The Product Safety Newsletter

IEEE EMC SOCIETY

Vol. 8, No. 4 Sept.-Oct. 1995

What's Inside

Chairman's Message

I am very pleased to report that the Atlanta meetings, including the Product Safety Technical Committee (TC-8) annual meeting, went very well. Almost all of the previously reported concerns our parent Society had about our operations have been resolved. Even more satisfying was the high level of support we clearly have from the entire chain of society leadership. I want especially to thank Todd Hubing, Technical Activities Committee Chairman, and Warren Kesselman, EMC Society President, for their time, attention and support which served to reenergize our optimism and commitment to growth and success.

The issue of individual IEEE and EMC Society membership relating to participation in TC-8 has been clarified. Members of TC-8 con-sist of TC-8 central officers and the chairpersons of the local chapters. Other participants are officially described as members of the Product Safety Working Group, an independent function with close linkages to TC-8. Supporting the PSWG through this newsletter and other coordination activities are included in the responsibilities of TC-8. We are also responsible for the normal technical committee activities of workshops, technical paper review, paper sessions and other symposia support, in addition to standards activities.

Continued on Page 20

The Product Safety Newsletter

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Letters to the Editor

Subj: May-August 1995 Newsletter "News and Notes", Using the CE Mark

1. Para. 4, "Most companies are choosing to have their products tested and certified by an independent agency to ensure unfettered access to their chosen markets." - This is not true in our customer base, as no particular agency marking is required for placing the CE Marking on a product. Many companies are preparing their Technical File using data they prepared or contracted themselves. I do not know whether> 50% (i.e. most) of the companies preparing a Declaration of Conformity are using agencies or not; but there are other options that should be explored.

2. "Notified vs. Competent Bodies"; {Para. 2, "you must use a Competent Body for all approvals required under the EMC Directive." Not true; a Competent Body is the only authority that can authorize limited testing for product families or similarities. If this type of limited testing determination is not equired by a company, they can obtain a Test Record from any competent EMC lab. There is not a requirement that the Laboratory be affiliated with a Competent Body as defined in the EMC Directive.

Thank you again for the work you put in on this magazine. It is always informative and thought provoking.

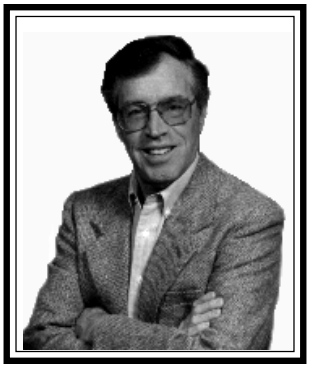
Best regards,

Jeff Lind
Compliance West
San Diego, CA ■

The Product Safety Newsletter Committee is looking for someone interested in writing the News & Notes column. If interested contact Roger Volgstadt, Editor, at (408) 285-2540.

Technically Speaking

Absolute Safety



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Recently, a colleague remarked to me, "Philosophically, of course, there is no such thing as absolute safety."

Could this be true? Is there a situation where a man could not possibly injure himself?

After considering this for a while, I thought that a man in straight jacket in a padded cell would be pretty close to absolute safety. There is nothing in the room that could cause injury, and, with the straight-jacket, there is nothing the man could do himself to cause injury.

What is absolute safety? I suppose we could define absolute safety as the possibility of injury from all possible causes as being zero.

I thought my example of the padded cell came pretty close to considering all possible causes of injury. But, my colleague replied: "Your man in the padded call could not be struck by a falling meteor, among many other things from which his padded cell could not protect him."

True enough. There are many "unsafe" things over which an individual has little or no control, meteors being one. There is simply no way, today, to avoid injury from a meteor. I suppose that some time in the future we may be able to detect incoming meteors and predict their paths. If so, we could board spaceships and dodge meteors in a cosmic game of dodge-ball. This alternative may not be absolute safety, but it is better than the certainly of being hit by a meteor.

Let's further consider the problem of the meteor. To date, there have been few, if any, injuries due to being struck by meteors. Most of us conduct our lives on the basis that we do not indeed have absolute safety from meteors.

To do any productive living and thinking, we must put some bounds or limits on our Ii ves and on our contemplations. Without those bounds, we would, for example, live in continual fear of being struck by a meteor. Our lives would be driven and consumed by this fear. I suppose that a few people are indeed consumed by such fears, in which cases those people are probably not contributing to our society. Rather, they are probably requiring full-time care from some of the rest of us. They may indeed take some degree of comfort in living in a padded room.

Continued on page 8

IECEE/CB Scheme

by Lal Bahra, P. Eng,
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Certification Bodies (CB) Scheme for electrical and electronic products is the only international system for the mutual acceptance (reciprocal recognition) of test reports by Member Certification Bodies (test houses) located in different parts of the world for obtaining certification at National level. Officially, the scheme is called "Scheme of the IECEE for Recognition of Results of Testing to Standards for Safety of Electrical Equipment". In short, it is commonly known as IECEE/CB Scheme or simply CB Scheme. The Scheme is based on CB Test Certificates providing evidence that representative samples of the equipment have successfully passed tests to show compliance with the requirements of the relevant IEC Standard.

The Scheme is administered by a Committee of Certification Bodies (CCB) reporting to a Management Committee (MC) of the IECEE System. The MC in turn operates under the authority of the Council of International Electrotechnical Commission (IEC). CCB consists of representatives of National Certification Bodies (NCBs) and is entirely managed and run by member National Certification Bodies (test houses). MC consists of representatives from National organizations of member countries. Both the CCB and MC meet at least once a year. The CCB and MC had their last meeting in September 1995 in Germany.

The CB Scheme applies to electrical and electronic equipment covered within the scope of an IEC Standard accepted for use in the IECEE System and to which at least three member organizations participating in the CB Scheme adhere. At present there are more than 30 member countries and more than 36 NCBs participating in the CB Scheme. A minimum of 3 countries must adapt the IEC Standard as their National Standard and be willing to participate in the CB Scheme before the IEC Standard becomes part of the CB Scheme.

EMC is not covered by the CB Scheme unless specifically mentioned in the IEC Standard under consideration.

WORKING RULES AND PROCEDURES

The working rules and procedures of the CB Scheme are published in two IEC Publications titled as follows:

• Publication IECEE 01 (1986): Basic Rules of Procedures of the System

Continued on page 12

News and Notes

NEW SAFETY STANDARD

CSA and UL have published a new standard, Safety of Information Technology Equipment including Electrical Business Equipment. This standard combines UL 1950 and CSA 950 and was published July 28, 1995. For more information, you can call the UL Northbrook office at (708) 272-8800 x 42068.

TUV RHEINLAND ACHIEVES NRTL STATUS

TUV Rheinland of North America, Inc. was recognized as a Nationally Recognized Testing Laboratory (NRTL) by the Occupational Safety and Health Administration (OSHA), U.S. Department of Labor. As an accredited NRTL, TUV Rheinland of North America, Inc. can test and certify Information Technology Equipment (ITE), including Electrical Business Equipment.

ANOTHER SAFETY SITE ON THE WWW

Art Michael of Product Safety International has created a new World Wide Web for those of you with access to the internet.
That address is as follows:

hup://www.safetylink.com

Thanks go to Art for creating a valuable tool of use to those in the Product Safety profession.

NEW EMC PUBLISHED STANDARDS

The Official Journal of the European Communities has published a list of new EMC Standards. Information and standards follow:

Comission communication in the framework of Council Directive No. 89/336/EEC of 3 May 1989 (*), as amended by Council Directive No. 92/31/EEC (*), in relation to the electromagnetic compatibility.

Publication of titles and references of harmonized standards under this Directive

Reference: EN 50082-2 Body: CENELEC
Electromagnetic compatibility - Generic Immunity Standard. Part 2: Industrial Environment. Year of Ratification: 1994.

Reference: Amendment A 12 to EN 55013
Body: CENELEC
Limits and methods of measurement of radio disturbance characteristics of broadcast receivers and associated equipment.
Year of Ratification: 1993

Continued on page 21

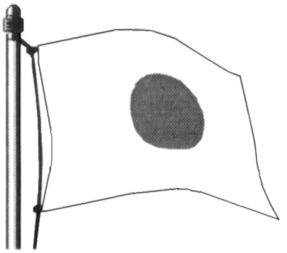
Japan Changes Safety Certification Requirements

The following article is reprinted here from the UL publication "On the Mark" with permission of Underwriters Laboratories, Inc. The editor wishes to thank UL for their contribution to the PSN.

MITI Approval No Longer Required for Many Electrical Products

On July 1, 1995, as part of the Japanese government's recent move to deregulate the country's mandatory product safety certification system and institute a voluntary, US style system in Japan, the Japanese Ministry of International Trade and Industry (MITI) dropped its requirement for manufacturers to gain government approval of the safety of many electrical products they export to Japan. This development will streamline the process manufactures were previous required to follow when exporting these products to that country. In addition to this change, the previously mandatory Category B "T-Mark signifying MITI approval of these products will be discontinued, and a new, voluntary certification marking known as the "S- Mark" will be available - and should provide a marketing advantage - to manufacturers whose products comply with existing requirements.

One hundred and seventeen appliances affected by this change, originally classified as "Category A" products under Japan's Electrical Appliance and Material Control Law (known as DENTORI), fall mostly into the following groups



of electrical and electronic products:

* heaters and electric blankets;
* cooking/heating utensils and coffee makers;
* electric ranges and microwave ovens; refrigerators and freezers; * irons, washing machines and dryers; * fans, room air conditioners and dehumidifiers;
* curling irons, electric shavers and other appliances for personal care; * light fixtures;
* photocopying machines;
* photographic and audio/visual equipment;
* television receivers and portable tv cameras;
* electronic and electro-magnetic toys; and
* other miscellaneous products.

Continued on page 10

Teaknically Speaking Continued Frorn page 4

In practice, each one of us conducts most of our life as if we Ii ved in absolute safety with regard to most hazards.

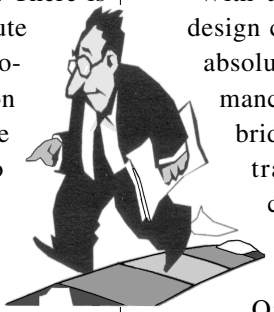
The newborn child starts his life with the belief of absolute safety without any bounds. Parents provide that safety. As the child grows, parents teach the child about the hazards in his world. They gradually transfer the responsibility for his safety to him.

Certainly, when we sleep, we consider ourselves as being in the state of absolute safety. As we grow, we put bounds on our lives, deciding what kinds of activities are not worth risking injury.

Ultimately, for many of the hazards of this world, each of us, individually, is responsible for prevention of injury to ourselves and to others. For example, when we drive a car, we must do so in a manner that does not injure us or others.

Since we can't define all possible causes of injury, then the probability of injury cannot be zero, and we cannot have absolute safety. Fair enough. Full stop. Fin. End of discussion.

And THAT is the problem. If we define absolute safety in terms of all possible causes, then we have nothing left to talk about. There is nothing we can do to accomplish absolute safety. And if we can't accomplish absolute safety, then is there any good reason to attempt any safety whatsoever? Since we are facing death at any instant due to a meteor, then why should we take care in crossing a street?



Well, we DO take care in crossing a street. For the most part, we DO act as if we are in a state of absolute safety. (There are exceptions where we voluntarily place ourselves in risky situations for the challenge. But, we accept such jeopardy only at given times and in given places. For example, sky-divers deliberately jump into risky situations, but they don't spend, their entire lives in such situations.)

So, we put bounds on "absolute" safety.

And, when we talk about probability, we must put some bounds on the problem. We can discuss the probability of injury from a meteor. We cannot discuss the probability on injury without regard to its cause.

Carrying this thought a bit further, if we can identify a particular cause of injury, then can we ever accomplish absolute safety for that particular cause? That is, for a particular cause of injury, can the probability of injury from that cause be zero?

Consider the Golden Gate Bridge. When you cross that bridge, do you consider the probability of its failure while you are on it? Maybe. But, if you do, it is a very abstract consideration. You can't really imagine the failure of the bridge without also imagining some cause for that failure, such as failure of a cable. But the cable is comprised of individual wires. So, the cable can't fail without also the failure of each and every individual wire. What would cause the failure of one or more individual wires?

With a bridge, we can declare that if the design conditions are not exceeded, we have absolute safety with regard to the performance of that bridge. In other words, the bridge will not fail given the particular traffic and weather conditions accounted for in the design.

A few years ago, the Golden Gate Bridge turned 50 years old. On that occasion, the authorities closed the bridge to automobile and truck traffic,

Continued

and opened it for pedestrian traffic. During the midst of the festivities, the authorities suddenly realized that the bridge was being loaded far greater than any traffic load! The bridge design did not account for the tremendous pedestrian load. Under these conditions, the bridge COULD fail.

Consider the case of the "unsinkable" Titanic. The Titanic was unsinkable given the conditions specified by the designers. The Designers did not consider the situation in which the Titanic was damaged, and it did sink. No probabilities involved. If the Titanic was subjected to the conditions specified by the designers, then the probability of sinking was O. However, it was subjected to other conditions, so the probability of sinking was 1%.

Consider the infamous skywalk in the Kansas City Hyatt Regency Hotel. While under designed, it nevertheless probably would not have collapsed. But, the original design was difficult if not impossible to assemble. So, the design was modified. And, the modified design failed.

In most cases, safety of products and many other things is provided by one or more safeguards. For example, one of the safeguards against electric shock is insulation. If we are dealing with solid insulation, then we know the electric strength of that insulation. Disregarding other deteriorating factors, if we never exceed the electric strength of that insulation, then the insulation will not break down. Therefore, we have absolute safety against electric shock - - provided the electric strength of that insulation is never exceeded.

Safeguards have bounds. No matter the safeguard, we can always subject it to a stimulus which will cause it to fail. For example, we can subject an insulation rated 3,000 volts to a 10,000 volts and it will fail. When the safeguard fails, it is no longer a safeguard, and we no longer have a safe situation. But, if we stay within the bounds or limits of the safeguards, then we have absolute safety.

Absolute safety from specified causes or hazards does indeed exist, provided that the conditions of the design of the safeguards are not exceeded, and provided that the safeguards are manufactured accordingly. ■

ACKNOWLEDGEMENTS

"To engineer is human, the role of failure in successful design," by Henry Petroski, St. Martins Press, New York. ISBN 0-312-80680-9.

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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 56, Cupertino, California 95014-0708. For e-mail, address your comments to VOLGSTADT_ROGER@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-pst@ieee.org.

Japan Changes, Continued From Page 7

These products, previously subject to approval by the Japanese Ministry of International Trade and Industry (MITI) and identified with a Category A "T-Mark," were reclassified on July 1 as "Category B" products, which do not require MITI approval. In addition, Category B products will no longer be allowed to bear the Category B "T- Mark' after a one-year phase out period.

Manufacturers of these reclassified products are required, however, to notify MITI that they comply with applicable DENTORI Technical Requirements or International Electrotechnical Commission (IEe) Standards adopted by MITI.

This change is one of the Japanese government's recent initiatives to deregulate the country's current, mandatory safety certification system and create a voluntary, third-party system (similar to the U.S. safety system) in Japan.

New Japanese "S-Mark" Certification System

In response to these changes to DENTORI, three Japanese testing agencies - the Japan Electrical Testing Laboratory (JET). the Japan Quality Assurance Organization (JQA), and the Japan Camera and Optical Instruments Inspection and Testing Institute (JCll) - have developed a third party safety certification program that includes a new certification marking known as the Japanese "S-Mark."

Products tested by these agencies and determined to comply with applicable standards. -- DENTORI Technical Requirements, IEC Standards and Japanese National Deviations adopted by MITI, or other requirements deemed appropriate by these agencies- are eligible to bear this new Mark.

Testing will be primarily done by JET and JQA. For identification purposes, the name of the laboratory invol ved in testing the product will appear along with the S- Mark.

Japanese-S Mark- a Marketing Advantage

The Japanese public has become accustomed to seeing the government-mandated T-Mark on Category A and B electrical appliances. MITI's removal of the requirement for this Mark on Category B appliances will not eliminate the tendency of Japanese distributors, retailers and consumers to look for a product safety mark on these appliances. For this reason, manufacturers of Category B electrical appliances and other products sold in Japan bearing the Japanese-S Mark will have a marketing advantage over those manufacturers selling self-declared, unlabeled products.

UL's S-Mark Certification Services for Clients

UL can work directly with JET and JQA to help manufacturers receive authorization to display the Japanese S-Mark on their electrical appliances and other products sold in Japan. This is possible due to the long-standing relationships and Memoranda of Understanding UL has with JET and JQA.

Continued

UL can assist manufacturers by:

- testing products and issuing test reports;
- preparing application documents for the S-Mark in Japanese;
- translating required markings;
- preparing test programs for specific products;
- examining product construction;
- performing electromagnetic compatibility (EMC) testing;
- contacting MITI or a designated Japanese testing laboratory for information or clarification regarding DENTORI Technical Requirements; and
- performing annual factory follow-up inspections.

UL will continue to assist manufacturers of those of appliances remaining in Category A who are still required to gain MITI T-Mark approval for their products.

To find out if your products are affected by these developments, or for more information about Japanese product certification requirements and UL' s certification services for Japan, contact 1 staff member in the International Compliance Services department at the UL office nearest you:

Northbrook, Ill.
Phone: (708) 272-8800
Fax: (708) 272-9562

Melville, N.Y.
Phone: (516) 271-6200
Fax: (516) 271-8265

Santa Clara, Calif.
Phone: (408) 985-2400
Fax: (408) 556-6032

Research Triangle Park, N.C.
Phone: (919) 549-1400
Fax: (919) 556-6049

Camas, Wash.
Phone: (360) 817-5500
Fax: (360) 817-6020

Or contact the staff at UL's Japanese subsidiary office:

UL Japan Co. Ltd.
L Kakuei Sasazuka Bldg., 8th fl.
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Tokyo, 151 Japan
Phone: Int. access code -+:81-3-5351-1971
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We Are Looking for Product Safety Articles!

Please send to:
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IECEE/CB Scheme, Continued From Page 5

• Publication IECEE 02 (1992): Rules and Procedures of the Scheme of the IECEE for Recognition Results of Testing to Standards for Safety of Electrical Equipment (CB Scheme)

IECEE 01 describes the CB Scheme in detail, its organization, Management Committee (MC), Committee of Certification Bodies (CCB), Committee of Testing Laboratories (CTL), membership, roles and responsibilities of the chairperson, secretary, etc.

IECEE 02 describes in detail the functioning of the CB Scheme, criteria of acceptance for NCBs and CBTLs, procedures for handling CB test certificates, etc.

OTHER CB PUBLICATIONS

CB Secretariat publishes CB Bulletins at regular intervals. These bulletins contain the following information:

- Standards Accepted for use in the System
- Statistics on CB Test Certificates issued (CB Bulletin No. 81 published in May 1994 gives list of a CB Certificates issued in 1993).
- Deviations and Limitations for each Standard and Country (CB Bulletin 80B published in January 1994 gives National Deviations and Limitations to IEC 335 Series Standards and Bulletin 80A published in December 1993 gives National Deviations and limitations to all other IEC Standards in the Scheme)
- Information on Participating member NCBs (CB Bulletin No. 82 published in August 1994 is the latest)
- Names and addresses of suppliers of test equipment (CB Bulletin No. 82).

TERMINOLOGY

National Certification Body (NCB) is an organization that at National level, grants Certification of equipment. To be accepted as a member of the CB Scheme and of the CCB, the NCB must qualify by meeting specific requirements with regard to the quality system and technical competence as stipulated in the IECEE Scheme. An NCB can qualify either as a Recognizing NCB (RNCB) or an Issuing and Recognizing NCB (IRNCB). An RNCB is prepared to recognize (accept) CB test certificates and CB test reports as a basis for certification or approval on a national level for one or more categories of products. An IRNCB is entitled to issue CB test certificates and CB test reports for defined standards within the area of products for which it is also prepared to recognize CB test certificates and reports. CSA is an IRNCB. CSA is accredited for all electrical and electronic products under the scope of IEC Standards 601 - Medical Electrical Equipment; 950 - Information Technology Equipment and 1010-1 Measurement, Control and Laboratory Equipment.

Depending on the status of its accreditation under the CB Scheme, and the specific situation in each country, the NCB may carry out any of the following activities, as may be the case:

- Testing of the product to the applicable IEC Standard
- Testing to the National Deviations of the country where the product is destined for
- Issuing CB Test Certificates
- Issuing CB Test Reports

Continued

- Issuing Supplements to CB Test Reports
- Recognizing CB Test Certificates
- Issuing local certification authorizing the use of its mark.

In some countries the NCB does not engage in testing. In such countries testing is performed by a CB Test Laboratory (CBTL) which submits a CB Test Report to the NCB, which then issues a CB Test Certificate (if it is accredited as an Issuing and Recognizing NCB).

Certification Body Testing Laboratory (CBTL) is a laboratory who is accredited by the CB Scheme to conduct testing in one or more product categories.

Certification Bodies (CB) Scheme for electrical and electronic products is the only international system for the mutual acceptance (reciprocal recognition) of test reports by Member Certification Bodies (test houses) located in different parts of the world for obtaining certification at national levels .

An NCB must accept test data from other NCBs once testing of a product is completed and the product is found to be in compliance with the applicable IEC Standard (and applicable National Deviations if requested by the manufacturer), the NCB in question, issues a CB Test Report and a CB Test Certificate. The manufacturer can then present these documents, together with a sample of the product, to the NCBs in other countries whose certification marks he wants.

These other NCBs will visually verify that the product is the same as that tested. They may evaluate the construction if they so wish. If verification results are positive, no additional testing Should be carried out.

The National Deviations of all countries participating in the CB Scheme must be disclosed to other members of the Scheme, and are published in the CB Bulletin. An NCB can test and verify to the requirements contained in the deviations if it has the necessary testing equipment. The test reports are then issued as a Supplement to the CB Test Report and should be accepted by the receiving NCB.

Committee of Testing Laboratories (CTL) consists of members from member NCBs and CBTLs. CTL meets at least once a year. The last meeting of the CTL was during the week of May 15, 1995 in Paris, France. CTL tries to resolve issues regarding test procedures, interpretations, conditions of testing, etc. It also issues its decisions in the form of decision sheets which are then followed by all the test houses when they conduct testing. In other words CTL ensures that the test procedures among its members are harmonized.

CENELEC Certification Agreement (CCA) is a CENELEC body and should not be confused with the CB Scheme. It is a mini CB Scheme among European test houses but is not part of the CB Scheme. Under CCA, the European test houses are obligated to accept test reports from other participating test houses.

CB Test Certificate is a document issued by an NCB to inform other NCB' s that a sample of the product under consideration was tested and found to be in compliance with the applicable standard. A CB Certificate is only valid together with the relevant CB Test Report. CB Test Certifi-

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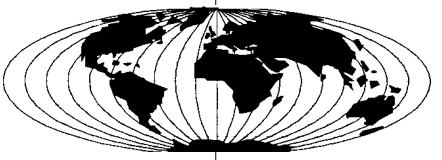
cates shall not be used in any form of advertising. However, this does not preclude the holder of a current CB Test Certificate from making reference to the existence of this Certificate in professional literature.

CB Test Report is a standardized report consisting of a checklist, referencing clause by clause, the requirements of the standard in question. it gives clearly and unambiguously the results of the tests as well as conformity assessment of the product, made in accordance with the relevant IEC standard. It also contains one or more photographs, circuit schematics, artwork drawings, as well as a brief description of the equipment concerned. A CB Test Report not attached to a CB Certificate cannot be considered as being issued within the CB Scheme.



OBJECTIVES OF THE SCHEME

Main objectives of the scheme are to:

- Facilitate international trade by promoting harmonization with the IEC Standards
- Achieve reciprocal acceptance of test reports among participating countries
- Simplify local certification through elimination of duplicate testing

PARTICIPATION IN THE CBSCHEME

A National Organization of the country under consideration, (such as the Standards Council of Canada (SCC) in Canada) must be a member of the IECEE System. The National Organization then must designate a National Certification Body. (NCB). The National Organization in a country is allowed to designate more than one NCB. The National Standards of the country in question must be reasonably harmonized with the corresponding IEC Standards for which participation in the CB Scheme is desired. The NCB must specify the standards for which it intends to participate in the Scheme. It must also publish and make available to other countries any differences or deviations from the IEC Standards for which it has agreed to participate in the CB Scheme.

Mutual acceptance of test data by the NCB within the CB Scheme is limited only to these IEC standards.

NATIONAL DEVIATIONS

National deviations from an IEC Standard accepted for use in the CB Scheme are those requirements in the corresponding National Standard which, when applied to a product complying with the IEC Standard in question, might entail non-compliance of that product with the relevant National Standard. That may mean redesign by the manufacturer and extra testing/evaluation by the NCB.

NATIONAL LIMITATIONS

National limitations are those restrictive requirements in a National Standard which do not deviate from the criteria of the corresponding IEC Standard, but which limit the possibility to offer the relevant equipment for sale in the country

Continued

concerned. Such limitations may arise from legislative or historical reasons.

APPLICATIONS UNDER THE CB SCHEME

The procedure for obtaining a CB Test Certificate and local certification/approval is graphically illustrated in Fig 1.

The following important points must be noted:

- An application for obtaining a CB Test Certificate may be made by an applicant to any "Issuing and Recognizing" NCB accepted for the relevant standard.
- The applicant may be manufacturer or authorized to act on behalf of a manufacturer.
- The application may cover one or more factories in one or more countries where the product is manufactured.
- An applicant in a country with no member NCB for the standard concerned must pay a surcharge (approximately $330.00 U.S. per application) as contribution to the costs of the CCB. The surcharge is collected by the NCB handling the application, and remitted to the CCB.

The NCB tests the product to the IEC Standard and any relevant national deviations if requested by the manufacturer and upon successful evaluation of the product under consideration, issues the CB Test Certificate, report and supplements to the report, as applicable.

The procedure for obtaining a local listing or certification mark is as follows:

- Apply to the local NCB (or to a local NCB if there are more than one such as is the case in the U.S.)
- Submit the CB Test Certificate, report and supplements to the report to the local NCB
- Submit a sample of the product to the local NCB

The local NCB verifies that the product is the same as tested and grants local certification mark.

All the rules and regulations of the local NCB for follow up service, annual retesting, initial factory inspection, etc., will apply as usual.

BENEFITS OF THE CB SCHEME TO THE MANUFACTURER

The CB Scheme is of a great benefit to those manufacturers who wish to export their products to countries that participate in the Scheme.

Such manufacturers can:

- Select and deal with one NCB (the NCB of their choice)
- have their products tested only by that NCB, including testing to National Deviations of the countries to which the product is exported.
- Use the CB Test Report and Certificate obtained from the issuing NCB to obtain national approvals in the relevant countries through local NCB' s adhering to the CB Scheme for the standard concerned.

Although the manufacturer has to make an application and submit a sample in each country of destination, no additional testing should be

Continued

conducted and only administrative work should be involved in handling such applications. Applications for obtaining local listing marks for which CB certificates and reports are available, are given priority over other applications by the NCB' s as no testing is involved.

CB SCHEME SITUATION IN NORTH AMERICA

CSA is the only NCB in Canada. It is accredited for IEC 601-1, 601-2 Series, 950 and 1010-1 (and IEC 65, 335-1 and 335-2 Series - forthcoming). In the U.S.A., the various NCB's are D.S. & G., Met Labs, ETL, UL and FM. D.S. & G., Met Labs and ETL are accredited for IEC 950. UL is accredited for IEC 601-1, 950 and 1010-1. FM is accredited for IEC 1010-1. Mexico is planning to join the CB Scheme and has already started to work on developing its national deviations to IEC Standard 950.

OBLIGATIONS OF NORTH AMERICAN BASED NCB'S

Upon request, by a manufacturer, North American NCB' s will evaluate the manufacturer's product and issue a CB test certificate and a CB test report, which the manufacturer can present to any other NCB in the world to obtain local certification.

Similarly a manufacturer can obtain the CB test report and certificate from an NCB located in Europe or in the Far East (which includes China, Singapore, India, Korea and Japan) and present the same to an NCB based in North America. North American NCB' s are obligated to accept the CB test report and certificate (i.e. the test data generated by foreign laboratories not accredited under the NRTL system) and issue their respective certification marks without repeating any of the tests. See Fig 2 for a list of National Certification Bodies.

FORTHCOMING NEW PROGRAMS UNDER THE CB SCHEME

CCB and MC are considering to add 4 new programs under the CB scheme in the near future.

TESTING AT MANUFACTURER'S PREMISES

Testing at the Manufacturer's Premises (TMP) will be a new program where an NCB or a CBTL can conduct all the testing at a manufacturer's test laboratory. The test laboratory shall meet the criteria given in clauses 7 to 11 of ISO/IEC Guide 25 - General Requirements for the Competence of Calibration and Testing Laboratories. The only limitation of this is that all testing must be carried out by the staff of the NCB or CBTL. Also, the ISO/IEC Guide 25 will be revised in the near future to have a clear distinction between the requirements and guidance so that it can be used either as a standard or as a guide.

SUPERVISED MANUFACTURER'S TESTING

Supervised Manufacturer's Testing (SMT) will also be a new program where the test data generated at the test laboratory of the manufacturer will be acceptable under the CB scheme. The test laboratory must comply with the appropriate provisions of ISO/IEC Guides 25 and 58 - Calibration and Testing Laboratory Accreditation Systems - General Requirements for Operation and Recognition There shall be an ongoing Veri-

Continued

fication of Compliance with these requirements by the NCB. At the start of the program tests conducted by the manufacturer will be witnessed. After enough experience is gained by the NCB with a particular manufacturer, the tests can be conducted by the manufacturer without the presence of staff of the NCB.

CD-FULL CERTIFICATION SERVICE

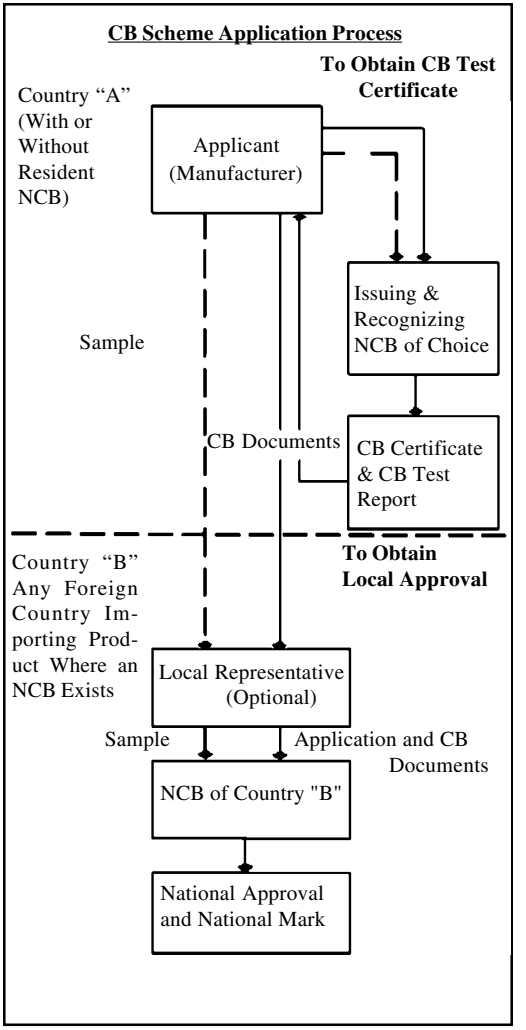
The full certification for safety of electrical and electronic equipment, in short known as CB Full Certification Service (CB-FCS), is due to be launched in 1995. In brief this scheme will require an agreement between any two NCB' s who want to participate in such a scheme. The test laboratory of the manufacturer will be required to comply with ISO/IEC guides 25 and 58 as covered under SMT above. In addition the manufacturer must have a documented Quality Management System (QMS) in operation based on Annex B of ISO/IEC Guide 53 - An Approach to the Utilization of a Supplier's Quality System in Third Party Product Certification.

If a manufacturer is already registered to the ISO 9001 or ISO 9002 series of standards with a xxxly accredited registrar, then this is taken into account when he tries to comply with the requirements of ISO/IEC Guide 53: This will eliminate the need for providing the sample to an NCB when the manufacturer wants the local certification mark. Only the CB test certificate, the CB test report and a conformity assessment report will be required to be submitted.

IECEE SCHEME

Scheme of the IECEE for certification to standards for electrical equipment for explosive atmospheres (IECEx), is due to be launched in 1995. Under this scheme, a single test house would be able to test each product to the IEC standard and would produce a single globally acceptable test report and certificate. The product is then allowed to carry an IECEx mark which would make it acceptable in all countries participating in the scheme. Actual acceptance of the Scheme may be several years away in the future.

Fig. 1



Continued

Fig. 2- NATIONAL CERTIFICATION BODIES

Country	National Certification Body
AT, Austria	Osterreicher Verband fur Elektrotechnik (OVE)
AU. AUstralia	Standards Australia
BE, Belgium	CEBEC Registered Quality SCRL
CA, Canada	Canadian Standards Association (CSA)
CH, Switzerland	Schweizerischer Elektrotechnischer Verein (SEV)
CN, China	China Commission for Conformity Certification of Electrical Equipment (CCEE)
CZ, The Czech Republic	Elektrotechnicky zkusebni ustav
DE, Germany	TUV Rheinland
DE, Germany	VDE Prof und Zertifiziernugnsinstitut
DK, Denmark	DEMKO
ES, Spain	Associacion Electrotecnica y Electronica Espanola (AEE)
FI, France	Electrical Inspectorate/ FIMKO
FR, France	Union Technique de I'Electricite (UTE)
GB. United Kingdom	ASTA Certification Services; BEAR, British Electrotechnical Approvals Board; BSI, Product Certification
GR, Greece	The Hellenic organization for Standardization (ELOT)
HU Hungary	Hungarian Institute for Testing and Certification of Electrical Equipment (MEEI)
IR, Ireland	The National Standards Authority of Ireland (NSAI)
IL, Israel	The Standards Institution of Israel (SII)
IT. Italy	Instituto Italiano del Marchio di Qualita (IMQ)
IN, India	Burueau of Indian Standards (BIS)
IS. Iceland	The State Electrical Inspection (RER)
JP, Japan	IECEE Council of Japan c/o Japan Electrical Testing Laboratory

Continued

Fig. 2- NATIONAL CERTIFICATION BODIES

Country	National Certification Body
KR, Rep. of Korea	IECEE Council of Korea (Rep. of) Korea Academy of Industrial Technology (KAITECH)
NL, Netherlands	KEMA Nederland B.V.
NO, Norway	NEMKO
PL, Poland	Polish Centre for Testing and Certification (PCBC)
RU, Russian Federation	Gosstandard of Russia GU lTEP
SE, Sweden	SEMKO AB
SG, Singapore	Singapore Institute of Standards and Industrial Research
SI, Slovenia	Slovenian Institute of Quality and Metrology - SIQ
US, USA	Dash, Staus & Goodhue; ETL Testing Laboratories; Factory Mutual Rsearch Corporation; MET Laboratories; Underwriters Laboratories
SR, YU Yugoslavia	Federal Institution for Standardization ■

Electrical Humor?!!?

"Robert McCrindle forwarded us the following article. Sometimes problem solving requires an adjustment of your expectations. - Ed. "

It is a common practice in England to ring a telephone by signaling extra voltage across one side of the two wire circuit and ground (earth in England). When the subscriber answers the phone, it switches to the two wire circuit for the conversation. This method allows two parties on the same line to be signaled without disturbing each other.

Anyway, an elderly lady with several pets called to say that her telephone failed to ring when her friends called, and that on the few occasions when it did ring, her dog always barked first. The telephone repairman proceeded to the scene, curious to see this physic dog. .

He climbed a nearby telephone pole, hooked in his test set, and dialed the subscriber's house. The phone didn't ring. He tried again. The dog barked loudly, followed by a ringing telephone.

Climbing down the pole, the telephone repairman found:

a. A dog was tied to the telephone system's ground post via an iron chain and collar.

b. The dog was receiving 90 volts of signaling current

c. After several such jolts, the dog would start barking and urinating on the ground.

d. The wet ground now completed the circuit and the phone would ring.

"If it's good for Bossy, it's good for you and me!"

J.J. Beann ■

Continued

Chairman's Message, Continued From Page 1

We are accountable to the EMC Soc-iety to execute those responsibilities successfully and we will work on improving in these important areas.

The efforts of TC-8 over the next months will focus on two areas: 1996 International Symposium support and the incorporation of the Product Safety Working Group into the IEEE. By the time you read this action will already have begun on:

1996 Symposium-The 1996 Symposium, which will be held in Santa Clara, CA, promises to be the most successful symposium effort for TC-8 to date. Although planning is still in the early stages, there will be at least one workshop and, depending upon the volume and quality of submitted papers, both paper and poster sessions covering product safety issues. I am urging each of you to respond to the call for papers and share your knowledge and expertise with others. Looking back on past years, the number of product safety papers has been embarrassingly small considering that we are the largest group of product safety professionals in the world. Please note that the paper submittal process schedule is very aggressive, with abstracts due by mid-October although poster session abstracts are due a bit later. Please contact Mark Montrose at (408)247-5715 for details.

PSWG as IEEE Entity-We are continuing our drive for creation of a Product Safety Technical Councilor Society. I am appointing two task forces. One will assess the needs and concerns of existing societies with regard to product safety. The other will research and specify the functions of the new organization and how it should be structured within the IEEE. Reaching out to IEEE members with safety concerns in other Societies is a crucial goal. The existing PSWG has a strong ITE/telecom bias and there is concern that presently only the needs of this constituency are being met. We need to expand the scope of interest of our membership to prevent complacency and to meet the product safety needs and interests of those in other societies.

I am asking you to commit some of your time and energy to these endeavors. Some of you have ideas on making this a reality—dont wait for a call! You can contact me directly as described below. I urge each of you to consider how you can contribute to your growth and the advancement of the profession by getting further involved in TC-8 and the PSWG.

Brian Claes
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Fax (510)572-8260
E-mail brian.c1aes@lamrc.com ■

News & Notes,
Continued From Page 6

Reference: Amendment A 2 to EN 55014
Body: CENELEC
CISPR: 14: *1985/A2:* 1989
Limits and methods of measurement of radio interference characteristics of household electrical appliances, portable tools and similar electrical apparatus. Year of Ratification: 1988

Reference: Amendment A 1 to EN 55014
Body: CENELEC
CISPR: 15: *1985/Al:* 1989
Limits and methods of measurement of radio interference characteristics of information technology equipment. Year of Ratification: 1989

Reference: EN 55022
Body: CENELEC
Limits and methods of measurement of radio disturbance characteristics of information technology equipment. Year of Ratification: 1992

Reference: EN 55104
Body: CENELEC
Electromagnetic compatibility - Immunity
Requirements for household appliances, tools and similar apparatus – Product family standard.
Year of Ratification: 1995

Reference: Amendment A 1 to EN 60555-3
Body: CENELEC
IEC *555-3:1982/Al:* 1990
Disturbances in supply systems caused by household appliances and similar electrical equipment
Part 3: Voltage fluctuations

Reference: EN 60602-1-2
Body: CENELEC
IEC 601-1-2: 1993
Medical electrical equipment
Part 1: Generic requirements for safety-2.
Collateral standard: Electromagnetic compatibility - Requirements and tests.
Year of Ratification: 1992

Reference: EN 60945
Body: CENELEC
IEC 945: 1988
Marine navigational equipment - General requirements - Methods of testing and required test results. Year of Ratification: 1993

Reference: EN 61000 -3 -2
Body: CENELEC
IEC 1000- 3 -2: 1995
Electromagnetic compatibility (EMC) Part 3:
Limits - Section 2: Limits for harmonic current emissions (equipment input current ≤ 16A per phase). Year of Ratification: 1994

Reference: EN 61000 -3 -3
Body: CENELEC
IEC 1000 -3 -3: 1994
Electromagnetic compatibility (EMC) Part 3: Limits - Section 3: Limitation of voltage fluctuations and flicker in low-voltage supply systems for equipment with rated current ≤ 16A.
Year of Ratification: 1994

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We are grateful for the assistance given by these firms and invite application for Institutional Listings from other firms interested in the product safety field. An Institutional Listing recognizes contributions to support publication of the Product Safety Newsletter of the IEEE EMC Society Product Safety Technical Committee. Please direct inquiries to:

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

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