
ENGINEERING STANDARDS UPDATE

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

Topics this month:

- Online Engineering Research Tools and Webinars
- Engineering Processes News
- LANL Standards Issued in April or so
- Training & Qualification (incl. High Performing and Efficient HVAC in Laboratories)
- Building Safety Month
- IAPMO Creates Database of Plumbing and Mechanical Related COVID-19 Resources
- DOE Technical Standards Action
- National Standards Action
- When Good Conduct of Engineering Isn't Followed

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

Note: This newsletter has hyperlinks all over but the blue/underlined formatting failed last month. Hover your cursor where you'd expect one and you'll find them, then Ctrl+Click to follow. It's like a "Where's Waldo?" puzzle.

ONLINE ENGINEERING RESEARCH TOOLS AND WEBINARS

LANL subscribes to the Knovel set of references and interactive tools (e.g., reliable calculators and converters). Their main categories are below (click cats with a LANL-networked computer to go there):

- Aerospace & Defense
- Oil & Gas
- Chemical Engineering
- Engineering Design & Construction
- Education & Research
- Equipment Manufacturing

For a sample, I searched ED&C for AASHTO and found:

- LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals (1st Edition), with 2017, 2018, 2019 and 2020 Interim Revisions
- Policy on Geometric Design of Highways and Streets (7th Edition)
- AASHTO LRFD Bridge Design Specifications (8th Edition)
- Highway Bridge Superstructure Engineering - LRFD Approaches to Design and Analysis
- Standard Specifications for Transportation Materials and Methods of Sampling and Testing and Provisional Standards (2018 Edition)

ALSO--per Sarah Hayes at the library, Knovel has a series of upcoming Engineering Research Tools **webinars** that could be of interest to LANL engineers. The four upcoming webinars that are most relevant are included below. NOTE: These are via Zoom, which the LANL telework policy allows from

LANL or personal devices, but DOE discourages due to the zoombombing that used to be more common due to poor security by Zoom and users.

Knovel 101: Discover how Knovel helps engineers find technical answers and insights in less time, May 7

https://elsevier.zoom.us/webinar/register/WN_E74RCrSVRr-v3XM1aGfjWQ

Managing Stress & Remaining Connected During the Covid Crisis, May 13

https://elsevier.zoom.us/webinar/register/WN_jKVvez6zTZC7o8YpBilFog

Knovel 201: Going beyond the content: Graphs/Calculators/Tables, May 27

https://elsevier.zoom.us/webinar/register/WN_kLc1xbdPScGc8B0--8uBmw

Knovel: Quick tips and Search Strategies, May 28

https://elsevier.zoom.us/webinar/register/WN_GOPGgvpPQ0ahNPBA7P2Esw

ENGINEERING PROCESSES NEWS

AP Access in Troubled Times

To help users access the APs, Christina Salazar-Barnes created a webpage of the pdfs that can be reached from LANL Internal with any browser/machine combo (also, you can easily get to int.lanl.gov from mymail.lanl.gov). Once in, you can navigate from the top of the CoE home page or directly here. On the other hand, if you need the AP Word forms, open a terminal session and use IE for SharePoint for best results. When all else fails, email her.

AP News!!!

Sarah's been busy. The following Administrative Procedures have been revised and posted to the COE Administrative Procedures [SharePoint site](#). Always ensure you are working to the latest version of all Engineering Administrative Procedures.

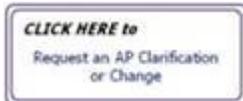
AP-341-101 Rev. 5	Designating Vital Safety Systems and Cognizant System Engineers	Effective 4/14; updated to coordinate with electronic database
AP-341-401 Rev. 4; P341 Rev. 6	COE Program Administrative Procedure Management; Engineering Processes	Issued VAR-10402 - Conduct of Engineering AP Review Period, changing period to 5 years
AP-341-502 Rev. 6	Management Level Determination	Issued 04/24/20, eff. 5/24/20. Updated to incorporate Rev. 11 SD330 changes, mainly changes to ML-3 criteria. This change will require re-evaluation of all ML-3 and ML-4 systems; facilities have one year to re-document current ML-4 and ML-3 determinations.

AP-341-517	Design Change Form	Administrative Change 2.1 to clarify requirements in Completion Verification section
		VAR-10287 Closeout of Legacy Modification Packages issued 4/17; an alternative method for closing out legacy modification packages (e.g. DCF, DCP, ECN) for designs that have been installed and in operation for greater than a year (thanks to Jason Apperson).
		VAR-10353-R1 - Approval to use AP-341-517-FM01 Rev. 2 Completion Verification Section for Open DCFs: Revised to coordinate with VAR-10287 Closeout of Legacy Modification Packages
AP-341-703 Rev. 5	Commercial Grade Dedication	Effective 4/14 – incorporates significant changes to align with DOE-HDBK-1230 and ASME NQA-1. Thanks to Rick Sarwal, Jeff Fauble, Sarah Terrill.

If you have been identified as requiring additional training on this AP you will see an assignment on your UTrain “to do” list.

The CoE Eng Processes Manager is Sarah Terrill, 667-7788, sterrill@lanl.gov.

Please enter issues with APs in the SharePoint issues database. Use the live button below, same one that’s found in the upper right of the Processes SharePoint [homepage](#).



LANL STANDARDS ISSUED IN APRIL OR SO

Engineering Standards Manual ESM STD-342-100

Chapter	Section	Title	Date	Summary of latest Revision
Ch. 17 - Pressure Safety	ADMIN-1	LANL Review Processes	5/1/2020	VAR-10281 Rev. 3 – Certification of Pressure Systems. Added Engineering Calculation in place of tubing lengths; defined systems less than 1000 lbf-ft as Category D fluid service; Added color to Attachment A R&D Pressure System Certification for flammable gas. Thanks to POC Ari B. Swartz.

TRAINING & QUALIFICATION

General Info from Ruby Molinar, ES-Div Training Specialist:

As of 1 Apr 2020, NNSA approved a 90 day extension letter for DOE O 426.2, *Personnel Selection, Training, Qualification, and Certification Requirements for DOE Nuclear Facilities*. We are currently waiting on guidance and approval from DOE HQ on all training related to 10 CFR 851 and 835 and we will pass that information on as soon as we get it.

Please remember to check your UTrain TO-DO list frequently. (Just added: COURSE, 49476, Working Safely at LANL During the COVID-19 Pandemic, due 5/15/2020).

Upcoming LANL courses

High Performing and Efficient HVAC in Laboratories (Tu-Tr, May 19-21)

From Monica Witt on behalf of Sonia Ballesteros:

The UI-OSI Sustainability group is funding a training for LANL employees provided by the company 3Flow that is focused on the assessment and optimization of Laboratory spaces.

Initially, this training was going to be an on-site training but due to the actual circumstances, we had to change plans and set up online training for each of the sessions. We hope you can register and attend and that you find it interesting and helpful. Please contact Sonia Ballesteros Rodriguez with questions or to be invited to the WebEx. Cell: 505-412-1762 Email: soniab@lanl.gov

Session 1: The Smart Labs process

Tuesday, May 19, 2020 9:00 AM-11:00 AM MDT

Agenda:

- Introduction and Overview of the Smart Labs Process
- Assessing the Demand for Ventilation

Session 2: Control Strategies and Operating Specifications

Wednesday, May 20, 2020 9:00 AM-11:00 AM

Agenda:

- Fume Hood type and operations
 - o Air velocity and Exhaust controls
 - o Lab Airflow and Pressurization Controls
- Airflow specifications and Airflow spreadsheet

Session 3: Laboratory and HVAC Controls Assessment

Thursday, May 21, 2020 9:00 AM-11:00 AM

Agenda:

- Laboratory Control Assessment
 - o Fume Hood Airflow Tests
 - o Laboratory Environment Test (LET)
 - o Using LETs to manage HVAC performance
- HVAC Control Assessment
 - o System Operating Mode Tests (SOMTs)
 - o Benchmarking performance

Process for obtaining CEUs: Each individual can apply to their organization (AIA, AIHA, etc.) for the credits following completion of the webinars. Typically you'll need to provide the agenda, instructor credentials, etc. and then the organization determines whether or not it meets the requirements for issuing credits. These webinars aren't pre-approved for credits.

Electrical Standards – Wed, May 27 Canyon Complex 165 (guessing it will be cancelled this quarter)

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 8:00-noon.

For UTrain Courses: Registering: 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 yjtrujillo@lanl.gov with Z number.

BUILDING SAFETY MONTH

I can't let May go by without noting that "Safer Buildings, Safer Communities, Safer World" is the theme of 40th annual Building Safety Month. Excerpt:

May is [Building Safety Month](#) for the International Code Council and for communities around the world. But what makes the 2020 Building Safety Month special is it marks its 40th anniversary. Building Safety Month has grown to involve a broad coalition of partners and supporters. It raises awareness about the importance of building codes and a strong system of code enforcement so that homeowners, government officials and the public have the necessary information for ensuring safety in the spaces where they live, work and learn. The Code Council, its 64,000 members, and a range of construction and design professionals participate in this campaign to highlight the importance of building safety through proclamations, informational events, legislative briefings and more. The [weekly themes for 2020](#) are:

- [Week One](#), May 1-10: **Disaster Preparedness**
- [Week Two](#), May 11-17: **Water Safety**
- [Week Three](#), May 18-24: **Resiliency. Sustainability. Innovation.**
- [Week Four](#), May 25-31: **Training the Next Generation**

Website: <https://www.iccsafe.org/advocacy/building-safety-month/2020-building-safety-month/>

IAPMO CREATES DATABASE OF PLUMBING AND MECHANICAL RELATED COVID-19 RESOURCES

At a time where every business I've ever used feels justified in emailing me every couple of weeks with how they're dealing with this plague, IAPMO sent this useful info out, and it has several interesting/potentially useful documents listed in this for resumption of ops, etc.

<https://www.iapmo.org/ibu/whats-new/coronavirus-resources>

Apr 09 2020: The International Association of Plumbing and Mechanical Officials (IAPMO) has created a robust and continually updated database linking to resources of import to the plumbing and mechanical industries, who were declared essential infrastructure workers by the Department of Homeland Security. Offerings range from "Guidelines to Protect Workers Related to Coronavirus (COVID-19) and Other Potential Infectious Materials (OPIM) in Plumbing and HVAC Systems" to "Coronavirus in Plumbing Systems: How Did the Outbreak Occur in Hong Kong and Is there a Risk in North America?"

DOE TECHNICAL STANDARDS ACTION

Tech Stds Program [postings](#) in the past month: none

Not a tech standard, but a Guide was revised:

[DOE G 413.3-6B, High Performance Sustainable Building](#) (click title to access website)

This Guide highlights the DOE O 413.3B drivers for incorporating high performance sustainable building (HPSB) principles into Critical Decisions 1 through 4 and provides guidance for implementing the Order's HPSB requirements. Cancels/supersedes DOE G 413.3-6A Chg 1.

NATIONAL STANDARDS ACTION

LANL's IHS online codes & standards subscription news:

Document number: **ASME Y14.38**

Document Specified on list: **ASME Y14.38**

Publication Date: **2019**

Title: **Abbreviations and Acronyms for Use on Drawings and Related Documents**

Status: **Revised**

Document number: **NEMA VE 2**

Publication Date: **2018**

Title: **Cable Tray Installation Guidelines**

Type of Change: **Complete Revision**

The following NFPA docs had either errors or Amendments; the ESM (Ch 1 Z10) requires us to follow such, so please follow if you're using these docs.

Document number: **NFPA 15 ERTA 2**

Publication Date: **3/20/2019**

Title: **Standard for Water Spray Fixed Systems for Fire Protection**

Type of Change: **Errata/Erratum**

Document number: **NFPA 13 ERTA 5**

Publication Date: **3/10/2020**

Title: **Standard for the Installation of Sprinkler Systems**

Type of Change: **Errata/Erratum**

Document number: **NFPA 72 ERTA 2**

Publication Date: **6/18/2019**

Title: **National Fire Alarm and Signaling Code**

Type of Change: **Errata/Erratum**

Document number: **NFPA 101 ERTA 3**

Publication Date: **11/18/2019**

Title: **Life Safety Code**

Type of Change: **Errata/Erratum**

Document number: **NFPA 14 AMD 1**

Publication Date: **7/17/2019**

Title: **Standard for the Installation of Standpipe and Hose Systems**

Type of Change: **Amendment**

Document number: **NFPA 20 AMD 1**

Publication Date: **11/6/2018**

Title: **Standard for the Installation of Stationary Pumps for Fire Protection**

Type of Change: **Amendment**

WHEN GOOD CONDUCT OF ENGINEERING ISN'T FOLLOWED

In addition to May being Building Safety Month, May is also **National Electrical Safety Month**. Having the two events in the same month evolved before the ICC and the NFPA became sworn frenemies (just look at the thin referencing to the NEC in the IBC to see that). Anyway, here are some **great NEC FAILS photos with explanations**: <https://www.ecmweb.com/national-electrical-code/violations/media-gallery/21119172/ecms-craziest-electrical-code-violations-of-2019>



And finally, here are a couple of links to sites with resources in case you want to **bore your “I-hate-engineering-stop-pushing-it-on-me” kids** with this stuff as you WFH:

<https://www.esfi.org/resource/national-electrical-safety-month-2020-smart-home-756>

<https://www.eei.org/resourcesandmedia/energynews/Pages/Spring%20into%20Safety%20with%20National%20Electrical%20Safety%20Month.aspx>

LAST MONTH'S UPDATE TOPICS

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

- **Engineering Processes News**
- **LANL Standards Issued in March**
- **Training & Qualification**
- **DOE Technical Standards Action**
- **National Standards Action**
- **When Good Conduct of Engineering Isn't Followed—April Fool's Day**

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.

Tobin Oruch, Engineering Standards Mgr
Los Alamos Nat'l Lab, Conduct of Eng Program Office
(505) 665-8475 oruch@lanl.gov <http://engstandards.lanl.gov/>
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