

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. [[IMP 341](#)]

Topics this month:

- **Standards Training**
- **Other Engineering Training**
- **IHS Online National Standards Access**
- **LANL Standards Issued in July**
- **DOE Technical Standards Actions**

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

STANDARDS TRAINING

Electrical Standards 17998 -- Aug 7

Point-of-Contact David Powell will teach "[LANL Electrical Engineering Standards](#)" from 7:30 am - 4pm on Thurs, Aug 7 at the White Rock Training Center. The course 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. Reserve online using link above or call 667-0059 or e-mail Central Training at esh-registration@lanl.gov

Introduction to LANL Engineering Standards 24140 -- Aug 27

This four-hour course provides familiarity with national and LANL engineering standards for anyone performing, reviewing, or managing design activities. Taught by Tobin Oruch, Standards Manager, on Wed, Aug 27, from 8am - noon at White Rock Rm 118. Register [here](#) or contact Central Training per above.

Registrant for above -- if unable to attend, please cancel with Central Training or call instructor.

OTHER ENGINEERING TRAINING

Ethics Seminars from NM Society of Professional Engineers – Oct 16, Nov 15

NMSPE.org is tentatively offering two different ethics courses this fall in Los Alamos and/or Santa Fe. Each course is \$50-75 and approved for 2 Ethics PDHs, and such credits are a requirement for NM PE registration. More information will be available in future Updates and on their website, <http://www.nmspe.org>

LANL Conduct of Engineering (CoE)

The CoE Office ([CENG-OFF](#)), home of the Standards Program, also offers training on the Engineering Processes Manual (PD 341) and associated Administrative Procedures (APs) managed by Gurinder Grewal. From Lyle Kerstiens, our T&Q manager, here is that course schedule and how to sign up.

<u>43666 Design Management</u> TA48-RC29-118 (seats 60)	8/19	8am – 4pm	C-DO Conf Rm
<u>43667 Maintenance Engineering</u> TA-46-535-103 (seats 105)	8/20	8am – 11am	C-DO Auditorium
<u>40979 Maintenance Work Ctrl</u> TA-46-535-103	8/20	11am – 12pm	C-DO Auditorium
<u>43662 Engineering Quality</u> TA-46-535-103	8/21	8am – 2pm	C-DO Auditorium
<u>43665 Support to Operations & Maintenance</u> TA48-RC29-118	8/26	8am – 2pm	C-DO Conf Rm
<u>43668 Project Engineering Overview</u> TA3-1698-A103 (seats 65)	8/28	8am – 12 pm	MSL Auditorium
<u>43663 Technical Baseline</u> TA3-1698-A103	9/4	8am – 4pm	MSL Auditorium

To register, go [here](#) and follow the process or call 7-0059 or Susan Chastain at 5-8646.

IHS ONLINE NATIONAL STANDARDS ACCESS

A few have reported problems accessing national standards via the IHS Standards Expert, getting a message about number of users exceeded.

Users need to know that LANL's subscription is for 22 collections/societies, e.g. ASHRAE standards, NECA standards, etc. – but one seat each. So we can have up to 22 people searching the IHS Standards Expert database at one time, but only one PDF per collection can be accessed at once. Also, when a user closes a document it can take a few moments for that document to become available again; however, it frees up immediately if they logout of IHS completely.

So, just searching or being logged in is not likely to cause a problem for other users, even if you're logged on for quite a while. But spending time with a PDF open will block others from accessing PDFs from the same collection. It's better (and faster scrolling) if you download a copy of a PDF of interest to your computer, close online copy or log out, and read your file at your leisure.

IHS access is at <http://library.lanl.gov/infores/stand/ihs/index.htm>

For more information, call 800-447-3352 or to read about or sign up for a Live Training session

on the IHS Standards Expert and IHS in general, go to
<http://news.ihs.com/GoNow/a14065a179843a71152059a1>.

Research Library POC to report problems: Kathy Varjabedian, 5-8072, kv@lanl.gov,

LANL STANDARDS ISSUED IN JULY

ENGINEERING STANDARD MANUAL <http://engstandards.lanl.gov/index.html#esm> Chapter 13 Welding & Joining, Vol. 1 General Welding Standards

GWS 1-03, Welding and Brazing Material Procurement & Control , Rev. 5 -- Clarified filler material return/disposal requirements of Paragraph 5.6 and 5.8.

Att. 3- Rev. 2, Weld Material Issue Card/Weld Material Return Card -- Changed to require disposal or return at end of shift where it read "Estimated Return Date"

GWS 1-11 Appendix A -- made NDE Application for Certification Form a stand-alone form

Chapter 16, IBC Program

IBC-GEN, IBC General Requirements, Rev. 2 -- Clarified Scope, Chief Inspector duties, design review duties; added control of concrete prefab. Removed IAS automatic pathway for testing agencies. Updated LANL amendments to IBC and IEBC for 2006 and occupancy form updates (App. A-Rev. 2, App. B-Rev. 2, Att. 1. Rev. 2, Att. 2. Rev. 3).

IBC-IP, Inspection Process, Rev. 2 -- Clarified to include concrete structural shop inspection. Minor changes App. B and G for test/inspection plan, structural observation (App. B- Rev. 2, App. G-Rev. 1)

IBC-TIA, Test and Inspection Agency Approval Process, Rev. 2 -- Removed exclusions for metals, geotech; clarified accreditations required, avenues for approval, minor revs to att. (Att A. Rev. 1, Att. B. Rev. 2)

IBC-FAB, Offsite Structural Fabricator Approval Process, Rev. 2 --Title change to include prefab concrete. Added additional assessment criteria related to welding etc. Att. AZ Rev. 1. Added Att B, Certificate of Compliance.

LANL MASTER SPECIFICATIONS MANUAL

http://engstandards.lanl.gov/New_Home.html#spec

Remaining specs sections (Divisions 26, 27, 28, 31, 32, 33, 40, 41, 43) were revised to be consistent with pro forma terminology (Subcontractor, STR, etc.) and the specifier's notes update.

26 0553 Rev. 1 – Identification for Electrical Systems - Added NFPA 70E to regulatory requirements, moved coordination requirements from Part 3 to Part 1, added "instructions to

specifier " throughout the document, added requirement for "wiring system color code labels," revised arc-flash and shock hazard warning labels to align with NFPA 70E and LANL ISD 101-13, added requirement that materials for warning labels comply with UL969, made paint the accepted method for working space floor marking, provided option to delete Category 1 nameplates from equipment where circuit directory information is provided on the arc-flash and shock hazard warning labels.

26 0813 Rev. 1 Electrical Acceptance Testing - Updated general instructions to the specification writer located at the start of the document.

- Added instructions about using a graded approach to determine applicability of the Section.
- Added section-specific instructions that LANL ESM Chapters 15 and 16 plus the component specifications may require additional tests and inspections that are beyond the scope of this Electrical Acceptance Testing Specification. The tests required in this Section should be coordinated with the Project Test and Inspection Plan.
- Added instructions to the specifier about when it may be appropriate to use the LANL Startup and Testing Services Group as the Electrical Testing Agency (ETA) contemplated in this Section. The specifier is to make a selection between using the LANL Startup and Testing Services Group or an outside electrical testing firm.
- Added a statement in several of the tables emphasizing that for ML-3 systems or components the Design Authority may invoke more rigorous electrical acceptance testing requirements.
- Added arc-flash hazard analysis as a required power system study.
- Updated applicable reference codes and standards.
- Clarified definition of "qualified person."
- Added a graded approach for testing technician qualifications
- Clarified requirements for submittal of test plans.
- Added project coordination requirements.
- Modified the Inspection and Test Procedures paragraphs to better align with the thresholds for formal electrical acceptance testing that are tabulated in Revision 1 to LANL ESM Chapter 7 Section D5000. The table indicating the thresholds is reproduced in the second "instructions to specifier" blocks in this Section.
- Added graded approach for testing cables and molded-case circuit breakers based on LANL Management Level structure.
- Expanded equipment and systems to be tested based on recently added LANL Master Construction Specification Sections.
- Clarified that thermographic surveys are best conducted after the facility has been occupied and operating for 3 to 6 months. Added requirement that circuits must be loaded to within 20% of design load during thermographic surveys.
- Aligned requirements for short-circuit studies and coordination studies with ESM Chapter 7 Section D5000; included an explanation in an instruction to the specifier about why the ETA is to perform the final coordination study.
- Added requirement for large battery systems to be included in the final short circuit and coordination studies.
- Revised the arc-flash hazard analysis results and information that the ETA must provide; aligned with the recently issued revision to the LANL electrical identification specification section.

- Clarified test report requirements.

26 2713 Rev. 2 - Electricity Metering – Added communications connection for KYZ metering pulses from the electricity meter to the Integrated Automated Facility Controls specified in Section 25 5000.

26 5100 Rev. 2 – Interior Lighting -- Added "total harmonic distortion" to DEFINITIONS. Modified ballast warranty period to start upon LANL acceptance. Added NECA/IESNA 500 and 502 installation standards. Updated reference document titles. Added requirement that luminaires be factory labeled as to replacement lamp and ballast types. Clarified and updated fluorescent ballast requirements to match current commercial products. Added NEC-required luminaire disconnect. Clarified seismic protection requirements. Added field quality control requirements. Clarified dimming ballast test requirements.

33 0820, Commissioning of Wells – canceled.

DOE TECHNICAL STANDARDS ACTIONS

<http://www.hss.energy.gov/NuclearSafety/techstds/standard/recappts.html>

New or Revised DOE Tech Stds this past month: None.

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:

- **Prime Contract Mods**
- **IHS Online National Standards**
- **CoE Procedure Changes**
- **LANL Standards Issued in June**
- **DOE Technical Standards Actions**

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

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