ENGINEERING STANDARDS UPDATE

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

Topics this month:

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

CONSTRUCTION INSPECTOR EXTRAORDINAIRE

The following is from Kevin Krank, LANL Chief Inspector and Manager of Construction Engineering. Congratulations to Mr. Lopez, MOST impressive, this is a very tough thing!

Daniel Lopez has taken the initiative to achieve the level of *Master of Special Inspection* through the International Code Council. This is a great achievement and is directly tied to being capable of performing all inspections related to the LANL IBC program administered through ESM Chapter 16 and the LANL Building Official under the direction of Larry Goen.

He is the only inspector in the state of NM to achieve this at this time. Some research found only a handful of inspectors in the southwest region of the United States with this certification as follows:

California: 192 individuals
Nevada: 24 individuals
Arizona: 10 individuals
Utah: 9 individuals
Colorado: 2 individuals
Texas: 3 individuals
Oklahoma: 1 individual
New Mexico: 1 individual (This is Daniel Lopez)

STANDARDS SUPPORT IN JULY

I'll be slow to respond to inquiries for big chunks of July (vaca, surgery). Also, if my responses are shorter or more bizarre than usual, I'll claim it's the painkillers (but it could be I'm just messin' with you). Maybe CoE doc-goddess Christina Salazar-Barnes or one of the discipline POCs can help if I don't.

In keeping with tradition, maybe I'll include a shoulder hardware x-ray in the August Update (or a Yosemite pic). This is why there are no 50-year-olds in the NBA.

IHS ONLINE NATIONAL STANDARDS NEWS

Two **good news** items for users of the IHS Standards Expert system:

First, based on customer feedback, the Research Library has paid the fee to increase the number of seats for **ASME** and **NFPA** standards from 1 to 3 users. This means that up to 3 individuals can now simultaneously view a document from these two (and only these two) standards developing organizations (SDOs). It's still one seat for the rest, so please logout right after downloading so other Labbies can access.

Second, there's a new way to find out about new/revised documents from a specific SDO using Advanced Filters. This is an alternative to Alerts.

- Select the Advanced Filter choice "Publication Date" to find new documents added to SDOs and agencies. Or, first filter by organization you're interested in, then click "more..." under "Filter by" and select Posted Date. Either way, then set Search Since to "Yesterday" or period of your choice.
- After running your search, you can save it (appears under Saved Search) and can run it anytime you want. To save, you have to register yourself on the site as you do with Alerts, Watch Lists, Favorites, etc.

IHS Standards Expert is the world's largest file of active and historical standards, specifications, codes, drawings, handbooks, and related technical documents, containing over 568,000 technical standards, integrated with more than 350,000 U.S. military and Federal specs and related documents. And you thought the LANL Engineering Standards were huge?

LANL's subscription portal has recently been moved to here.

NUCLEAR WORKERS BEHAVING BADLY

Thanks to Jerry Gutgsell, QPA-Procurement Quality, for forwarding this month's very relevant article from June's Power Engineering.

NRC proposes $70k fine on Watts Bar nuclear Unit 2

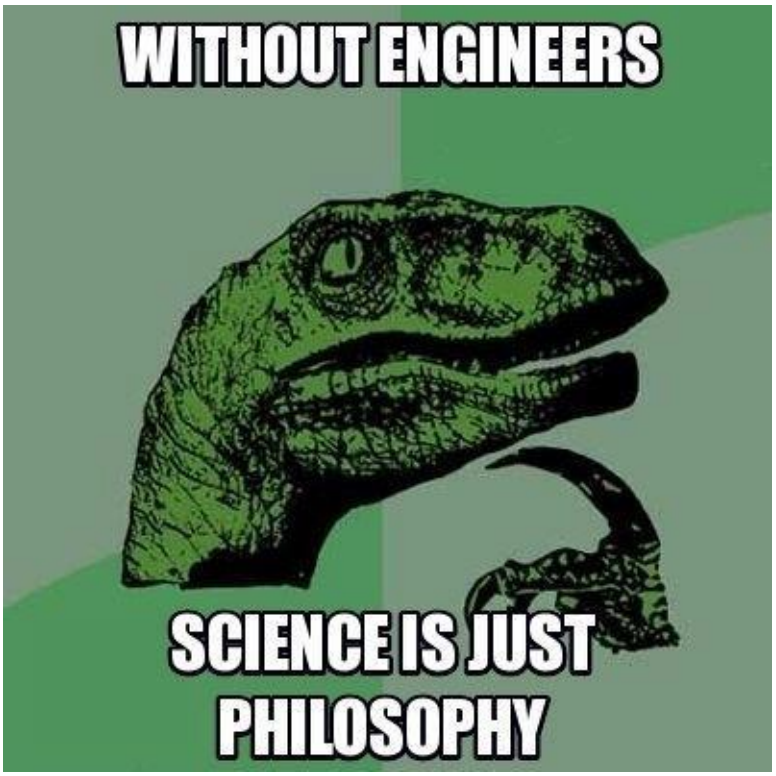
The U.S. Nuclear Regulatory Commission has proposed a $70,000 civil penalty against the Tennessee Valley Authority for violations related to the commercial grade dedication program during the construction of Watts Bar nuclear plant Unit 2. The Watts Bar plant, where one unit has been in operation since 1996, is located near Spring City, Tenn., about 60 miles southwest of Knoxville.

The NRC requires certain components in a nuclear plant to meet strict nuclear quality assurance standards. Commercial grade dedication is a process that provides reasonable assurance that components purchased from a commercial supplier are equivalent to nuclear grade items.

An NRC inspection conducted in late 2012 and early this year identified three violation, including a breakdown in the program resulting in construction of unknown quality, a failure to report that breakdown and a failure to identify that issue as a significant condition affecting quality.

“While TVA has aggressively addressed these issues, the violations and proposed civil penalty emphasize the importance of an effective quality assurance program during construction as well as prompt identification and reporting of any related breakdowns,” said NRC Region II Deputy Administrator for Construction Fred Brown.

TVA has outlined a number of corrective actions including a review of all commercial grade dedication documents, additional staff training and creating a new position to oversee the process. The NRC also noted that TVA continues to test items that have already been purchased or installed.



LANL STANDARDS ISSUED IN JUNE

Master Specifications STD-342-200

05 4000 R3 Cold-Formed Metal Framing	Clarified QA requirement regarding furnishing of framing materials (i.e., para. 1.5.A). [tx to Glen Pappas]
21 2200 R3 Clean Agent Fire-Extinguishing Systems	Changed 72 hour battery backup expectation to 24 hour, per code requirement. Updated to make headings consistent with latest SectionFormat. [tx to Julie Wood, Walter Mtz, David Carr, etc.]
33 1000 R6 Water Utilities	Clarified and updated PVC pipe pressure classes in accordance with AWWA C900-07 [tx to Mell Smithour, Allen Trujillo, Jerry Gonzales, etc.]

PROCESSES CHANGES

The following Administrative Procedures have been posted on the SharePoint site.

AP-341-502-R3.2 (Minor admin. changes)	***Management Level Determination***, Course #55428	Issued: 6/27/13
AP-341-605-R3	***Calculations***, Course #44261	Issued: 6/24/13
AP-341-608-R2	***Engineering Drawings and Sketches***, Course #44263	
P-341-703-R3.3 (Minor admin. changes)	***Commercial Grade Dedication,*** Course #44227	

USQD/USID REQUIREMENTS:
Disregard if your facility does not require engagement of USQD/USID process per PD110, Safety Basis prior to implementation of Engineering Administrative Procedures.

The effective date of this revision of the AP is 30 calendar days after the issue date. Engage the USQD/ USID process, if required, for your facility for implementation of this revision of the AP by the effective date of this AP. If your facility is unable to complete the USQ/USI process within the allotted 30 days, then the facility must request a variance per Section 7.0 of the AP.

TRAINING REQUIREMENTS:
Training: Disregard if you are not assigned to this AP. Those assigned to this AP will show the requirement in your To-Do List in UTrain. This will not affect your qualifications. You have 30 days from the date of issue to complete the required training. For training questions, contact Yolanda Trujillo at 665-5696.

Conduct of Engineering APs are on the CoE Engineering Processes page in SharePoint. For questions about processes, please contact Gurinder Grewal at 667-3667.

DOE TECHNICAL STANDARDS ACTIONS

DOE Tech Stds activity this past month: None. Maybe they're all in Yosemite.

WHEN GOOD CONDUCT OF ENGINEERING ISN'T FOLLOWED

Below is a roundup of some of the worst bad-job stories from the past few months of SmartBriefs.

Roof-support issues at heart of stadium problem in Rio
Structural problems on the roof of Joao Havelange Stadium in Rio de Janeiro have prompted officials to close the arena until the issues have been addressed. The metallic roof weighs more than 3,600 tons and is "supported by four complex supporting white steel arches -- designed in a rhythmic repetition of irregular forms -- and cable-stayed strings" that make the roof appear "to hang in mid-air." And it appears that the elements that make that happen are causing the problems, which could pose a risk for spectators, according to Rio de Janeiro Mayor Eduardo Paes. DesignBuildSource.com.au (Australia) (3/28)

Confusion, violation of SOP led to cracks in pontoons (from ASCE SmartBrief; thanks to Glen Pappas)
Two state engineers in Washington who didn't follow standard operating procedures are being blamed for the cracks in the concrete pontoons to be used for the State Route 520 floating bridge. In addition, an internal analysis of the cracking issue found that "a poorly implemented project-delivery process that combined design-build and conventional design-bid-build created confusion that opened the door to faulty design work." [hmmm…that sounds familiar] Full article in Engineering News-Record (3/14)

Report Finds New Md. Silver Springs Transit Center To Be Unsafe, Unusable
The Washington Post
A series of design and construction failures - including inadequate concrete strength and a lack of reinforcing steel - have left the Silver Spring Transit Center unsafe and unusable without major repairs, Montgomery County officials said Tuesday.
<http://enr.construction.com/yb/enr/article.aspx?story_id=183593730>

Expert: Flawed construction led to La. levee failure during Katrina
The construction of a shipping project at the Industrial Canal in New Orleans is to blame for the floodwalls' failure to protect the Lower 9th Ward and St. Bernard Parish from storm surge during Hurricane Katrina, Robert Bea of the University of California said in court testimony. The construction included excavations that enabled underground water to push the floodwalls upward and weaken the structures, Bea said. "Both breaches occurred crucially because of these uplift pressures," he said. The Times-Picayune (New Orleans) (9/17)

Report: Failed Minn. pedestrian bridge needs cable-damping system
A cable-damping system should be installed on the Martin Olav Sabo Bridge in Minneapolis to minimize the wind-induced cable vibrations that caused a pair of cables on the pedestrian and bicycle bridge to fall in February, according to the final report from Wiss, Janney, Elstner Associates. The report found that in addition to the vibrations, misalignment and extreme temperature changes also contributed to the damage to two diaphragm plates. URS' bridge design was sound, "aside from the susceptibility of the plates to damage from wind-induced vibrations," according to Brian Santosuosso, a project manager at WJEA. Minnesota Public Radio (6/29)

Report: U.S. labs lack standards for design, construction
Bioterror laboratories and other labs that study pathogens in the U.S. are at "increased risk for accidents" because there are no national standards for their design, construction and operation, according to the Government Accountability Office in a followup to a 2009 study on the labs. "In the absence of some fundamental criteria, each laboratory can be designed, constructed, and maintained according to local requirements. This will make it difficult to be able to assess and guarantee safety," the GAO said. USA Today (3/25), GlobalPost.com/Agence France-Presse (3/25)

Parts for Calif.'s $6.4B Bay Bridge to be reinspected
Caltrans will conduct a "complete forensic analysis" of bolts, fasteners and other parts provided by Dyson Corp., for the $6.4 billion Bay Bridge in California after steel rods from the company broke during the final stages of the project. Earlier tests on some galvanized-steel rods had raised doubts about "their ability to stretch during an earthquake," but engineers approved using them without knowing how brittle they could become, Caltrans said. "We will ascertain any cost and schedule implications once the best solution consistent with the design life of the bridge and performance expectations are met," Caltrans Director Malcolm Dougherty said. San Francisco Chronicle (free content) (4/2)

LAST MONTH'S UPDATE TOPICS

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

- **Nuclear Workers Behaving Badly**
- **Systems Engineers Behaving Socially**
- **Processes Changes**
- **DOE O 420.1C Implementation Coming**
- **LANL Standards Issued in May**
- **DOE Technical Standards Actions**
- **When Good Conduct of Engineering Isn't Followed**

To request a change to this newsletter's distribution, please contact me.

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