

## ENGINEERING STANDARDS UPDATE

Because [Standards Know-How Isn't Just for Nerds](#)

### Topics this month:

- **Training**
- **Drawing on E-Sigs**
- **Variance Central**
- **Engineering Processes Changes**
- **LANL Standards Issued in November**
- **O&M Criterion Changes**
- **National Standards Changes**
- **DOE Technical Standards Actions**
- **When Good Conduct of Engineering Isn't Followed**

The Standards Homepage (on the LANL public website): <http://engstandards.lanl.gov/>

### TRAINING

#### **Standards Intro Course 24140 – Wed, Jan 25 – ADDED!!!**

Back by popular (ok, management's) demand! Provides familiarity with national and LANL engineering standards for anyone performing, reviewing, or managing design activities. Also recommended for those at local AE firms. Given at C-Division auditorium (TA-46, Building 535, Room 103), runs 8 a.m.– 4 p.m. by yours truly. You'll need to print your own handout and bring it; Mike Brazile will email the file and instructions a few days prior. Waitlisters are already enrolled.

#### **Ethics for Engineers**

The 2016 edition of this 1-hr, online course will be UTrain course 35419, Ethics for Engineers 2016. It should be available by the week before Christmas, maybe sooner—just in time for the year-end, professional engineer scramble for ethics PDHs. Thanks to Heidi Hahn and Mike Brazile.

To register for LANL courses, sign up via [UTrain](#) (AEs without cryptocard via Yolanda Trujillo at 665-5696 or [ytrujillo@lanl.gov](mailto:ytrujillo@lanl.gov) with Z number).

- On [UTrain](#) click on the “catalog” tab and select “advanced catalog search”
- Enter course number as the “ID”, then “search”
- Add-to-do-list
- Go to your to-do-list and click on ‘register’

Disenroll a similar way.

### DRAWING ON E-SIGS

This is really about electronic signatures on drawings, but that's not a play on vaping. Sitewide VAR-10066, Electronic Drawing Approval, was issued in November and posted to the [CAD Standards Manual](#). It authorizes optional use of a modified drawing title block, similar to the

standard title block but with approval blocks large enough to accommodate digital signatures. LANL signers must use Entrust while outside AEs will be allowed to use alternatives, including Acrobat. The Building Official's reviewer will sign as well (versus stamping).

Modified set coversheet and sheet title block templates are available from CAD POC Scott Richardson for use by projects until proof of concept is established—at which time it will be posted to the CAD Manual website as a revision to the current templates.

We expect this to be a popular option, eliminating a lot of paper and ink and (more significantly) the scanning of signed hardcopy drawings (which hurts the readability of the final electronic document and takes labor). Very 21<sup>st</sup> century.

LANL folks that commonly sign or initial drawings in any capacity should get Entrust installed on their computers now in preparation for this. They can then use Entrust for signing other files electronically, too! [Submit an AskIT ticket.](#)

## **VARIANCE CENTRAL**

With all the line item projects and our ever-growing commitment to following requirements, the new, all-electronic Form 2137 CoE variance and alternate method process first discussed in the July Update has gotten a real workout. And because we always hear your input and even try to act on it, Curtis Thomson, the man behind the SharePoint (S/P) curtain, helped us improve the form last month. He also created a new Microsoft S/P site that aggregates the VAR number/folder request, in-process VAR folders, and approved VAR libraries on a single page [here](#). It's accessible from several webpages, but you may wish to bookmark it if you do much with variances.

## **HOW TO FINISH CONCRETE (OR NOT)**

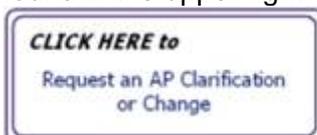
Bet these clowns didn't use Section 03 3053 Miscellaneous Cast-in-Place Concrete...  
<https://www.facebook.com/MattchewMaestro/videos/1296966920323431/>

## **ENGINEERING PROCESSES CHANGES**

### **1. Jeff Fauble taking Gurinder's Job**

Jeff's been chosen to take the position of Engineering Processes Manager in the Conduct of Engineering Office. He starts December 21 and will sit downtown near Mel Burnett and Deb Cushner initially. This selection caps a long search process and fills the role that Gurinder Grewal had for a decade (and vacated for the last time in September).

There's a big backlog of AP revision ideas, starting with 502, 519, and 517, but new ideas for change can come at any moment. So you can either bombard Jeff in late December (info [here](#)) or, more humanely, enter them in the database. Use the fancy live button below, same one that's found in the upper right of the Processes [homepage](#).



## **2. PD340 and P341 out for Comment**

Revisions of these two policy documents are out for review:

- PD340 (Rev. 6), Conduct of Engineering and Configuration Management for Facility Work
- P341 (Rev. 6), Facility Engineering Processes Manual

Although PD340 doesn't direct workers per se, this rev adds emphasis on CM as reflected in its new title. On the other hand, P341 has a lot on how to perform engineering at LANL. If you're interested in commenting on either, log in to REVCOM [here](#) (use Firefox browser) or email [melb@lanl.gov](mailto:melb@lanl.gov) if that fails. Comments are due Friday, December 9.

## **3. AP Changes**

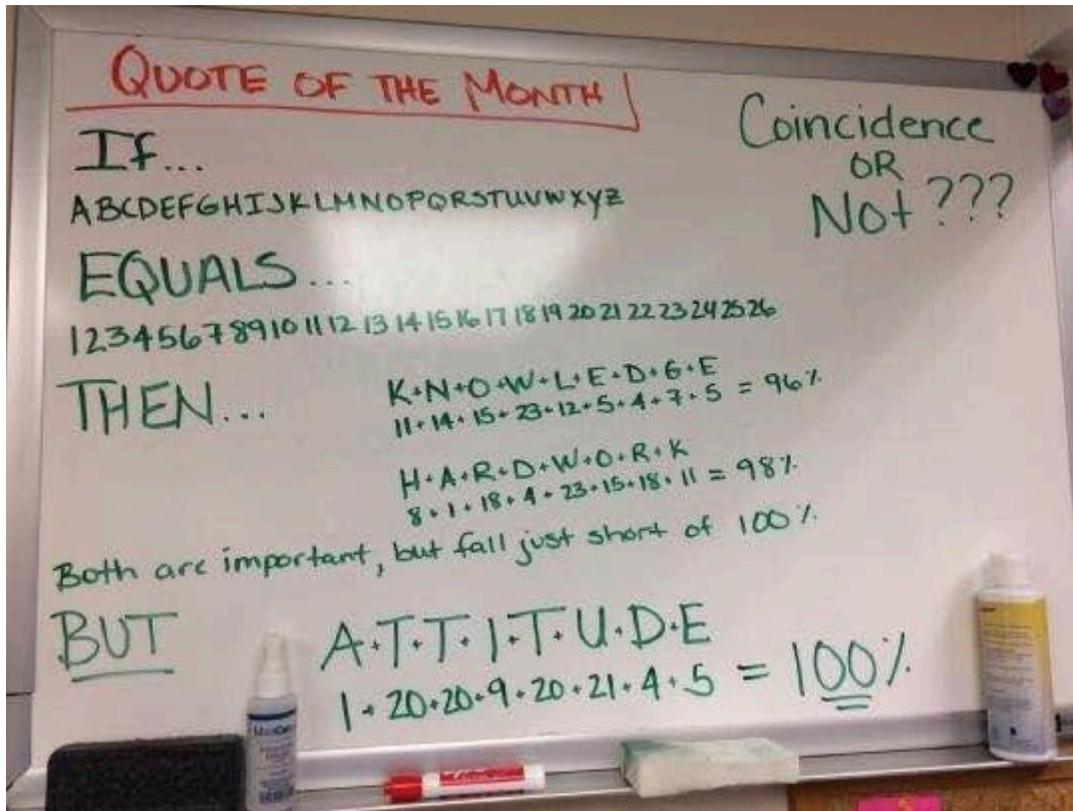
The following Administrative Procedures have been revised and posted on the [SharePoint site](#).

<b>AP-341-101-R4</b>	<b>Designating Vital Safety Systems and Cognizant System Engineers</b> Course 44251	<b>Issued:</b> 11/08/16
<b>for AP-341-519 Design Revision Control</b>	Posted sitewide <b>VAR-10070, Delta</b> : Allow electronic processing of design change documentation required by AP-341-519 using the "Delta" tool.	11/09/16

I had to go back to January's Update to retrieve these instructions:

Please note that APs, as a single pdf, are posted to the AP SharePoint upon issue to allow for training, USQ, etc.; however it is only once the effective date is reached that archiving of the superseded AP and posting of the new Word forms is performed. And, even so, this may not occur for a day or two after the effective date based on the work schedule of CoE doc control goddess Christina Salazar-Barnes.

For questions about APs, please contact [Mel Burnett](#) at 667-1895 (Fauble starting January). For training questions, contact [Yolanda Trujillo](#) at 665-5696.



## LANL STANDARDS ISSUED IN NOVEMBER

ESM [STD-342-100](#)

Chapter 16 IBC Program

[Chapter 21, Software —PDF of entire chapter](#)

Pdf includes attachments and amendments (labwide variances and clarifications) but not examples. Meant to aid browsing or searching for topics, but not performing work by it.

CAD Standards Manual [STD-342-300](#)

[VAR-10066, Electronic Drawing Approval](#) | Posted 11/29/2016

## O&M CRITERION CHANGES

Here are the [O&M Criterion](#) changes issued by MSS-MP, the Maintenance Programs Group of Maintenance and Site Services Division. Implementation is required 30 days from issue date for non-nuclear facilities, 60 days for nuclear facilities.

It's best to use Internet Explorer to access them on the SharePoint site.

<a href="#">O&amp;M 405 R5: Water Heaters</a>	Aligns requirements to current expectations contained in NFPA 54, <i>National Fuel Gas Code, 2015</i> ; and ANSI/NB23, <i>National Board Inspection Code, 2015</i> .
<a href="#">O&amp;M 601 R4: Overhead Cranes, Hoists, and Lifting Devices</a>	Removes all mobile crane and rigging references and moves them to the new requirements document 46-00-013, <i>Logistics Mobile Crane and Lifting Device Operation and Maintenance</i> . Definitions are updated to point to P101-25 for common terms, training and qualification requirements have been added for the LANL Crane Coordinator and Crane Inspector(s), and references have been updated.

### NATIONAL STANDARDS CHANGES

A selection of updates; access on IHS [here](#).

ASHRAE 55, Thermal Environmental Conditions for Human Occupancy—[Users Manual](#)

NFPA 17, Standard for Dry Chemical Extinguishing Systems - Effective Date: 12/01/2016

Remember, the license for most societies is for single simultaneous user access, so close the document and log out of IHS once you've completed a download, print, save or other use of the item. This will release the license for the next user. Please contact [library@lanl.gov](mailto:library@lanl.gov) with any questions on IHS or IEEE Xplore (how the IEEE's are delivered).

### DOE TECHNICAL STANDARDS ACTIONS

DOE Tech [Stds](#) activity in the past month: None, though we did survey specific LANL SMEs on usage for headquarters.

### WHEN GOOD CONDUCT OF ENGINEERING ISN'T FOLLOWED

Last month, while most in the U.S. were consumed by the election and subsequent national meltdown, France was worried about their own—with reactors.

In the following article excerpt (bolding added), Le Creuset is not to be confused with Le Creuset which makes enameled cast iron pots and other cookware favored by home chefs and other Francophiles. So the Dutch oven you used on Thanksgiving was safe, but dozens of foreign nuclear reactors may not be. Finally, I don't recommend Googling "French pot" at your workplace.

**'NUCLEAR INDUSTRY IN FRANCE IN CRISIS,' 20 REACTORS SHUT DOWN** by Paul Brown in [Energy](#) Nov. 09, 2016 11:16AM EST

**[A third](#) of France's [nuclear](#) reactors have been [shut down](#) by industry regulators as revelations emerge about the supply of sub-standard parts.**

As investigations into **falsified documents and excess quantities of carbon in steel** continue, more closures are expected. This is not yet a full-blown crisis for the nuclear industry, but it is putting serious strain on the finances of French nuclear giant [EDF](#) and causing electricity price rises across western Europe...

**... France is not the only country affected by the scandal. A Japanese company, the [Japan Casting & Forging Corporation](#), has also allegedly been involved in falsifying quality control documents for parts supplied to reactors both at home and in France.**

The [Japanese nuclear safety organization](#) is now investigating, but so far no plants in Japan have been ordered to close, partly because most of them have in any case remained shut since the [2011 Fukushima disaster](#).

This is a drama that has been unfolding slowly for months. But as more forged documents and potentially faulty parts have come to light, the French regulator [ASN](#) has begun insisting on shutdowns and inspections to ensure plants are safe.

One problem is that there is too much carbon in the steel components and containment vessels, which will make them brittle. The carbon content is well above specified safety limits, leading to fears that there could be catastrophic failures in plants currently operating.

The second, related, problem is forged, falsified or incomplete quality control reports about the components themselves. [Areva](#), the troubled French state-owned nuclear component manufacturer, is reviewing all 9,000 manufacturing records from its giant forge at Le Creusot dating back as far as 1943. This includes 6,000 parts made for nuclear reactors—some of them outside France.

The [anomalies were first discovered in 2014 at the plant being built at Flamanville](#) in northern France. Excess carbon was found in the plant's pressure vessel. This has caused considerable further cost and even longer delays to the completion of the flagship reactor. It has still not been cleared as safe and a final decision will not be taken until next year.

It was the investigations into how this potentially disastrous flaw got through the safety vetting process that led to the discovery in May this year of 400 other sub-standard parts and a mass of falsified quality control documentation. Many of the parts are inside nuclear plants currently operating.

According to [Power magazine](#), an ASN press relations officer, who requested anonymity in line with ASN rules, said [more nuclear power plants with suspect parts will be inspected in the next few weeks](#). "We are now finding carbon segregation problems from components coming from both Le Creusot and Japan Casting & Forging. As for now, there are 20 EDF reactors offline," the official said...

### **LAST MONTH'S UPDATE TOPICS**

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

- **Suspect/Counterfeit Items**
- **New and Notable**
- **LANL Standards Issued in October**
- **O&M Criterion Changes – NEW**
- **Training**
- **DOE Technical Standards Actions**
- **When Good Conduct of Engineering Isn't Followed**

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