

ENGINEERING STANDARDS UPDATE
Trying to Make Standards Exciting Since 2001

This is the monthly newsletter of the LANL Conduct of Engineering Office's Standards Program. The Engineering Standards define the minimum design criteria, fabrication, construction, and installation practices to assure that the design, repair, and alteration of LANL facilities and the programmatic equipment associated with them satisfies requirements, needs, and customer expectations in a safe, secure, cost-effective, and environmentally responsible manner [[PD340](#)].

Topics this month:

- **Engineering Seminar Today**
- **PD340 Conduct of Engineering Revised**
- **Getting All Your E-Mail**
- **CoE Quote of the Month**
- **Pressure Safety Program Revised**
- **LANL Standards Issued in May**
- **What Happens When Conduct of Engineering Isn't Followed**
- **DOE Technical Standards Actions**

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

ENGINEERING SEMINAR TODAY

The Engineering & Engineering Sciences Directorate likes engineers and has begun a monthly seminar series for them run by Carol Hogsett. She says that, while the primary target audience for this seminar is engineers, first line engineering managers, and engineering project leads, any ADE employee is welcome to attend. NM-licensed PEs (and potentially others who hold engineering certifications through professional societies) will be able to claim 1 Professional Development Hour for this activity.

Pre-registration is requested. There are only 15 seats left, so please RVSP to Carol Hogsett (carol@lanl.gov or 5-4732). Send **name, Z# and organization.**

ENGINEERING SEMINAR SERIES (credit is available)

June 1, 2009 – Tuesday

MSL Auditorium 3-4pm TA-3, bldg, 1698 – 1st floor auditorium

Presenter – Cathy Flavin ES-PE: PROJECT ENGINEERING OFFICE

“Engineering Challenges – Designing New Nuclear Facilities”

CMRR is the largest new nuclear facility project that LANL has executed in years. There are unique challenges associated with executing large nuclear projects. Some of the challenges that

will be discussed are; establishing technical requirements including safety basis, developing a code compliance cost effective design and the value engineering process, establishing the code of record; configuration management and change control.

PD340 CONDUCT OF ENGINEERING REVISED

This 8-page program description combines three previous Lab policies: PD340, P340-1, and P340-2.

My favorite part is where it establishes the Engineering Standards Program, but its main goal is to set the CoE ground rules for everyone at LANL. Also, by subsuming P340-2 Design Authority, it establishes the Site Chief Engineer as both the Lab's Design Authority and the Authority Having Jurisdiction for both Engineering and Pressure Safety, making Dan Steinberg a very busy guy. PD340 also establishes the Design Authority Representatives.

A new concept related to AHJ is that the "...LANL Site Chief Engineer designates AHJ representatives for the majority of subject areas of the Engineering Standards, including civil, architectural, structural, mechanical, and pressure safety. The AHJs of other LANL Safety Management Programs (e.g., fire protection, radiation protection, electrical safety, etc.) may designate AHJ representative authority in their areas of responsibility. The designated AHJs may delegate performance of AHJ roles to AHJ representatives but cannot delegate their AHJ responsibility."

The preceding paragraph doesn't have an immediate impact on our historical practice of having discipline POCs for each ESM chapter, but is a refinement of POC roles, responsibilities, accountabilities, and authorities. Still, we're looking at formalizing our staff opinion, interpretation, and variance processes a little more to go along with this view of the R2A2s.

Read PD 340 here: <http://int.lanl.gov/orgs/ceng/documents.shtml>

GETTING ALL YOUR E-MAIL

A few people report liking this email (!) but not getting it lately. You can access it from the Standards homepage, but when you miss other emails it can really be a problem. The usual cause is Microsoft Outlook which has a "junk" folder and adjustable rules for when to divert mail to that folder. Maybe Outlook thinks I'm a spammer since I email a long list of people (hmmm, maybe I am).

So, whether or not you think you're missing mail, I recommend this:

Fully open this email (double-click in Inbox if you use a preview pane). In the “Junk E-mail” group of menu items at the top, select “Safe Lists” and choose “Add Sender’s Domain.” That’ll put all “@lanl.gov” emails on your safe list.

You might also want to expand the Junk E-mail group (arrow in lower-right) and adjust your junk filtering strength to Low or No Automatic Filtering. I also have the last 3 boxes checked.

COE QUOTE OF THE MONTH

There is a saying among engineers that earthquakes do not kill people -- buildings kill people. And the buildings here were badly constructed. They failed for a reason."

Dennis Smith, a structural engineer with the U.S. Naval Facilities Engineering Command regarding Haiti

PRESSURE SAFETY PROGRAM REVISED

Revision 3 of [Chapter 17](#) Section I was issued in May. The changes should improve both the design and approval of new systems and the resolution of existing system issues. The most significant changes are summarized in a PowerPoint posted as a reference on the chapter webpage. The section has margin change bars beside many of these.

While it’s a complex program and a long document at 119 pages, there’s probably none better within the DOE system or outside it.

LANL STANDARDS ISSUED IN MAY

Engineering Standards Manual http://engstandards.lanl.gov/ESM_Chapters.shtml

General Chapter 1 Section 230 R8 Equipment/Component Functional IDs

New acro request process clarified. Listing webposted as spreadsheet vice pdf tables; future revisions do not require revision of this controlling section; expanded for TA-55, others

Electrical Chapter 7 Section G4020 Rev. 3 Site Lighting

Changed document number from ISD 341-2 to PD342; established lower limit in lumens for applicability of the New Mexico Night Sky Protection Act; required calculations to be in accordance with Z10; required use of LED luminaires for site lighting where practicable; referenced design wind conditions in IBC and ASCE 7 for pole selection criteria; updated some reference standards

IBC Program Chapter 16: Updated LBO Approval Listing (added Terracon) and LBO organization chart on website

Pressure Safety Chapter 17 Section I r3: General revision to incorporate approved clarifications, alternate methods, and lessons learned (also see above)

LANL Master Specifications <http://engstandards.lanl.gov/specs.shtml>

23 7300 R0 Indoor Central-Station Air Handling Units

Initial Issue

28 3100 R4 Fire Detection and Alarm

Revised 1.3.A.6, 1.4.A.1.a, 2.11 C, 3.7.A.5

DOE TECHNICAL STANDARDS ACTIONS

New or Revised DOE [Tech Stds](#) this past month:

DOE-STD-1185-2007 (CN-1) Nuclear Explosive Safety Study Functional Area Qualification Standard (42 pages)

DOE-STD-3006-2010 Planning and Conducting Readiness Reviews (155 pages)



WHAT HAPPENS WHEN CONDUCT OF ENGINEERING ISN'T FOLLOWED

Construction on the 376-ft-tall Ocean Tower condominium on South Padre Island was halted in 2008 after it settled more than 14 inches in some spots, causing cracks in beams and columns. It was then dubbed the “Leaning Tower of Padre” and [imploded](#) (setting a new height record for reinforced concrete) in December 2009. It’s the subject of a \$125 million lawsuit against Raba-Kistner Consultants Inc. of San Antonio and Datum Engineering of Austin, so I guess I should say ALLEGED CoE failure until this is settled (pun intended).

LAST MONTH'S UPDATE TOPICS

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

- **Fuel Gas Purging**
- **Complex, Fruity Overtones, and Well-Aged -- or Gone to Vinegar?**
- **LANL Standards Issued in April**
- **What Happens When Conduct of Engineering Isn't Followed**
- **DOE Technical Standards Actions**

To request a change to this newsletter's distribution, please contact me.

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