

# T&E Update

Testing • Engineering • Consulting

Issue 7



## R&TTE

### Relief for Communications Compliance

#### The Radio and Telecommunication Terminal Equipment Directive (R&TTE): Easing the Burden for Communications Approvals

The global markets, however shaken up by troubles in the financial markets, continue to offer good growth prospects for communications companies. For this trend to continue, a key ingredient is the refinement and streamlining of the regulatory processes. In 1998, the European Union and the US worked out the details of a Mutual Recognition Agreement (MRA) that will ultimately ease the burden for companies seeking regulatory approval of their products. In time, a single set of tests and approvals will be all that is required to access each of the two huge markets. And these tests will be carried out either in the US or on European soil—a huge advantage for manufacturers.

Some lessons can be drawn from the overall success of the now well-established EMC and Low Voltage Directives. Although designers continue to be challenged by the emissions limits, most equipment incorporates at least some measure of EMC by default and good practice. The real intent of the requirements—to get the general “noise levels” under control—appears to have succeeded. And, although the burden of meeting the product safety requirements has proven challenging for designers, more and more CE-approved components and subassemblies are available, easing the burden for equipment designers.

Ultimately, the long-term effect of the present CE Marking Regulation, with its multi-pronged product standard harmonization scope, will result in fewer product-induced hazards and higher overall product quality.

However, it seems the regulators will not stay idle. Just as soon as one thinks the standards are set, out pops another standard “published in the Official Journal” and we’re off to the standards house to lay out another \$300. (As an aside, a rather refreshing contrast to this situation may be found at the European Telecommunications Standards Institute (ETSI) website: [www.etsi.org](http://www.etsi.org), where one can download the standards for free—yes, FREE!)

Fortunately, the evolving work of the Committees in Brussels has yielded some sorely needed improvements in the regulatory process—particularly good news for manufacturers of telecommunications and radio equipment. To wit, the reworking of the Telecommunications Terminal Equipment (TTE) and Satellite Earth Station Equipment Directives into the Radio and Telecommunications Terminal Equipment (R&TTE) Directive constitutes one of the more enlightened approaches of the European authorities. The burden on US manufacturers in particular made the effort of extending into the European markets nearly impossible.

To be fair, making simple order out of a complex set of country-specific National Standards required time and several attempts, these being the aforementioned TTE and SESE Directives. These directives were interim, in a sense, as it was recognized that the final harmonization of the approvals process for telecommunications devices required a maturation of the standards.

Under the present scheme, for most

cont. on page 2

### International Certification News

#### LCIE-GOST Re Agreement: Easier Access to the Russian Market

LCIE, in Paris, and Russia’s national certification body, GOST Re, have signed a bilateral recognition and cooperation agreement covering the certification of electrical equipment.

Companies wishing to export their products to Russia can now take advantage of simplified certification procedures and a considerable reduction in costs and processing time.

Under this bilateral agreement, each certification body recognizes the results of tests performed by its counterpart in accordance with IEC standards, EN standards and national variations concerning electrical safety and electromagnetic compatibility.

The agreement concerns all categories of products covered within the European Union by the Low Voltage Directive.

In concrete terms, a manufacturer can call on LCIE, via Washington Labs, to perform the required tests and then obtain the right to use the COST-R mark issued by GOST Re. Only products bearing this mark may be freely marketed inside the Russian Federation.

cont. on page 3

#### How you can reach us:

Washington Laboratories, Ltd.  
7560 Lindbergh Drive  
Gaithersburg, MD 20879  
Phone: 301-417-0220, 800-839-1649  
Fax: 301-417-9069  
e-mail: [info@wll.com](mailto:info@wll.com)  
web: [www.wll.com](http://www.wll.com)

**R&TTE**

continued from page 1

devices that either: 1) connect to the telephone network; or 2) transmit RF energy for communications purposes, the services of a Notified Body must be retained. The arcane, expensive and time-consuming nature of this arrangement has caused many a US manufacturer to rethink its product introduction into the European market. There was not enough profit left over after all the certification work was done.

Fortunately, reason may prevail, even if it does not do so speedily. Thus, is born a proposed update to the TTE/SESE Directives, known as the all-encompassing Radio and Telecommunications Terminal Equipment (R&TTE) Directive. The proposal was issued and appears to be on-track for adoption, but history shows that once a draft appears it is only a matter of time until a final version gets approved and thence adopted into EU law. For those that can hold out until that day dawns, they will find that the R&TTE may make their lives simpler in the following way:

**Major elements of the new Directive are:**

1. Inclusion of radio equipment (which up until now was not fully addressed in an EU Directive).
2. A set of new definitions and the concept of telecommunications-specific essential requirements to allow the Directive to account for changes in technology.
3. A flexible decision-making process allowing new systems and network infrastructures to be readily covered.
4. A light conformity assessment scheme (read: test and approvals) based on the principle of manufacturer's declarations. The test and approval process will not solely be the purview of "Notified Bodies".

Anyone who has dealt with the complex Byzantine approvals process understands the importance of the last element listed above.

For US manufacturers, the pros of this new Directive will be: reduced costs, reduced time-to-market and increased flexibility. With every ying, there is a lit-

tle yang, and the cons to the approach will be increased liability and fiercer competition.

There are many details to iron out, much of which depends on the success of the Mutual Recognition Agreement with the United States. However it plays out, though, the trend towards approval simplification is a positive one.

**FCC Streamlining News**

On December 17, 1998, the FCC, in its bid to exit the Equipment Authorization business, approved General Docket No. 98-68 which further streamlines the equipment authorization process and implements MRAs that allow the designation of parties in foreign countries to approve equipment as conforming to US technical requirements. A key ingredient of the proposal is the appointment of Telecommunications Certifications Bodies, which will provide certification of equipment to FCC Rules and Regulations.

These organizations would have to satisfy minimum Quality System (to ISO Guide 65) requirements and would be tasked with the certification of equipment to be placed on the US market. In addition to the certification of the equipment, the TCBs would also be required to perform post-market sampling to ensure continued conformance. The release of this docket provides for a period of public comment and, although the implementation of this scheme is not terribly imminent, it does demonstrate, along with the US-EU MRA negotiations, that the FCC is fully committed to streamlining and simplifying the approvals process.

Washington Laboratories is fully committed to gaining the status of a TCB and to fully support our customers in their pursuit of regulatory testing and certification.

The times they are a-changing as this represents a marked departure from a mere six years ago, when the commission pursued a strong certification and enforcement program. The effort has worked, as the complaints about digital interference and related radio spectrum noise are relatively low, based upon field office reports filed with the FCC in recent years. ■

**It's OUR MISSION**

Washington Laboratories, Ltd. is dedicated to our clients. To meet their product development needs, we provide accurate, timely and comprehensive engineering and testing guidance with the utmost integrity. Through an impartial application of standards and test requirements and an on-going commitment to the highest quality service, we strive for total customer satisfaction.

**take it to EXTREMES**

**Washington Labs Announces New Environmental Test Services**

Environmental vibration test services are a new part of the Washington Labs line of services available to electronic and electric product manufacturers. Our new equipment includes the Ling Dynamic Systems Shaker System which can accommodate testing to the following specs: IEC68 Series, MIL-STD-10 and ANSI/IEEE.

The Shaker System allows for simulation of shipping, handling and normal use of equipment. Failure analysis and fault determination can be done, as well as design assistance to improve reliability and to meet anticipated vibration performance.

**Vibration/Shock • Temperature Humidity • Transit/Drop**

*Standards/Profiles*

- MIL-STD0810E
- Mil-PRF-28800
- IEEE 743
- 47 CFR Part 68
- BELLCORE GR-63-CORE
- IEC 68
- Your ESS Profile??



*Our Environmental Test Facilities Profile:*

Physical Size	48 x48 x48
Weight	700 lbs.
Voltage	0 - 600 V~
Frequency DC:	440Hz
Power Consumption	AC: 75kVA
	DC: Call

*(Accommodations are based upon your product-specific requirements.)*

We've built this whole new vibration testing facility within the lab complex - come see it and watch us take it to extremes.

For more information contact Joe Vogel at 301/417-0220.

# Announcing . . . Low Voltage Directive Pre-Compliance Evaluation

Washington Labs is now offering UL/Low Voltage Directive pre-compliance evaluations to UL3101/EN61010-1. The levels and steps involved include:

**Level 1:**

**Complete design review with testing:**

The pre-compliance evaluation generally consists of: construction, labeling, and documentation review; one temperature rise test; hipot; ground impedance and leakage. A letter of findings will be provided. The subsequent LVD evaluation will be discounted by \$500 if the pre-compliance data is acceptable for the final report.

We require the following information for a design review:

- complete set of schematics
- block diagram
- board artwork (scaled or 1:1)
- parts list
- parts specs to be used to check component approval - and how they are used - per ratings
- labeling and documentation
- construction - spacings, routing, and insulation of wire - need physical sample (non-testing)

**Level 2:**

**Design review with documentation and a sample:**

- We require the following information for a design review:
  - complete set of schematics
  - block diagram
  - board artwork (scaled or 1:1)
  - parts list
  - parts specs to be used to check component approval - and how they are used - per ratings
  - labeling and documentation
  - construction - spacings, routing, and insulation of wire - need physical sample (non-testing)

**Level 3:**

**Design review with documentation only:**

- We require the following information for a design review:
  - complete set of schematics
  - block diagram
  - board artwork (scaled or 1:1)
  - parts list
  - parts specs to be used to check component approval - and how they are used - per ratings

labeling and documentation  
Evaluation goes as far as possible based on the information provided. Deliverables for any of the above reviews may include:

- data
- letter report
- recommendations
- drawings mark-ups

For more information please contact Patty Sullivan at telephone 301/417-0220.

## RETEST, RETEST, RETEST—PART 68

When was the last time your product was tested under FCC Part 68? Did you know that you're required to retest production units every six months under the standard. Call Patty Sullivan for more information at 301/417-0220 or to schedule your retesting.

## International Certification

continued from page 1

The Russian body also recognizes factory inspections carried out by LCIE for the purposes of initial certification or subsequent production monitoring.

At present, LCIE is the only European certification body to enjoy such an agreement with GOST Re.

### Equipment for Potentially Explosive Atmospheres: Meeting of IECEx System Members

The 13 member bodies of the IECEx system are presently working on establishing reciprocal recognition of their test certificates. At their September meeting in France, practical operation mechanisms of the IECEx system were established.

Launched in London in 1996 and currently under development, the IECEx scheme concerns certification of confor-

mity to standards of electrical equipment intended for use in potentially explosive atmospheres. The ultimate aim of the scheme is to facilitate international trade in such equipment by replacing the multiplicity of national certificates and guaranteeing the safety of products. It will thus enable manufacturers to obtain certificates of conformity which are accepted by all member countries as equivalent to their national certification. The IECEx technical committee, CexTL, also met, for the first time, at LCIE, the day before the full meeting to examine technical aspects of tests in the context of the IECEx scheme.

LCIE is notified for application of the new European Directive concerning equipment intended for use in potentially explosive atmospheres. In this capacity it performs equipment tests and issues product conformity certificates.

Through a strategic alliance,

Washington Labs provides increased direct access to Europe for its clients through LCIE (Central Laboratory for the Electric Industry) in France. LCIE, a French Notified and Competent Body, provides testing and certification services for the European Union Markets.

In addition to information and guidance on this new European Directive and the GOST Re agreement and services available through the Washington Labs/LCIE alliance include Technical Construction Files (TCFs) for the EMC Directive and Technical Files for the Low Voltage Directive (mandatory now) and Medical Device approval under the Medical Device Directive (mandatory June, 1998). For more information contact Mike Violette, Washington Labs President, at telephone 301/417-0220, or Eric Thibau with European Certification Partners, at telephone 202/463-4210. ■

# 1999 Testing Workshop Series

**February  
May****August  
November**

*The Washington Labs 1999 Testing Workshop Series will have its first installment on Feb. 26. Plan now to join us for this hands-on, short course loaded with demonstrations, discussions and handouts of practical tips engineers need to know. Subjects we'll cover include:*

**EMC Testing and Measurements****Designing to Avoid EMC Problems  
Down the Road**

Watch our engineers demonstrate several testing techniques that uncover EMC flaws in electrical and electronic equipment—problems which can be avoided before the testing stage. You'll have the opportunity to "get specific" with the engineering staff on particular problems you may be encountering with current R&D designs.

**How you can reach us:**

Washington Laboratories, Ltd.  
7560 Lindbergh Drive  
Gaithersburg, MD 20879  
Phone: 301-417-0220, 800-839-1649  
Fax: 301-417-9069  
e-mail: [info@wll.com](mailto:info@wll.com)  
web: [www.wll.com](http://www.wll.com)

**Demystifying the LVD**

Discover what the Low Voltage Directive means for your company's products. Whether you need assistance in testing and re-design, or in preparing your Declaration of Conformity to the appropriate harmonized product safety standard, we'll help you understand the requirements.

**European and Domestic Testing  
and Regulations**

What do you need, what don't you need? How to navigate the regulatory

system and all the ins and outs involved are provided in this practical, straightforward session.

**Dates:** February 26 • May 14  
August 13 • November 5

**Location:** On-site at the Washington Labs Test Facility

**Tuition:** FREE! Includes breakfast, lunch and course materials.

*Space is limited!*

**Call 301/417-0220 today  
to register.**

## FYI: EMC Web Resources

Following are a few Safety and EMC Web Resources. If you can't find what you're looking for, contact us for more Web Resources.

WLL.COM Washington Laboratories Ltd.  
LCIE.FR French Notified and Competent Body  
WYLELABS.COM Wyle Laboratories, NRTL and Bellcore Service  
TECHINTL.COM Technology International European Competent and Notified Body  
ETSI.ORG European Telecommunications Standards Institute  
NIST.GOV National Institutes of Standards and Technology  
FCC.GOV Federal Communications Commission  
FDA.GOV Food and Drug Administration  
BSI.org.uk British Standards Institution  
RCIC.COM Regulatory Compliance Information Center  
SAFETYLINK.COM Resource for Product Safety and EMC Links  
ACIL.ORG American Council of Independent Laboratories  
ANSI.ORG American National Standards Institute  
GOST.RU Gosstandart: Russian Standards Organization



Washington Laboratories, Ltd.  
7560 Lindbergh Drive  
Gaithersburg, MD 20879

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Frederick, MD  
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