

# Engineering Standards Update

News from Engineering Standards Program

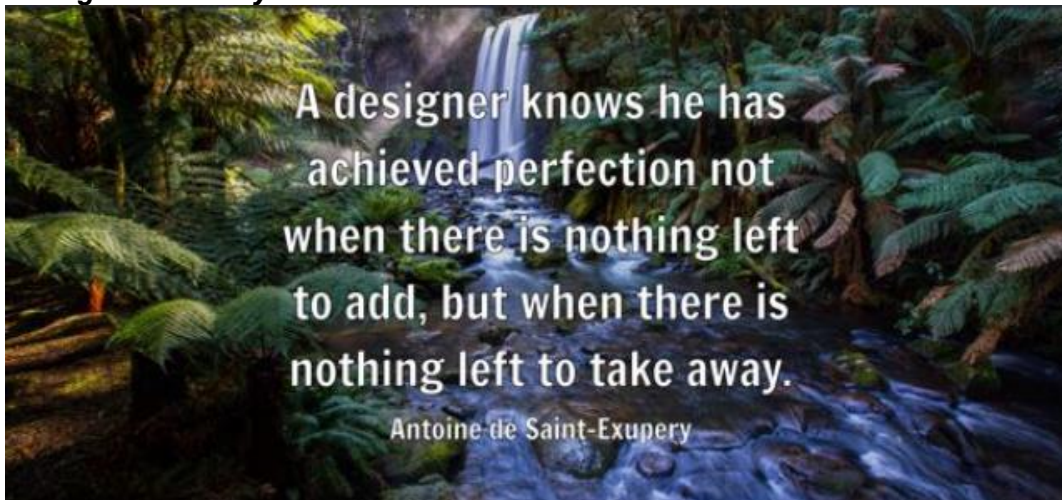
Jun 6, 2024

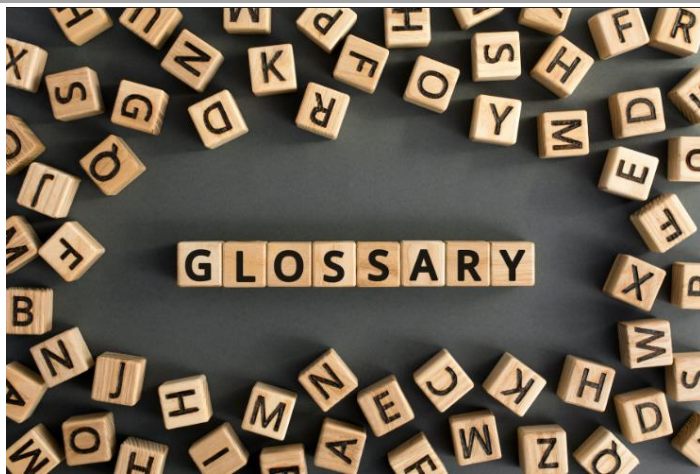
[Standards are serious business](#) but this newsletter isn't always.

## Topics this month:

- [New CoE Functional Series Document Release - Conduct of Engineering Glossary \(of Terms\)!](#)
- [Reduction of Duplicate Construction Submittal Reviews for ML-4 Subcontracted Projects](#)
- [Request for Test Projects for SpecLink Pilot Testing](#)
- [Updates to Archibus](#)
- [New AI Workshop Series by Research Library](#)
- [2024 Summer STEAM Spotlight Series](#)
- [Training & Qualification](#)
- [LANL Engineering Standards Issued in May](#)
- [LANL Engineering Processes Changes](#)
- [National Standards Action](#)
- [DOE Technical Standards Action](#)
- [MSS Document Action](#)
- [When Good Conduct of Engineering Isn't Followed](#)

## *Thought of the day*





## **NEW CoE FUNCTIONAL SERIES DOCUMENT RELEASE - CONDUCT OF ENGINEERING GLOSSARY (OF TERMS)!**

The long-awaited Conduct of Engineering Glossary of Terms is finally here!

This CoE Functional Series Document (FSD) provides a single location for the most-common acronyms and definitions of terms used in other CoE FSDs such as Engineering Standards, Administrative Procedures (APs), and Qualification Standards, to ensure that definitions in these documents are consistent and centrally accessible.

The over 800 entries contained in this document are the governing definitions across all Functional Series and other Local Documents issued by the PD340 institutional Facility CoE program, superseding those where they may conflict.

## **REDUCTION OF DUPLICATE CONSTRUCTION SUBMITTAL REVIEWS FOR ML-4 SUBCONTRACTED PROJECTS**

A new revision of 01 3300 Attachment A Construction Submittal Log was issued on Eng Stds Website on May 6th, which reduces duplicate construction submittal reviews and aligns with NNSA Supplemental Directive (SD) 413.3-7 for non-nuclear non-complex capital asset projects under \$100 million. This SD is currently pending prime contract modification. The log ('Table 3 – Submittal Log' of Att A) identifies the default (minimum) LANL critical reviews (and guidance) for ML-4 subcontracted (design and construction) projects. Based on the default reviews identified for ML-4 subcontracted projects:

- Minimum 35% of total submittals need to be reviewed for non-nuclear specification sections.
- Minimum 44% of total submittals need to be reviewed for all specification sections.

## **REQUEST FOR TEST PROJECTS FOR SPECLINK PILOT TESTING**

CoE office is looking for volunteers from the project delivery groups to pilot test projects in SpecLink prior to completion and rollout of the LANL master specification database in SpecLink to the Engineering Services division.

Pilot testing project requirements:

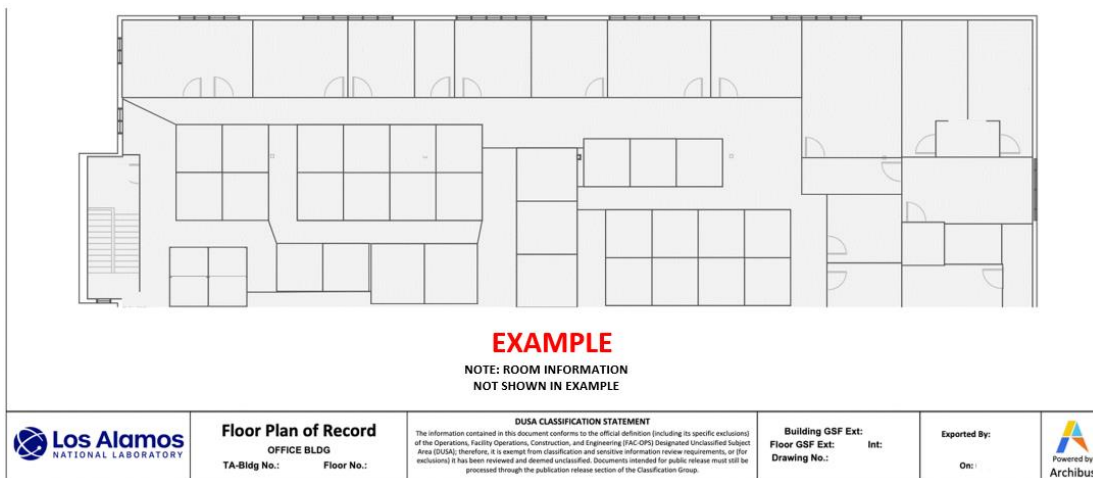
- ML-4 self-perform, low risk non-nuclear projects – CoE is looking for 1-2 projects (minimum two discipline-projects)
- Projects without Mechanical, I&C, Fire, and Communications scope
- 01 3300 Construction Submittal log and TIP templates from the [Engineering Standards](#) website need to be used.

Should you be interested in pilot testing your project in SpecLink or for more information, please contact [Neha Gidwani](#) or email [engstandards@lanl.gov](mailto:engstandards@lanl.gov).

## UPDATES TO ARCHIBUS

In early November 2023, Archibus underwent an update to all floor plan of record drawings temporarily disabling the download DWG function. During this time, a new PDF Export Feature was deployed. PDF copies of floor plans can be obtained using the floor plan viewer, including setting labels and highlights as desired. The download DWG function has been restored and is now available on the [Archibus website](#).

### PDF Export

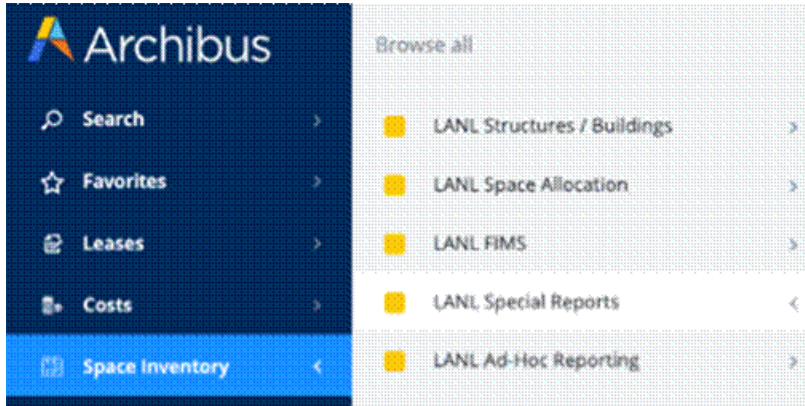


All floor plan DWGs have now been approved for release under the Operations, Facility Operations, Construction, and Engineering (FAC-OPS) Designated Unclassified Subject Area (DUSA) with the exception of UCNI and Mixed Security Facilities. Exception floor plans will be available upon request by submitting a Facility Data Request located on the [MSS-DATA Internal Webpage](#).

Additional Archibus Engineering Enhancements have been released providing engineering and fire protection details. These can be found by navigating to [Archibus](#) -> Space Inventory -> LANL Special Reports -> Building Engineering Details, Building Fire KBL Management and Building Fire KBL History Report. The Building Engineering report now allows for the population of Management Level, Occupancy Classification/Designation and Fire Protection as assigned by responsible Engineering POCs/SMEs. Existing data available includes Seismic Data. The Key Building List (KBL) Reports provide details on the most recent year each assessment was performed, as

well as upcoming and future assessments (FHA - Fire Hazard Analysis, FPA - Fire Protection Assessment, PIP - Pre-Incident Plan).

### **Engineering Special Report(s) Location**



The MSS-DATA Archibus Team appreciates your patience with this matter. If you have any questions, comments, concerns or would like Archibus to aid in Engineering Requirements feel free to contact us at [archibus@lanl.gov](mailto:archibus@lanl.gov).

### **NEW AI WORKSHOP SERIES BY RESEARCH LIBRARY**

[The Partnerships and Pipeline Office Research Library will be offering a unique, holistic artificial intelligence workshop series, beginning June 10.](#)

This series aims to help demystify AI, dispel myths and misinformation and provide practical guidance on navigating the complex policies surrounding AI research within the Lab and across the broader Department of Energy complex. For questions about the Research Library's AI Workshop Series, contact [Hannah Hamalainen](#).

7 courses developed by experts:

[Introduction to AI Literacy and Generative AI Tools](#)

[Navigating the Ethical Landscape of AI](#)

[Unlocking AI: A Prompt Engineering Workshop](#)

[Generative AI in Research Papers: Hallucinations, Bad Citations, & Scientific Integrity](#)

[Introduction to Data Preprocessing for AI](#)

[Navigating the Legal Landscape of Creativity in the Age of AI](#)

[Retrieval Augmented Generation: from the Basics to Advanced Topics](#)

### **2024 SUMMER STEAM SPOTLIGHT SERIES**

[The Summer STEAM Spotlight series hosted by the Women of Computing and Advocates ERG kicked off at the laboratory starting May 31st.](#) The series features women from across the Lab who have connections to STEAM — science, technology, engineering, art or math. Speakers will cover a range of topics from their life or career lessons to working at the Lab, or anything else they're passionate about. For more information, see [WOC\\_SumSpeaker\\_Series\\_2024\\_V3 \(lanl.gov\)](#)





## TRAINING & QUALIFICATION

### Courses, Seminars, Programs

Note on Training Registration emails: When you sign up for a class in UTrain, you will receive an email that is generated by UTrain upon registration and again on the day of or before the class which will include the link to join the Teams meeting (for classes hosted online). **WARNING: To get the Teams link email you must register in UTrain. The email will NOT automatically enter an event on your calendar in Outlook. Please block your own calendar.** To receive credit for the course, you are required to log into the Teams meeting using a computer that has voice and chat capabilities (for classes hosted online). Do not use a mobile device to join the class; if you do so you will not be able to receive credit. For any questions, please email the Training team at [es-do-tng@lanl.gov](mailto:es-do-tng@lanl.gov).

### **CoE Design Engineer Switches and Disconnects Duty Area 9, #58422 – Jun 6, 9:00-11:00 am, Teams**

Eric Stromberg is leading this instructor-led course. It is required for completion of Duty Area 9 for DE qualification of Electrical Engineers (per UTrain curricula 14186).

### **CoE Design Engineer Uninterruptible Power Supply Systems Duty Area 9, #58423 – Jun 20, 9:00-11:00 am, Teams**

Eric Stromberg is leading this instructor-led course. It is required for completion of Duty Area 9 for DE qualification of Electrical Engineers (per UTrain curricula 14186).

**CoE Building Systems B31.9, #56239 – Jun 17-20, 24-27 (M-Tr, must attend all 8 sessions), 2:00-3:30 pm, Teams**

Ari Swartz is leading this instructor-led course to familiarize participants with ASME B31.9 Building Services Piping Code and its real applications.

**CoE Design Engineer Receptacles GFCIs Duty Area 9, #58421 – Jul 11, 9:00-11:00 am, Teams**

Eric Stromberg is leading this instructor-led course. It is required for completion of Duty Area 9 for DE qualification of Electrical Engineers (per UTrain curricula 14186).

**PSO Overview, #52955 – Jul 8 - 11, 15-18 (must attend all sessions), 2:00-3:30 pm, Teams**

Ari Swartz is leading this instructor-led course to familiarize participants with pressure safety concepts that a Pressure Safety Officer (PSO) needs an understanding of to perform the roles and responsibilities of being a PSO in an interim capacity.

**Intro to LANL Engineering Standards, #24140 – Jul 22-25 (M-Tr, must attend all 4 days), 2:00-4:00 pm, Teams**

Attend each day to receive credit (it's 8 contact hours, despite what UTrain may say). Provides familiarity with national and LANL engineering standards for anyone performing, reviewing, or managing design activities. **Required course for many LANL engineers**, recommended for those at local AE firms, and **only taught a few times a year – so try to attend.**

**Onboarding Training Courses by CoE Office, Teams:**

- COE ES LANL Organization and Engineering Divisions Introduction #54659, Jun 12, Jun 26, Jul 10, Jul 24, 10.30 - 11.30 am
- COE Engineering Initial Onboarding #54864, Jun 6, Jun 19, Jul 3, Jul 17, 10 - 10.30 am
- ES Onboarding: AP Introduction and Common APs Deep Dive #54871, Jun 11, 10 am - 12 pm.

**RASSTI Training by Research Library, Jun 13, 2:00-3:00 pm and Jun 27, 10:00-11:00 am, Teams**

This summer, learn more about the [RASSTI](#) (Review & Approval System for Scientific and Technical Information) submission process through two virtual training sessions. These Research Library virtual trainings, led by librarian Sara Sacks, will cover everything you need to know for submitting your work into RASSTI, including:

- A live demo of submitting into RASSTI for your abstract and poster/slide deck
- The expected turnaround time to receive your LA-UR
- How to get DUSA trained for a faster turnaround
- How to access RASSTI from offsite

These June sessions are specifically aimed at summer students but can still help you learn about the submission process. Learn more about the Research Library at the [Library homepage](#). For more information on using RASSTI for your publications, email [rassti@lanl.gov](mailto:rassti@lanl.gov) or check out the [Research Library's RASSTI help pages](#).

# Meanwhile in ENGLAND:

& sometimes Los Alamos?



## T&Q Admin matters

E-mail for CoE Training: [es-do-tng@lanl.gov](mailto:es-do-tng@lanl.gov)

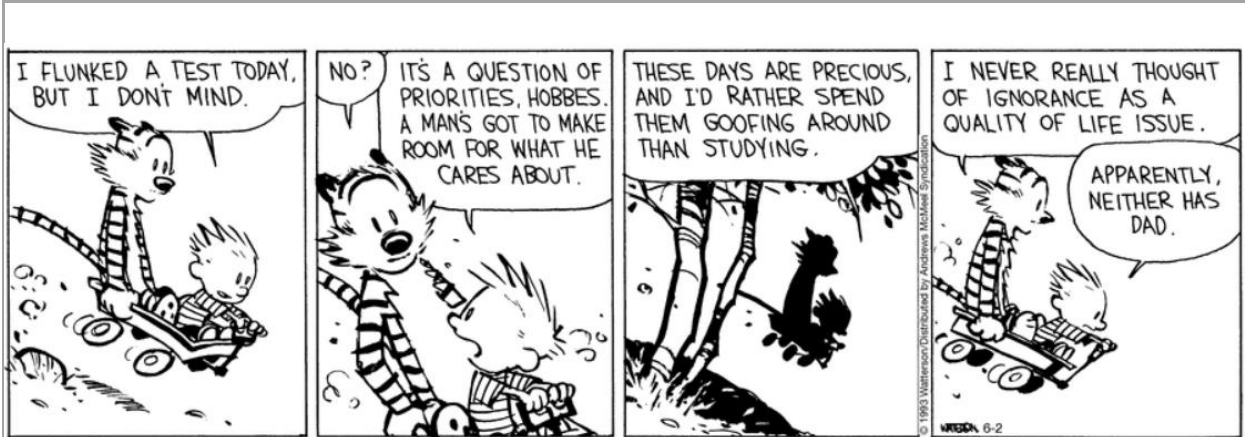
Click e-mail address above for help with COE training issues like getting registered, missing credit, etc. Goes to the whole team: Stan Hayes, Nick Jones, Sadonna Tapia, Santana Quintana, and Chris Martinez. Alternatively, visit the Engineering Services Training and Qualifications webpage by clicking the button "[Email The Training Team](#)". The Training and Qualifications webpage contains information and tools on training requirements and copies of the various Qualification Standards maintained by the COE office.

E-mail for CoE Qual Program: [COEQuals@lanl.gov](mailto:COEQuals@lanl.gov)

Click e-mail address above for any help with COE quals such as CSE, PrE, Design, Project, PSO, FDAR, and other qualified positions (and also SHR matters for CSEs). Goes to Deb Cushner, Jess Blea, and Barb Dela Cruz.

### Instructor-Led Course Request/Registration Guide

For live courses without a session in UTrain, there's a [step-by-step guide](#) posted to the CoE T&Q "Resources" page on how to request a course. This places the requestor on the waitlist and notifies the training team of interest for the said live course.



**LANL ENGINEERING STANDARDS ISSUED IN MAY**

**LANL Master Specifications [STD-342-200](#)**

Section Number	Rev.	Section Title	Effective	Comments
01 3300	-	<a href="#">Att A - Construction Submittal Log</a>	5/6/2024	<p>The following updates are included in this revision to 01 3300 Attachment A Construction Submittal log:</p> <ul style="list-style-type: none"> <li>• The construction submittal log has been updated to match the submittals in the current specifications posted on the engineering standards website as of 5/1/24.</li> <li>• The acronyms have been simplified and streamlined and the review categories have been reduced to <i>Action</i>, <i>Information</i> and <i>Delegated Design</i> in 'Table 1 – Log Acronyms' and 'Table 3 – Submittal Log'.</li> <li>• The LANL Reviewers identified in 'Table 3 – Submittal Log' have been updated.</li> <li>• 'Table 3 – Submittal Log' identifies default (minimum) LANL critical reviews for ML-4 subcontracted (design and construction) projects.</li> <li>• The instructions have been integrated into the log in two tabs (<i>User Guide (READ ME FIRST)</i> and <i>Excel Instructions (READ ME)</i>).</li> <li>• The standalone instructions to use the submittal log are no</li> </ul>



				<p>longer needed and will be withdrawn/voided.</p> <p>Thanks to ES-DO Division Leader Mike Richardson for challenging the engineering group to reduce duplicate submittal reviews based on the NNSA supplemental directive, all discipline POCs &amp; SMEs for their input on reducing duplicate reviews, Jay Portillo and Camille Anaya for their help with updating the submittal descriptions in the log and Neha Gidwani for coordinating this effort and finalizing the log.</p>
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**Standard Drawings & Details** [STD-342-400](#)

Chapter	Drawing No	Title	Rev.	Date	Comments
Electrical	D5030-2	Fire Alarm Riser Diagram	2	9/25/2006	Withdrawn since content is outdated, per Fire Protection POC Keenan Dotson.

**Other**

Document	Title	Rev.	Date	Comments
GLOS-COE-1	<a href="#">Conduct of Engineering Glossary</a>	0	5/6/2024	NEW! Thanks to Engineering Standards Manager and lead author Tobin Oruch, Sarah Murdock, ES-DO Deputy Division Leader Dan Tepley, Daniel Tunney et. al. for their contributions to this document!

**LANL Engineering Standards Admin matters**

E-mail for COE Eng Stds: [engstandards@lanl.gov](mailto:engstandards@lanl.gov)

Click e-mail address above for any general questions. Goes to the whole team: Tobin Oruch, Alan Yaeger, Neha Gidwani and Christina Salazar-Barnes. Alternatively, visit the [CoE](#) or [Engineering Standards](#) webpage and click on the email under the Engineering Standards team. Of course, if your need is discipline-specific, then it's best to contact the Standards POC for the corresponding ESM chapter shown on that [webpage](#).

**And in other parts of the world....**



### **LANL ENGINEERING PROCESSES CHANGES**

No updates this month.

### **LANL Engineering Processes Admin matters**

E-mail for COE Eng Processes: [COE-APs@lanl.gov](mailto:COE-APs@lanl.gov)

Click e-mail address above for any questions related to Administrative Procedures. Goes to Gabriel Herrera, Beau Portillo, and Christina Salazar-Barnes. Alternatively, visit the [CoE](#) or [Engineering Procedures](#) webpage and click on the email under the Engineering Processes team.

### **NATIONAL STANDARDS ACTION**

[Online National Codes & Standards](#) (Accuris Eng Workbench [EWB], formerly IHS)

[AWWA C651](#), Disinfecting Water Mains

Publication Date: **10/23/2023**

Type of Change: **Complete Revision**

[NFPA 13](#), **Standard for the Installation of Sprinkler Systems** (LANL uses 2019 per ESM Ch 2, Att 1)

Publication Date: **2022**

Type of Change: **Complete Revision**

[NFPA 70](#), **National Electrical Code** (LANL uses 2020 per ESM Ch 16, Att A)

Publication Date: **2023**

Type of Change: **Complete Revision**

[SMACNA HVAC SYS DUCT DES](#), **HVAC Systems Duct Design**

Publication Date: **2023**

Type of Change: **Complete Revision**

#### DOE TECHNICAL STANDARDS ACTION

[Tech Stds Program postings](#) are listed on the [Technical Standards Portal](#).

[DOE-STD-1136-2017 Chg. Notice 1 \(Reaffirmed 2024\), Good Practices for Occupational Radiological Protection in Uranium Facilities](#)

Thinking about summer  
break got me like:



#### MSS DOCUMENT ACTION

[Operation and Maintenance Criterion and related Preventative Maintenance Instructions](#) (PMI) are standards with which system and plant engineers should be familiar. Implementation is required 30 days from issue date for non-nuclear facilities, 60

days for nuclear facilities. Questions? Contact the document author shown on its approval page.

Below are recent changes issued by Maintenance and Site Services Division per Jeremy Vonharders. Click [here](#) to access. If you have issues with SharePoint sites, use a Microsoft browser (e.g., Edge) to access them.

**MSS-QS-PLNR-003, MSS Work Control Planner Qualification Standard (Revision 3)**

- Removed Task-to-Training Matrix and replaced it with current MSS-WC Planner Required Training Matrix. References to the old matrix have also been replaced.
- Standardized the table and attachment formatting throughout the document.
- Added new initial training requirements information throughout Section 5.

**O&M 725 Rev 7: Deluge Sprinkler Systems**

- Updated section code references throughout to conform with NFPA 13-2022, NFPA 25-2023, and NFPA 72-2022.
- Updated Section 2.0, Scope, to state the Criterion applies to all LANL organizations owning deluge sprinkler systems.
- Updated Table 6-2, Inspection, Testing, and Maintenance Frequencies, to reference NFPA 25 code sections.
- Updated Section 6.2.4, Quarterly Requirements, regarding quarterly inspections of alarm valves (exterior).
- Updated Section 6.2.6, Yearly Requirements, regarding yearly inspections of sprinkler heads.
- Added new steps regarding the monthly inspection and annual testing of air compressors and nitrogen generators (Sections 6.2.3 and 6.2.6, respectively), and full flow test of pressure-reducing valves every five years (Section 6.2.7).
- Removed Required Documentation section.



## WHEN GOOD CONDUCT OF ENGINEERING ISN'T FOLLOWED



### [STRUCTURE magazine | Investigating a Collapse](#)

A scribed log-and-sawn-lumber-framed commercial lodge structure experienced a catastrophic collapse less than two years after it was built, despite adequate structural design and a less-than-design snow event. The subsequent investigation involved a piece-by-piece dismantling of the debris pile to determine the cause of this devastating failure. In this case, the construction of the building was stopped for two winters, and the general contractor did not follow the plans exactly during construction.

This article highlights that even though the structure was appropriately designed for the local design ground snow loads, the building collapsed due to the general contractor's failure to install the interior load-bearing walls in conformance with the plans which would have provided the necessary capacity to prevent buckling of the wall studs, and the engineer of record not accounting for loads encountered during the construction period. The collapse could have been avoided had the engineer of record been notified of the work stoppage and incomplete status of the load-bearing wall construction. In addition, had the plans and notes indicated that some finishes, such as drywall, were essential to support the loads likely to occur, the general contractor may have been alerted to the need to sheath the walls before stopping work.

This article further reinforces the importance of communication between the engineering team and the constructor during any construction project and the importance of specifying clear notes on engineering drawings to ensure the constructor understands any design constraints during the temporary construction phase of the project.

#### **LAST MONTH'S UPDATE TOPICS**

[Miss an issue? The archive is at "Monthly Update" on the Standards homepage. Last month's topics:](#)

- Six Awesome Opportunities for Engineers
- Miramar User Interface Now Live in iLink Modules
- Training & Qualification
- LANL Engineering Standards Issued in April or so
- LANL Engineering Processes Changes
- National Standards Action
- DOE Technical Standards Action
- MSS Document Action
- When Good Conduct of Engineering Isn't Followed

The views expressed in this email are not necessarily those of the Engineering Standards Team's employer.

To request a change to this newsletter's distribution or to send comments/suggestions, please email [engstandards@lanl.gov](mailto:engstandards@lanl.gov).

