

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 at LANL!!!**
- **IBC Building Safety Program Update**
- **IHS Online National Standards Subscription Being Trimmed**
- **LANL Standards Issued in November**
- **Last Month's Update Topics**

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

NEW ML LEVELS AT LANL!!!

With the revision of Engineering Processes Manual [ISD 341-1](#) in late October, a refinement to the risk-based graded approach to quality and safety has occurred at LANL -- the first change in almost 10 years since the issuance of LIR 230-01-02, Graded Approach for Facility Work in the late 90's. The ISD is maintained by the Conduct of Engineering Office which also maintains the Eng Standards and Eng Training & Qualification programs; it is discussed here because of its relevancy to Standards users.

There are still four Management Levels, ML-1 though ML-4, but the definitions have changed. Oversimplifying, the levels are:

- ML-1 is now reserved for equipment or activities that function to protect the offsite public from LANL's hazardous (typically nuclear) materials. ML-1 includes structure, systems, or components (SSCs) considered safety class.
- ML-2 is only for equipment or activities that protect workers from hazards generally unique to LANL's mission (nuclear or non-nuclear, including uninvolved workers), provide defense-in-depth to safety class SSCs, or could prevent an SC SSC from working if they failed. ML-2 includes Safety Significant SSCs.
- ML-3 is all those things that are not ML-1 or ML-2 but warrant a higher level of attention than ML-4. These include SSCs that fall into the categories of Important to Safety (defense-in-depth to ML-1 or ML-2); Security (SNM, classified info); Environmental (NMED-related); or Mission (impact milestones) -- and activities essential to the functioning of these categories of SSCs.
- ML-4 is everything else (not ML-1, ML-2, or ML-3). ML-4 SSCs must comply with national codes and standards, OSHA, and ISM requirements.

The complete definitions are in Table 3-1 on page 10 of the ISD (pg 14 of the file).

Appendix G of ISD 341-1 has new tables containing guidance on the quality attributes and activities appropriate for each ML level -- broken out for Category 2/3 nuclear facilities and all others, and for the task being undertaken.

Implementation of ISD 341-1's new ML levels should occur right away for non-nuclear facilities; however, for nuclear facilities note the following: LIR230-01-02 was superseded by IMP951 on 9/26/06 but remains in effect until a facility completes the USQD process and/or TSR revisions. For ML determinations, ISD 341-1 now governs (again, after USQD/TSR actions).

This new scheme should reduce the life-cycle cost of many existing and future SSCs because:

- ML-4 becomes a very useful category appropriate for all general service SSCs (previous definition limited usefulness);
- ML-3 becomes a place where a higher level of rigor -- but not ML-1/ML-2 nuclear-type rigor -- is warranted; and
- ML-1 and ML-2 SSCs will be fewer in number, increasing resource focus on the SSCs representing the greatest risk in the institution.

Downgrading of previously-graded SSCs affected by this change can occur as time permits. [AP-341-502](#), Management Level Determination, is being updated to reflect the new ML definitions (higher-level ISD 341-1 definitions supercede).

Please direct questions to Gurinder Grewal, Engineering Processes Program Manager (7-3667/ggrewal@lanl.gov) or Kirk Christensen, CENG Office Director (5-2780/kchristensen@lanl.gov).

IBC BUILDING SAFETY PROGRAM UPDATE

Introduced last month, LANL now has an operational, municipal-type building department led by Mitch Harris, the Division Leader for Facilities Management & Engineering. He's empowered by Engineering Standards Manual Chapter 16 as the LANL Building Official over facility design and inspection plan review, permitting, inspection, and occupancy approval. International Building Code interpretation is by the Standards Discipline POCs while inspections, including Code-mandated special inspections, are performed by Paul Hudson's Construction Inspection group in Project Management Services.

The program scope includes all facility-affecting modifications and new construction except Type 2 (low-risk/impact) Engineering Change Notices which are exempt from the specific design review and inspection requirements described by the chapter. All other designs, including a required inspection plan, must now be reviewed by FM&E's Design Engineering Services

group. Once acceptable, FME-DES (Richard Trout) will rubber stamp them as ready for construction and alert Hudson that an inspection request should be forthcoming from the project manager.

For more information, start with the IBC-GEN section of the [chapter](#).

IHS ONLINE NATIONAL STANDARDS SUBSCRIPTION BEING TRIMMED

The IHS online national codes and standards [service](#) is provided by the Research Library; it has a significant budget cut to absorb for FY2007. According to Kathy Varjabedian of the RL, every area of library operations and collections is being cut, and standards have to be cut also. In 2006 the IHS package cost \$150k. Per Kathy, below is what's planned for the contract effective Jan 1, 2007 based on usage statistics for each standards development organization in the subscription:

- Cut ANSI except for the nuclear segment, e.g. N14.5. Many other "ANSI" standards are actually now handled by authoring societies so there's much less here that's useful, and this package has one of the highest cost/use figures. Some ANSI are available as DOD adopted. Savings: \$21k.
- Cut DOD Historical (obsolete versions of standards once adopted by DoD). Savings: \$7k
- Cut Mil Specs. Now often on the web at http://www.assistdocs.com/search/search_basic.cfm. Savings: \$10k.
- Trim ISO: Subscribe to only a custom package of popular quality management and environmental titles saving \$13k
- Add NECA: we have locally loaded, but those copies are already getting out of date and IHS now carries. Cost: \$450.

Note: If you use certain standards being cut, it is recommended that you download the latest versions during December. If having the latest revision is important, then periodically confirm rev using IHS and, when necessary, purchase later revisions individually through IHS using a purchase card. Also, look for updated RL webpages with options for finding MIL and other standards in December.

LANL STANDARDS ISSUED IN NOVEMBER

LANL Master Specifications Manual

01 5705 R1 Temporary Controls -- added 1.1N

22 0529 R1 Hangers and Supports for Plumbing Piping and Equipment -- revised Section 3.4B, Hanger Rod size to agree w/ ANSI/MSS SP-69-2003

22 0713 R1 Plumbing and HVAC Insulation -- added note to spec section, added new definitions, undersink piping covers; updated insulation schedule

22 1100 R1 Facility Water Distribution -- added model number to 2.14A and deleted 2.14C
22 4200 R2 Plumbing Fixtures -- added notes within stars at sections 2.2, 2.3, and 2.4. Revised 2.2B, 2.3B, and 2.4B. Added 2.2C, 2.3C, and 2.4C
23 3100 R1 HVAC Ducts and Casings -- revised Section 3.7 Duct Leakage
23 2113 R1 Hydronic Piping -- added 2.16A.3, 2.16B.3, and 3.4T
23 2213 R2 Steam and Condensate Heating Piping -- revised Section 2.5 Gasket Material; 20 psig was 100 psig
32 8400 R1 Planting Irrigation -- major revision
32 9300 R1 Plants -- major revision
32 9223 R1 Sodding -- major revision

LANL Standard Drawings and Details

Administrative updates to approx. 120 mechanical, civil, architectural dwgs; no change to rev number.

LAST MONTH'S UPDATE TOPICS

If you did not get last month's e-mailed Update, back issues are available: click "[Monthly Update](#)" below the Google search on the Standards [homepage](#) . Last month's Update topics were:

- **Standards Manual ISD Completely Revised**
- **NEW IBC Building Safety Program**
- **NEW Standards Scope and Applicability Matrix**
- **NEW QA Spec Section**
- **LANS Contract App G -- Upcoming Changes -- Update**
- **Suspect/Counterfeit Items Course**
- **LANL Standards Issued in October**

To request a change to this newsletter's distribution contact Tobin Oruch, oruch@lanl.gov.

Tobin Oruch, Eng Standards Mgr (work schedule A)
Los Alamos Nat'l Lab -- Conduct of Eng Program Office
TA-16-969 M/S C919 ph (505) 665-8475 fx 665-9835
oruch@lanl.gov <http://engstandards.lanl.gov/>