

**ENGINEERING STANDARDS UPDATE**

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

**Topics this month:**

- **Training & Qualification**
- **Engineers Week (LANL: Feb 22-23)**
- **“Inside ALDICP” Newsletter**
- **Code Adoption Update**
- **LANL Standards Issued in January**
- **Emerson Fisher Regulator 627 Product Safety Notice**
- **National Standards Action**
- **DOE Standards Action**
- **MSS Document Action**
- **When Good Conduct of Engineering Isn't Followed**

Note: This newsletter has hyperlinks all over but their formatting may not show, so please hover your cursor where you might expect one.

The LANL Standards Homepage: <https://engstandards.lanl.gov/index.shtml> (just sayin')

With AI in the news a lot lately, there's this (hopefully not ChatGPT):


A bot wrote this obituary and I'm losing my mind



Brenda Tent retired from living at the age of old, surrounded by family and natural causes. A librarian from birth, Brenda was an avid collector of dust. She had a sweet heart and married her high school. She loved having hobbies and helping her sons to be disadvantaged youths. She had no horses but thought she did. The church gave her a choir because she sang like bird and looked like bird and Brenda was a bird. She owed us so many poems.

The funeral will be held in 1977 at heaven. In lieu of flowers, send Brenda more life.

See you in 1977

 **randomslasher** Follow

It is literally impossible to pick a favorite line from this because the entire thing is gold.

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**TRAINING & QUALIFICATION****New E-mail for COE Qual Program: [COEQuals@lanl.gov](mailto:COEQuals@lanl.gov)**

Use the addy linked above for any kind of help with COE quals such as CSE, PrE, Design, Project, PSO, and other qualified positions (and also SHR matters for CSEs). The email goes to the whole team: Deb Cushner, Jess Blea, and Barb Dela Cruz.

Conversely, for help with essentially training (but not qual) issues, contact Nick Jones ([n.jones@lanl.gov](mailto:n.jones@lanl.gov)) or Sadonna Tapia ([squires@lanl.gov](mailto:squires@lanl.gov)).

**Upcoming Courses****ES LANL and ES Org Introduction, 54659, Tomorrow, Wed [2/8 1:00 - 2:00 PM](#) MS Teams**

This is a briefing to introduce new engineers to the organizational structure of all engineering divisions at LANL. This is part of the COE On-Boarding training. Designed to be given "LIVE" by the Engineering Manager based on demography of the group. This is the first of three course/briefings all new hires should receive upon joining Engineering Services. **Not offered often so get it while it's hot!** POC: Sarah Murdock. Shameless brown-nosing:

**CENG Office Director**

[Sarah Murdock](#) (Acting  
Group Leader)

**COE Configuration Management Overview, 55231, 9-10 AM MS Teams, Dates below**

An introduction to the LANL Conduct of Engineering mission and the description, currently offered every two weeks through April 13. POC: Sarah Murdock. Near-term offerings:

2/16, 09:00 - 10:00 AM

3/2, 09:00 - 10:00 AM

3/16, 09:00 AM - 10:00 AM

More shameless promotion:

**Intro to LANL Engineering Standards, 24140 – March 13-16 (must attend all 4 days), 2:00-4:00 PM (NEW TIME), MS Teams**

**Note: Last scheduled offering, next session is TBD.**

Attend each day to receive credit (it's 8 contact hours, despite what UTrain may say). You'll need to block your own calendars. Register in UTrain. If that fails, contact Nick Jones ([n.jones@lanl.gov](mailto:n.jones@lanl.gov)) or Sadonna Tapia ([squires@lanl.gov](mailto:squires@lanl.gov)) with Z number. Provides familiarity with national and LANL engineering standards for anyone performing, reviewing, or managing design activities. **Required course for many LANL engineers**, recommended for those at local AE firms, and **only taught a few times a year--so try to attend**. Students are only ever required to take this course once.

**Safety Basis for Engineers, Course 39564, Tuesday, March 21, 1:00 – 3:30 pm, MSTeams**

Course is required for and will help CSEs and PrEs learn what they need to know about Safety Basis to prepare for their oral boards and their engineering duties. Has lots of TA55 examples but is generally applicable to any nuclear facility. To sign up, please go into UTrain and search for course #39564. Find the session and you can register for it there. UTrain will provide you the Teams link or it will be emailed before class. PLEASE DO NOT SIGN UP TO COURSE WITHOUT REGISTERING WITHIN UTRAIN! You will not be granted credit unless you have registered in UTrain. Heath Mclaughlin will be the primary instructor and Aaron Carr will be the backup. If you have any questions regarding this training, please reach out to them. <[heathm@lanl.gov](mailto:heathm@lanl.gov)>; <[acarr4@lanl.gov](mailto:acarr4@lanl.gov)>;

**Pressure Safety Courses**

There are three different courses that repeat each quarter this year. If a person wants to take a class without becoming qualified that is fine, just register in UTrain (a MS Teams meeting notice is for the class dates and times is sent later). The POC is Ari (Ben) Swartz.

FYI, the process for a PSO qualification is:

1. RLM requests assignment of curriculum
2. Training coordinator assigns curriculum to candidate
3. Candidate registers for a class offering on UTrain

The schedule for this quarter is below (may be adjusted):

Utrain	Title	Dates (partial days)
COURSE 52955	PSO Overview	1/23 - 2/6
COURSE 53900	B31.3, Process Piping	2/13 - 2/23
COURSE 56239	B31.9, Building Services Piping	3/13 - 3/20

**Instructor-Led Course Request/Registration Guide (NEW-ISH)**

There's a step-by-step guide to registering for courses that don't yet have a session set in UTrain. It's posted to the CoE T&Q "Resources" page

<https://int.lanl.gov/org/ddops/aldfo/nuclear-safety/engineering-services/conduct-of-engineering/assets/resources/instructor-led-course-registration-FAQ.pdf>

**ENGINEERS WEEK (LANL: FEB 22-23)**



**National Engineers Week** celebrates how engineers impact the world; raises awareness about the need for engineers, technicians, and technologists; and engages students in engineering. The Associate Laboratory Directorate for Weapons Engineering is sponsoring the Lab's 2023 Engineers Week events.

This year's theme, "Creating the Future," celebrates how engineers play a vital role in innovating solutions to global challenges that impact future generations. By working together to develop new technologies, products and opportunities, engineers create new possibilities that make the world a better place.

LANL details: <https://int.lanl.gov/calendar/2023/February/0222-engineers-week.shtml>

#### "INSIDE ALDICP" NEWSLETTER



I just learned about this newsletter for the Infrastructure and Capital Projects Directorate from Cristina Olds, their communications specialist. It's like the ALDFO one, but more project-oriented, so some readers of this newsletter may be interested in also perusing hers. <https://int.lanl.gov/news/newsletters/inside-aldcp/index.html>

#### CODE ADOPTION UPDATE



Last discussed in the December 6 Update, we're close with the ESM revisions needed to adopt three 2021 International Codes and the 2020 NEC. Now looks like late February or soon thereafter.

This timing directly aligns with the State of New Mexico's intent to require these same new code editions at permitting late this year. That's because LANL defines what's to be used at the start of design, and we know that the design process for buildings often takes 6 months or more — so such LANL designs could possibly begin to show up for LANL Building Official permitting about September (more likely later).

This NM Admin Code change has been long-anticipated and the architects in Albuquerque are offering training on the IBC this week, just as LANL did over a year ago. In reality, all these codes are so mature that they don't differ tremendously edition-to-edition — unless a major disaster lesson drives it (e.g., 1994 Northridge earthquake or 9/11/2001 World Trade Center attacks).

Note, the Library's IHS subscription has not transitioned to the 2021 I-Codes yet and is in purgatory (I don't mean great skiing, I mean no 2015s either). Please bear with it; LANL won't need the 2021s for a few more weeks.

**LANL STANDARDS ISSUED IN JANUARY <http://engstandards.lanl.gov/>**
**Engineering Standards Manual ESM [STD-342-100](#)**

ESM Chapter(s)	Section	Title	Rev.	Date	Comments
6 – Mechanical	D30	HVAC	-	-	Issued VAR-10595 <i>Industrial Fan Performance Ratings When Not AMCA Sealed</i> on 1/27/23, modifying a D30 requirement. Thanks to Ramona Biggs and POC Michael Ladach.
14 – Sustainable Design	all	Sustainable Design of Facilities	-	-	Under References, 2018 IECC errata updated
Chapter 17 - Pressure Safety	NASME	NON-ASME		1/10/2023	Reference: When listed components cannot be used, reputable manufacturers as discussed in NASME-1-a, b, etc. (xls) (LANL only)

**Master Spec Sections [STD-342-200](#)**

Section Number	Rev.	Section Title	Effective	Summary
01 4000	1	Quality Requirements - Nuclear	1/18/2023	Removed self-perform usage. Reduced QA program requirements to deconflict with Exhibit H. Test & Inspection Plan requirements and roles revised. Clarified design change and NCR process to account for unexpected time-sensitive field conditions. Added calibration and setpoint requirements. Eliminated VIT template. Other changes throughout. Thanks to Darren Meadows, others in IQPA.
23 1123	5	Facility Natural-Gas Piping	1/10/2023	Required NFPA 54, revised testing requirements (3.1), clarified code break point, referenced 01 4115 Pressure Safety Submittals. Thanks to Ari (Ben) Swartz, Michael Ladach.
40 0504	1	Process Piping	1/10/2023	Updated references, additional authors notes. Thanks to Ari (Ben) Swartz.

**EMERSON FISHER REGULATOR 627 PRODUCT SAFETY NOTICE****FIGURE 5** – Location of “2022” tag

Per Ari (Ben) Swartz, Chief Pressure Safety Officer, the safety notice attached to this email would apply to regulators specified or installed November 1, 2019 through January 21, 2022. He’s alerted the Pressure Safety Officers and MSS to look for them, but it’d be good if others looked as well. More information on the regulator is available at the Emerson website. <https://www.emerson.com/en-us/catalog/fisher-627>

**NATIONAL STANDARDS ACTION**

**2021 I-CODES:** See article above on code adoptions above regarding availability.

**NFPA 70-2020 NEC access:** Because IHS only serves latest and the 2023 is now out, the 2020 edition best for new design starting now is no longer in IHS for us. The best workaround is to go to NFPA and register for their free online [viewer](#). Using the viewer also solves the issue of too many using IHS licenses for NFPA. Neither method allows pdf downloading but we’re working that.

**Errata issues:** New editions of big codes always have lots of errors when first issued, and these are resolved over time by issuing errata, then producing later printings that incorporate those. IHS doesn’t always show the newest printing but often they’re there if you use their “Similar Documents” feature. If you hover your cursor over the document number it will sometimes show “Similar Documents” and selecting that allows access to the latest printing. The ESM chapter pages guide you to the latest if you look under “Chapter References.”

**New per IHS:**

Document number: **ASME B31.3, Process Piping**

Publication Date: **2022**

Type of Change: **Complete Revision**

Document number: **ASME B31.5, Refrigeration Piping and Heat Transfer Components**

Publication Date: **2022**

Type of Change: **Complete Revision**

Document number: **IEEE C37.20.2, Metal-Clad Switchgear**

Publication Date: **9/21/2022**

Type of Change: **Complete Revision**

**NOTE: IEEEs are only accessible through the Library's IEEE Xplore subscription, not IHS. <https://ieeexplore.ieee.org/browse/standards/collection/ieee>**

Document number: **NFPA 70B, Recommended Practice for Electrical Equipment Maintenance**

Publication Date: **2023**

Type of Change: **Complete Revision**

Document number: **NFPA 2001, Standard on Clean Agent Fire Extinguishing Systems**

Publication Date: **2022**

Type of Change: **Complete Revision**

#### **DOE TECHNICAL STANDARDS ACTION**

**[Tech Stds Program postings](#)** in the past month on the **[Technical Standards Portal](#)**:

These Technical Standards must be handled as Controlled Unclassified Information (CUI), thus, will not be available on the Technical Standards Program Website. At LANL, Jason Lujan has them.

DOE-STD-1231-2022, Preparation and Conduct of Protective Force Performance Testing

DOE-STD-1238-2022, Management of Unmanned Aircraft System Operations and Countermeasures During Security Performance Test Exercises

#### **MSS DOCUMENT ACTION**

Below are recent changes issued by Maintenance and Site Services Division per Jeremy vonHarders.

Access here:

<https://logistics.lanl.gov/MSS/layouts/15/start.aspx#/Policy%20%20Procedures/Forms/Public.aspx>

**Operation and Maintenance Criterion** and related Preventative Maintenance Instructions (PMI) are standards with which system and plant engineers should be familiar. Implementation is required 30 days from issue date for non-nuclear facilities, 60 days for nuclear facilities. Questions? Contact the document author shown on its approval page. If you have issues with SharePoint sites use a Microsoft browser to access them.

MSS-CE has issued the below document(s):

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**PMI 407-A Rev 3: Safety Shower and Emergency Eyewash Inspection, Testing, and Maintenance**

- Added steps for visual inspections, isolation valve emergency shutoff, flushing fluid inspection/replacement, flow testing, using a test gauge for measuring stream components.
- Updated formatting to current template.

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

Sadly, yesterday's M 7.8 earthquake centered in Turkey has claimed over 5000 lives and counting. The USGS site says, "Overall, the population in this region resides in structures that are extremely vulnerable to earthquake shaking, though some resistant structures exist. The predominant vulnerable building types are unreinforced brick masonry and low-rise nonductile concrete frame with infill construction." WAPO added:

The USGS highlighted buildings that use unreinforced brick masonry and low-rise concrete frames to be at greatest risk. These materials are too stiff to sway with the shaking and are more likely to buckle, leading to catastrophic collapses.

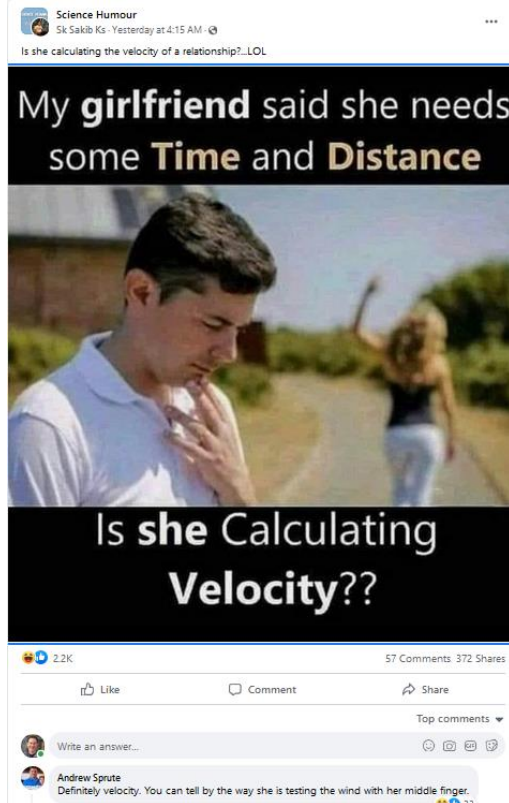
While better building codes can help, the shallow 7.8-magnitude earthquake caused very intense shaking in a region within Turkey that, unlike the north, had not routinely experienced such large temblors.

"In the southeastern part of Turkey, they hadn't felt a strong earthquake in most people's lifetimes," Hicks [a London seismologist] said.

At LANL, the structural design timeframe of interest (return period) is not just one lifetime but essentially recorded weather history for certain events (100-200 years) and up to many thousands of years for the nuclear facilities, per DOE-STD-1020.



On a lighter note, because of Valentine's Day and since we need it, a relationship meme for STEM types:



### LAST MONTH'S UPDATE TOPICS

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

- Training & Qualification – Stds Course Date/Time Change
- Come Work on Standards!
- Pressure Safety Program Revised
- LANL Standards Issued in Dec
- DOE Standards Action
- When Good Conduct of Engineering Isn't Followed

**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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