

This is the monthly newsletter of the LANL Engineering Standards Program. The Standards are mandatory documents that define the minimum design criteria, fabrication, and installation practices for the alteration, repair, and construction of LANL facilities and the programmatic and process equipment within them. [P341]

Topics this month:

- **Programmatic Equipment Anchorage**
- **Professional Ethics**
- **There's an AP for That**
- **LANL Standards Issued in November**
- **DOE Technical Standards Actions**

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

PROGRAMMATIC EQUIPMENT ANCHORAGE

In an earthquake, buildings may sway, crack, or deform but rarely fall, so anchoring equipment and components ensures no injuries, cascading failures, or building egress issues from equipment tipping, sliding, or differential movement. Unlike facility systems, however, most programmatic equipment falls outside the scope of the LANL International Building Code Program (ESM Chapter 16), and is not automatically subject to ASCE 7. So the question of when and how to anchor it can arise from well-meaning people trying to save a few Hilti bolts (and more significantly, the required design and Paul Hudson inspection).

Happily, a clarifying memorandum and flowchart on the topic was prepared and issued by Engineering Services on 10/21/09. It has been posted as a reference to the Structural Chapter here http://engstandards.lanl.gov/ESM_Chapters.shtml#esm5. If such equipment must be anchored per the memo, then Structural Chapter Section II Appendix A has design requirements and LANL Master Specs 03 1534 and 03 1550 respectively direct purchase and installation. Direct questions to Doug Volkman, Mike Salmon, or their teams.

PROFESSIONAL ETHICS

Professional ethics is an oxymoron with some politicians, but not with professional engineers. PEs, as we near year-end, are normally looking for professional development units, especially the four ethics PDUs required every two years for New Mexico registration. PEs would appreciate the irony but never lie about earning these hours and risk getting coal in their stockings hung by the chiminea with care and anchorage calculations. Now a Santa Fean, I've also learned lying is karmically bad, and offer the following suggestions to PEs:

LANL Online

- [Ethics Training for Engineers](#). (Course 51419). Brand new course developed by Heidi Hahn (5-4606) of the ADE Engineering Capability Development Office, worth 1 PDU.
- [Ethics Training](#) (Course: 44486) One we've probably all had, this approximate 1-hour, required training course provides you with guidance to identify and resolve situations requiring ethical judgment and help when you are unsure of the best course of action to take. The training uses various tools, such as video flash and question and answer scenarios, to give you practice in understanding and responding to ethical situations that may arise in the workplace.
- [Ethics Training: Raising and Resolving Ethical Issues](#) (Course: 49600) This 45 minute mandatory training will help you understand your role in maintaining a culture where every employee is invited to bring up workforce issues of any type, without fear of retaliation.

NMSPE for Fee (LANL group management has the option of reimbursing employees)

- ABQ: Two different ethics topic classes being held on Friday, Dec 4 at UNM Continuing Education, 1634 University Blvd NE -- one from 1-3 PM, and the other 3-5 PM, \$75 each (4 PDUs in one afternoon). To register, go to the UNM Continuing Ed web site: <http://dce.unm.edu> On the Courses drop-down, Instructor search using the name Fleddermann or use "search courses" and the course title (Engineering Ethics), or the course numbers (70411 for the 1PM class Engineering Ethics; Cases, Cases, Cases II or 70410 for the 3PM class Engineering Ethics; Consulting II: Competitive Bidding.
- ABQ Dec 11, 2-4, see <http://www.nmspe.org>. Ethics for Professionals at UNM Continuing Education Center, \$75. Contact Karen Jacobsen: 505.348.5206 nmspe@nmspe.org This course will provide an overview of Professional Ethics and Code of Conduct, using the NSPE Code of Ethics and the guide. There will be some examples and interactive discussion regarding the ethical response to the example. Presenter: Morgan L. Kramm II, PE, RA, PMP. Mr. Kramm has 32 years experience as a Principal-in-Charge and Project Manager. He is a certified Project Management Professional through PMI.
- Farmington: An ethics class at San Juan College Friday Dec 18 from 1-3PM. More info on this can be obtained from Heather of the Farmington chapter.
- Online: NMSPE or SPE, about \$30-45 per credit hour.

THERE'S AN AP FOR THAT

In the modern world, people get business done using a smartphone app on a 3G network. At LANL, engineering business gets done with CoE APs. The following Conduct of Engineering APs have been revised. For a listing of all Administrative Procedures, see the internal CoE [Engineering Processes](#) page. Since this is Engineering Processes, not Engineering Standards, please contact Gurinder Grewal (our own 2G phenom) at ggrewal@lanl.gov or 7-3667 with questions.

[AP-341-404 Master Equipment List](#), R1 (11/20/09)

[AP-341-405 Identification and Control of Technical Baseline in Operating Facilities](#), R1 (11/20/09)

[AP-341-802 System Health Reporting](#), R2 (11/06/09)

[AP-341-901 Performing Vital Safety System Assessments](#), R2 (11/06/09)

[ICN-009 to AP-341-403 Master Document List](#)

Of most interest to the Standards Program is the change to AP-341-405 in which definitions of priority, support, and general documents in Appendix A were revised, among other changes. This will be reflected in the revision to ESM Chapter 1 Section Z10 slated for December.

Excerpts:

Priority Documents are technical documents...required to perform Technical Safety Requirements (TSRs) in hazard category 2 and 3 nuclear facilities and required to perform Operational Safety Requirements (OSRs) in high and moderate hazard nonnuclear facilities. [They] are updated after the fieldwork is complete and before release to Operations. The building Evacuation Route Diagrams required by emergency response personnel are Priority Drawings...

Support Documents are technical documents that are necessary for workers to perform maintenance of SSC safely such as lockouts and tag outs, venting, etc., necessary to maintain fire protection and contamination control integrity of buildings, and building floor plans. [They] are updated within 60 calendar days after the fieldwork completion or upon receipt of the third implemented design change whichever comes earlier...

General Documents are technical documents that are not categorized as Priority or Support but provide engineering details necessary for procurement of replacement parts, modifications, maintenance, and operation of the facility SSCs. The General Documents are updated within 360 calendar days after the field work completion or upon receipt of the fifth implemented design change, whichever comes earlier...

LANL STANDARDS ISSUED IN NOVEMBER

LANL Master Specifications (update campaign in progress)

01 3545 Rev. 3 Water Discharge Requirements	Minor editorial changes and organizational updates
07 3113 Asphalt Shingles	Deleted due to lack of need
11 5311.12 Rev 2 Glovebox Installation (dated 10/14/09)	Added sharps review in checklist (ref. LL 2009-26)
33 6300 Rev 4 Steam Energy Distribution	Minor editorial changes and added new welding specification paragraph.
41 2213 Rev. 2 Bridge Cranes	Clarified Quality Assurance and welding requirements, revised Part 2 structural, mechanical and electrical requirements. Minor editorial changes in Part 3, Execution.

DOE TECHNICAL STANDARDS ACTIONS

New or Revised DOE [Tech Stds](#) this past month: None

LAST MONTH'S UPDATE TOPICS

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

- **Spook-tacular Security**
- **Electrical Standards Training December 2**
- **Spark-tacular NDE**
- **Repair vs. Alteration**
- **Calculations AP Revised**
- **LANL Standards Issued in October**
- **DOE Technical Standards Actions**

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

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