

ENGINEERING STANDARDS UPDATE

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

Topics this month:

- **Pi Second**
- **New ESM Communications Chapter!!!**
- **IBC 2015 and 420.1C Adoption this Month**
- **Submittals – Back to the Future**
- **Pressure Safety Courses in March**
- **LANL Standards Issued in February**
- **Engineering Processes News**
- **DOE Technical Standards Actions**
- **When Good Conduct of Engineering Isn't Followed**

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

PI SECOND

Attn math nerds: Every year, March 14 is Pi Day (3.14), but only this year ('15) – one day in your whole lifetime -- will there be a Pi Second at 9:26:53, i.e., 3.141592653. Most of us will actually live it twice, both a.m. and p.m. Followers of ConOps, military practice, and others that use 24-hour timekeeping or call it 0900 and 2100 get ripped off, but they're too serious to care anyway.

NEW ESM COMMUNICATIONS CHAPTER!!!

Network and Infrastructure Engineering Division (NIE) has long had the subject matter experts on telecommunications that supported the Engineering Standards Manual material on this topic. In February, we created a new ESM chapter just for their material, and it includes a revision to what used to be in ESM Chapter 7 Electrical Sections D5030 and G4030. The new POC for it is Pete Lowe, NIE-TSS.

We're working on another new ESM chapter on software for engineering; stay tuned!

IBC 2015 AND 420.1C ADOPTION THIS MONTH

Predicting work completion is always risky, but this has to happen. As discussed in previous newsletters, LANL is working to adopt the 2015 International Building Code later this month by way of an ESM Chapter 16 IBC Program revision. The Structural Chapter is also being revised to implement IBC 2015 and DOE O 420.1C, Facility Safety. With these revisions, all future

design efforts will fully implement 420.1C (most affected ESM chapters were revised for 420.1C in September 2014 and one back in 2013).

Building-related projects already underway using IBC-2009 (and/or the 2009 IEBC, IECC, or IFC) should download their I-codes-of-record from the Library's IHS [subscription](#) in the next week or two if they haven't already (uncheck "Most Recent Revision" in search box). That's because we'll switch our IHS subscription to the 2015 I-codes when we issue the above ESM revisions.

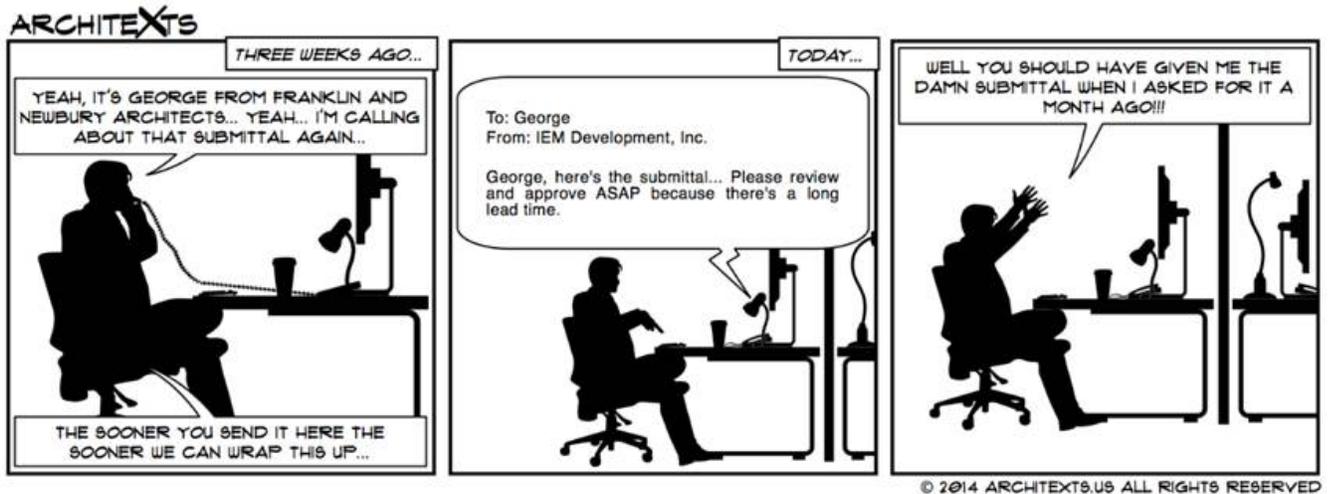
SUBMITTALS – BACK TO THE FUTURE

Another big change that's almost ready to issue concerns how LANL manages submittals that are mandated in specifications. For decades, we weren't very clear on how much the Design Agency could reduce the LANL Master Spec Section requirements for submittals. Specs are governed by ESM Chapter 1 Section Z10 Attachment F, and its pending revision has new direction on when and how designers can – and must – reduce the submittals for LANL-performed work and in other circumstances.

Along with this "submittal reduction" change, we are no longer going to list all the required submittals in Exhibit I when contracting. Instead, we're going back to the pre-LANS (and industry typical) method of summarizing required submittals in a Section 01 3300 schedule so we're consistent for all projects. This will be discussed in Z10 Att F and have a ripple effect in Att C (30-60-90) and Div 01 Sections 2500, 3300, 7700, and 7839.

Once the lawyers approve the Exhibit I change we'll pull the trigger on all these interconnected changes – hopefully this month.

CONSTRUCTION ADMINISTRATION: LEAD TIME



PRESSURE SAFETY COURSES IN MARCH

Chief Pressure Safety Officer/ESM Ch 17 POC Ari Ben Swartz will teach two all-day (8 am – 5 pm) courses this month. First, his ASME B31.3 Process Piping class next Tues the 10th (meant for PSO Duty Area B and others). Also, his pressure safety program overview class is on Tuesday the 24th (for all PSOs and others). Express interest to Ben and training coordinator Yolanda Trujillo ASAP; email [them](#).

LANL STANDARDS ISSUED IN FEBRUARY

Eng Standards Manual [STD-342-100](#)

Chapter 6, Mechanical	
Section D20 Rev. 6	Clarification to freeze protection in 4.0.
Chapter 13, Welding, Vol. 3 Welding Specs	
2010-xxxx-8-F00, Rev. 0	Newly issued welding spec.
Chapter 18, Secure Communications	
Chapter 18, Rev. 1	Allowing EMT in some circumstances (4.G.5.a); labeling changed (4.J.1). POC: Adrian Trujillo
Chapter 19, Communications – NEW!!!!!!	POC: Pete Lowe, NIE-TS
Ch19, D60 Rev. 0, Communications	Addition to figure for port and backboard labeling. Changes for server equipment rooms and to reflect Cat6A cabling requirements, j-box and conduit size. New wireless section. Allowed for future relocation of access control systems to Chapter 9 Security. Updates to NEC codes, BICSI, and EIA/TIA standards and definitions. Supersedes Ch 7. D5030.

Ch19, G50 Site Communications, Rev. 0	Changes to address redundant paths, SME reviews, construction requirements under parking lots and roadways, update refs. Supersedes Ch 7. G4030.
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Master Specifications [STD-342-200](#)

01 3545 R7 Water Discharge Requirements	Updated to WCATS and new organizations
01 5705 R5 Temp. Controls & Compliance Requirements	Revised paragraph 3.8 Pest Control to coordinate with Spec 01 7700 Closeout Procedures, org. updates.
27 1000 R4 Structured Cabling	Changes to GFE, inspection, test reporting, qualifications, Cat 6A (versus coax and TV), boxes, and labeling.
27 1500.18 R2 Protected Transmission System Rough-In	Addressed EMT use; clarified POB/AOB and separation; updated identification and testing requirements; reference updates.
28 3100 R9 Fire Detection and Alarm	Eliminated reference to system circuit "styles" modified wire colors, identified manufacturer for conduit in wet locations, added allowance for flex conduit in certain locations, added information on breaker locking device

ENGINEERING PROCESSES NEWS

Gurinder's back part-time cranking out the work, so the following Administrative Procedure was revised and posted on the [SharePoint site](#).

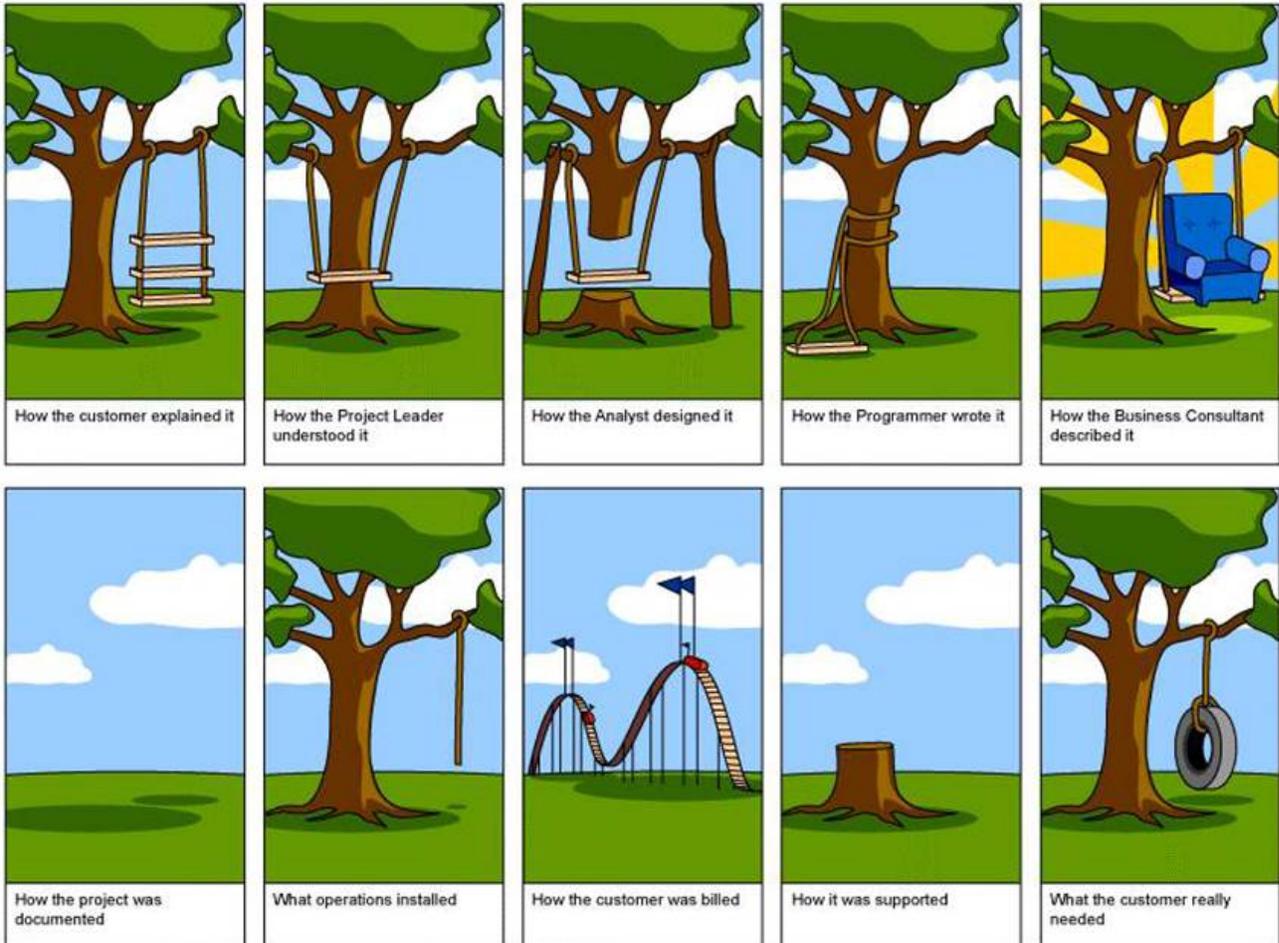
AP-341-802-R4	System Health Reporting Course 44254	Issued: 2/23/15
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DOE TECHNICAL STANDARDS ACTIONS

DOE Tech [Stds](#) activity last month: None

WHEN GOOD CONDUCT OF ENGINEERING ISN'T FOLLOWED

CoE is all about rigor – put important information in writing, get reviews/approval/agreement, move to the next step, check and verify, and keep records. The following cartoon is what happens when this isn't done. It's a computer-generated version of a hand-drawn one that's been around as long as I have. If you've been in this business and never seen either version, then you're probably one of the few Update readers under age 30.



LAST MONTH'S UPDATE TOPICS

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

- **Online National Standards Updates**
- **Engineers Week**
- **LANL Standards Issued in January**
- **DOE Technical Standards Actions**
- **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.

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