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 design, repair, and alteration of LANL facilities and the programmatic equipment within them.[IMP 341]

Topics this month:

- **New ML Levels affect Specifications and Standard Details**
- **Standards Training -- Upcoming Courses**
- **Drafts for Review**
- **Energy Corner -- Future LANL Buildings Will Shine**
- **LANL Standards Issued in March**
- **DOE Technical Standards Actions**

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

NEW ML LEVELS AFFECT SPECIFICATIONS AND STANDARD DETAILS

As discussed in the Dec and Jan Updates, the management levels have changed. MLs are now defined in ISD 341-1, Engineering Processes Manual (pg. 10 of rev 2) and AP-341-502. The main effect on the LANL Standards is that ML-4 becomes a more useable category -- the right one for office buildings and standard industrial hazards. ML-3 is now for high ES&H, mission, or security risk. Essentially, ML-1 is safety class/public and ML-2 is safety significant/uninvolved worker.

Given these new definitions, most of LANL's Master Specifications and Standard Details are really just ML-4 suitable. For this reason, we're going to be changing the not-for-ML-1/2 warning in the master specs' Authors' Notes on a forward-fit basis to say "Specification developed for ML-4 projects. For ML-1, 2, and 3, additional requirements and independent reviews may be required; see ESM Ch 1 Section Z10 Specifications and Quality sections."

If the spec's work result is ML-3, then there should probably be some additional efforts in design, specification, QA, etc. just as they've noted about ML-1/2 for a while now. Maybe not as much added as with ML-1/2, but some measures to increase reliability, availability, and/or maintainability (otherwise, what's the point of ML-3 and a 4-tiered graded approach?).

Bottom line: All projects must ensure that their final specs and drawings contain adequate QA requirements. Typical additions for ML-1/2 specs and details are intended to increase reliability as appropriate for the credited functions in the documented safety analysis. For these and for ML-3 specs/details, appropriate strengthening may include:

- identification of critical characteristics,
- qualifications of designers and installers,
- more detailed construction submittals,
- more rigorous material receipt and control,
- more rigorous field quality control,
- test and inspection including receipt inspection,
- traceability of materials,
- documentation, and
- seismic and other environmental qualification requirements including system interaction.

Good examples of ML-1/2 specs are the LMS Sections on gloveboxes (11 5322 series).

DRAFTS FOR REVIEW

Proposed revisions to several sections of the Engineering Standards Manual are webposted for labwide, AE, and simultaneous technical committee review on the " Drafts in Review" webpage linked from the homepage. A comment form is on the same page. Comments are due to oruch@lanl.gov by April 17.

Chapter 1 --- General

Section Z10, General Requirements for All Disciplines/Chapters -- Clarified PE overstamping; added details discussion in specs section; adjustment for new ML level definitions; minor clarifications throughout

App A Technical Baseline Drawings Guidance, r2 -- minor changes

Chapter 16 - IBC Building Safety Program -- organization and ML level changes and minor clarifications throughout; significantly changed sections noted below.

Section IBC-GEN - IBC Building Safety General Requirements r1 -- New material qualification section

Appendix A - LANL Building Code (LBC) r1 -- new IBC program personnel qual section

Section IBC-IP - IBC Inspection Process r1 -- ML level changes

Appendix B Test and Inspection Plan Template (Sample) r1 -- major reformat
Appendix E IBC Inspection Final Report -- Sample r1 -- reformat
App G Structural Observation Report (Sample) r0 -- NEW
App H Constructor's Statement of Responsibility r0 -- NEW

Section IBC-FAB - Steel Fabrication Approval Process Att B -- CoC for exempted work -- NEW

STANDARDS TRAINING -- UPCOMING COURSES

There are two upcoming classes:

Introduction to LANL Engineering Standards
Provides familiarity with national and LANL engineering standards for anyone performing, reviewing, or managing design activities. Will be taught by Tobin Oruch, Standards Manager. Course 24140, 4 hours. **Next class will be Wed, May 16, 8-12, White Rock, enroll now.** (waitlisters will get moved in).

LANL Electrical Engineering Standards
Covers the electrical engineering standards in Chapter 7 of the LANL Engineering Standards Manual and discusses mandatory requirements and good practices for those involved in electrical design. Strongly suggested for electrical designers, electrical engineers, electrical safety officers, and facility managers. Normally taught by David Powell. Course 17998, 8 hours **Next class tentatively July 16, enroll now.**

Reserve through CT-ESH using links above or call 7-0059 or e-mail esh-registration@lanl.gov

The full suite of mostly free standards-related courses is on the Standards Homepage at the "Standards Courses at LANL" link. When enough people have enrolled or been waitlisted for a course, then the class will take place, so sign up now!

ENERGY CORNER -- FUTURE LANL BUILDINGS WILL SHINE

On Dec 8, DOE-FEMP issued an Interim Final Rule 10CFR433 on energy efficiency of new construction. For LANL-type buildings, it directs federal agencies to comply with the part of the Energy Policy Act of 2005 that said that efficiency must be 30% better than ASHRAE 90.1-2004, or whatever lesser percentage is life-cycle cost-effective using DOE-prescribed methods.

This is obviously a great event for those interested in energy conservation and the national security benefits to which that contributes. The downside is that either meeting the 30% or modeling and analyzing enough to prove some lesser percentage is better will be pretty challenging for projects, particularly GPPs.

This rulemaking is effective Jan 3, 2007. To keep the Engineering Standards relatively current with this rule, Sustainable Design Chapter 14 of the Standards has been revised to implement the Rule and will be issued in coming weeks. Until this chapter's revision, the ADPMGT Division Leaders, who have been notified of the Rule, must incorporate similar changes in any pending and future contracting efforts.

LANL STANDARDS ISSUED IN MARCH

LANL Engineering Standards Manual

Chapter 13, Welding & Joining POC: Kelly Bingham
Volume 3, GWS 3-01 *APPENDIX A:* **LANL Welding Procedure Specification Index**
Two NEW, two revised WPSs:

WPS #	Rev.	Date	Base Metal	P-No.	Process	Qualified Thickness
1000-1	2	3/13/07	Mild Steel/ Mild Steel	1 / 1	SMAW	0.063 - 8
3001-1-SC	2	3/13/07	0.03 C. CS- Pipe, plate, sheet	1 / 1	GMAW-SC	0.065 - 0.650
3002-HY80	0	3/28/07	HY80	N/A	GMAW	0.125 to 99.99
3002-HY80/HSLA100	0	3/28/07	HY80 - HSLA100	N/A	GMAW	0.125 to 99.99

LANL Master Specifications Manual

22 1316 R1 Sanitary Waste and Vent Piping. Added PVC pipe and its limitations to the options of SWV (thanks to Mike Nicolini, Julie Wood, POC Charles DuPre)

DOE TECHNICAL STANDARDS ACTIONS

DOE-STD-1190-2007 Illness and Injury Surveillance Program Guidelines (27 pages) PDF Website

LAST MONTH'S UPDATE TOPICS

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

- **LANL Building Official now Steinberg**
- **Project Engineering and LANL's new Project Team Model**
- **Contract Mod A015 Online**
- **Standards Training -- Courses Awaiting Students**
- **LANL Standards Issued in February**
- **DOE Technical Standards Actions**

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

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