

ENGINEERING STANDARDS UPDATE

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

Topics this month:

- **Gurinder's Replacement!**
- **Standards Revision Roadshow**
- **Ethics Course**
- **2015 I-Code Adoption Update**
- **Fire Protection Engineers Qualified**
- **Structural Chapter Revised**
- **Project Deliverables Division of Responsibility Checklist – NEW**
- **[P341](#) Facility Engineering Processes Manual Rev. 5 11/7/2014**
- **LANL Standards Issued in November**
- **DOE Technical Standards Actions**
- **When Good Conduct of Engineering (and Ethics) Isn't Followed**

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

GURINDER'S REPLACEMENT!

ES Division and other users of the Facility Engineering procedure set (AP-341-XXX) have been mourning Gurinder Grewal's retirement since July. ES-DO has been seeking a replacement ever since without finding the right person. Fortunately, they've now found someone to fill Gurinder's shoes perfectly starting soon: Gurinder. We couldn't be happier! We think he'll be here half-time for a while. Reach him as before at ggrewal@lanl.gov, new phone TBD, or in TA-3-216-045, probably any day now.

STANDARDS REVISIONS ROADSHOW

Joni Weamer, Group Leader of ES-EPD, thought all the recent and forthcoming changes to the LANL Standards warranted a briefing to the most affected folks (e.g., design and project engineers). So all applicable POCs have produced a PowerPoint show and will be presenting it live for the next few weeks; snake oil will be available for purchase after each performance. If it's well-received we might webpost the slide deck, too.

ETHICS COURSE

For the professional engineers, mostly: For one PDH hour, Heidi Hahn created Ethics for Engineers Case Studies 2014 -- UTrain course 27364 online. For the other three hours, you're on your own.

2015 I-CODE ADOPTION UPDATE

Last month I announced that LANL will adopt most 2015 I-Codes around March. Since the Library's IHS [subscription](#) will still have the 2009s until then (so uncheck "Most Recent Revision"), readers may preview the 2015 I-Codes in the interim at <http://codes.iccsafe.org/index.html> (select "I-Codes" from the drop-down). One can even save sections as a txt file.

FIRE PROTECTION ENGINEERS QUALIFIED

The nuclear facilities desired formally qualified FPEs because of DOE O 426.2, and there were benefits to having others in FP Division so-qualified. Led by Mike Brazile, the process began in March with the development of an FPE qualification standard and the qualification of four FPE SMEs. In August the qualification process for six more FPE Candidates began. Now, nine have completed the training and the oral checkout (like an oral board, but may have felt like [Marathon Man](#)). Congratulations to LANL's formally qualified Fire Protection Engineers: Elisa Baker, Michelle Naranjo, Brett Noakes, Rob Plonski, Jim Streit, Allen Trujillo, Joe White, Bill Wolfe, and Julie Wood.

STRUCTURAL CHAPTER REVISED

ESM Chapter 5 Section II [Commercial Design and Analysis Requirements](#), Rev. 8 was issued last month; it was primarily a revision on anchorage. For the first time, Appendix A now allows limited use of anchorage to masonry based on new provisions in ASCE 7-10/IBC 2012 (we'll fully switch to ASCE 7-10 when we adopt IBC 2015) – a great step forward.

Appendix A was also revised on adhesive anchors because, effective Jan 15, 2015, all ICC-ES Reports on adhesive anchors must meet IBC 2012/ACI 318-11 and be installed and inspected by qualified personnel for safety reasons (Construction Management is working this issue).

There were others, but a third change with respect to anchors was replacement of the term “non-structural” with “seismically exempt” (this terminology update in other ESM documents is pending).

This ESM revision necessitated a revision to the normal confidence post-installed anchor spec section, so we took the opportunity to move it to CSI's new preferred location in Division 05, Metals and identify it as 05 0520, Post-Installed Concrete and Grouted-Masonry Anchors - Normal Confidence. We then renumbered its high confidence companion to 05 0521 and revised a number of other spec sections to reference the two renumbered sections. Thanks to Glen Pappas for the heavy lifting and Nathan Yost for reviewing.

PROJECT DELIVERABLES DIVISION OF RESPONSIBILITY CHECKLIST -- NEW

A new document in ESM Chapter 1 was issued last month. Section Z10 Attachment G Engineering Deliverables for Projects (Guidance) is a new checklist that Facility design Authority Reps and project engineers can use to ensure that all deliverables (not only design) are produced for a given project. Its stated purpose:

1. Provide project/design teams a list of final engineering deliverables that could result from/be associated with a project, including COE documents, design outputs, and other technical baseline requirements. The intent is not to capture every deliverable that might be required from an overall project point of view. The focus is on engineering products typically stemming from a project.
2. The list is intended to be completed early in the project design phase to determine what engineering deliverables will be provided, who is responsible, and act as a communication tool to ensure expectation agreement between facility customers, project teams, design agencies, subcontractors (if applicable), and other interfacing organizations.
3. List reflects a compilation from the following COE sources:
 - a. CoE Administrative Procedures

- b. ESM Section Z10 Attachment A (technical baseline drawings)
- c. ESM Section Z10 Attachment B (technical baseline deliverables)
- d. ESM Section Z10 Attachment C (deliverables schedule 30-60-90/100)
- e. ESM chapters, by discipline
- f. ES-EPD Project Engineering Desktop Training Guide (on EPD-EPD webpage)

Thanks to Rob Swickley who did the initial development of this new tool.

P341 FACILITY ENGINEERING PROCESSES MANUAL REV. 5 (11/7/2014)

P341 was revised regarding Vital Safety System Assessment (VSSA) frequency requirements.

Summary of Changes: In Section 3.15.6, deleted “LANL Personnel fully assess (i.e., assessment of safety function definition; assessment of surveillance and testing; assessment of configuration management; and assessment of maintenance) SC and SS SSCs every three years.” The Vital Safety System Assessment (VSSA) frequency requirements are now contained in AP-341-901, *Performing Vital Safety System Assessments*. Updated language in Section 5.0 to reflect Unreviewed Safety Question/Unreviewed Safety Issue (USQ/USI) process and implementation dates for affected facilities.

Applicable and Impacted Organizations: This document applies to LANL employees who are responsible for managing, performing, and approving engineering activities associated with facility work and with programmatic Research and Development (R&D) that affects the safety basis or technical baseline configuration of a LANL facility. Programmatic R&D usually refers to process systems and equipment associated with manufacture of a specific product, and research and development equipment.

LANL STANDARDS ISSUED IN NOVEMBER

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

Chapter 1 - General	
Chapter 1, Section Z10 Att. G R0 Engineering Deliverables for Projects (Guidance) NEW	Initial issue. Thanks to Rob Swickley for this effort.
Chapter 5 - Structural	
Chapter 5, Section II, Rev. 8	Revised anchorage provisions at 1613.8 and reorganized anchorage App. A which now includes use of adhesive anchors (per ESRs eff. Jan 2015, must meet IBC 2012/ ACI 318-11) and limited use of anchorage to masonry (based on IBC 2012/ASCE 7-10). Also, eliminated former brittle PI anchor procedure in deference to similar provision in IBC 2009/ ACI 318-08. Other minor changes in section proper. Thanks to Glen Pappas and reviewer Nathan Yost.
Chapter 17 – Pressure Safety	Thanks to A. Ben Swartz, POC:
	Posted Alternative Method VAR-2015-011 to accept Mueller/Streamline “Standard” tubing based on an evaluation using the minimum wall thicknesses allowed by the UL specifications.
	Posted a single pdf of the entire chapter including attachments (but not labwide amendments such as variances and clarifications). The intent is for browsing or searching for topics, but not printing. (7.24 MB)

Master Specifications [STD-342-200](#) (Thanks to Glen Pappas and Christina Salazar-Barnes)

03 4100 R1, Precast Structural Concrete	Admin change to update referenced spec number and title
03 6000 R1, Grout	Changed reference to superseded PI-anchor section (i.e., 03 1534 became 05 0520)
04 2220 R1, Reinforced Unit Masonry	Added 05 0520 to Related Section on pp. 2.
05 0520 R0, Post-Installed Concrete and Grouted-Masonry Anchors - Normal Confidence	Added anchorage to grouted masonry, adhesive anchor requirements, changed section number (03 1534 became 05 0520), and updated references.
05 0521 R0, Post-Installed Concrete Anchors - High Confidence	Changed section number (03 1512 became 05 0521) updated references
05 5000 R4, Metal Fabrications	Admin change to update referenced spec number and title
05 5350 R4, Gratings and Floor Plates	Admin change to update referenced spec number and title
05 5213 R2, Pipe and Tube Railing	Admin change to update referenced spec number and title
09 6900 R2, Access Flooring	Admin change to update referenced spec number and title
12 3100 R4, Manufactured Metal Casework	Admin change to update referenced spec number and title
22 0548 R3, Vibration and Seismic Control for Plumbing Piping and Equipment	Admin change to update referenced spec number and title
26 0529 R5, Hangers and Supports for Electrical Systems	Admin change to update referenced spec number and title
26 0548 R3, Vibration and Seismic Controls for Electrical Systems	Admin change to update referenced spec number and title
Updated Exhibit I Att B template	

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

Architectural Chapter 4, G2040-4 Sht 9 R2, Sign Base Detail and Alternate	Changed grade 40 rebar ties to grade 60 & clarified installations near roads. Thanks to Scott Richardson and POC David Carr.
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[DOE TECHNICAL STANDARDS ACTIONS](#)

DOE Tech [Stds](#) activity last month (just one, but it's a big deal for Safety Basis folks):

[DOE-STD-3009-2014](#), Preparation Of Nonreactor Nuclear Facility Documented Safety Analysis. Describes a method for preparing a Documented Safety Analysis (DSA) that is acceptable to DOE for nonreactor nuclear facilities.

WHEN GOOD CONDUCT OF ENGINEERING (AND ETHICS) ISN'T FOLLOWED

WEBINARS

ARCHITEXTS



LAST MONTH'S UPDATE TOPICS

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

- **Google Search the LANL Standards**
- **IBC 2015 Adoption Early Next Year**
- **LANL Standards Issued in October**
- **DOE Technical Standards Actions**
- **When Good Conduct of Engineering Isn't Followed**

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