

Spring

Volume 14 2011

DLS News & Views

To help keep you better informed

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REGULATORY requirements update**Military
MIL STD 704 F Update**

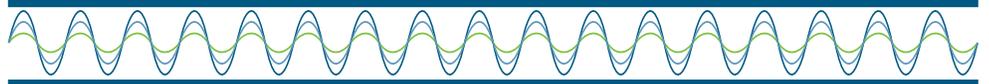
The latest update to the Aircraft Electric Power Characteristics requirements is found in MIL STD 704 F, updated from Version E. The purpose of this standard is to ensure the compatibility between the aircraft electrical system, external power, and airborne utilization equipment. D.L.S. tests systems up to 270 VDC. This is similar to the Navy requirements found under MIL STD 1399. Let D.L.S. provide this unique service for your next project. Call Jack Black today at 847-537-6400.



MIL STD 704 testing

D.L.S. Military Testing Tips

When performing testing to RTCA DO-160 or MIL STD 461, often the equipment being tested requires support equipment to operate and interface with. It is very important to discuss this support equipment and filtering prior to setting up your test schedule. Often times, this equipment has not been designed to meet the same stringent levels found in RTCA DO-160 or MIL STD 461, and can inadvertently cause interference or false failures resulting in a non-compliant test result. This can be easily remedied. Make sure you address this before you test and you can eliminate excess down time.

**Wireless
Industry Canada update of RSS-210,
RSS-310 & RSS-Gen**

On December 11, 2010 Industry Canada published updated versions of Radio Standards Specification RSS-210 (Issue 8), RSS-310 (Issue 3), and RSS-Gen (Issue 3). The new standards described below came into effect immediately on December 11, 2010. All licensed-exempt radios that are manufactured, marketed, or imported in Canada after this date must meet the requirements of these standards as applicable to the particular radio apparatus. Apparatus on the market or certified prior to this date can continue to be marketed under the former regulations.

RSS-210 Issue 8: This document contains the requirements for equipment certification of

low-power radio apparatus used for radio communication other than broadcasting (Category I). Category I apparatus is subject to certification. There have been 10 major changes to this standard that relate to changed or updated test methods, re-located sections and the addition of new requirements for certain types of radio apparatus.

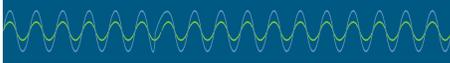
RSS-310 Issue 3: This document contains the requirements for license-exempt radio apparatus used for radio communication, other than broadcasting (Category II). Category II radio apparatus is exempt from certification. In following with the revisions of RSS-210 there have been 10 major changes to this standard that relate to changed or updated test methods, re-located sections, and the addition of new requirements for certain types of radio apparatus. The title of this standard has been changed to "License-Exempt Radio Apparatus (All Frequency Bands): Category II."

Continued on page 2 center column

RTCA & Military

New Brochure for Military & Avionics Testing

D.L.S. has a newly updated brochure outlining the latest updates for military and avionics related testing. These include MIL STD 461, MIL STD 704, MIL STD 810, and RTCA DO-160. Testing updates include EMC, HIRF, Lightning, Environmental, and Power Quality. You can access this brochure by clicking on www.dlsemc.com/1015.



D.L.S. Offers Large Equipment & Machinery Compliance

D.L.S. offers a comprehensive compliance program for large, oversize equipment and machinery. The program involves a timely detailed review of the equipment for applicable EMI and Product Safety standards and compliance to U.S., Canada and CE requirements. The program can involve customized on-site testing and evaluation, combined with regular laboratory testing and procedures. Contact us today at 847-537-6400 to learn more about this time saving program.



regulatory requirements **UPDATE** (cont'd)

Wireless Industry Canada update (continued from page 1)

RSS-Gen Issue 3: This document contains the general requirements for radio apparatus that is used for radio communication other than broadcasting. The standard also provides information for the certification of these apparatus. There have been 25 changes to this standard, including the title of the standard, which is now called "General Requirements and Information for the Certification of Radio Apparatus." Updates to test requirements, limits, reporting of test data, and procedures are numerous. There are also changes to the requirements for labeling and user manual information. Many sections formerly found in RSS-210 and RSS-310 are now found in this standard.

For more information on the Industry Canada updates, please call Bill Stumpf at 262-279-0210.

Safety

Medical Electrical Equipment *Industry Update For New IEC 60601-1 Standard (3rd Edition)*

The new 3rd edition of IEC 60601-1, the Safety Standard for Medical Electrical Equipment – Part 1 (General requirements for basic safety and essential performance), has been adopted by the U.S. Food and Drug Administration (FDA) and is still currently scheduled to become a requirement for U.S. medical product evaluations, not covered by a Part 2 standard, on June 1, 2012. This is also the effective date for the Canadian and European versions of this standard.

However, the Occupational Safety and Health Administration (OSHA) has not yet agreed to accept this standard because they appear to have some issues with the new risk management requirements. Since OSHA operates and determines the rules for the Nationally Recognized Testing Laboratories (NRTL) program in the U.S., this means that currently any evaluations for the U.S. that are conducted under a program for a NRTL safety mark (such as UL or CSA) cannot currently be conducted to this new standard, and must be done to the previous 2nd edition of this standard. This could cause problems in determining what medical safety standards were applied to each product. D.L.S. will keep you updated on the status of this issue and will let you know if there are any effective date changes.

Information Technology Equipment & Business Machines Reminder *New Safety Standard IEC/EN/UL/CSA 60950-1*

The new second edition of the safety standard for Information Technology Equipment - Safety - Part 1: General Requirements, has been published and became effective on December 1, 2010 in the U.S., Canada and Europe. This standard applies to mains and battery powered information technology equipment, including products such as computers and office copiers, along with devices for use with telecommunication networks and cable distribution systems. Since this is considered a technical revision, it replaces the existing variations of the first edition. Any new products and modified products, certified to the previous editions of this standard, will have to be evaluated to this new standard.

The new standard contains significant changes, examples of which follow:

- Products that employ a duty cycle for normal operation now have to specify a resting time and must be tested with this new parameter in mind.
- Tables were added for capacitors that bridge insulation to clarify the requirements and show examples of applications.
- A new clause was added on surge suppressors, emphasizing requirements for voltage dependent resistors (VDR) in primary circuits.
- Overcurrent protective devices now need to be specified if they are required externally.
- Requirements were added for audio amplifiers.
- Energy hazard requirements for DC mains supplies and batteries were enhanced.
- The requirements and test procedure for the ground bond test were modified.
- New construction and performance requirements were added regarding power output limitations of data ports.
- Methods of separation for SELV and TNV circuits have been aligned.
- A new table has been added to determine the mains transient voltage using the AC r.m.s. mains supply voltage and overvoltage category for the product.
- The test procedure for wall-mounted equipment was modified.
- Clauses were added to address concerns of openings in transportable equipment.
- An alternate test procedure was added for the running overload test on DC motors

regulatory requirements **UPDATE** (cont'd)

Safety ITE & Business Machines

(continued from page 2)

in secondary circuits.

- If a product produces ozone, the manual must now make a reference to limit this exposure.

In addition to the above, definitions have been added and other tests have been clarified in this new standard. All these requirements are intended to minimize the risk of fire, electric shock and injury for the operator, layman and service person during installation, operation and maintenance. Revisions to this key compliance standard will require additional evaluations of new and modified products that fall under the scope of this standard. Contact D.L.S. to determine how these new safety requirements will affect the certifications on your product.

Electrical Equipment for Measurement, Control and Laboratory Use

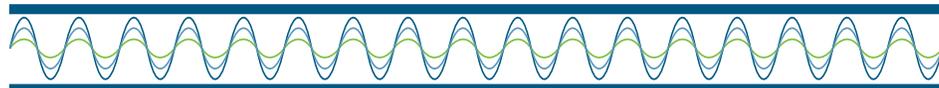
New Safety Standard EN 61010-1

The new third edition of this document, the safety standard for Electrical Equipment For Measurement, Control, and Laboratory Use – Part 1: General Requirements, has been ratified and will be published on July 1, 2011. In addition, it is scheduled to become effective on October 1, 2013 in Europe. This standard is considered a technical revision and replaces the second edition. Any new products, and modified products, previously certified to earlier edi-

tions of this standard, will have to be evaluated to this new standard. Once other countries, such as the U.S. and Canada, publish their own versions, effective dates will be determined for these other standard variations.

Korean KC Mark was fully implemented Jan. 1, 2011

Like many nations, Korea mandates compliance of electrical products with certain standards or other requirements, usually granted by certification or accreditation bodies. Along with this compliance certain markings are required to be on the product. The Korean Agency for Technology and Standards (KATS) introduced the Korea Certification (KC) Mark in 2009. The KC mark is designed to integrate thirteen certification marks previously required by mandatory certification systems from the Ministry of Knowledge and Economy (MKE) and the Ministry of Labor (MOL). Electrical Products covered under the KC Mark include but are not limited to Appliances, Audio and Video Applications, Information Technology & Office Equipment, and Lighting Appliances. As of January 1, 2011 all mandatory certifications required by all Korean ministries will use the KC mark. Certification obtained under the previous system will remain valid. The KC Mark can be used simultaneously with existing marks until June 30, 2011. As of July 1, 2011, the KC Mark will be required to be attached to all new products subject to compulsory certification.



Well, you asked for it...

And we gave it to you. Yes, the design seminar was an even greater success in October when we went to the new 3-day format, Tuesday through Thursday. Roger and I spent a lot of time trying to condense the original 4 days into 3, without compromising material. I believe we were successful and from the feedback of the 38 students, they felt the same. We are already seeing a strong turnout for the next class in April.

The only area where we had some difficulty was when to schedule the one-on-one design reviews. In the past we had many of the reviews on the Saturday between the 4 days. For those of you taking the class in the future, I would suggest that you try to plan to be around on Friday morning, if possible, for your design review. We scheduled some reviews in the evening after class, but there are a limited number of those time slots.

The one-on-one design review is the perfect way to take the material you just learned and apply it to your product. As one student said to me toward the end of his review, "I would not have even understood what you were saying to me had I not just finished studying all the concepts you are suggesting for my product." Yes, we review *your* product and show you how to apply the EMC concepts specifically to it. So be sure to schedule your review and be sure to bring along the material you want to talk about. If it's an old product you want to improve, bring the product (you can send it to D.L.S. ahead of time), bring the data you have, and tell us what your concerns are. If it's a new product, bring a similar product if possible, a block diagram, a list of the clocks, drawings, ideas and questions. I can assure you your next project will go smoother because you took the class and participated in the design review.



D.L.S. Consulting Services

Time well spent

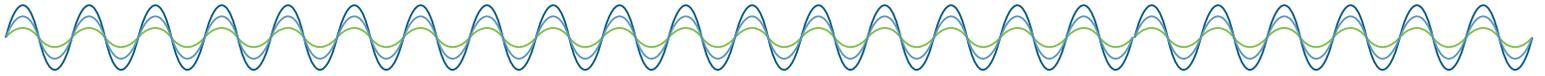
For over 27 years, the D.L.S. engineering staff has provided timely and insightful consulting services to our customers. We



are expanding our consulting services program to include more Avionics and Military related projects. The consulting services include detailed design reviews, on-going from project conception, as well as confirmation and preparation of formal test plans, often required by government agencies such as the armed services or the FAA. D.L.S. has long offered real time mitigation and troubleshooting services for projects being tested.

The consulting services are performed by senior level iNARTE certified engineers. They provide experienced one-on-one tailored programs specific to the unique aspects of your project, regardless of size, complexity, or time constraints. Consulting is not limited to EMC, as D.L.S. also provides product safety, power quality and environmental consulting.

D.L.S. clients in the know have taken advantage of the D.L.S. consulting services. They know the feeling of time and money well spent, meeting critical time lines for product introduction, and making critical design changes at the earliest possible times, reducing cost and market impact. Call Jack Black today to explore how D.L.S. consulting services can reduce overall cost and increase your speed to market.



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In response to your many requests
New 3-Day Format

*Keeping the same important concepts and material
presented in a more condensed format*



EMC by Your Design

An EMC Practical Applications Seminar and Workshop
with a free 45 min. individual product design evaluation on April 15,
take home proprietary computer program,
expanded chapter on filter design, signal integrity,
signal return currents on PCB's
and a second textbook at no extra charge



Tuesday April 12 - Thursday April 14, 2011
Hilton Hotel, Northbrook, IL

**We are offering a special
\$300 discount if you register by March 22, 2011**

Classes fill quickly so register early
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