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## News from the Lab

### Implementing the EMC Directive

by Don Sweeney

Our first newsletter informed you about the revised EMC Directive. The Commission has now issued a 73 page draft "Guide on the Application of Directive 2004/108/EC" that shows how to use the revised EMC Directive. This guide is orientated toward manufacturers and is intended to answer most of the questions on:

- How to determine whether a product is subject to the provisions of the Directive.
- How to implement the provisions of the Directive.
- How to perform market surveillance and how the interference issues are resolved in practice.
- What is the role and activities of the notified bodies.

The Commission has received over 1000 comments on this draft. From my initial overview and the fact that I have given several presentations on the New Directive, I believe they have done an outstanding job writing both the Directive and the Guideline. Basically everything you wanted to know is answered. Everything on the EMC Directive, that is!

For a copy of the Guideline, email Carol at D.L.S., cgorowski@dlsemc.com and she will email you a copy. Remember you can also get a copy of the Directive at [www.dlsemc.com](http://www.dlsemc.com). Choose DLS newsletter, then under volume 1, choose **2004\_108\_EC EMC Directive**.

## D.L.S. Expands Military and RTCA Capabilities to include Lightning Induced Transient Susceptibility

D.L.S. now offers complete cable testing for RTCA DO-160E, Section 22 Multiple Burst/Multiple Stroke Lightning Induced Transient Susceptibility for all wave forms.



- RTCA DO-160E
- Mil-Std 461 A-E
- CS115 & CS116

- NARTE Certified Facility
- NARTE Certified Engineering Staff



- Large Chambers (36' x 25' x 20')
- 200 V/m up to 40 GHz
- 600 V/m pulse

### Background Information

D.L.S. provides full service EMC testing to RTCA DO-160E and Mil-Std 461 A-E for the military, avionics and aerospace industries. Accredited by NVLAP, D.L.S. offers industry's largest staff of certified NARTE engineers and the largest, most up-to-date NARTE certified commercial EMC test facility under one roof -- making it the best EMC testing value in the industry. D.L.S. is an approved Government Supplier - Cage Code #OKP98 with unique capabilities up to 40 GHz at 200 V/m.

**D.L.S. is an approved Government Supplier with capabilities up to 40 GHz at 200 V/m.**



## Professional Development

### October EMC Seminar/Workshop

Tired of taking classes that don't give you real world applications and hands-on opportunities to use what you learn? The new D.L.S. EMC Practical Applications seminar/workshop is taught by EMC engi-



neers with 75 years combined experience in real world engineering. Spend three days learning EMC requirements and design techniques and a fourth day designing a real life product. Take home the computer program designed by the instructors. As an added extra value with no additional charge, apply what you have learned in an optional 45-minute design review of your own product following the workshop.

The class and workshop will help you to improve your design skills in minimizing emissions and increasing your product's immunity. We will take the equations covered in the textbook "Design Techniques for Controlling Radiated Emissions" and help you make calculations manually to understand how they work. Then we will teach you how to use the computer programs to add speed, accuracy and understanding. We will then use the programs to analyze a commercial PC (at a speed ~95% of what you are presently using in your designs) and see how our calculations compare to a real life product.

### Here's what customers are saying about it:

"Best program I've seen. Software provided is worth the price of the seminar." - Scott D.

"This course would be helpful for any design engineer." - Shane S.

"Good information, presented well, extremely relevant." - Bryan P.

"It satisfied my requirements - practical application & problem solving." - Jack R.

### What is the advantage of the FREE Product Review?

After class you will have the option to sit down with an EMC engineer for 45 minutes to privately discuss your company's product, with the added knowledge and understanding of what you learned. One class member said after his product review, "I would not have understood many of the items you pointed out that I need to change, had I not had the class beforehand. I can now go back and make changes to my product with the confidence I will do it right." Those without a product can talk about ideas for future products. Confidentiality agreements are available upon request.

#### *The class includes:*

1. Instructors with a combined experience of 75+ years in Electrical and EMC Design.
2. A combination of PowerPoint slides, video, computer programs and live presentations to help you learn in multiple ways.
3. Sample problems we will work through together to give you a working knowledge of the concepts covered.
4. Worksheets and step-by-step examples of how to design a product to meet the various "World Emission and Immunity Requirements."
5. The textbook Controlling Radiated Emissions by Design, 2nd Edition by Michel Mardiguian, used throughout the class.
6. A notebook of all the slides presented during the class, with room for writing personal notes.
7. A CD containing all the programs used in class as well as supplemental material.

### Registration

To register call Carol at  
847-537-6400  
or email her at  
[cgorowski@dlsemc.com](mailto:cgorowski@dlsemc.com).

For more information: [www.dlsemc.com/class301.htm](http://www.dlsemc.com/class301.htm)

# Standards Update

## Where do you go for standards updates?

*Introducing D.L.S.'s new customer support website*

In the field of regulatory compliance, it is important for all of us to know what is happening today and what is going to change tomorrow. We at D.L.S. spend tens of thousands of dollars keeping up to date with the ever-changing world of standards. This knowledge is valuable in helping you understand information and requirements, and what to expect in the near future.

We have recently updated our website to assist you with what you need to know and do for your product to be compliant. We may recommend that you test early for new requirements coming in the future. Rest assured that D.L.S. will always give you the information that works best for you.

For this information:

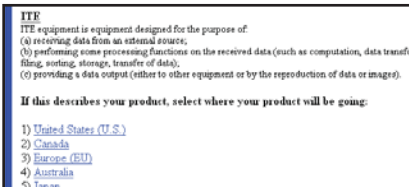
1. Log onto [www.dlsemc.com](http://www.dlsemc.com).
2. Click on "What are my product's Global EMC requirements?" test standards update. This is our new user friendly web page on EMC compliance. You will find many of the latest updates for U.S., Canada, Europe, Australia, Japan and Taiwan.



3. Choose the category of equipment you have (for example, ITE).



4. Choose the area of the world you want to market in (for example, European Union).



5. You will find a summary of a basic test plan for your type of equipment and market area.

For more details or to request further information **contact Steve Grimes at 847-537-6400 or at [sgrimes@dlsemc.com](mailto:sgrimes@dlsemc.com).**

## *Changes in standards currently found on D.L.S.'s website:*

1. FCC requires conducted testing beginning at 150 kHz as of July 10, 2005. Limits are the same as CISPR.
2. European Union ITE changes coming.
3. FCC's new branch to evaluate authorized equipment.
4. Radio Transmitters:
  - a. Updated FCC policy for RFID passive tag tests.
  - b. Updated FCC Policy for a transmitter module integrated onto a PC motherboard.
  - c. AC line-conducted emission measurements of Part 15 transmitters that operate at frequencies less than 30 MHz.
  - d. Industry Canada New Standard RSS-133e for 2 GHz Personal Communications Services.
5. Low Voltage Directive to change.

*Here is an example of what you will find on our standards update page*

### Low Voltage Directive to change



*Mark Haynes  
Safety Engineer*

The Low Voltage Directive (LVD - 73/23/EEC) is a European Directive covering most electrical equipment. The current version is in need of updating, as it dates back to February 19, 1973. Since 2001, working groups have met to discuss proposed revisions. The most important change is the removal of the lower voltage limits, currently 50 V AC and 75 V DC. At this time, the new directive, to be renamed the Electrical Product Safety Directive, is currently in draft format and could be finalized as early as 2006.

Previously, equipment powered by a voltage below the LVD limits was technically exempt from these requirements, though they may have contained hazards not related to the low supply voltage. With the "new LVD," these products will no longer be exempt. They will need to be evaluated and tested, though most likely on a reduced scale. Manufacturers of these types of products may want to have them evaluated now so they are prepared ahead of time for this change.

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# DLS NEWS & views

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To help keep you better informed  
EMC, Safety, Radio

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## Open Field Site

*FCC & VCCI Registration Updated*



*Bill Stumpf,  
Lab Manager  
Genoa, WI*

Congratulations to Bill Stumpf and his crew for the extensive work they did in meeting all the requirements for our current FCC & VCCI Registration. Their work to stay officially registered with the authorities allows us to have a facility our customers know they can trust. For this we are truly appreciative.

## Welcome to our third issue of DLS News & Views

In this issue we are bringing you more on the new EMC Directive. The Commission has issued a draft of the Guide on how to use the Directive. I believe you will find it well written, as is the new Directive.

We are once again expanding our capabilities by adding lightning induced transient susceptibility. You may not need this test but you should feel more comfortable flying knowing the systems are now being tested for lightning by your testing partners here at D.L.S.

Our design class is again being offered in October in Northbrook, Illinois. If you have taken this class, I'm sure you understand the quote "This course would be helpful for any design engineer."

In this issue we have information on our new D.L.S. customer support section on our website where you can go for standard updates. We will keep you up to date with the ever-changing world of standards as well as explain what you need to do to market your product in our ever-expanding global economy.

I hope you enjoy this newsletter and remember, if we can be of help, **please contact us at 847-537-6400.**



*Don* Donald L. Sweeney  
President