body mark is to be exhibited over the product near to the Argentina S-mark. (Resolution No. 799/1999)



Cert N°

For the Type Certification Scheme, the Argentina S-mark is accompanied by a “T” meaning a Type Certification and no certification body mark is allowed.



Cert N°

For the Lot Certification Scheme, the Argentina S-mark is accompanied by an “L” meaning a Lot Certification and the certificated lot number. Also in this case the certification body mark is not allowed to be placed on the products.



Lote N°
Cert N°

Is important to remark that the Argentinean S-mark is not only for electrical materials and equipment but also for other types of products that must fulfill the Essential Safety Requirements, such as toys, child bicycles, cigarette lighters, etc.

Silvia Díaz Monnier is a product safety engineer and she is in charge of the Electrical Safety Laboratory of the National Institute of Industrial Technology. She has worked in the product safety field for 15 years.

Andrea Méndez is a product safety engineer at the Electrical Safety Laboratory of the National Institute of Industrial Technology. She has worked in the product safety field for 15 years.

PSES Jobs Web Page

PSES has a web page for employers and job seekers at <http://www.ieee-pses.org/jobs.html>. Employers may post jobs seeking regulatory or compliance-related personnel free of charge. Job postings will remain on this web site for a period of 6 months but may be removed earlier by request of the employer.

Society members who are seeking jobs may list a description of the position they are seeking free of charge. A resume in PDF format may also be posted if desired. The listing will remain on this web site for 6 months, but the owner may submit a request to renew the listing every six months, indefinitely. It may be removed earlier by request.

See <http://www.ieee-pses.org/jobs.html> for posting policy and how to submit requests.

executive decisions that may reinforce the need to spend somewhat more for a design change, a new marking, or an inspection program. We can help do what's right. Doesn't PG&E—not to mention those San Bruno folks—wish that oversight and control beyond minimizing cost had been applied to their pipe line?

Murlin Marks
President IEEE PSES

News and Notes continued:

Photos From PSES Board of Directors Meeting in Portland Oregon



Photo 1 At the meeting (left to right) - Daniece Carpenter, Elya Joffe, Ivan VandeWege, Dan Arnold, Henry Benitez, Thomas Ha, Donald Rob, Pete Perkins, Kevin Ravo, Rich Nute, Doug Kealey, and Jim Bacher.



Photo 2 Tour - Elya Joffe, Henry Benitez, Jim Bacher, Dan Arnold, Donald Rob, Jan Swart and Jim Pierce.

Continued on Page 10

Israel Chapter 2011 Symposium Report

by Steli Loznen

The first Annual Symposium of the Israel IEEE PSES Chapter was a great success with approximately 45 registrants attending a one-day technical session focusing on eleven product safety areas of applicability.

The 2011 Symposium was held May 1, 2011 at the Tel Aviv University Electrical Department.

The event was organized in conjunction with the Israel Chapter of the System Safety Society.

Sponsors of this meeting included Israel Testing Laboratories Ltd. (I.T.L. Product Testing), a leading Israeli testing house, who provided the logistic support, and Tel Aviv University—the location of the IEEE Israel Section.

The Symposium was honored by the presence of Murlin Marks, President of the IEEE PSES and Elya Joffe, President-Elect of the IEEE PSES. The IEEE Israel Section was represented by the Chair, Prof. Simon Litsyn from Tel Aviv University.

Murlin Marks in his opening speech emphasized the IEEE PSES role: “As a society, we need to establish ourselves as a permanent element of IEEE providing real benefits to our members. IEEE society for product safety engineers—it’s our venue for our professional development and career achievement. My first goal as PSES president was to build solid, functioning chapters. Your chapter is a resource and a professional ‘home’ for members. Also, your chapter is a friendly place to develop leadership and presentation skills. The PSES is there to help you build your chapter. But it can be much more. We have sponsored an annual conference for seven years now. We are building Technical Activity Committees in a variety of product safety engineering related fields. As a PSES and IEEE member, you can develop leadership experience and credentials to grow within IEEE. You can move up through the PSES ranks and into IEEE leadership. You can be a part of the technological frontier.”

The overview of the IEEE PSES and its activities was a great start to the Symposium.

The topics of the Symposium were:

- Product safety and academia

- Functional safety
- Risk acceptability
- Work safety in electronic works
- AS 9100
- Battery hazards
- Laser safety
- Product safety by design
- Common cause failure
- Electrostatic phenomena
- Harmonization of the test methods

The technical program of the Symposium was started by Steli Loznen, QA and Certification Manager at ITL (Product Testing) Ltd and Chair of the Israel IEEE PSES Chapter with a presentation titled, “Product Safety: Must it be Part of the Engineering Universities’ syllabus?”

This paper summarized several considerations to be taken into account in developing engineering education programs.

In my opinion, engineering education programs should provide advice on how to minimize the safety risks when using equipment, and on safety features to incorporate into its design. The sources of these hazards, and safety compliance criteria should also be provided. Additionally, an overview of the role of standards and how they are developed and maintained must be transferred to future engineers.

In order to achieve completeness there is a need to add principles of product safety to the engineering educational curriculum. The presented considerations can represent a basis for discussion to be offered at the engineering education program courses in product safety.

Elya Joffe, President-Elect of the IEEE PSES, was the second presenter with “Functional Safety and Ethical Concerns: How do Professional Ethics Overlap with Safety-Related Engineering Work?”

The one most important duty of an engineer is to protect public safety and well-being. For ensuring a cost-effective, yet safety-minded design, a common approach is to carry out a risk-benefit analysis, where risks and benefits of a project are assigned cost, while the most favorable ratio between risks and benefits is sought. Every engineer will be faced with an ethical dilemma sometime during his working career. Engineers are also required to make ethical decisions every day during the regular course of engineering work. Personnel involved in safety-critical application development should possess a balance of high-quality professional skills. Ultimately, it is unethical to develop safety-related systems without following the best practice available.

“Risk Acceptability (Tolerability) in System Safety – Concepts and Methodology” was the title of the paper presented by the experienced consultant Nicky Bernstein from Relsafe Ltd.

The presentation developed the preparation of the Risk Assessment Matrix (RAM), the most accepted tool for assessing and accepting risk. RAM characterizes hazards within risk areas and critical technical processes, analyzing them for their potential mishap severity and probabilities of occurrence and prioritizing them for risk mitigation actions. The concept of risk acceptance asks the question, “How safe is safe enough?” or, in more precise terms, “The conditional nature of risk assessment raises the question of which standard of risk we should accept against which to calibrate human biases.” This question is important in various issues such as in nuclear energy plants, aircraft systems, school buildings, railways, etc. Examples of RAMs from various safety system areas and, the new tendencies in RAM technology preparation were presented and discussed.

The second presentation of Elya Joffe was “Functional Safety and EMC: Are they Consistent?” Consideration of EMC to achieve Functional Safety is increasingly important. Emissions of EMI may interfere with operation of radio communications and other electronics, while degraded functionality

(including complete failure) could occur to equipment when exposed to EMI. Assessing EMC-related functional safety risks is difficult. Functional safety requires much more than simply asking a test laboratory to perform some standardized tests, in particular it requires a lifecycle approach to EMC.

EMC immunity testing has an important part to play in the achievement of functional safety. However common immunity test methods are clearly inadequate for safety verification. To better address safety-oriented EMC compliance, EMC tests should be based on effective risk assessment, whereby testing should focus on preventing problems that are potentially most dangerous. Therefore, EMC lifecycle safety engineering methods similar to those already used for all other safety issues (including software) should be employed. Personnel involved in EMC-related functional safety activities require therefore a specific skills set and knowledge not shared by practitioners of EMC or safety alone.

Dr. Alex Turezky from the Israel Institute for Occupational Safety and Hygiene, referred in his paper “Electrical safety in electronic works” to the modalities for establishing a safe system with low costs and to cast the responsibility, when possible, on the professionals, managers, and safety officers in the different work levels, in order to assure the prevention of accidents and faults which may lead to legal claims.

A short overview of the contribution of three additional requirements of AS9100C, *Quality Management Systems: Aviation, Space & Defense Organizations* to the product safety view of the ISO 9001 standard, which as a generic quality standard, is not intended to fulfill customer's safety requirements, was the subject of the presentation “Product Safety and AS9100” by David Ben-Harosh, Corporate System Safety Chief Engineer at Elbit Systems Ltd.

The second part of the Symposium was dedicated to papers with practical subjects one meets in the product safety practice.

-
- “Li-Ion and Lithium Polymer Batteries hazards” by Moshe Henig, Consultant

The main issues presented: Li-ion and lithium polymer cell and battery construction safety failure evaluation and the standards UN 38.3, UL 1642, UL 2054 and IEC 62133 requirements. A short reference was done for: cell manufacturing process and failures during the process, testing, and audit; why separate tests for cells and pack are needed; why is the PTC not inserted to the PCM?; battery testing and evaluation; why do lithium batteries explode?

- “Achieve laser safe product in spite of openings in the product enclosure” by Ysrael Yeshurun, Consultant

A laser product may have openings in its enclosure, to enable loading and unloading of media. A laser product can be a "Class 1 laser product" (laser safe) only if the laser radiation detected through openings in the enclosure is less than a defined limit. This limit must not be exceeded even if a flat reflective object is inserted anywhere within the enclosure of the product and is reflecting the laser radiation towards an opening. The lecture described a safe method for measuring whether a laser product with openings is "Class 1" and showed how to attain "Class 1" product status if the radiation measured exceeds the permitted value.

- "Hands on guideline for product safety by design" by Ilan Cohen, Technical Director at ITL (Product Testing) Ltd.

It is essential that designers understand the underlying principles of safety requirements in order that they can engineer safe equipment. These principles are not an alternative to the detailed requirements of the standards, but are intended to provide designers with an appreciation of the basis of these requirements. Where the equipment involves technologies and materials or methods of construction not specifically covered, the design of the equipment should provide a level of safety not less than those described in the principles of safety standards and the supporting documents or local regulations that may apply. The presentation focused on practical hands-on examples and principles of classic safety requirements accompanied

by practical design guidelines and rules to follow. Covered subjects were: enclosure basics, plastics, batteries, power cables, outdoor requirements, transformers, lasers, insulation, power supplies, wires and grounding, labeling and marking, and others.

- “EMC as a Common Cause Failure (CCF) in Machinery system Robustness” by Raanan Baruch, CEO Approval Technology Ltd.

The increasing use of electronic technologies (including wireless, ISM, computer, and power conversion technologies) is now commonplace and increasing in machinery design, including safety-related parts of control systems (SRP/CS) where errors or malfunctions in the technology can have implications for functional safety. This presentation dealt with the evaluation of redundant multi-channel SRP/CS (“Category 3 & 4”) immunity (robustness) to EMI. The “points table” method used in EN 13849-1 to analyze CCF failures was presented. Although EMC is a major (25 point out of 100) factor in the calculation of CCF, the standard does not provide any practical tools or guidance to calculate this score. Based on EN 13849-1 it seems that “compliance with EMC standards” is sufficient. A method to analyze and evaluate the functional safety risks that may be the results of EMI and a new approach for “point” calculation and CCF score were also presented.

- “Electrostatic Phenomena and Safety of Equipment” by Eyal Zadok, CEO Israeli Electrostatic Control Laboratory

The presentation focused on ESD effects, detailing the dangers and standard demands. The first part dealt with the danger of plastic enclosures and detailed the technical solutions required by standards to be implemented, in order to minimize the risk of ignition of flammable materials. The second part described certain electronic equipment together with true situations that happened in daily life, that demonstrate the harmful consequences that static electricity phenomena might cause to the safety of electronic equipment. As a remedy to the failures above, the author called for the involvement of an ESD expert in the design team at the earliest stage of the equipment characterization.

- “The need for a harmonized Product Safety Test

Methods Standard” by Steli Loznen, QA and Certification Manager at ITL (Product Testing) Ltd and Chair of Israel IEEE-PSES Chapter

This paper summarized considerations that need to be elaborated in an international document which should harmonize the test conditions and procedures used to test electronic products (ITE, Medical, Telecom, laboratory, control, measurement, household, etc.) to ensure the application of requirements in a consistent manner. For mutual recognition of the test results between different testing houses, harmonization of the test conditions and procedures is a fundamental condition.

According to the ISO/IEC 17025 standard, all testing laboratories shall use appropriate methods and procedures for all tests, adequate for the scope. An example considered was the EMC testing standards which in a harmonized and unitary way regulate the same conditions and procedures for a specific test: no interpretations and no deviations from the recommended conditions and procedures. The presentation included examples of the harmonized structure which demonstrates the capabilities of the proposed approach.

In his closing remarks Steli Loznen congratulated and thanked the chapter members whose hard work and dedication made it all happen. Special thanks were addressed to Murlin Marks for his participation and his valuable inputs. Steli Loznen also initiated a proposal to the BoD of PSES to evaluate the creation of a “Product Safety Encyclopedia” which shall be intended for engineers and technicians involved in the design, manufacturing, and testing of electrical and electronic equipment. This Encyclopedia shall cover the issues in a wide range of applied technologies and concepts that are necessary to allow the user to follow reasonable steps to reach a defined goal: safety of products. The structure of such work is already done, and only the “green light” from the BoD is needed for starting work on of this fundamental resource under the auspices of the PSES.

Steli Loznen is chair of the Israel PSES chapter and Region 8 Membership Co-ordinator for PSES.

Israel Symposium Photos



Israel Symposium Photos Continued



Notes on ISCE 2011 in Singapore

by Murlin Marks

I have just returned from ISCE 2011, the IEEE Consumer Electronics Society's 15th International Symposium on Consumer Electronics (ISCE), held in Singapore. It was an interesting event; a number of the presentations touched on subjects related to product safety engineering. We are working towards having joint conferences with a product safety engineering track. Stefan Mozar, who was elected to our board of directors last year is one of the ISCE's founders, and is currently the Consumer Electronics Society (CES) VP of conferences. He and "Nick" Vun, the conference chair, were very hospitable and helpful.

Many of the ISCE attendees seemed very interested in joining the PSES. To me, this is very exciting because it has the potential to widen our experience and to help us gain insight on a wide range of technological developments and directions that form a spectrum from strictly product safety/compliance engineering to the consumer products themselves. With the ongoing convergence between the analog and the digital worlds, I think it is worthwhile for us to have this exposure.

IEEE has a tremendous range of interests in its different societies and councils. I would like to



Sessions Chair Murlin Marks (left) leading a session.

see relationships develop with as many as our members find interesting and of value. All it really takes to build new relationships is a solid interest and leadership. Please let me know what you would like from your society. With your help we can make it happen!


Murlin Marks is President of the IEEE PSES.



Tom Coughlin, Nick Van (ISCE2011 General Chair), and Stefan Mozar.



Tom Coughlin (CES VP Operations and Planning), Stefan Mozar (CES VP Conferences and PSES AdCom), and Murlin Marks (President, PSES).

The International Symbol of Engineering Excellence 

Boost Your Career...

With Certified Excellence!

A Personal Credential For The 21st Century Professional

iNARTE, Inc.
 840 Queen Street + New Bern + NC 28560
 1-800-89-NARTE
 Visit us at www.narte.org

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.



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

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 not limited to:

- Product Specific:** Consumer, medical, computer (IT), test and measurement, power supplies, telecommunication, industrial control, electric tools, home appliances, cellular and wireless, etc.
- Hazard Specific:** Electrical, mechanical, fire, thermal, chemical, optical, software, functional, reliability, risk assessment, etc.
- EMC / RF:** Electromagnetic emissions, electromagnetic immunity, regulatory, Introduction to EMC/RF for the safety engineer and compliance engineer.
- Components:** Grounding, insulation, opto-couplers, cables, capacitors, connectors, current-limiters, transformers, current-limiters, fuses, lasers, ferrites, environmental, electromagnetic suppression & protection, surge protectors, printed wiring boards, etc.
- Certification:** Electromagnetic emissions & immunity, Environmental, Product safety, Processes, safety testing, regulatory, product liability etc.
- Standards Activities:** Development, status, interpretations, country specific requirements, Laboratory Accreditation, etc.
- Research:** Body physiological responses to various hazardous energy sources, unique safeguard schemes, electrically-caused fire, forensic methods etc.
- Environmental:** RoHS, WEEE, EuP (Energy-using Products), Energy Star, Packaging Directives, REACH (Chemical), CeC, etc.
- Demonstration Papers:** Demonstrations of product safety testing techniques including mechanical, electrical, fire, etc.

Author's Schedule **All dates require that the associated documents be loaded into EDAS by the due date**

Abstract submission	May 15, 2011
Notification of Abstract Acceptance	June 1, 2011
Draft formal paper / presentation	July 15, 2011
Formal Final Paper	August 15, 2011
All Final Papers and Presentations	September 1, 2011



Prospective authors should submit e-papers using the on-line EDAS submission system. Please go to the Author's Kit page of the PSES web for comprehensive submission instructions including paper templates on the author tab at:

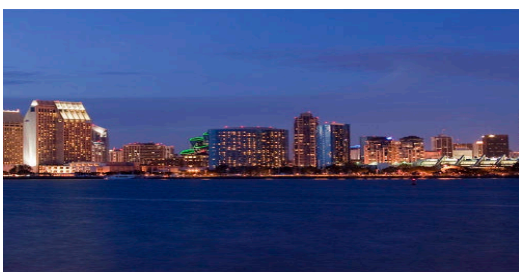
Technical Program Co-Chairs
Gary Tornquist, garytor@microsoft.com
Bob Griffin, bobgriff@us.ibm.com

Editorial Board Chair
Murlin Marks, murlinm@ieee.org

Conference Management/Registration
Chris Dyer, cdyer@conferencecatalysts.com

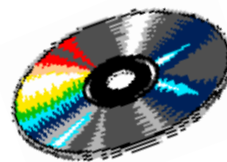
General Chair
Bansi Patel, Bansi.Patel@IEEE.org

General Co-Chair
Anna Klostermann,
aklostermann@case4n6.com



Past IEEE-PSES Symposium Records

CD Purchasing Information



SYMPOSIUM PAPERS ON CD:

The Product Safety Engineering Society continues to offer past symposium records for sale on CDs. 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:

CDs to be shipped to- (Please print or type.)

Name: _____

Mailing address:: _____

IEEE member number: _____

Shipping and handling: \$5 per CD

Payment: Check or money order.

Make Check or money order to: "IEEE Product Safety Society"

Quantity: _____ x \$35 = _____ for IEEE members

Quantity: _____ x \$50 = _____ for non-IEEE members

Specify what years you would like (2004 through 2008 are currently available):

S&H: QTY _____ x \$5 = _____

Total = _____

Send payment to:

IEEE Product Safety Engineering Society
c/o Richard Georgerian, PSES Board of Directors
7103 Sioux Court
Longmont, CO 80504
U.S.A.

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

New PSES Members from 26 March 2011 Through 26 June 2011

Our new members are located in the following countries: Australia, Canada, China, Colombia, Germany, Hong Kong, India, Iran, Italy, Korea (South), Lithuania, Malaysia, New Zealand, Nigeria, Poland, Taiwan, USA

Frank Stratico	Aziz Orumbaev
Graham Bruce Ison	Brian L Claes
Vitas Anderson	Carlos D Torres
John Trottier	Craig P Nelson
Kevin Strom	Daniel A Jimenez
Haonan Wu	David Greenblat
Linlin Fan	Douglas Sickles
Mingming Li	Gregg Kervill
Moyin Bai	Gregory C Brooke
Tao Shen	James A Lestienne
Xiaofeng Mo	James P Benson Jr.
Yujun Liu	Jeremy Wayne Hillshafer
Daniel Rebolledo	Joe Klesing
Dan Viris	Jon Mericle
Ralph M Kennel	Joseph F Murphy
Man Wai Leung	Julio Correa
Nikhil Y Mehta	Khizar Sultan
Somnath Pal	Lei Wang
Parvan Javidan	Mark L Wilson
Simone Cini	Michael W Branson
Heehun Hwang	Raymond Tomer
Gediminas Uskovas	Rey Tuscano
Sze Khian Ho	Roger D Wilson
Hamish D Laird	Satpal Saini
Ademola Henry Oladeinde	T Drenon
Marcin Pawel Pawlak	Thomas E Dwyer
Han-Nien Lin	Tracy Farwell
Aaron S Butcher	Walter T Jurek
Andres R Garcia	Wendy E Fuster
Anne K Ferrando	William L Wolf

The Product Safety Engineering Newsletter is published quarterly during the last month of each calendar quarter. The following deadlines are necessary in order to meet that schedule.

Closing dates for submitted articles:

1Q issue: February 1
2Q issue: May 1
3Q issue: August 1
4Q issue: November 1

Closing dates for news items:

1Q issue: February 15
2Q issue: May 15
3Q issue: August 15
4Q issue: November 15

Closing dates for advertising:

1Q issue: February 15
2Q issue: May 15
3Q issue: August 15
4Q issue: November 15

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. To place ad with us, please contact Jim Bacher at j.bacher@ieee.org

The Product Safety Engineering Society will accept advertisements for employment and place looking for work ads on our web page. Please contact Dan Roman for details at dan.roman@ieee.org .

The
Product
Safety
Engineering
Newsletter

Gary Weidner
GW Technical Services Inc.
2175 Clarke Drive
Dubuque, IA 52001-4125

CHANGE SERVICE REQUESTED

