The Product Safety Newsletter

IEEE EMC SOCIETY

Vol. 8, No. 1 January-February 1995

## What's Inside



# Chairman's Message

**Important Message:**
**Please Read and Respond**

In the near future, the Product Safety Technical Committee (EMC TC-8), as we now know it, will cease to exist. For the last six years we have formally existed as a technical committee of the EMC Society but in reality have functioned more as an IEEE society. The EMC Society leadership in the past has been very tolerant in allowing us the freedom to function as we have; however, there has been a change of leadership and TC-8 has been directed to reform itself to function as a traditional technical committee. A typical technical committee has six to ten members whose primary focus is on technical programs and publications associated with the annual International EMC Symposium. TC-8's scope will be restricted to electromagnetic safety and all who participate must be members of IEEE's EMC Society. As a normal technical committee, there is no framework for local chapters, substantial publications and other features of a Society. So it's clear there will be changes ahead.

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The Product Safety Newsletter

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Opinions expressed in this newsletter are those of the authors and do not necessarily represent the opinions of the Technical Committee or its members. Indeed, there may be and often are substantial disagreements with some of the opinions expressed by the authors.

Subscriptions are free and may be obtained by contacting Dave McChesney at 1865 Farndon Ave., Los Altos, Ca. 94024

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# Beware the Light Emitting Diode

A recent development has caused a great deal of intense activity by a standards body. The International Electrotechnical Commissions Technical Committee 76 (IEC TC76) found itself the focus of worldwide concern over itsamended standard IEC 825-1, Safety of Laser Products - Part l. Published in November 1993, 825-1 cancels and replaces IEC 825, published in 1984 and since amended. In section 1.1 Scope, the following statement appears in 825-1: "Throughout this part I light emitting diodes (LED) arc included where ever the word laser is used." Thus, IEC TC76 not only regulated LEDs for the first time, but, by applying the same classification criteria to LEDs as to lasers, LEDs were severely overclassified. Safe LED applications, such as infrared remote controls and visible LED front panel displays would not be Class I (safe under reasonably foreseeable conditions of operation), but could be as high as Class 3 (Direct intrabeam viewing of these lasers {LEDs} is always hazardous.). Any classification above Class I requires labeling at least, and may in some cases, prevent operation at all!

While IEC Standards are intended to be international, they are usually adopted on a country by country basis. However, the European Community for Electrotechnical Standardization (CENELEC) has taken IEC 825-1 and has published it as a European Norm, EN60825-1. Thus, for most European countries, LEDs would be regulated after I March 1995.

To be fair to the IEC, 825-1 should not have been a surprise to companies around the world, yet it was. Members of IEC TC76 made attempts to enlist participation by members of industry during the formulation of the new standard. Whether industry turned a deaf ear to the IEC TC76 entreaties (how often do mid and high levc1 managers assign resources to non-immediate problems?), or the entreaties themselves were not effectively made (most TC76 members are far removed from the manufacturing world), industry remained mainly ignorant of the impending standard change.

***"While IEC Standards are intended to be international, they are usually adopted on a country by country basis..."***

To be fair to industry, TC76 could have made more of an effort to become aware of the over classification of safe LED applications by the new standard. The committee understands optics and human physiology quite well. However, this did not happen during the creation of 825-1.

Late in 1993, several companies had potential impact of the new standard brought to their attention through customer inquiries. A field sales

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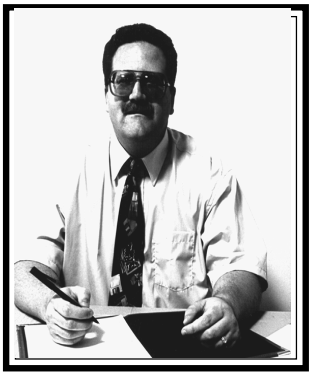
# Area Activities



**by John Reynolds**
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**e-mail: jreynolds@cisco.com**

## Northwest Chapter

Committee Business: Jim Pierce has resigned as the committee chairman due to additional commitments. In order to continue the meetings, Scott Varner will act as temporary chairman until a new chairman can be elected or the group can decide the next course of action.

Subject: "On going developments in ITE requirements: Looking at the next incarnation of IEC 950 by TC74"

The presentation was a review of the week-long meetings of TC74/WG7 and WG8 followed by the TC74 Plenary. These groups are developing the next update to IEC 950, which will be the 3rd edition of the standard. Since the details are voluminous, the presentation focused on the strategy for moving ahead and gave examples of some of the standard.

The speaker was Mr. Peter E. Perkins. Mr. Perkins was a staff member at Tektronix for 34 years, 17 as Manager of Corporate Product Safety and Regulatory Affairs. Mr. Perkins is a registered Professional Electrical Engineer in the state of Oregon, a registered Professional Quality Engineer in the state of California and a Certified Product Safety Manager.

Regular meetings will resume in January after the Holiday season. [Thanks to Scott Vamer for the info on the Northwest Chapter - Ed.]

## Santa Clara Valley Chapter

The November meeting of the PSTC was held at Hewlett Packard in Cupertino. The meeting started with chapter Chairman Murlin Marks giving a short overview of the local chapter activities. Dan Wienberg made another solicitation for volunteers to set-up and man demonstrations at the San Jose Museum of Science and Technology. Vice-Chair, Edward Karl, then went over the upcoming year's schedule of speakers.

Ms. Kathy O'Connor of Applied Materials, Inc. gave a presentation on Risk Assessment. Ms. O'Connor discussed how to determine whether a hazard presents an acceptable or unacceptable level of risk. How do you prioritize known hazards for corrective action? When do we decide which one to pursue? The risk presented by a hazard is

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# CB Scheme Primer

**by Gene Panger,**
**TUV Product Services**

The CB Scheme is a group of certification bodies organized to provide mutual recognition of tests performed in accordance with International Electrotechnical Commission (IEC) standards. 'CB Scheme' is shorthand for "The Scheme of the IECEE for the Recognition of Results of Testing to Standards for Safety of Electrical Equipment." Originally organized under the International Commission for Conformity Certification of Electrical Equipment (CEE), the CB Scheme was blended into the IEC in 1985. The organization's charter is spelled out in the IEC document "IECEE 02: Rules and Procedures of the Scheme of the IECEE for the Recognition of Results of Testing to Standards for Safety of Electrical Equipment, Second Edition, May 1992 (Sections 1-6 and Annexes A, B, C)." The Scheme is supervised by the Committies of Certification Bodies (CCB) which reports to the Management Committee (IECEE-MC) which, in turn, reports to the IEC Council. Regular updates of CB Scheme activity are found in its publication, "CB Bulletin."

The following 30 countries arc represented in the CB Scheme by one or more members: Austria, Australia, Belgium, Canada, China, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, India, Ireland, Israel, Italy, Japan, Korea, Netherlands, New Zealand (Associate), Norway, Poland, Russia, Singapore, Sweden, Switzerland, Ukraine, United Kingdom, United States, and Yugoslavia.

In simple terms, all National Certification Bodies (NCBs) of thc CB Scheme are committed to providing their certification marks based on a single set of tests done by one of the members provided that the originating member tested all of the appropriate differences relevant to the country in which certification is being sought. Confidence within the group is based on the fact that each member's laboratory has been approved by the CB Scheme's assessment group. While existing accreditation is expected to be taken into account (Section 5.3.ld), the Scheme was organized before broad-based, mutually recognized accreditation schemes were developed across Europe.

The mechanics of the Scheme are such that:

1) Test is done at an Issuing NCB (Body One)
2) CB Test Report and CB Certificate arc requested in addition to certification mark
3) CB Test Report and CB Certificate are taken to a Recognizing NCB (Body Two)
4) Body Two reviews results and performs any additional testing due to country differences. If no differences, Body Two accepts Body One's results and issues its certification license and mark.

This means that, in theory, re-testing should never be necessary-particularly if country differences have been considered. This would

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# News and Notes

by **Dave Edmunds**
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**Henrd_D_Edmunds.Wbst843@Xerox.com**

## IEC PRESIDENT ELECT

Mr. Bernard H.Falk begins a one year term of office as President elect of the IEC effective January 1,1995. Mr.Falk replaces Dr. Hans Gissc1 whose term one year term expires.

## HORIZONTAL COMMITTEES

The Committee of Action (COA) of the TEC is emphasizing the importance of horizontal work by assigning horizontal functions to 12 TC (Technical Committees). Some of these TC and their horizontal function are:

TC 74 - Preparation of requirements for the safety of products to be connected to telecommunication networks, including requirements to maintain safety levels of such networks.

TC 77- Electromagnetic compatibility SC 65A - Functional safety of electrical electronic/programmable electronic systems, including safety related software.

## LIGHTNING SIMULATOR

Inchape's ETL Testing Laboratories in Cortland, NY announced on November 7th, 1994 the opening of anew lightning testing facility. This facility will focus on products such as tools for electrical workers and household lightning protection equipment. For additional information contact Cheri Hart at (508) 689-9353

*The editor wishes to thank Mr. Moe Lamothe of M. A. Lamothe and Associates Inc. of Ontario, Canada for permission to extract the following material from their "Approvals Review" newsletter, Vol. 6, Issue No.4, Fall, 1994:*

## UL 1459

Section 70 of UL 1459 covers the specific requirements for DC powered telephone equipment. Par. 70.5 via para. 14.2 requires that equipment intended for field wiring provide a termination method consistent with the NEC. For field wiring, this has been interpreted to mean that equipment must provide for the use of conduit, raceway or armored cable to terminate the field wiring. UL has reviewed this restriction for equipment intended for installation in restricted access locations. The NEC allows exposed wiring systems as long as the wiring is "protected against physical damage" and the maintenance of the system is by 'qualified Personnel.' UL will now accept the systems that are intended to be powered from centralized DC power systems and which arc marked for 'use in restricted access locations' without requiring these systems to have special wiring boxes, fittings for conduit, knockouts. etc.

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# Product Safety Via Internet

*E*ffective December 1, 1994, individuals interested in discussing product safety issues among their peers may do so on the Internet, thanks to the IEEE. By simply following the directions noted below, IEEE Members and non-members alike can now draw on the vast resources and talent of each other to discuss product safety related topics.

The following is a brief background. Several months ago, the staff at the PSN recognized that an un moderated discussion group on e-mail would help members in our profession communinicate with each other. Additionally, if those discussions were subsequently archived, we could form a database from which to draw for future reference. None of us had access to be kind of hardware it would take to make the above a reality. That is when we turned to the IEEE and asked for their help. They responded with a description of various services that they offered and the PSN staff chose the "Unmoderated Discussion Group" e-mail forum. The following are the salient features of the group.

1. Anyone can join. By simply sending a message to the IEEE, (see below for details), anyone interested in product safety topics can be added to the discussion group. This activity is completetly automated by the IEEE.

2. Any user can send to the distribution list. By simply addressing the server at the IEEE, your message is automatically distributed to everyone who has joined.

3. Any replies are sent to the list. By simply addressing the IEEE's server from which you receive a message, all users will see any responses you send. Of course, you can also address just the author, but then the group losses the benefit of your insight.

4. Archiving occurs. Messages are automatically archived. Following the directions noted in the help file (see item 3), you can view a list of files in the the archive as well as request the message(s) themselves.

**HOW TO USE THE DISCUSSION GROUP:**

1. How to Subscribe and Unsubscribe:
The only way to subscribe is to send an e-mail message to: **majordomo@ieee.org**
and place the following command in the body of the message:

**subscribe emc-pstc <your - email_address>**

(Do not include the brackets < or >. The only way to unsubscribe (ie: remove your name from the EMC-PSTC) is to send an e-mail message to: **majordomo@ieee.org**
and place the following command in the body of the message:

**unsubscribeemc-pstc <your - email_address>**

(Do not include the brackets < or > ). Please note that if you have a registered IEEE E-Mail alias, you should use your alias as the e-mail address for the subscription. ie:

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# Product Safety Article Abstracts

by Dave Lorusso
(508) 435-1000x2130
(508) 435-5067 (fax)

**"The Design of Manual Handling Tasks; Revised Tables of Maximum Acceptable Weights and Forces" Stover H. Snook and Vincent M. CiricllcLiberty Mutual Insurance Company, 71 Frankland Road, Hopkinton, MA 01748**
**"Ergonomics, 1991", Vol. 34, No. 9, 1197-1213**

Abstract: Four new manual handling experiments are reviewed. Thc experiment used ma]e and female subjects to study lifting, lowering, pushing, pulling, and carrying tasks. Each experiment used a psychophysical methodology with measurements of oxygen consumption, heart rate, and anthropometric characteristics. Independent variable included task frequency, distance, height and duration; object size and handles; extended horizontal reach; and combination tasks. The results of the four experiments were integrated with the results of seven similar experiments published previously by this laboratory. The integrated data were used to revise maximum acceptable weights and forces originally published in 1978. The revised tables are presented and compared with the Original tables.

**"Revised MOSH Equation for the Design and Evaluation of Manual Lifting Tasks" Thomas R. Waters+, Vern Putz-Anderson+, Arun Garg*, and Lawrence J. Fine++National Institute for Occupational Safety and Health, 4676 Columbia Parkway, Cincinnati, OH 45226 *Department of Industrial and Systems Engineering, University of Wisconsin-Milwaukee, WI 53201**
**"Ergonomics, 1993", Vol. 36, No.7, 749-776**

Abstract: In 1985, the National Institute for Occupational Safety and Health (NIOSH) convened an ad hoc committee of experts who reviewed the current literature on lifting, recommend criteria for defining lifting capacity, and in 1991 developed a revised lifting equation. Subsequently, NIOSH developed the documentation for the equation and played a prominent role in recommending methods for interpreting the results of the equation. The 199] equation rcf1ects new findings and provides methods for evaluating asymmetrical lifting tasks, lifts of objects with less than optima: hand-container couplings, and also provides guidelines for a larger range of work durations and lifting frequencies than the 1981 equation. This paper provides the basis for selecting the three criteria (biomechanical, physiological, and psychophysical) that were used to define thc 1991 equation, and describes thc derivation of the individual components (Puz-Anderson and Waters 1991). The paper also describes the lifting index (LI), and index of relative physical stress, that can be used to identify hazardous lifting tasks. Al-

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# VLF, ELF and Laser Publications

**by David Baldwin, Hewlett Packard**

Guidance to protect workers from radiation emissions from VDTs and the possible effects of electric and magnetic fields to workers health are addressed in two new publications available from the UN's International Labor Office. Working conditions and procedures needed to safety manufacturer, maintain, and operate laser devices arc covered in another new guide, the ILO said in a recent announcement.

ILO has a series of publications aimed exclusively at occupational safety and health. The publications are based on results of ILO research and studies. Among the new titles:

* *Visual Display Units; Radiation Protection Guidance* (53 pages; OS&H series, No. 70; ISBN 92-2-10862-8; $12);

* *Protection of Workers From Power Frequency Electric and Magnetic Fields*; A Practical Guide (62 pages; OS&H Series. No. 69; ISBN 92-2-108261-X; $16); and

* *The Use of Lasers in the Workplace*; A Practical Guide (62 pages; OS&H Series, No. 68; ISBN 92-2-108260-1; $14).

ILO also has reference books on job safety issues, including a five-language glossary containing words and expressions used in workplace safety and health (530 pages; ISBN 92-90]6-002-2; $76) and a two-volume encyclopedia of occupational health and safety totaling more than $2,500 pages (ISBN 92-2-103289-2; $250).

To purchase these books, or for further information, contact the ILO Publications Center, 49 Sheridan Avenue, Department A, Albany, N.Y., 12210; (418) 436-9686, ext. ]23; fax: (518) 436-7433. Orders must include the ISBN number.

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"The Questions of Health Effects from Exposure to Electromagnetic Fields." W.R. Hendee and I.C.Boteler;*HealthPhys*.,66(2): 127-136(1994). Possible health effects of exposure to low-intensity electric and magnetic fields (EMFs) are reviewed, with many references, due to increased attention in the scientific literature and, especially in the public media. Lab research at the cellular and whole animal 1evel has demonstrated various biological effects that may be related in some manner to the effects of EMF exposure on people. However, the exact mechanisms of this relationship are far from clear. The studies suggest that EMFs might be cancer promoters but are unlikely to be cancer initiators. At the level of human epidemiology, about 50 studies have examined the possible correlation of EMF exposures with adult and childhood cancers. Although the possibility of a correlation is weak, it cannot be discouraged and further research is needed. In the meantime, a practice of "prudent avoidance" of prolonged exposure to EMFs is warranted. ■

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# Laser Safety Standards in Europe

**B.A. Tozer**
**Lasermet Ltd. and City University, London, UK**

*[Permission to reprint this article has been granted by the Journal of Laser Applications. The Journal of Laser Applications /., the official publication of the Laser Institute of America (LIA), and publishes both basic and applied technical papers covering all applications or laser and electro-optics. Safety and regulatory interest articles (not necessary for review) are welcome. LIA is a secretariat to the ANSI 2136 Sate Use of Lasers accredited standards committee. For a sample copy of their publication, author information, or Laser Institute of America membership, please contact John R. Dyer, Managing Editor, 3763 Sylvan Wood Dr., Sylvania, Ohio 43560, Phone/Fax: 419-841-7404.]*

*This paper reviews the present state of the standards-making process in Europe, explaining such arcane terms as 'CEN', 'CENELEC', 'Euronorm' and 'directive'. Standards-making bodies in Europe work to strict guidelines with regard to their relationship to member countries of the EEC and EFTA, and work closely with the international standards bodies, IEC and ISO, to minimize duplication of effort and to ensure minimum conflict with international standards. The current situation with regard to laser safety standards in Europe is reviewed, and the author speculates on some possible future developments.*

## INTRODUCTION

The process of standards-making in Europe changed radically in recent years as the European Community moved towards the single market. The changes, which are intended to ensure that differing national standards will not negate the intentions of the move to a single market by continuing to impose effective barriers to trade, are as yet little understood within Europe let alone in the USA. In this paper I attempt to shed some light on this obscure, essential1y boring, but commercially important subject.

## EUROPEAN STANDARDS ORGANIZAIONS

### Supranational bodies

There are three supranational standards organizations within Europe: CEN, CENELEC' and ETSI. In 1982, an agreement on work repartition was signed between CEN and CENELEC, but it was not until 1991 that the three organizations reached agreement defining the basis of their cooperation. An important element of the agreement is that every effort should be made in planning the technical work to ensure that experts are not obliged to deal with a subject in _ more than one technical body. The substance of the tripartite agreement is summarized in the following statement in the agreement: 'The for-

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**News and Notes**
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Note the following points:

- Provision must be made for separation of conductors and circuits.

- A suitable terminal block or wire for which wire splicing devices are available must be provided.

- Physical protection of the wiring and accessibility to parts involving a risk of electric shock or energy hazards needs to bc considered.

- Grounding of the enclosure must be provided for in an acceptable manner.

**Adoption of IEC Standards**

CSA is continuing to adopt IEC standards with little or no change to their wording. This policy has several advantages.

- A common worldwide standard will allow manufacturer's to make one product to satisfy North American, European and otherworld markets.

- Adoption of the IEC standard as a Canadian standard allows CSA to participate in the CB scheme for the product covered by the standard.

Standards identified with the C22.2 designator have been changed to comply with the specific requirements of the Canadian Electrical Code. Standards identified with 'E' before the number are IEC developed standards adopted by CSA without change.

A few of the new standards are:

- CAN/CSA-C22.2 No. 1010, Equipment for Control, Measurement and Laboratory Use

- CAN/CSA-E730, Electric Controls for Household Use

- CAN/CSA-ElO29, Portable Electric Tools

**CSA Standard Test Procedures:**

CSA has published a number of laboratory test procedures. These guides are intended to cover all aspects of testing products products to a specific standard. They include the proper set-up and test methodology to get consistent results. The latest procedures to be published include:

- PRO-012: Hazardous Locations
- PRO-013: Environmental Products/Locations
- PRO-0I4: Electromedical and Laboratory Equipment
- PRO-0l5: Consumer Commercial Products - HV AC & R
- PRO-0I6: Environmental Products - HV AC & R
- PRO-017: Radio, Television, and Electronic Apparatus
- PRO-018: Consumer and Commercial Products - Electronic, Miscellaneous

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defined as the combination of the potential severity of loss/damage should a mishap occur and the likelihood that it will occur. Assessing the risk presented by a hazard first requires that the credible severity and likelihood levels for that hazard be determined. The hazard can then be mapped on to a risk matrix of severity/likelihood combinations which defines acceptable and unacceptable zones.

The next meeting on Deccmber 13, 1994 will be a joint meeting with the EMC Society at Rolm, Bldg.. 2 (Cafeteria Conference Room). Design & Synthesis of Compact Absorber for EMC Chamber Applications by Mr. Tom Ellam, Rantec Anechoic/Shielding Systems. Mr. Ellam will discuss the development of hybrid absorbers to meet ANSI C63.4 site attenuation and IEC 801 3/1 000-4-3 field uniformity requirements. These hybrids use ferrite tiles and multilayered, carbon-loaded dielectric cones. For more information contact Mr. Jeff Evans at (415) 390-1696.

## Orange County/ Southern California Group

The January 3rd meeting will feature a discussion of the November 1994 CBEMA Meeting.

## Northeast Product Safety Society

The October/November newsletter featured articles on the New, International Standard IEC 127-6 for Fuse-holders for Miniature Fuselinks by Jost Degen, Schurter, Inc.

## Central Texas

The October 27th meeting of the Austin Texas TC-8 Committee was held at Acoustic Systems, 415E. ST. ElmoRoad (Austin). Speaker: Branden Tinianow. Mr. Tinianow is the Technical Laboratory Director at Acoustic Systems. Acoustic Systems docs merchant acoustical testing and manufactures acoustic enclosures. The presentation included a tour of the Acoustic Systems facility.

## ** ATTENTION **

Want your name in print? Want your group to get in the lime-light? The only way is to send in those notes and articles. I have been receiving less and less information from the various groups. Let me know if you feel that this column is filling a vital purpose or not.

Best regards,
John Reynolds ■

**Product Safety via Internet**
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**subscribe emc-pstc i.name@ieee.org**
where 'i.namc' is your IEEE E-Mail alias. In this way, the subscription will "follow" any future changes to your E-Mail forwarding alias at the IEEE.

2. How to send a message to the EMC-PSTC discussion group:

Simply send an e-mail message to the following address:

**emc-pstc@ieee.org**

All mail sent to this Internet address will be immediately echoed to everyone on the EMC-PSTC list by an automated list server.

3. How to Offer help:

To get more information about using the IEEE's EMC-PSTC discussion group, send an email message to:

**majordomo@ieee.org**

and place the following command in the body of the message: help

Should you have any questions that arc not answered in the above file, you may address them to the following:

Volgstadt Roger@Tandem.com

The editor of the Product Safety Newsletter will be the designated owner of the list and has the ability to add and delete subscribers. As this is an unmoderated discussion group, no one will be reviewing or editing any messages sent out. However, it is requested that the following guidelines be followed as a user of this discussion group: EMC-PSTC Regulatory E-Mail Grapevine.

**Charter and Guidelines**
**5 December 1994**

The EMC-PSTC is an informal group of people interested in Product Safety regulations and standards world-wide, networked electronically by mailing list. Its purpose is to provide a forum for the sharing of public, but possibly obscure Product Safety or Regulatory Compliance information, or related information with limited natural distribution.

All mail sent to the Internet address will be immediately echoed to everyone on the list by an automated list server.

DISCLAIMER: All postings arc the sole responsibility of the message originators. The IEEE PSTC and its volunteers, staff members and members of the PSN staff do not assure the correctness or viability of any information distributed by the list server, nor accepts any responsibility for the use of any distributed information.

**MESSAGE CONTENT GUIDELINES:**

I. Correspondence should be limited to information or queries relating to Product Safety or Regulatory Compliance standards only. Any information should not be confidential or in any way proprietary. Please don't use the EMC-PSTC for simple correspondence - Private correspondence should be addressed directly, unless it has broad appeal or interest.

2. Blatant or overt advertising of goods or services is not permitted. The list server is provided as a service by the IEEE, whose policies prohibit anything that might be construed as conflict of interest.

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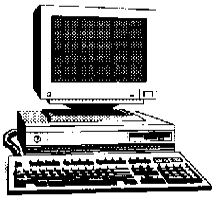
Exceptions:



a) Short, non-promotional "trailers" or signature lines for the sole purpose of identifying the sender and the senders organization.

b) Answers to queries about goods or services, where the intent of the answer is to inform, but not promote. (When in doubt, send the questioner a private message.)

c) This guideline is specific to the use of the this list server, and in no way inhibits individuals from contacting members privately and independently.

3. Posting of job openings is OK so long as they arc short (i.e., I paragraph), non-commercial (no agencies or headhunters - no fees involved), infrequent (about one out of every 10 messages or less), and contain an off-EMC-PSTC contact name and phone number or e-mail address. Same goes for jobs-wanted (if you can fit your resume into one paragraph!).

4. Using key words in the title or subject line will assist members who archive the message traffic and may wish to search it later. Suggested keywords include: SPACINGS, SHOCK HAZARD, or a country name (where the information is country-specific).

5. Queries or requests for information should be focused and brief. Respondents should be careful about endorsements - When in doubt, don't.

We are very pleased to be able to offer this discussion group and look forward to extensive use by the Product Safety community. However, we would like to emphasize that this discussion group is simply a tool. Tell your co-workers and agency contacts about this new forum. The more people involved, the more valuable this tool will be.

Best Regards,
Editor, PSN ■

**Please send any Product Safety related articles to:**
**Dave Lurusso**
**EMC Corporation**
**171 South Street**
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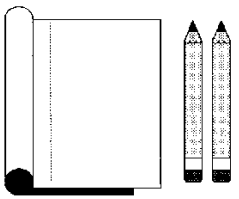


The guides are very good but suffer from containing an over-abundance of detail for each possible test situation and product configuration.

**UL/CSA Bi-National Standard for ITE:**

[The November 17, 1994 UL bulletin on the Bi-National ITE standard requests review and comment of the proposed overvoltage requirements. The bulletin also reminds recepients of the implementation of the new Bi-National standard which is as follows:

- Between standard publication and 411/2000, new product submittals can be evaluated to current standards.
- After 41112000, products previously evaluated to other standards can continue to be Listed, Recognized or Certified until 41112005 provided no revisions are made.
- As of 4/112005, all UL Listed, Recognized or Certified products must comply with the Bi-National Standard. - Ed]

Several informative annexes have been added. These include:

- NAA covers the marking required by specific clauses and provides the French translation for equipment intended for use in Canada
- NAB covers special requirements for DC powered equipment.
- NAC covers the telephone over voltage test requirments in detail.
- NAD provides alternate terminology where the existing 950 wording is not acceptable in the USA for legal reasons.
- NAE covers the US and Canadian regulatory requirements which lead to country specific deviations in the standard.

Publication is planned for early 1995.

**Mexican Safety Requirements**

A letter to the editor of the above newsletter asks about safety approvals in Mexico. The response included the following:

The requirements in Mexico are in a rapid state of change because of NAFT A. The requirement to register (our product in the name of a Mexican company) will likely change in two or three years. In the meantime, this is one of several irritants that companies entering the Mexican market early will have to contend with. You should also note that all products entering Mexico as of Nov. 8, 1994 will have to have a NOM label affixed.

Continued on Page 21

Continued From Page 1

As best we can tell, our organization is the largest, longest-lived association of product safety professionals ever and it would he unconscionable to allow all that we've accomplished to unravel. Consequently, we have to make some important decisions about our future and we're approaching each of you now to get your input.

We have several options available to us, among them:

-Reform as an independent product safety society
-Reform as an IEEE Technical Council
-Align with IEEE Environmental Health and Safety Committee

I'd like to summarize some of the key characateristics of each:

**1. Independent Product Safety Society**

This would be a return to our roots as our association with the IEEE began quite some time afterourformationinthemid-1980's. Creation of an independent society not affiliated with the IEEE is no small undertaking. It most likely will involve incorporation and will require an extensive ongoing in vestment in overhead and administrative support. Some of these functions can be contracted out but doing so will increase administrative financial outlay. Most of our revenue, at least initially, would come from membership dues and consequently, most of our services and publications would likely be available only to members. On the positive side, we would he relatively free to function as we saw fit. The biggest challenges to making this successful is mustering the volunteer support to actively drive the formation of the society through to a point of stability and then maintaining the expanding levels of commitment needed for continued growth. This is not a task to be undertaken lightly; it is our observation that prior attempts to establish and maintain professionally oriented product safety societies generally have not succeeded over an extended period.

**2. Reform as an IEEE Technical Council**

This has been on our agenda for quite some time and we our continuing to explore how this approach can work for us. IEEE Technical Councils are bodies that have formal tics to more than one IEEE Society. Technical councils have no members of their own, but rather consist of one or two appointees from each of the participating societies to serve on the council. They function to direct the efforts of interested members from the various societies in the accomplishment of one or more specific tasks or activities, most commonly the publication of technical proceedings or putting on conferences or symposia. Since technical councils function as a creation of the participating societies to meet specific inter-society needs there appears to be little incentive to nurture the council's growth into societyhood; reasons given include the fear that the newly formed product safety society would draw members away from the original sponsoring societies.

**3. Alignment with IEEE EH&S Committee**

This is the newest alternative and the subject of increased study and discussion. The EH&S Committee reports into the IEEE Technical Activities Board as do IEEE technical societies (EMC, etc.). It was formed two plus years ago and currently has more than 150 members and affiliates. They have a very active core group, have already sponsored a conference and have exerted influence within and outside the IEEE. To date, they have not functioned as a society (e.g., no

local chapters or regular technical publications, etc.) nor is there an adopted plan to pursue societyhood at the present time. I have participated in the Committee for a year and a half as TC-8 liaison so there has been a limited relationship between the two groups for some time. In recent discussions arising from the EMC Society's decision, I can say there is considerable interest from the EH&S committee leadership in exploring affiliation.

Thc EH&S Committee's focus to date has been mostly on environmental-related safety issues surrounding the electronics industries. In terms of past technical focus we have little in common, which is to say we may complement each very well should we merge. Each group would bring a lot to the table that the other does not yet have. From our perspective, it would immediately expand our strength into technical areas where we have been weak (environment, process safety, etc.) and give product safety much more visibility within the IEEE. From their perspective, they would tap into an established distributed infrastructure (local chapters, mass publication, etc.) and expand into untapped technical areas (product safety, product regulation, etc.)

***In the weeks to follow, the TC-8 leadership will meet to study these and other possibilities and out of these discussions will arise a strategy and action plan.***

**What's Ahead**

In the weeks to follow, the TC-8 leadership will meet to study these and other possibilities and out of these discussions will arise a strategy and action plan. Concurrently, we will continue discussions with other IEEE societies regarding technical council affiliation and with the leadership of the EH&S Committee regarding a merger or similar affiliation. If interest in independent society status continues we will continue to explore that option also. By the time you read this, a general plan of action (including the ongoing study phase) will have been presented to the EMC Society Board of Directors.

I do want to take this opportunity to thank the EMC Society for their support and patience in allowing a completely anomalous organization like TC-8 to live within their organization over the years. We have benefited greatly from the special interest their leadership has shown in promoting product safety practice. As we work with the EMC Society on the transition, we expect our special relationship to continue as we set out on our new course.

I strongly suggest that each of you, whether you are an IEEE member or not, provide us your views on the options we're considering. All will be affected by the changes ahead. Personally, I'm excited about the future; we will benefit from a well-conceived and executed plan of action. Some of our options did not exist until recently so the timing of the changes is fortunate. You can respond by sending your reply to anyone of the following:

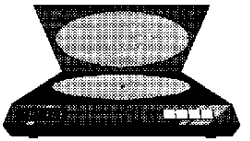
- Roger Volgstadt, Newsletter Editor, via e-mail: (volgstadCroger@tandem.com) or fax: (408)285-2553)
- the Product Safety E-Mail Forum: (emc-pstc@mail.ieee.org) or
- Brian Claes (fax number((510)770-5548)

I'm looking forward to hearing from all of you.

Brian Claes ■

LEDS, Continued From Page 3

or applications or marketing person would receive an inquiry from a customer or potential customer: What AEL (Accessible Emission Level) classification will your XXXX product have under IEC 825-1? Soon realizing that LEDs were about to be covered by the previous exclusively laser standards, industry became aware of the impact of IEC 825-1 in early 1994. Companies that manufacture LEDs or incorporate them into products arc found in Europe, North America and thc Pacific Rim. The national committees of countries active on TC76 were soon contacted by industry representatives, and the committees were made aware of the industry concerns and the potential impact on national economies. Several proposals were made to TC76 to correct the over classification of LEDs. National Committees met to discuss the issue. Also there were communications between members of different national committees. By the time National Committee delegates arrived in Kista, Sweden for the 1994 TC76 meeting (10-14 October), everyone was aware of the LED issue and its importance. At a preceding the Monday opening Plenary Session, the Administrative Advisory Committee agreed the main issue needing resolution was LED over classification. Of the six active working groups within TC76, WGI, with Dr. David Sliney (US) as convener, had the responsibility for the LED issue.



While there had been much communication on the issue prior to the TC76 meeting, there was no consensus on a resolution. WG1 meetings Monday through Wednesday of the week long TC76 meeting did make progress. Some of the differences among WG 1 members were removed, and ground rules for resolving the issue were approved. Realizing that there was insufficient time and expertise at the meeting (there were few attendees with sufficient familiarity with current LED technology and applications), an Ad HOC Committee was authorized to be formed. Dr. Joseph Tajnai (US) is selected as chairman, and he was to recruit members from the LED industry to investigate how the application of the WG I ground rules would impact regulation of LEDs. Dr. Tajnai was to report the results and recommendations to WGI at a meeting to be called in thc first quarter of 1995. It was hoped that WGI would be able to issue a Committee Draft for Vote (CDV) after the WG1 meeting, which, if the voting results were positive, would lead to a Draft International Standard (DIS) being approved for circulation and voting after the 1995 TC76 meeting on October 1995.

However, the above mentioned activities would produce results too late to prevent disruption in the market place (CENELECs EN60825-l would impact LEDs and LED products in March 1995). To remedy this, TC76 passed a resolution designed to allow manufacturers to sell safe LED products in the interim: "IEC Committee TC76 recognizes that the current measurement conditions applicable to the classification of LEDs may over classify many LEDs which actually do not exceed current MPEs under any realistic viewing condition. WG 1 is currently developing a revised procedure to alleviate this problem."

This leaves it to the manufacturers to determine and to attest to the safety of their LED products. While referring to conformance to an existing, established, accepted standard is the simplest way to claim a condition is met (here, the condition is eye safety from optical radiation), that is not available to manufacturers until IEC

Secondly, the ELV must have insulation interposed between it and its higher, non-ELV source. The construction must account for failure of that insulation.

So, SEL V actually has at least three and possibly four parameters that must be evaluated in its construction. First, the value of ELV. Second, the insulation between the EL V and the higher non-ELV. Third, the consequences of failure of that insulation. The fourth possibility is the evaluation of a fault that might increase the circuit value to greater than that of ELV.

My point is that the expression "two levels" or "two measures" is rather vague and abstruse. A better expression is that protection against electric shock is provided both for normal operating conditions and for the case of an insulation fault.

Promulgating the idea of "two levels" or "two measures" can lead to ignoring other factors that determine electric shock.

By the way, we apply the same principle to the issue of electrically-caused fire. We determine that the product will not ignite itself, or cause ignition of nearby materials, under both normal operating conditions and in the event of a failure.

*****

Your comments on this article are welcome. Please address your comments to the Product Safety Newsletter, Attention Roger Volgstadt, c/o Tandem Computers Inc., 10300 N. Tantau Avenue, Location 55-53, Cupertino, California 95014-0708. Or, e-mail VolgstadcRoger@Tandem.com.

If you want to discuss this article with your colleagues as well as with the author and editor, e-mail your comments to

emc-pste@icee.org.

**News & Notes. Continued From Page 11**

## NET 2 Becomes Interim CTR2 for PTT Approvals in Europe

On February 17th, ACTE adopted NET 2, Layer I as the Interim CTR 2 approval for X.25 equipment. This move enables European Notified Bodies to issue pan-European approval for X.25 Packet Switching devices. There are no longer requirements under the Interim CTR 2 to evaluate layer 2 and 3 for European Economic Area approvals. As with ISDN Interim CTR' s, it is likely that full CTR 2 will continue to be developed and will be introduced at some time in the future. For now, under the Interim CTR 2, manufacturers have a choice whether to apply stated that they will upgrade national X.25 approvals to CE mark approvals upon request.

(The following comes from Dave Edmunds, Xerox Corp.- Ed.)

## New York State Will Accept CDRH approvals

New York State code rule 50 (clause 50.7) has been revised so that laser equipment certified to CDRH Laser Product Performance requirements (21 CFR 1010 & 1040, Classes 1,2, 2aor 3a) no longer need to be approved in New York State.

Copies of the revised code can be obtained from the following address:

Rita Aldrich
Principal Radiophysicist
NYS Department of Labor
Bldg 12, Room 457
State Officer Campus
Albany, NY 12340
Phone: 518-457-1202

**Continued From Page 5**

also make each subsequent certification submittal less expensive than the original certification submittal because re-testing would not be required. Thus, the CB Scheme can be thought of as a global laboratory accreditation scheme with the benefit of standardized test reports. The CB Scheme's intent was to create an environment where data taken in Russia, Korea, and Greece is treated the same as data taken from Sweden, Germany, or the United States.

Manufacturers experienced with the CB Scheme often wonder why additional testing is performed between NCBs even when country differences have been taken into account. Section 6.3.3 describes, "The NCB retains the right to test further the equipment to as certain whether or not the equipment complies with thc relevant standard." (Section 6.3.2 also reaffirms this right.) Hence, under the CB Scheme, NCBs may ask for samples or perform re-testing, and the costs of these actions are paid by the manufacturer.

Manufacturers who submit their safety data as part of an application for approval--for example, telecommunications approvals--occasionally hear the request that their safety data and subsequent certification license must bc from a NCB under the CB Scheme. However, thc Low Voltage Directive, 73/23/EEC (LVD) makes no such request and it is the prevailing European law governing the safety of electrical and electronic products. In fact, the LVD does not mandate the use of certification marks meaning that self-declaration for European electrical safety has been an option for the past 21 years.

However, the LVD did provide for the option of certification, and hence, the reason for publishing the certification marks of the LVD Notified Bodies in the European Union's Official Journal. Actual demand for these voluntary marks is driven first by liability concerns and second by market demands. Given that any LVD Notified Body mark fulfills the first concern, use of multiple marks has been market-driven.

How has the CB Scheme performed? Some of the figures from the CB Bulletin of June 1994areinsightful.In 1989, 766 certificates were issued and 1276 were recognized, This means that 1276 additional marks were issued without retesting based on the original 766 certificates. This is a recognition ratio of 1.65. The recognition ratio was near I in 1991 and has been below 1.0 since. For example, in 1993, 3501 certificates were issued and 2226 were recognized for a ratio of .64. (Revisions of the recognition numbers are expected to increase this ratio to .76.) The June 1994 report from the CB Secretariat indicates that while "the progress of the CB Scheme continues at least with regard to issued CB Test Certificates...[these certificates have] not been recognized to a satisfactory extent."

Midway through the CB Scheme's history, the conformity assessment world has seen the growth of private Memorandum Of Understanding (MOU) networks. These networks provide a similar outcome as promised under the CB Scheme-mutual acceptance of test results creating both time and cost savings-but the affiliations are based on the respective commercial strategies of the partners involved. Some of these networks have performed better than others depending on the degree to which the network members have strategies that are interdependent or consistent.■

*Gene Panger is Director of Sales and Marketing for TUV Product Service, TUV Product Service operates three CB Scheme Accredited Labs under the VDE's NCB and assists manufacturers in acquiring both UL and VDE CB certificates, He can be reached at 6/26380254 or via e-mail: gpanger@attmail.com_*

Continued From page 15

## CBEMA ADOPTS A NEW PURPOSE, A NEW MISSION, AND A NEW NAME-ITI

Washington, D.C.-Today CBEMA, the Computer and Business Equipment Manufacturers Association, will change its name to ITI, the Information Technology Industry Council.

The announcement was made by Dick Bodman, AT&T Senior Vice President for Corporate Strategy and Development, who is ITI Board Chairman.

"Our new name more accurately reflects the nature of the industry as it is today," said Bodman. "We believe this change will allow us to do an even better job as IT! than we have as CBEMA in carrying out our purpose-promoting the global competitiveness of the information technology industry," he concluded. ITI' s mission is to shape policies and actions that:

- Open global markets,
- Promote free and open competition,
- Rely on market based solutions,
- Protect intellectual property, and
- Develop and advance the use of voluntary standards.

"Our new name is only one of the major changes we have made this year," said Rhett Dawson, ITI President. "Our Board approved our business plan, completely rewrote our purpose and mission and sharpened our focus on those issues essential to maintaining our members global competitiveness. We are now set on a course to aggressively pursue our public policy agenda: the National Information Infrastructure, and its global counterpart, the G11; export controls; market access; and intellectual property rights."■

Laser, Continued From page 10

mar correspondence or partnership between European and worldwide bodies shall be CEN with ISO, CENELEC with IEC and ETSI with CCITT/ CCIR.'

### Membership of CEN, CENELEC and ETSI

Membership of the European standards organizations is limited to member countries of the European Community (EC) plus those countries comprising the European Free Trade Area (EFTA). In addition, and exceptionally, five countries have been granted Associate Membership with the clear understanding that this is intended as a transitional status only. The countries concerned are

*European Union:*
Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain and the United Kingdom. Finland, Sweden and Austria as of January 1, 1995.

*EFTA:*
Iceland, Norway and Switzerland

*The five Associates:*
Czechoslovakia, Hungary, Poland, Romania and Turkey.

Each of these countries retains its own standards organizations, e.g. AFNOR (France), DIN (Germany), BSI(UK), which in the past have been free to publish national standards independently. These powers have now been severely restricted.

**To Be Continued in Next Issue**

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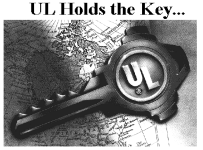

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Ervin Gomez at (408) 553-7684 (phone) or (408) 553-7694 (fax)

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**(408) 848-3851**

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**(408) 636-8182**