

ENGINEERING STANDARDS UPDATE
Trying to Make Standards Interesting Since 2001

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:

- **Engineering Standards Intro Course Tomorrow**
- **There's an AP for That - Redux**
- **There's an App for That...Spec Number**
- **LANL Standards Issued in December**
- **DOE Technical Standards Actions**

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

ENGINEERING STANDARDS INTRO COURSE TOMORROW

Wish it was all popular demand, but someone wants his CSE bonus so I'm teaching tomorrow, Jan 5 from 8am - noon at Canyon Complex 164. Course provides familiarity with national and LANL engineering standards for anyone performing, reviewing, or managing design activities. Enroll (or disenroll) online by entering 24140 in the box here <http://int.lanl.gov/training/>, or contact Yolanda Trujillo at 665-5696 or yjtrujillo@lanl.gov.

THERE'S AN AP FOR THAT - REDUX

Redux in wit is often like reflux in the esophagus or a remix on "Glee" -- painful. Nevertheless, I've rerun last month's play on phone apps and CoE APs to publicize Gurinder's last month.

The following Conduct of Engineering APs have been issued:

[AP-341-513 Qualification of Existing Data](#), R0 (12/07/09)

[AP-341-519 Design Revision Control](#), Rev. 1 (12/04/09)

Qualification of Existing Data (QED) defines the process for qualifying or proving (proof...Q.E.D...get it?) existing technical data on structures, systems, and components (where records do not exist that document that the technical data meets the appropriate quality assurance requirements for the SSC). Examples are calculations, set points, operational empirical data, or operations and maintenance logbook data. It is for use in hazard category 2 and 3 nuclear facilities and in high hazard nonnuclear facilities and ML-1, ML-2, and safety related ML-3 SSCs.

Design Revision Control revamps the post-issuance and field change processes with an alphabet soup that could make Campbell's jealous – FCNs, FCRs, IWRs, and DRNs. It's easier than it looks and provides a graded approach that is necessary because one wrong move in a nuclear facility and LANL's in the soup. A new requirement in the AP is that the designer must prepare a Field Change Notice (FCN) Criteria document upfront; this governs the field changes that may be made simply by the constructor. ESM Chapter 1 Section Z10 is being revised in January to capture the need for an FCN Criteria document.

For a listing of all Administrative Procedures, see the internal CoE [Engineering Processes](#) page. And again, since this is Engineering Processes, not Engineering Standards, please contact Gurinder Grewal at ggrewal@lanl.gov or 7-3667 with questions.

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THERE'S AN APP FOR THAT...SPEC NUMBER

Just to completely wear out the AP/app wit, I'll note that, for serious specifiers, apps aren't a laughing matter. In fact, there are three spec-related iPhone apps on the Construction Specifications Institute website. One allows searching spec numbers and titles from MasterFormat 2004. So if cyber security needs allowed us to use smartphones everywhere, I could answer spec questions anytime. I asked Pun Santa about this; he said something about "Wen Ho ho ho pigs fly."

Seriously, I do get questions when projects create spec sections that aren't in the LANL master collection and need to choose numbers and titles. Über-geeks deciding for themselves could search using a CSI app -- or <http://www.masterformat.com> after registering. A better way, especially for folks with a dinosaur like my Dell, is using the full MF04 scheme; a link to that listing is at the very top of the LANL Specs [webpage](#). David Powell and I use hardcopies that have the rules for numbering and other explanations that the websites don't have. We're still geeks, and proud of it, and so is anyone reading this far.☺

LANL STANDARDS ISSUED IN DECEMBER

Engineering Standards Manual

Chapter 7, Section D5000 General Requirements, Rev. 4

Updated codes and standards and names of LANL organizations, deleted calc requirements addressed in Z10, clarified and updated electrical drawings requirements, added requirement to address solar heat gain, added requirement for electrical rooms to be lockable and have a sign on the door prohibiting storage, added requirement that on renovation projects arc-flash warning labels be installed on existing equipment where lock-out/tag-out is required for the renovation work, revised supports and anchors article to align with seismic requirements of the IBC and ASCE-7, in demolition article added reference to LMS Section 02 4115 - Electrical Demolition

LANL Master Specifications (update campaign in progress)

01 3545 R4 Water Discharge Requirements	Minor updates and clarification on NMED discharge reporting.
01 5705 R3 Temporary Controls and Compliance Requirements	Minor editorial changes and clarification on NMED and NPDES reporting.
02 4115 R2 Electrical Demolition	Expanded list of potential locations of hazardous materials. Updated organization names. Updated designation of official LANL documents. Added requirement to protect electrical utility equipment.
07 0150.19 Rev. 2 Preparation for Re-roofing	General re-write and re-formatting
09 6500 R3 Resilient Flooring	Adding resilient base, adhesive/primers and rubber tile flooring.
09 6513 R1 Resilient Base and Accessories	Canceled. Salient features of resilient base, adhesives/primers and rubber tile flooring from this Section have been combined with 09 6500 Resilient Flooring allowing this Section to be Cancelled.
09 9100 R3 Painting	Complete Revision.
26 2816- R3 Enclosed Switches and Circuit Breakers	Added disconnects for fractional horsepower motors. Added submittal requirement for seismic qualification of units that must remain operational after a seismic event. Added requirement for receipt inspection of circuit breakers. Added SERVICE CONDITIONS article. Added requirement that each safety switch, enclosed circuit breaker, and motor disconnect have provisions for padlocking in the OFF position. Added requirement to coordinate inspections and tests with Section 26 0813 - Electrical Acceptance Testing.
26 5600 R3 Exterior Lighting	Updated SERVICE CONDITIONS to reflect outside design temperature conditions (important for estimating rated life of LED luminaires). Added specific NRTL listing requirements for exterior luminaires. Added requirement that luminaire photometric characteristics be determined by a recognized laboratory. Added lumen threshold for the New Mexico Night Sky Protection Act. Augmented material requirements for exterior luminaires. Added requirements for LED luminaires

31 2000 R4 Earth Moving	Minor editorial changes. Deleted reference to NMDOT spec. and added material requirements. Added section for engineered fill and Clarified OSHA slope requirements.
31 2323.33 R4 Flowable Fill	Minor editorial changes. Deleted reference to NMDOT spec and added material requirements. Added field testing section.
32 9219 R3 Seeding	Minor material revision.
33 3000 R3 Sanitary Sewerage Utilities	Added sentence to 3.5.B - A cleanout shall be placed at a change in direction in service laterals. The distance between cleanouts in service laterals shall not exceed 100 feet

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 topics:

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

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

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