

ENGINEERING STANDARDS UPDATE

[Standards are serious business](#), but this newsletter isn't.

Topics this month:

- **LANL Standards Issued in October or so**
- **Engineering Ethics**
- **Engineering Processes News**
- **Training & Qualification**
- **DOE Technical Standards Action**
- **National Standards Action**
- **When Good Conduct of Engineering Isn't Followed**

The LANL Engineering Standards: <http://engstandards.lanl.gov/>

LANL STANDARDS ISSUED IN OCTOBER OR SO

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

ESM-Chapter	Section	Title	Rev.	Date	Summary of latest Revision
Chapter 17, Pressure Safety	NASME	New Non-ASME System Requirements	–	9/19/19	Reputable manufacturers reference updated (when listed components cannot be used, reputable manufacturers as discussed in NASME-1-a, b, etc. (LANL only). Thanks to POC Ari Swartz.
Chapter 21, Software	SOFT-GEN	Issued VAR-10365, Update-Nov19		11/7/19	The new form, SOFT-GEN-FM04, SSC Software Change Package Form (SWCP)—and its accompanying instructions document—was webposted in Word for use under SOFT-GEN together with this authorizing Variance. Replacement of the AP with this form consolidates all software QA processes and forms in a single location; this should result in a more coherent and cohesive software QA approach—and one with consistent look and feel. The new form is NQA-1 compliant and follows the same practices/sequences for reviews, approvals, and work authorization that the recently issued DCF procedure uses. Thanks to Paula Diepolder, Joy Getha, Jeff Fauble, and the users that provided input.

Master Specs [STD-342-200](#)

Spec Number	Rev.	Spec Title	Effective
03 3001	12	Reinforced Concrete. Changes included moving design change actions to new App B. Thanks to POC Glen Pappas and reviewers.	11/5/2019
25 5911	0	Equipment Shutdown Circuits for BAS Systems – NEW!! Thanks to POC Allen Hayward.	10/17/2019

Thanks to Heather Bergren for this (webposter says true):

WOWWWW..I went and did a re-check inspection today and most of the work was not done as promised in the repair bill and instead of replacing the outlets on the exterior with GFCI outlets like they were under contract to do they printed pictures of them and taped them into the covers....NOW I HAVE SEEN IT ALL



ENGINEERING ETHICS

I came across this quotation while perusing the NM PE [renewal website](#). In it, the unpopular Hoover, once an engineer, insults numerous other professions including politicians (before being president?); it's sexist, too (though there were few non-male engineers a century ago). We must watch what we say.

From Engineering Ethics Refresher 2017:

The great liability of the engineer compared to men of other professions is that his works are out in the open where all can see them.

His acts, step by step, are in hard substance. He cannot bury his mistakes in the grave like the doctors.

He cannot argue them into thin air or blame the judge like the lawyers.

He cannot, like the architects, cover his failures with trees and vines.

He cannot, like the politicians, screen his shortcomings by blaming his opponents and hope that the people will forget.

The engineer simply cannot deny that he did it.

Herbert Hoover as quoted in Henry Petroski's "To Engineer is Human"

ENGINEERING PROCESSES NEWS

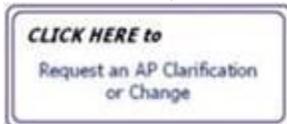
The following Administrative Procedures have been revised and posted on the [SharePoint site](#).

AP-341-507 r1, SSC Control Software Change Package	Superseded by new form, SOFT-GEN-FM04, SSC Software Change Package Form (SWCP) issued by VAR-10365, <i>Ch 21 SSC Software Change Package Form superseding AP-341-507</i> . More discussion above at Chapter 21.	11/7/19
AP-341-517 r2, Design Change Form	VAR-10353, <i>Approval to use AP-341-517-FM01 Rev. 2 Completion Verification Section for Open DCFs</i> . POC: Sarah Terrill.	10/17/19

Always ensure you are working to the latest revision being implemented by your facility.

For questions on these APs, please contact Eng Processes program manager Sarah Terrill sterrill@lanl.gov, 7-7788. Or try [Jeff Fauble](mailto:jfauble@lanl.gov) at 5-5832. He's half-time-ish, more often at jfauble@lanl.gov.

When ideas for AP change come, please enter them in the SharePoint database. Use the live button below, same one that's found in the upper right of the Processes [homepage](#).



TRAINING & QUALIFICATION

ESM Chapter 21 Software Overview and Owners Courses – Wed, Nov 13 RLUOB (TA-55-0400) Rm 4503

Perhaps a few of you are new "Owners" of nuclear safety or other ML-1, -2, or -3 software (installed in a system, or maybe for design/analysis). Most people in that situation are or soon will be subject to ESM Chapter 21 Software and need to take required training on the chapter. (Non-"Owner" tech staff in ES-Div may take the a live course such as the 38047 overview, but if they don't they must take UTrain Required Reading 38040, which should show up in their to-do list if so). So...if you, in fact, need live training, please enroll for the course(s) below. If you're

not sure what you need, contact me (5-8475) or SME/instructor Joy Getha, 5-9586, jgetha@lanl.gov. Next offering will be several months from now.

- [38047](#) ESM Chapter 21 Software Overview Course 9-11:30 a.m. (RLMs and Owners)
- [34048](#) ESM Chapter 21 Software Owner's Course 1-3 p.m. (just Owners return for this)

Electrical Standards – Thurs, Nov 14 WRTC 112

Four-hour 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. AEs are also encouraged to attend. Taught by Electrical Standards POC Eric Stromberg from 7:30–11:30 am, at White Rock Training Center TA-00-1308 Rm 112.

Swagelok Essentials Training: Tube Fitting Installation and Tube Bending – T 11/19 or Wed 20 (Non-LANL)

From Karen Polen: We have two seats remaining for Essentials Training on November 19 in Albuquerque, **with another class added November 20**. If you have already registered, thank you! Please share this with your colleagues if appropriate.

Tues., Nov. 19, 2019 [Learn More | Register](#) Wed., Nov. 20, 2019 [Learn More | Register](#)

Why Essentials Training?

Swagelok's Essentials training is designed to help our customers learn essential, practical skills for tube fitting installation and tube bending to work effectively, safely, with less scrap and rework.

What's Included?

- 8 hours of step-by-step instruction
- Practical projects involving tube cutting, extensive tube bending, plus installation of unions, elbows and tees
- Installation handbooks and course guides
- Certificate of completion
- Lunch and snacks

The cost to attend this class is \$500. Please review the agenda, and if it looks good, reserve your spot!

Kind regards, Karen Polen, Training Programs Coordinator, Swagelok Southwest, 2732 Vassar Place NE, Ste. A, Albuquerque NM 87107, (505) 842-0213

karen.polen@swagelok.com swagelok.com/southwest

REGISTERING for UTrain Courses: Go to [UTrain](#), search on course, select and enroll. Disenroll if you have to bail. AEs can also register; use token (CryptoCard) or contact ES T&Q coordinator Yolanda Trujillo at 665-5696 or ytrujillo@lanl.gov with Z number.



DOE TECHNICAL STANDARDS ACTION

Tech Stds Program [postings](#) in the past month:

DOE-STD-1187-2019, [Beryllium-Associated Worker Registry Data Collection and Management Guidance](#)

NATIONAL STANDARDS ACTION

LANL's [IHS](#) online codes & standards subscription reports these changes:

Document number: **AASHTO LTS (Note: Not in LANL's subscription, but ES-UI should have it.)**

Publication Date: 1/1/2013

Title: **Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals**

Type of Change: **Complete Revision**

WHEN GOOD CONDUCT OF ENGINEERING ISN'T FOLLOWED

The Hard Rock New Orleans collapse on October 12 killed three and injured dozens. It was captured on a horrific video and most of the speculation is that temporary post shores were inadequate and/or removed too early, possibly other issues.



[USAToday article](#) excerpt:

One lawsuit, filed by attorney Rene Rocha of the law firm Morgan & Morgan, does make a number of specific allegations, including that structural supports were not strong enough to support the concrete in the upper floors, the use of unskilled labor, and not allowing time for concrete to cure fully.

The suit also claims the contractors supplied incorrect test results to the city.

"For example, pile load tests were supposed to be submitted to city planners demonstrating that the soil and the piles at the location could support a design load of 125 tons," the suit states. "However, the pile load tests submitted to the city were for a different project at a different location, and only tested load capacity up to 50 tons."

[Another source](#) excerpt:

A [video](#) obtained by Randy Gaspard, a local concrete contractor, shows a walkthrough of the building on Thursday. In the video, an unnamed worker clearly shows structural issues in the high rise.

"Look, Papo, 'the best engineering!' Look at these large stretches (between supports) and s--t beams! (unintelligible) They're already to the point of breaking," the worker says in Spanish in the video.

"Look at how it's bent already! They couldn't remove it because it's too bent and it has too much pressure. The huge spaces without beams – look! What a very s--t structure these architects and engineers are building! ... This is seriously bad, Papa!"

Another foreman who was working on the project as a subcontractor told [CBS News](#) the contractors failed to properly install the metal pan that concrete is poured into for the building's floors.

That corrugated metal decking was positioned differently along the edge of the building above one street than elsewhere on the building. Metal sheets were meant to overlap, but instead were installed perpendicularly, the worker said -- something he suspected caused a "shearing point" and may have contributed to the collapse.

LAST MONTH'S UPDATE TOPICS

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

- **Rehires and Retires**
- **Report Non-Gov't Standards Work**
- **LANL Standards Issued in September**
- **Research Library Engineering Liaison**
- **Engineering Processes News**
- **Training & Qualification**
- **DOE Technical Standards Action**
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The views expressed in this email are not necessarily those of my employer.
To request a change to this newsletter's distribution, please contact me.

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