

ENGINEERING STANDARDS UPDATE

Standards are serious business, but this newsletter isn't.

Topics this month:

- **Training on Standards This Month**
- **Electrical Standards Course February 3**
- **Standards Variance Process Changes**
- **Programmatic/R&D Work in Nuclear Facilities**
- **Gurinder Update**
- **Adhesive Anchor Use**
- **LANL Standards Issued in December**
- **DOE Technical Standards Actions**
- **When Good Conduct of Engineering Isn't Followed**

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

TRAINING ON STANDARDS THIS MONTH

The spellbinding and wildly popular Engineering Standards Intro Course 24140 will be humbly taught this Thursday, January 8 from 8-5 in Chemistry Auditorium (TA-46-535-103) by yours truly. It provides familiarity with national and LANL engineering standards for anyone performing, reviewing, or managing design activities. Outside AEs also encouraged to attend. Folks can enroll or disenroll online in UTrain (see instructions for EE class) or contact Yolanda Trujillo at 665-5696 or ytrujillo@lanl.gov.

If this date doesn't work for you then Thursday, January 29 in the MSL (TA-3-1698) is also available.

ELECTRICAL STANDARDS COURSE FEB 3

Wed February 3, 8am-12pm, White Rock Training Center (TA00-B1308-118)

This 4-hr course 17998 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. **Taught by Electrical Standards POC Duane Nizio.**

In UTrain, search in upper right for LANL Standards, scroll down to course, Or click Catalog/Advanced Catalog search, and enter course ID. Either way, add to To-Do List, register, and see Offering Details. AEs are encouraged to attend and can contact CT-ITS, 7-0059 or e-mail esh-registration@lanl.gov.

STANDARDS VARIANCE PROCESS CHANGE

Site Chief Engineer Larry Goen has directed changes to our standards variance process that include more collaboration with the NNSA the Field Office, and we have already begun piloting the process. The two key changes are:

1. For issues with orders, codes, and standards in our contract with NNSA, a committee consisting of the requestor, FDAR and Standards POC will be convened (with invitation to LA Field Office to observe) for review of request and recommend a disposition to the Design Authority (usually Larry) who will then disposition to either deny the request or forward to the LA Field Office for action.
2. For Engineering Standards Manual issues that involve vital safety systems, a committee consisting of the CSE, FDAR and Standards POC will be convened (with invitation to LA Field Office to observe) for review of request and recommend a disposition to the Design Authority.

Changes to Variance Form 2137 and ESM Chapter 1 Section Z10 are in the works to formalize these new expectations.

PROGRAMMATIC/R&D WORK IN NUCLEAR FACILITIES

When the [P370](#) series of procedures on Conduct of Engineering for R&D were issued a couple of years ago, they noted that, when engineering occurred in nuclear facilities, it had to follow the P340 series instead since that has the rigor needed for such work. Last month, Larry Goen and Cheryl Cabbil issued memo ES-DO 15-006 clarifying that following the P340 series included having affected programmatic/R&D responsible engineers (like for PF-4 processes) trained on CoE to a similar level as facility engineer counterparts before they could begin to create design change forms and the like. This has resulted in an R&D engineer training campaign starting this month and should also increase the user base for some of the AP-341s.

Beyond the above effects on T&Q and processes, there's isn't an immediate effect on the Standards Program (beside me teaching the course noted at top) -- PD370 has always said that the LANL Standards must be followed whenever applicable, including for R&D. And while it's not likely the Standards will be expanding much further into programmatic areas (besides pressure safety, welding, label acronyms, anchorage, etc.), we'll respond if there's a future need.

GURINDER UPDATE

As noted last month, Gurinder Grewal is back and cranking out AP-341s and other CoE documents two days a week. His normal workdays are Tuesday and Thursday, but he also has a laptop and work cell (695-8365) and says people may call him any weekday if necessary.

ADHESIVE ANCHOR USE

This month, all ES Reports for adhesive anchors in concrete per IBC 2009 or older are being rescinded by the ICC in favor of those meeting IBC-2012 or 2015 (i.e., ACI 318-11). Anticipating this, last month we revised the LANL Structural Standards to require adhesive anchors meeting same. There are a number of impacts, per CM-CE's Kevin Krank, such as:

- 1) Installation in new concrete (0-360 degrees) will not be able to take place until the concrete has aged a minimum of 21 days.
- 2) Installer and inspector need to be certified for horizontal or upwardly angled anchors (270-0-90 degrees). This might vary slightly, depending on the wording of the specific ES reports. Certification is a 2-day affair and consists of training, 75-question written test, and hands-on blind demonstration in installation skill. Kevin is working on bringing in trainers soon.
- 3) Adhesive anchors includes items such as rebar, threaded bars, etc. so any adhesive dowels fall under the same category.

See ESM Chapter 5 Section II and Spec Section 05 0520, Post-Installed Concrete and Grouted-Masonry Anchors - Normal Confidence (a replacement for 03 1534) for the new requirements.



LANL STANDARDS ISSUED IN DECEMBER

Eng Standards Manual [STD-342-100](#)

Chapter 7 – Electrical, Section D5020	
Posted labwide VAR-2014-046 on non-powered (e.g., tritium) exit signs	Thanks to Zahid Khan and POC Duane Nizio
Chapter 17 – Pressure Safety	
Added PSCS database xls-like templates for documentation vice Word forms (as a reference under Section ADMIN-1-1)	Thanks to Kay Jackson and POC Ari Ben Swartz.

DOE TECHNICAL STANDARDS ACTIONS

DOE Tech [Stds](#) activity last month:

[DOE-STD-1104-2014](#), Review and Approval of Nuclear Facility Safety Basis and Safety Design Basis Documents.

This Standard describes a framework and the criteria to be used for approval of (1) safety basis documents, as required by 10 Code of Federal Regulation (C.F.R.) 830, Nuclear Safety Management, and (2) safety design basis documents, as required by Department of Energy (DOE) Standard (STD)-1189-2008, Integration of Safety into the Design Process.

WHEN GOOD CONDUCT OF ENGINEERING ISN'T FOLLOWED

When all else fails, there's the Sochi picture treasure trove. The following could be caused by lack of geotech work, poor design, poor execution, undermining by adjacent excavation or runoff, the declining ruble, maybe a few other things.



[Workers cordon off a leaning building in Sochi as construction moves forward, in this March 2013 photo. \(Mikhail Mordasov/AFP/Getty Images\)](#)

[LAST MONTH'S UPDATE TOPICS](#)

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

- Gurinder's Replacement!
- Standards Revision Roadshow
- Ethics Course
- 2015 I-Code Adoption Update
- Fire Protection Engineers Qualified
- Structural Chapter Revised
- Project Deliverables Division of Responsibility Checklist – NEW
- [P341](#) Facility Engineering Processes Manual Rev. 5 11/7/2014
- LANL Standards Issued in November
- DOE Technical Standards Actions
- When Good Conduct of Engineering (and Ethics) Isn't Followed

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

The views expressed in this email are not necessarily those of my employer.

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