

ENGINEERING STANDARDS UPDATE

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

Topics this month:

- Variance Process Changing
- Welding POC
- Lightning Protection SME
- Hilti KB3 Problem
- Standards Intro Course Apr 20
- IHS Standards Expert Training/Pizza Tues, April 19
- Restriction on use of Distributors on the IESL; B-Line Issues
- NFPA 13 Automatic Sprinkler Systems Course June 21-23
- LANL Standards Issued in March
- National Standards Changes
- DOE Technical Standards Actions
- When Good Conduct of Engineering Isn't Followed

The Standards Homepage: <http://engstandards.lanl.gov/>

VARIANCE PROCESS CHANGING

CoE Variances and Alternate Methods use the 2137 Form. With the approval of a pilot last week, development of the form can now be facilitated by use of a SharePoint site. Briefly, when a 2137 is need, requestors check out a VAR number from the CoE Document Numbering [site](#). This triggers creation of a folder for that VAR along with the 2137 Word template, and an explanatory email from Christina Salazar-Barnes to the requestor. After requestors' drafting of (and collaboration on) that file and uploading of any attachments, they notify her with a simple workflow and she takes it from there -- creates a single pdf, routes it for electronic signature, issues it to stakeholders, and periodically uploads files to EDMS.

This new process can be used immediately and will be mandatory when the manual Word 2137 form link is changed to a link to the Sharepoint Doc Number request site in a few weeks.

WELDING POC

David Bingham is the POC for ESM Chapter 13 - Welding, Joining and NDE. NDE (RT method) has confirmed progressive failure of the knees so he's going into the body shop for some parts replacements soon. Such work involves joining but no welding, so we wish him well in that. He'll be out for about three months recovering, so in the interim contact Alternate POC [Kelly Bingham](#).

LIGHTNING PROTECTION SME

After a couple of decades at LANL as Lightning Protection SME and Principal Curmudgeon, Bob Daley is retiring and is on leave already. End of an era. Replacing him as primary SME is [Mark Nelson](#), who is backed up by Leah Tietjen and understudy Josh Snider. The curmudgeon position is open and will hopefully stay that way.

HILTI KB3 PROBLEM

Noted last month, LANL is now allowing use of Hilti KWIK Bolt 3 (KB3) post-installed anchors in concrete for non-seismically exempt only (formerly called non-structural) IBC applications via [CIR-16-002, PI Concrete Anchors, Seismically Exempt](#). As a warning to those who might specify or install the 1/4 x 1-3/4 size: when installed to the required embedment depth per the ICC-ES Report, there aren't enough threads showing to properly attach anything. This isn't an issue when used with masonry, but is an apparent case of changing requirements rendering this length useless with concrete. Kevin Krank and POC Glen Pappas have confirmed this with Hilti, and have no data to support derating or other workarounds. So, at this point, the options are a longer or larger diameter KB3 or a different, ICC-ES-backed bolt (e.g., Hilti TZ).

STANDARDS INTRO COURSE APR 20

Taught perhaps twice a year, the next will be Wed, April 20, from 8 a.m.–4 p.m. in Canyon Complex (TA-00-199) Rm 172. Provides familiarity with national and LANL engineering standards for anyone performing, reviewing, or managing design activities. Many LANL engineers and designers are required to take it, and outside AEs are encouraged to attend.

To register: Sign up via [UTrain](#) (AEs without cryocard via Yolanda Trujillo at 665-5696 or ytrujillo@lanl.gov with Z number)

- On [UTrain](#) click on the “catalog” tab and select “advanced catalog search”
- Enter Item Number 24140 as the “ID”, then “search”
- Add-to-do-list
- Go to your to-do-list and click on ‘register’



Aka germophobic.

IHS STANDARDS EXPERT TRAINING/PIZZA TUES, APRIL 19



The Research Library is hosting the annual IHS Standards training/pizza luncheon on Tuesday, April 19, from 11:00-1:00 in the Advanced Computing Laboratory Conference Room (TA-3, Building 200, Room 116). SM-200 is directly across Diamond Drive from the powerhouse (in the second row of buildings behind those fronting Diamond, has burglar bars on both stories). RSVP not required, but for planning purposes please email Kelly Durkin, Durkin@lanl.gov, if you plan to attend.

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The trainer will provide an overview on searching IHS Standards Expert, and in-depth training and Q&A on:

- tips for improved search and results display
- customize account settings and user preferences
- advanced filters

NFPA 13, AUTOMATIC SPRINKLER SYSTEMS COURSE JUNE 21-23

Fire Protection Division is planning to offer courses on various NFPA standards on a quarterly basis for their staff and other SMEs. The next is NFPA 13, Automatic Sprinkler Systems (Course 31666, tentatively June 21-23) at Canyon Complex (TA-00, Bldg 0199, Rm 165). Future courses will include and NFPA 101 Life Safety Code Essentials (31667, tentatively Aug 23-25).

RESTRICTION ON USE OF DISTRIBUTORS ON THE IESL; B-LINE ISSUES

The following is only applicable to ML-1 and ML-2 procurements. B-Line is an Eaton (Cooper Industries) brand of U-channel framing/mounting hardware.

From: Tepley, Daniel James
Sent: Monday, March 28, 2016 10:26 AM
Subject: Restriction on Use of Distributors on the IESL

All,

We recently added a restriction on ordering items from some distributors on the IESL. These distributors include Summit Electric, Copper State Bolt and Nut, and GSS. The restriction on these distributors is similar to the restriction that has been in place for Frank's Supply and Dahl Plumbing for about a year. The restriction states;

Prior to placement of ML1 or ML2 procurements LANL requestors must ensure that the items will be procured by [Distributor Name] from a supplier listed on the LANL-IESL, or, for sub-tier suppliers not listed on the IESL, [Distributor Name] supplier evaluation documents must be reviewed and approved by LANL QPA-IQ Group Leader or designee (Contact Dan Tepley, 7-7522). Procurement documents must specify the manufacturer/supplier's name and location from which [Distributor Name] will be obtaining the items.

This restriction was put in place as a compensatory measure as a result of a causal analysis performed on a B-Line issue on the TRP II Project. The Causal Analysis identified weaknesses in distributors' evaluation of their sub-tier suppliers. This restriction is anticipated to remain in effect indefinitely. This compensatory measure is the first of a number of actions QPA-IQ will be executing in order to reduce our reliance on distributor's quality assurance programs for providing nuclear safety related items.

This may impact some procurements if QPA determines that the distributor's evaluation of their sub-tier is inadequate for a requested item. In this case, an alternate vendor will need to be identified or CGD will need to be performed.

QPA-IQ is putting a process in place to make our list of evaluated sub-tiers readily available for requestors. Until this process is in place, please contact Mark Macinnes of the supplier evaluation team to determine if the sub-tier supplier has been evaluated in accordance with the restriction.

Please disseminate this e-mail to others in your organization who may need to be aware of this.

Thank you.

Dan

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Regarding B-Line, Bill Kerley's recommendation is that we should not purchase B-Line (and possibly not its major competitor Unistrut either) based on it coming through a distributor who is on our IESL to consider it as meeting NQA-1. At a minimum for ML-1 and ML-2 we should prepare a CGD package for all of the components and have sufficient testing and documentation with traceability to allow use. Contact Bill or Marshall Bullock with any questions.

LANL STANDARDS ISSUED IN MARCH

ESM STD-342-100	
Ch. 16, IBC Program, Section IBC-IP Att. B, Rev. 11 Statement of Special Inspection	AAC masonry removed, corrected a few ACI and App A references. Thanks to Glen Pappas.
Pressure Safety	POC A. Ben Swartz
Ch. 17, GEN-1 Definitions and Acronyms Rev. 1	Removed reference to ML-1/2 for NCRs
Ch. 17, ASME, Allowed Unlisted Components Listing	Updated.
Ch. 17, NASME-2-R0, B31.9 Equivalency Safety Evaluation	Initial issue.
Ch. 17, NASME, Reputable Manufacturers	Updated
Ch. 17, ADMIN-1 LANL Review Process Rev. 1	Removed reference to ML1 and ML2 when discussing NCRs.
Ch. 17, ADMIN-1-1 Pressure Safety Forms Rev. 2	Removed footnote 3 referencing ML1 and ML2 on FM04. Fixed footnoting errors.
Ch. 19, Communications	Added VAR-16-024, Length of Pathways. Thanks to POC Pete Lowe.

Master Specifications STD-342-200	
01 3300 Att. A Construction Submittal Log	Updated March 22, 2016
05 5000 R5 Metal Fabrications	Rewritten and updated for compliance with latest revision to ESM Ch. 5 Sect. II (which was revised to comply with DOE O 420.1C, DOE-STD-1020, IBC 2015, etc.). Thanks to POC Glen Pappas.

CAD Standards Manual [STD-342-300](#)

Hand Sketch Title Block and Border Template

new template added

NATIONAL STANDARDS CHANGES

Here's a selection of updates. The edition to be used by projects is set by its code of record per ESM Ch. 1 Section Z10. Z10 also says that any relevant errata must be followed.

ICC IEBC Fourth edition, dated 7/2015, is now in IHS Standards Expert. Use this instead of older pdfs and the errata posted with Ch 16.

AWS D1.1/D1.1M, Structural Welding Code - Steel - 23rd Edition; 2nd printing (Complete Revision)

ASHRAE 55, Thermal Environmental Conditions for Human Occupancy -- Errata/Erratum, February 23, 2016

DOE TECHNICAL STANDARDS ACTIONS

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

[DOE-STD-1120-2016](#), Preparation of Documented Safety Analysis for Decommissioning and Environmental Restoration Activities. Describes a methodology for preparing a Documented Safety Analysis (DSA) for decommissioning of hazard category (HC) 1, 2, or 3 nuclear facilities, as well as HC-2 or HC-3 environmental restoration (ER) activities that involve work not done within a permanent structure or the decommissioning of a facility with only low-level residual fixed radioactivity.

WHEN GOOD CONDUCT OF ENGINEERING ISN'T FOLLOWED

From The Guardian:

[Best laid plans: mice delay Brussels tunnel repairs by eating construction outlines](#) [what we'd call drawings in American English]



This is shame, since Belgians certainly have enough problems right now. Also, hard to poke fun when some here haven't embraced the Documentum electronic document management system and probably still keep latest markups in desk drawers. Good conduct of engineering includes use of document control tools – it's one of the five pillars of CM according to DOE-STD-1073 Configuration Management.

LAST MONTH'S UPDATE TOPICS

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

- **New Software POC Seeks SMEs**
- **Standards Intro Course Apr 20**
- **NFPA 72 Fire Alarm and Signaling Course Mar 22-24**
- **LANL Standards Issued in February**
- **National Standards Changes**
- **DOE Technical Standards Actions**
- **When Good Conduct of Engineering Isn't Followed**

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