

Engineering Standards Update

News from Engineering Standards Program

Oct. 5, 2023



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

Topics this month:

- ESM Ch 17 Pressure Safety New Revision Release!
- Training & Qualification
- LANL Engineering Standards Issued in September
- Data Call for National Standards Committee Work
- National Standards Action
- DOE Technical Standards Action
- MSS Document Action
- When Good Conduct of Engineering Isn't Followed



ESM CH 17 PRESSURE SAFETY NEW REVISION RELEASE!

The long-awaited ESM Chapter 17 Pressure Safety new revision is here!

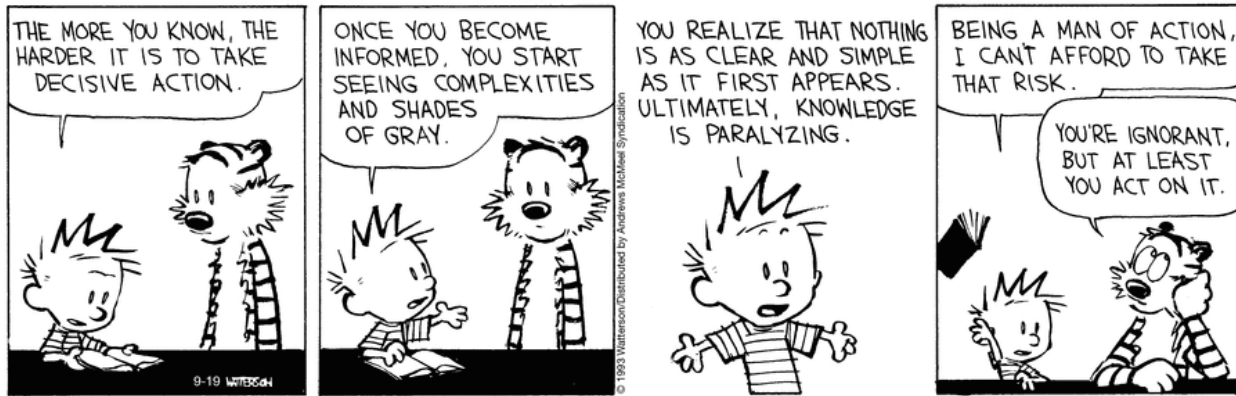
Below is a brief summary of the major changes:

- Restructured and simplified sections and attachments for **ease of use**
- Seamless incorporation of all relevant variances, alternate methods, clarifications, and interpretations
- Retires ESM Ch 17 "Certification" process and introduces P101-34 "Acceptance for Use" process
- Transfer of administrative pressure safety program elements (e.g., Maintenance, Procurement and Pressure System Database) to P101-34
- Incorporates a graded approach to the Design Review process
- Integrates Pressure Safety Committee into decision-making and provides additional assistance via pressuresafetyhelp@lanl.gov
- UTrain course #58207 (COE - Engineering Standards Manual: Chapter 17 Overview) contains a more detailed overview of changes, for those interested.



The Pressure Safety Program invites all personnel at LANL to support the program by becoming a Pressure Safety Officer (PSO). With this new roll out of ESM Chapter 17 that is more user friendly, now is the perfect time to perform a role that the laboratory needs to support and carry out its mission. Refer to [ESD-QS-001](#) and the new [Desktop Instruction for PSO Qualification](#) for more information on how to enroll in a PSO curriculum.

TRAINING & QUALIFICATION



Don't follow in Calvin's footsteps! Below are upcoming trainings....

Courses, Seminars, Programs

CoE Commercial Grade Dedication (CGD) - Overview and Preparers Courses - series is Mon, Oct 30 and Wed, Nov 1, Teams

If you need a high-level overview of CGD and the LANL CGD process for nuclear service, Course #30726 provides an introduction. For those of you who will serve as LANL CGD Preparers including Procurement engineers, select CSEs and Quality SMEs, both Courses #30726 (prerequisite) and #30727 are required. **NOTE: These courses are only offered twice a year, so plan accordingly!**

So...if you, in fact, need training, please register in UTrain for the course(s) below. If you're not sure what you need, contact instructor John Lamendola.

- 30726 CoE Commercial Grade Dedication Overview, 4 hours. (RLMs, Quality/technical staff, & Preparers): Monday, Oct 30, from 8 am - noon.
- 30727 CoE Commercial Grade Dedication Preparers (8 additional hours, just Preparers return for this): Wednesday, Nov 1, from 8 am - 5 pm.

CoE: LANL Engineering Standards Overview #52693 – Nov 6, 2:00-4:00 pm, Teams

If you're new, don't have 8-hour Course #24140 Intro to LANL Engineering Standards (see below) in your training plan, or just want to learn about the standards for 2 hours, then you can take this shortened course taught by Neha Gidwani.

CoE ESM Chapter 21 Software – Overview and Owners Courses – series is Tues, Nov 7 and 14, Teams

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). If you follow ESM Chapter 21 Software, then you need to take training on the chapter. The managers (including FDARs) of Owners only need the overview.

So...if you, in fact, need training, please register in UTrain for the course(s) below. If you're not sure what you need, contact SME/instructor Jared Harris.

- 38047 CoE ESM Chapter 21 Software Overview, 3 hours. (RLMs and Owners): Tuesday, Nov 7, from 9 am - noon.
- 34048 CoE ESM Chapter 21 Software Owners (3 additional hours, just Owners return for this): Thursday, Nov 14, also from 9 am - noon.

Intro to LANL Engineering Standards, #24140 – Nov 13-16 (M-Tr, must attend all 4 days), 2:00-4:00 PM Teams

Attend each day to receive credit (it's 8 contact hours, despite what UTrain may say. Also, ignore UTrain showing revision 7/15/2020 11:20 AM America/Denver, that's just an establishment date). You'll need to block your own calendars. 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.**

CoE Safety Basis Overview for Engineers #39564 – Dec 4, 8:30-10:30 am, Teams

If you have this course in your training plan, or just want to learn about safety basis for 2 hours, then you can take this course taught by Heath McLaughlin.

Onboarding Training Courses by CoE Office, Teams:

- CoE ES LANL Organization and Engineering Divisions Introduction #54659, Oct 10, Oct 25 11 am - 12 pm; Oct 18 10.30 - 11.30 am
- CoE Configuration Management Overview #55231, Oct 10 9 - 10 am; Oct 19 9.30 - 10.30 am
- CoE ES Onboarding: Job Functions of Roles #54860, Oct 12, Nov 2, 11 - 11.30 am; Oct 19 11.30 am - 12 pm
- CoE AP-341-627 Design Coordination #54166, Nov 7, 9 - 9.30 am
- ES Onboarding: AP Introduction and Common APs Deep Dive #54871, Oct 23, Nov 30 1 - 3 pm.

T&Q Admin matters

E-mail for COE Training: es-do-tng@lanl.gov

Click e-mail address above for help with COE training issues like getting registered, missing credit, etc. Goes to the whole team: Stan Hayes, Nick Jones, Sadonna Tapia, Santana Quintana, and Chris Martinez. Alternatively, visit the Engineering Services Training and Qualifications webpage by clicking the button "[Email The Training Team](#)". The Training and Qualifications webpage contains information and tools on training requirements and copies of the various Qualification Standards maintained by the COE office.

E-mail for COE Qual Program: COEQuals@lanl.gov

Click e-mail address above for any help with COE quals such as CSE, PrE, Design, Project, PSO, FDAR, and other qualified positions (and also SHR matters for CSEs). Goes to Deb Cushner, Jess Blea, and Barb Dela Cruz.

Instructor-Led Course Request/Registration Guide

For live courses without a session in UTrain, there's a [step-by-step guide](#) posted to the CoE T&Q "Resources" page.

So true.....



LANL ENGINEERING STANDARDS ISSUED IN SEPTEMBER

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

Thanks to Restructure working team comprised of Alan Yaeger, Alternate POC Rob Payment, and Leonard Moore; Contributing SMEs POC Ari Swartz, PSOs and ESM Ch. 17 draft reviewers; Technical editing and formatting team comprised of Lisa Cantrup and Christina Salazar-Barnes; and ES-DO Deputy Division Leader Dan Tepley for their contribution to the new revision of ESM Chapter 17. Additionally, thanks to Stan Hayes for assisting with ESM Chapter 17 related training.

Chapter	Section	Title	Rev.	Date	Comments
Chapter 17 - Pressure Safety	PS-GENERAL	General Information	0	9/22/2023	
Chapter 17 - Pressure Safety	Attachment GEN-1	Definitions and Acronyms	2	9/22/2023	
Chapter 17 - Pressure Safety	Attachment GEN-2	National Board Inspection Code NB-23 Application	1	9/22/2023	
Chapter 17 - Pressure Safety	PS-REQUIREMENTS	Pressure Safety Requirements for New and Modified System Design	0	9/22/2023	
Chapter 17 - Pressure Safety	Attachment REQ-1	Category M Fluid Service and Lethal Service	1	9/22/2023	
Chapter 17 - Pressure Safety	Attachment REQ-2	New or Modified System Design Document Requirements	1	9/22/2023	
Chapter 17 - Pressure Safety	Attachment REQ-3	ASME Boiler and Pressure Vessel Code Application	1	9/22/2023	
Chapter 17 - Pressure Safety	Attachment REQ-4	Piping Code and Regulation Application	1	9/22/2023	
Chapter 17 - Pressure Safety	Attachment REQ-5	ASME B31.3 Non-Metallic Equivalent Safety Evaluation	3	9/22/2023	

Chapter 17 - Pressure Safety	Attachment REQ-6	ASME B31.3 Metallic Equivalent Safety Evaluation	3	9/22/2023	
Chapter 17 - Pressure Safety	Attachment REQ-7	ASME B31.9 Equivalent Safety Evaluation	1	9/22/2023	
Chapter 17 - Pressure Safety	Attachment REQ-8	OSHA Requirements for Pressure Systems	1	9/22/2023	
Chapter 17 - Pressure Safety	Attachment REQ-9	Approved Flexible Hose Restraints and Thrust Load Evaluations	1	9/22/2023	
Chapter 17 - Pressure Safety	PS-GUIDE	Pressure System Design Guidance	0	9/22/2023	
Chapter 17 - Pressure Safety	Attachment GUIDE-1	Overpressure Protection Evaluation Guide	1	9/22/2023	
Chapter 17 - Pressure Safety	Attachment GUIDE-2	Oxygen System Design Guide	0	9/22/2023	

Standard Drawings & Details [STD-342-400](#)

Chapter	Drawing No	Title	Rev.	Date	Comments
Electrical	EX-D5010-1	Grounding and Bonding System Diagram	3	9/20/23	Thanks to Vuk Miodrag, Steven Baca, Lewis Valdez and POC Eric Stromberg

Note, this is an example drawing and has been renamed as such (EX-)

Engineering Standards Fiscal Year Wrap-Up:

FY 2023 major accomplishments include:

- Adoption of IBC 2021
- Revision to ESM Chapter 1 General, Sections 200/210/230 Attachment 1
- Revision to ESM Chapter 2 Fire Protection
- Revision to ESM Chapter 5 Structural
- Revision to ESM Chapter 7 Electrical, Sections D5020, D5090 & G4090
- Revision to ESM Chapter 9 Security
- Revision to ESM Chapter 16 Building Code Program
- Revision to ESM Chapter 17 Pressure Safety
- Revision to Tailored Standards Manual
- Revision of LANL Addendum to ProtoSTAR Design Criteria Rev 2
- Issue of New Abbreviations standard drawing ST-Z1040-1
- Revision to Electrical Grounding and Bonding System Diagram example drawing EX-D5010-1
- Revision to over 50 Master Specification sections!
- Revision to SDDR Form 2178.

Thanks to all the POCs for their hard work!

LANL Engineering Standards Admin matters

E-mail for COE Eng Stds: engstandards@lanl.gov

Click e-mail address above for any general questions. Goes to the whole team: Tobin Oruch, Alan Yaeger, Neha Gidwani and Christina Salazar-Barnes. Alternatively, visit the [CoE](#) or [Engineering Standards](#) webpage and click on the email under the Engineering Standards team. Of course, if your need is discipline-specific, then it's best to contact the Standards POC for the corresponding ESM chapter shown on that [webpage](#).

This is how an engineer would make a pumpkin!



DATA CALL FOR NATIONAL STANDARDS COMMITTEE WORK

The annual effort to catalog the work being performed by LANL personnel for non-government standards has begun, led by Neha Gidwani. The approximately 56 known people’s efforts have been updated, and a lab-wide solicitation for others in LANL Today was issued on September 27. **Deadline to report to CoE office is October 13!** Every year we report this volunteer work to DOE-HQ; it’s then sent to the OMB per public law.

DOE also documents this work in "DOE-TSL-4, Directory of DOE and Contractor Personnel Involved in Non-Government Standards Activities."

LANL participation is among the highest of the DOE sites.

Those doing such work (please email engstandards@lanl.gov of updates, like others doing such work):

Amundson, Kelsey Bigger, Rory Black, Amber Bruggeman, David Budzien, Joanne Camarillo-Morris, Veronica Casson, Joanna Ciolek Jr., John Contreras, Paul Cutler, Theresa	Henning, Paul Herring, Stuart Hinton, Catherine Hochanadel, Patrick Hounshel, Derek Javernick, Daniel Keppner, Ted Klumpp, John Koskelo, Aaron Kulesza, Joel	Medina, Savannah O'Sullivan, Donald Porterfield, Donivan Ring, Emery Romero, Christopher Salisbury, Scott Sandquist, Taunia Schultz-Fellenz, Emily Silva, Michelle Spernjak, Dusan
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Dumit, Sara Diffey, Shannan Dotson, Keenan Foley, Ari Fuehne, David Gallegos, Michael Gibson, Joshem Harvey, David Hayward, Robert	Kuropatwinski, James Little, Robert Livings, Richard Lucchini, Jean-Francois MacFarlane, Eric Mallett, Michael Mathew, Kattathu Mazzola, Carl McAllister, John	Stauffer, Phillip Stinnett, Jacob Stromberg, Eric Swartz, Ben Tierney, Tom Torrise, Alfio Wilson, Brandon Yeaman, Katelyn
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NATIONAL STANDARDS ACTION

[Online National Codes & Standards](#) (Accuris Eng Workbench [EWB])

NOTE: **Information Handling Services (IHS)**, that some years ago became IHS Markit and in 2022 merged with S&P Global Engineering Solutions, **has now been rebranded as Accuris**. Regardless, the codes and standards are still in the same place and from the service called Engineering Workbench.

[ASME B31.3](#), **Process Piping**

Publication Date: **2022**

Type of Change: **Errata/Erratum** (Note, ESM Ch. 1 Z10 says these shall be followed)

[IEEE NESCIR597](#), **National Electrical Safety Code**

Publication Date: **12/19/2022**

Type of Change: **Complete Revision**

Info only:

[NFPA 14](#), **Standard for the Installation of Standpipe and Hose Systems**

Publication Date: **2024**

Type of Change: **Complete Revision**

[NFPA 101](#), **Life Safety Code**

Publication Date: **2024**

Type of Change: **Complete Revision**

[IAPMO UPC](#), **Uniform Plumbing Code**

Publication Date: **2024**

Type of Change: **Complete Revision**

NOTE: 2024 UMC is also available in EWB, but LANL has not (and probably will not) adopted either because we normally follow what the State of NM does and they will likely skip the 2024 code cycle. Likewise, we won't be adopting the 2024 I-Codes (IBC, IEBC, IFC) that will be publishing over the next few months. Adopted building codes are shown in ESM Ch. 16 Building Code Program's IBC-GEN Att. A and adopted NFPA codes and standards are shown in ESM Ch. 2 Fire Protection's D40GEN Attachment 1.

An engineering analysis of Halloween....



DOE TECHNICAL STANDARDS ACTION

[Tech Stds Program postings](#) are listed on the [Technical Standards Portal](#).
No updates this month.

MSS DOCUMENT ACTION

[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.

Below are recent changes issued by Maintenance and Site Services Division per Jeremy Vonharders. Click [here](#) to access. If you have issues with SharePoint sites, use a Microsoft browser (e.g., Edge) to access them.

AP-MNT-006 Rev 9: Preventive and Predictive Maintenance

- This revision addresses comments from the 2022 conduct of maintenance assessment and additional edits/clarifications from Adam Smith

WHEN GOOD CONDUCT OF ENGINEERING ISN'T FOLLOWED

Not sure if it is bad engineering or just lack of common sense?



LAST MONTH'S UPDATE TOPICS

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

- New Email for Engineering Standards Team!
- Training & Qualification
- LANL Standards Issued in August or so
- National Standards Action
- DOE Technical Standards Action
- MSS Document Action
- When Good Conduct of Engineering Isn't Followed

The views expressed in this email are not necessarily those of the Engineering Standards Team's employer.

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