

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:

- **New CENG Office Director**
- **IBC, IEBC, LEBC**
- **Last Call -- Are You on a National Standard Committee?**
- **Spec-tacular Welding**
- **LANL Standards Issued in September**
- **DOE Technical Standards Actions**

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

NEW CENG OFFICE DIRECTOR

Larry Goen is the new Director of the Conduct of Engineering Office (CENG). CENG includes the Engineering Standards Program as well as Eng Processes and Eng Training & Qual. Larry replaces Gary Read who had led us since the Spring when Kirk Christensen became the Ombudsman. So, here at performance appraisal time, please contact Larry at 5-6847, lgoen@lanl.gov with praise for the Standards Program, roundfile@lanl.gov with complaints.

IBC, IEBC, LEBC

Your sextant for navigating a sea of alphabet soup, ESM Chapter 16 implements the International Building Code (IBC). Chapter 16 was revised last month. Two noteworthy changes:

First, the expansion of the program's applicability. Now, most projects including maintenance activities over \$300k must meet the full program of review, permitting, and intermediate and final inspections. This cost threshold is in addition to the listed criteria for higher risk. That's because such activities meet the definition of a repair or alteration in the Int'l Existing Building Code (IEBC). Also, any maintenance work involving anchorage, firestopping, seismic-resisting structural, or fire coatings must be inspected by Paul Hudson's Construction Engineering group, regardless of cost, due to the consequence of failure. See the changes in [Chapter 16](#) Section IBC-GEN.

The second change is a new and helpful implementation of the IEBC Chapter 3 provisions for meeting the code of record versus the current code. Here, certain minor modifications can be made to existing systems without meeting all newer requirements such as seismic anchorage. An

example would be adding up to nine sprinkler heads to an older system without providing sway bracing on the new or flex joints between the new and old. See these provisions in IBC-GEN Appendix B, LANL Existing Building Code (LEBC).

LAST CALL -- ARE YOU ON A NATIONAL STANDARD COMMITTEE?

Discussed last month, if you're a LANS person doing committee work for ACI, ANS, ASCE, ASHRAE, ASME, ASTM, NFPA, or similar we need you to print this [form's](#) page 1, complete/sign, and send to oruch@lanl.gov, fax 7-5405, or M/S P948 by October 9.

SPEC-TACULAR WELDING

By now, everyone should know about the need to perform welding per the LANL Welding & Joining Program, which is ESM Chapter 13. This excellent program was the legitimate child of a Price-Anderson self-declaration on the total lack of a LANL welding program, and has just celebrated its 5th birthday. The program includes the need to use LANL-qualified welders, rod, inspectors, and welding procedure specs (WPSs) – all tied up with a bow (checklist).

As a birthday gift to itself, program implementation will be improved by the addition of two new LANL Master Spec sections – one for offsite welding, one for onsite – numbered 01 4444 and 01 4455 respectively. Using these [spec sections](#) in your maintenance work packages and procurements for fabrication and construction help will ensure program requirements are clearly stated and met. Contact POC Kelly Bingham, 7-6167, with any questions.

Coming in October: Expansion of the program to include NDE procedures and NDE inspector qualification. These kids grow fast, don't they?

LANL STANDARDS ISSUED IN SEPTEMBER

Engineering Standards Manual

Chapter 6 Mechanical

Chapter 6 D10-30GEN Rev. 4

Added fume hood and other local exhaust ventilation system labeling requirements. Other minor updates.

Chapter 6 D10+E10 Rev. 3, Equipment

Addressed use of tanks in rad service; administrative changes Deleted pressure systems material and referenced Chapter 17 several places.

Chapter 6 D20 Rev. 4

Chapter 6 D30 Rev. 4, HVAC

Changed derating requirements for fume hoods and local exhaust design, added design information for fume hoods, changed motor derating guidance, updated Table D30GEN-2, added additional fan info.

**Chapter 7 Electrical Section D5030
Communications Rev. 4**

Revisions limited to paragraphs 1.1, 1.3, and 1.4 to address TA-16-933 Server Room incident report action item #5: Added definition of "server equipment room;" expanded coordination requirement for telecommunications rooms and server equipment rooms; defined "independent HVAC;" added an HVAC load density of 1000 BTU/hr/sq ft to be used as a first approximation for server equipment rooms; updated server equipment room first approximation electrical power density to 300 VA/sq ft; added requirements for server equipment rooms to have temperature sensors, thermostats, and related components so server equipment room over-temperature will be automatically reported to the Facility Coordinator and the server equipment owner, and if the room temperature reaches a high limit, the server equipment will be automatically shut-down. IMP 341 changed to PD 342.

Chapter 16 IBC Program

IBC GEN Rev. 3

Revised applicability to reduce work scope excluded from the full program. App A: Addressed editions to be used, Supplements, and reference editions; App B: Addressed Supplements; code of record for minor added.

IBC IP Rev. 3

Clarified NCR dispositioning in 4.0.E. Added App H (SSoRwrtSI) and referenced in App. B

IBC TIA Rev. 3

Clarified LBO approval of testing agencies.

IBC FAB Rev. 3

Clarified to include metal building fab, but not bending or mild steel burning.

LANL Master Specifications (update campaign in progress)

Due to the large number this month, please refer to the Spec [Archive](#) page for summary of changes.

- 01 4000 R4 Quality Requirements
- 01 4444 R0 Offsite Welding and Joining Requirements NEW
- 01 4455 R0 Onsite Welding and Joining Requirements NEW
- 05 4000 R2 Cold-formed Metal Framing
- 05 5200 R1 Railings (canceled; see 05 5213)
- 05 5213 R0 Pipe and Tube Railing NEW
- 12 3100 R2 Manufactured Metal Casework
- 12 5100 R2 Office Furniture (canceled since now GFE)
- 22 0529 R3 Hangers and Supports for Plumbing Piping and Equipment
- 22 0548 R2 Vibration Control Etc.
- 22 0713 R4 Plumbing and HVAC Insulation
- 22 0813 R3 Testing Piping System
- 22 1100 R3 Facility Water Distribution
- 22 1316 R3 Sanitary Waste & Vent Piping

22 1413 R2 Facility Storm Drainage Piping
22 1500 R3 Compressed Air Systems
22 4200 R4 Plumbing Fixtures
23 0593 R3 Testing, Adjusting, and Balancing for HVAC
23 1123 R2 Facility Natural Gas Piping
23 2113 R4 Hydronic Piping
23 2213 R1 Steam and Condensate Heating Piping (canceled, see 23 2215)
23 2215 R0 Steam and Condensate Heating Piping and Specialties NEW
23 2217 R3 Steam and Condensate Specialties (canceled, see 23 2215)
23 2300 R2 Refrigerant Piping
23 2500 R2 HVAC Water Treatment
23 3100 R2 HVAC Ducts and Casings (canceled, see 23 3101)
23 3101 R0 HVAC Ducts
23 7413 R2 Packaged Rooftop Air Conditioning Units
26 2213 R2 Low Voltage Distribution Transformers
26 2300 R2 Low Voltage Switchgear
26 2419 R3 Motor Control Centers
26 2500 R2 Enclosed Bus Assemblies
26 5600 R2 Exterior Lighting
32 9223 R3 Sodding
32 9300 R3 Plants
33 1000 R3 Water Utilities
33 3000 R2 Sanitary Sewerage Utilities
33 4000 R2 Storm Drainage Utilities
33 5100 R2 Natural Gas Distribution
33 7311 R2 Pad-Mounted Transformer Rough-In
33 7711 R2 Pad Mounted Switch Rough In

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:

- **Are You on a National Standard Committee?**
- **Exhibit I, Ad Nauseum**
- **Are You Feeling Lucky?**
- **LANL Standards Issued in August**
- **DOE Technical Standards Actions**

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

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