

ENGINEERING STANDARDS UPDATE
Trying to Make Standards Exciting Since 2001

This is the monthly newsletter of the LANL Conduct of Engineering Office's Engineering Standards Program. The Standards define the minimum technical requirements for the design, fabrication, construction, commissioning, repair, and replacement of both new and existing equipment and facilities, including both maintenance and modification, for programmatic and facility work at LANL [[PD340](#)].

Topics this month:

- **Electrical Standards Course Thurs, Mar 3**
- **Engineers Week Main Event Thurs, Feb 24**
- **Contract Mod 157**
- **New ESM Chapter 18 -- Secure Communications**
- **Engineering Processes Changes**
- **Coming Soon**
- **10 in '10: Innovations from the Past Year**
- **CoE Quote of the Month**
- **LANL Standards Issued in Dec**
- **What Happens When Conduct of Engineering Isn't Followed**
- **DOE Technical Standards Actions**

The Standards Homepage: <http://engstandards.lanl.gov/>

ELECTRICAL STANDARDS COURSE THURS, MAR 3

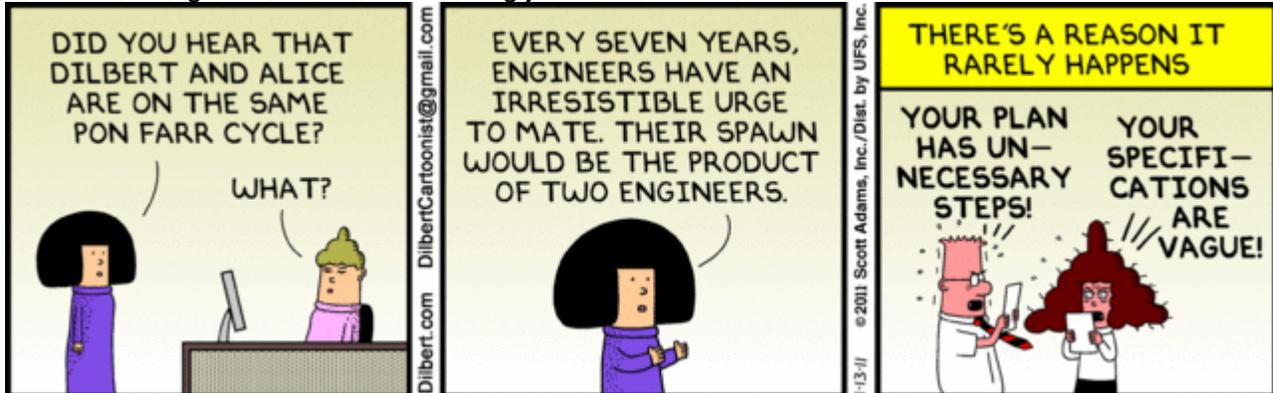
David Powell, Electrical Standards Point-of-Contact, hopes to retire in a year or so (Alternate POC Joseph Sanchez will be transitioning in). So he'll teach his famous course -- if enough people sign up in February. Take 17998, "[LANL Electrical Engineering Standards](#)" from 8-5 at the White Rock Training Center. Covers the electrical engineering standards in Chapter 7 of the LANL Engineering Standards Manual and discusses mandatory requirements and good practices for those involved in electrical design. Strongly suggested for electrical designers, electrical engineers, electrical safety officers, and facility managers. Enroll (or disenroll) using link above or call 667-0059 or e-mail Central Training at esh-registration@lanl.gov.

ENGINEERS WEEK MAIN EVENT THURS, FEB 24

In conjunction with National Engineers Week February 20-26, ADE will once again coordinate a local [program](#). On Thursday, Feb 24, at the J. Robert Oppenheimer Study Center at 1 pm, Ray Guffee, leader of the AET Mechanical and Thermal Engineering group will speak on the support that LANL provided to help BP and the U.S. government understand and recover from the Deepwater Horizon disaster in the Gulf of Mexico.

Also, there will be dozens of engineering-related project posters in the gallery outside the Cochiti/Jemez Rooms in the afternoon until 4 pm. The Conduct of Engineering Office will have posters there, too – come see us!

In honor of engineer, then, the following joke:



Per Wikipedia, in Star Trek, pon farr is “a psychophysical condition affecting Vulcans, in which [Vulcan](#) males and females [go into heat](#) every seven years, going into a blood fever, becoming violent, and finally dying if they do not mate with someone with whom they are empathically bonded.” Logically, the Wikipedia entry was updated to mention this reference to pon farr on the [FIRST DAY THE 3-DAY SERIES RAN](#).

CONTRACT MOD 157

This Mod dated January 21 changed LANS Contract Appendix G to new ConOps Order 422.1, PM Order 413.3B, and two new security NAPs. There the normal 6-12 month implementation period for these changes. Engineering Standards Manual (ESM) Chapter 9 on Physical Security is being revised to incorporate the NAPS and the revised PM Order may affect the ESM Ch 1 Z10 slightly.

ENGINEERING PROCESSES CHANGES

New on the CoE SharePoint this past month:

- AP-341-502, Rev. 2, Management Level Determination (improved forms, wording, etc.)
- A new Learning Guide: [A Guide to FMECA](#) (Failure Modes, Effects, and Criticality Analysis).

As always, for questions about these documents, please contact Gurinder Grewal at ggrewal@lanl.gov or 667-3667.

NEW ESM CHAPTER 18 -- SECURE COMMUNICATIONS

To better align ESM organization with subject ownership and design criteria document organization (i.e, UNIFORMAT), a new chapter of the ESM was created from material formerly in ESM Chapter 9, Security. New ESM Chapter 18 Secure Communications establishes the minimum requirements and guidance for protected transmission systems (PTSs), communication security (COMSEC), and TEMPEST -- a nationally mandated program that studies unintentional compromising emanations from information systems, communications, and electrical pathways.

COMING SOON

Just a heads-up that the following ESM revisions are expected in late February or March:

Chapter 7 Section D5090 Other Electrical

Chapter 12 Nuclear

Chapter 14 Sustainable Design

Then or soon after (adopting most 2009 building codes):

Chapter 5 Structural

Chapter 16 IBC Program

Chapter 1 Section Z10 General All Disciplines

10 IN '10: INNOVATIONS FROM THE PAST YEAR

From ThomasNet (nerds over 40 may remember the big, green Thomas Registers): "Inventors kept busy last year, creating a wealth of new devices to entice consumers, advance the boundaries of science or help those in need. [Here](#) we look at 10 of the top engineering and science innovations from the past year."

If anyone's buying [Sugru](#) and wants to split the order due to short shelf life, count this nerd in. Seems with this and duct tape, anything's possible (Main Hill Road water line repair?).

LANL STANDARDS ISSUED IN DEC

[LANL Engineering Standards Manual \(STD-342-100\)](#)

Chapter 9, Facility Protections and Security, Rev 2. Admin change that moved secure communications to new Chapter 18; reference and org updates; renumbered Section to FP&S Chapter 18, Secure Communications, Rev. 0. Initial issue. Material formerly in Chapter 9 with minor revisions

[LANL Master Specifications \(STD-342-200\)](#)

[31 2000](#) Earth Moving, Rev. 5 Clarified tracer wire use and installation and tracer wire continuity testing.

Updated [LANL Engineering Standards Scope and Applicability Matrix](#) on homepage.

DOE TECHNICAL STANDARDS ACTIONS

New or Revised DOE [Tech Stds](#) this past month: None.

COE QUOTE OF THE MONTH

[“One has to look out for engineers; they begin with sewing machines and end up with the atomic bomb” Marcel Pagnol quotes \(French Writer, Producer and Film Director, 1895-1974\)](#)

WHAT HAPPENS WHEN CONDUCT OF ENGINEERING ISN'T FOLLOWED

A ceiling-hung, metal stud wall (approx 4” high x 25’ wide) spontaneously fell 12 feet in TA-21-209 this summer. Damp drywall may have contributed, but inadequate design or inspection of construction may well have been a factor, too. These days, LANL’s IBC Program (ESM Chapter 16) would prevent the latter possibility. [Complete report.](#)

Picture Title

Fallen wall broken on both sides of Genie lift



LAST MONTH'S UPDATE TOPICS

Miss an issue? The archive is at "[Monthly Update](#)" on the Standards [homepage](#). Last month's topics:

- **2011 National Electrical Code**
- **New Flavor of Standard -- CGD**
- **CM Course at KAFB**
- **CoE Quote of the Month**
- **LANL Standards Issued in Dec**
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To request a change to this newsletter's distribution, please contact me.

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