

ENGINEERING STANDARDS UPDATE

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

Topics this month:

- Standards Variances Should Not Be Considered a Get Out of Jail Free Card!!!
- LANL Standards Issued in April
- Engineering Processes Changes
- O&M Criterion Changes
- DOE Technical Standards Inaction
- NFPA Standards Changes
- When Good Conduct of Engineering Isn't Followed

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

STANDARDS VARIANCES SHOULD NOT BE CONSIDERED A GET OUT OF JAIL FREE CARD!!!



Civil Standards POC Scott Bane put together a nice 3-page primer on the topic of variance use with standards after seeing a lot of less-than-optimal efforts. Read it on the Variance Central SharePoint page [here](#) (LANL internal).

His lead-in is “Project Engineers, Project Managers, Program Managers, and field engineers should consider and exhaust all possible alternatives prior to considering/initiating a variance. Be aware, an effective Standards Point of Contact (POC) review will push for this effort to be performed prior to approval. Goal should be to minimize unnecessary variance review and approvals. Variances should be considered as last resort when all else fails.”

Well said.

ICC announces theme for 37th annual Building Safety Month

The International Code Council Family of Companies' theme for 2017 Building Safety Month — a worldwide public safety campaign celebrated in May — is [Code Officials: Partners in Community Safety and Economic Growth](#).

May is also National Electrical Safety Month. In recognition of that:



What's the worse hazard, the wiring or the building?



LANL STANDARDS ISSUED IN APRIL

ESM STD-342-100	
Ch. 1-210-Att1-Systems List	Revised 2017-4-19.
Ch. 7 – Electrical	VAR-10149 , Short circuit calculation method in ESM (posted to Section D5000). VAR-10139 , Dedicated Equipment-grounding Conductors and Raceways (posted to Section D5010).

Master Specifications STD-342-200	
For these, thanks to POC Scott Richardson	
07 6200 R4 Sheet Metal Flashing and Trim	Updated references and general editing/formatting.
09 5100 R4 Acoustical Ceilings	Corrected seismic-related errors in article 2.3
For these, thanks to POC Eric Stromberg	
26 0813 R2 Electrical Acceptance Testing	Clarified who can be the testing agency (CM and/or LANL LVEEM team). Raised threshold for transformers from 225 to 500 kVA. Changed “revenue metering” to “metering”. Reduced “regulatory requirements” section to only include NETA ATS. Removed requirement to test low-voltage surge suppressors. Removed requirement for thermal imaging after 6 months.
26 2213 R3 Low Voltage Distribution Transformers	Added new seismic options and headers. Added threshold of 10 kVA and larger, for this spec to apply Simplified “K-factor” section. Removed requirement to remove abandoned transformers
26 2300 R3 Low-Voltage Switchgear	Added seismic requirements. Added requirement for arc-resistant gear. Removed scheduling requirements. Removed some spare part requirements. Removed requirements for compression lugs. Clarified that electrical contacts need to be rated for 600 volts. Changed requirement for lighting from fluorescent to LED. Removed requirements for existing switchgear. Changed torque checks after the fact to witness torqueing while being performed.
26 2419 R4 Motor Control Center	Added requirement for arc-resistant equipment. Added seismic edits. Removed requirement for existing MCCs Clarified NEC requirements for setting overloads and sizing OCP.

ENGINEERING PROCESSES CHANGES

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

AP-341-801-R3	Post Modification / Post Maintenance Testing (Course 44253 for those assigned to this AP)	Issued: 04/25/17
----------------------	---	----------------------------

For questions about CoE processes, please contact [Jeff Fauble](#) (5-0595).

O&M CRITERION CHANGES

Below are recent [O&M Criterion](#) and related Preventative Maintenance Instruction (PMI) 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 to avoid authentication issues.

<p>The PMIs listed below have been revised to show only the Checklists. You must refer to the associated O&M to obtain the administrative portion. Any questions, please contact the document author.</p> <p>Work Orders that reference the below Preventive Maintenance Instructions shall also reference the below forms such that it is included in the work package:</p>	
<p>700-A R0, Fire Alarm Control Panel Disable/Enable and In/Out of Service 700-A.001 R0: Fire Alarm Control Panel Disable Methods 700-A.002 R0: Fire Alarm Control Panel Disable/Enable Data Sheet 700-A.003 R0: Fire Alarm Control Panel In/Out of Service Checklist</p>	<p>* See Sub-Function: O&M Criterion/PMI: Series 700: Fire Protection: http://pmd-shpt-prod:6129/DocumentLibrary/MSS/workinstructions/700-AWD.pdf</p>
<p>PMI 720-G R0: NSSB Stairwell Six-Month Pressurization Test</p>	<p>(New Issue) – See O&M Criterion 720: Fire Alarm System http://pmd-shpt-prod:6129/DocumentLibrary/MSS/workinstructions/720-GWD.pdf</p>
<p>PMI 723-F R0: TA-16, Building 0180 Fire Pump Yearly Inspection, Testing and Maintenance</p>	<p>New Issue – See O&M Criterion 723: Fire Pumps http://pmd-shpt-prod:6129/DocumentLibrary/MSS/workinstructions/723-FWD.pdf</p>
<p>PMI 727-J R1: TA-54, Building 375 Fire Panel Disable/Enable of Clean Agent System</p>	<p>See O&M Criterion 727: Gaseous Agent Fire Extinguishing Systems. Added new Step 1.3 to Section 1.0; minor edits. http://pmd-shpt-prod:6129/DocumentLibrary/MSS/workinstructions/727-JWD.pdf</p>
<p>O&M 406 R5: Cross-Connection Control for Potable Water Systems</p>	<p>Updated to conform to current editions of codes http://pmd-shpt-prod:6129/DocumentLibrary/MSS/onm/406.pdf#openinnewwindow</p>
<p>O&M 602 R3.4: Elevators, Dumbwaiters, and Lifts</p>	<p>Added a list of PMIs governed by this criterion in Section 8.2. Replaced Attachment 2 with new elevator inspection form, Electric Traction Elevator Inspection Checklist. Added a new Attachment 3, Hydraulic Elevator Inspection Checklist. http://pmd-shpt-prod:6129/DocumentLibrary/MSS/onm/602.pdf#openinnewwindow</p>

DOE TECHNICAL STANDARDS INACTION

DOE Tech [Stds](#) activity (beta [here](#)) in the past month:

None since mid-Jan. Again, HQ sources say every new administration issues a moratorium on new requirements for a while, and there's no reason to be alarmed. I don't recall this, but I've only been the Tech Std Mgr for three administration changes. Still, if you choose to be alarmed by other Washington matters I won't question it.

NFPA STANDARDS CHANGES

These folks have hundreds of standards, so they always amending them or finding and fixing errors. Sometimes even fixing errors in amendments. And we're supposed to pay attention to both. Best way is to download on IHS [here](#).

Document Number: NFPA 80 AMD 1
Publication Date: December 08, 2015
Title: Standard for Fire Doors and Other Opening Protectives - Effective Date: 12/28/2015
Type of Change: Amendment

Document Number: NFPA 20 ERTA 1
Document Specified on List: NFPA 20 AMD 1
Publication Date: July 13, 2016
Title: Standard for the Installation of Stationary Pumps for Fire Protection
Type of Change: Errata/Erratum

Document Number: NFPA 15 ERTA 1
Publication Date: March 13, 2017
Title: Standard for Water Spray Fixed Systems for Fire Protection
Type of Change: Errata/Erratum

Document Number: NFPA 20 ERTA 1
Publication Date: July 13, 2016
Title: Standard for the Installation of Stationary Pumps for Fire Protection
Type of Change: Errata/Erratum

Document Number: NFPA 101 AMD 4
Publication Date: August 04, 2016
Title: Life Safety Code - Effective Date: 8/24/2016
Type of Change: Amendment

Document Number: NFPA 70 AMD 4
Publication Date: April 05, 2017
Title: National Electrical Code - Effective Date: 04/25/2017
Type of Change: Amendment

WHEN GOOD CONDUCT OF ENGINEERING ISN'T FOLLOWED

Engineering on two-story single-family is normally minimal, though this house would have benefitted from a minute's worth.



This meme was forwarded by Kevin Krank, who mused “Do you think it was a design flaw with malicious compliance by contractor? Or bad construction? Unable to read drawings? Subcontractor interface?”

LAST MONTH'S UPDATE TOPICS

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

- Making Our Specs Great Again
- Standards and a Slice: IHS Online Standards Seminar Tues April 11
- Sustainability Fair—Furniture, LED Lighting, etc. Thurs April 20
- Engineering Processes Changes
- Training & Qual
- LANL Standards Issued in March
- O&M Criterion Changes
- DOE Technical Standards Inaction
- When Good Conduct of Engineering Isn't Followed

To request a change to this newsletter's distribution, please contact me.
The views expressed in this email are not necessarily those of my employer.

Tobin Oruch, Engineering Standards Mgr
Los Alamos Nat'l Lab, Conduct of Eng Program Office
ph (505) 665-8475 oruch@lanl.gov <http://engstandards.lanl.gov/>
Please consider the environment before printing this or any email