
ENGINEERING STANDARDS UPDATE

Standards are serious business, but this newsletter isn't.

Topics this month:

- **ALDFO Engineering Reorg Complete**
- **LANL Standards Issued in February**
- **Engineering Processes News**
- **MSS Document Changes**
- **When Good Conduct of Engineering Isn't Followed**

LANL Engineering Standards: <http://engstandards.lanl.gov/>

Note: This newsletter has hyperlinks all over but their formatting may not show. Please hover your cursor where you might expect one.

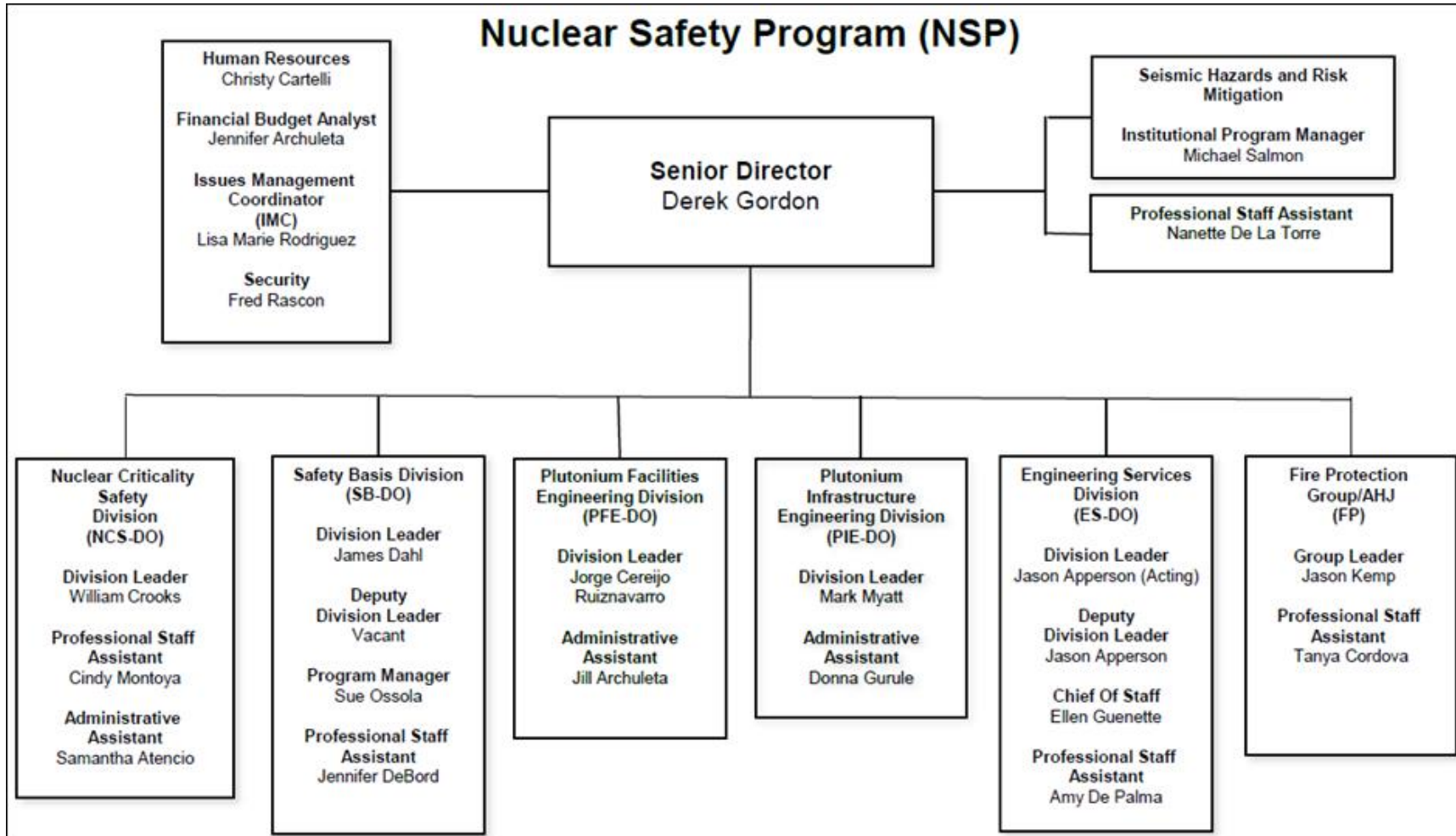
Since today is National Pancake Day aka Shrove Tuesday (pancakes being traditional):

A waffle is just a more
considerate pancake.
It's like here, let me
hold that syrup for you
in these convenient
boxes.

**ALDFO ENGINEERING REORG COMPLETE**

Discussed in several recent Updates, the breakout of PFE, PIE, and FP from ES took place February 14. It was an amicable divorce, so the divisions remain on close terms through meetings and the breakaways will continue using Conduct of Engineering programs as required by PD340. Websites and org charts are still being updated with the final NSP chart below; all previous managers were ultimately selected for the lead positions. Jorge's org, PFE, continues to serve ALDWP's TA55-DO FOD operations while Mark's PIE major project-focused org is deployed to ALDPI's Functional Integration Office.

Also of note, **Bob Griffis**, longtime engineering manager mostly in the nuclear waste facilities, is retiring and burning his vacation days for the next couple of months. We certainly wish him well and I'll miss him given his calm and thoughtful demeanor.



LANL STANDARDS ISSUED IN FEBRUARY
Engineering Standards Manual ESM STD-342-100

| ESM-Chapter | Section | Title | Date | Comments |
|---------------------------------|----------------------------------|--|-----------|---|
| Chapter 1 - General | 200, Item Numbering and Labeling | Reference: MEL Change Approval FDAR Delegations (NEW!) | 2/22/2022 | Reflects to-date delegations per App. E of Sect. 200. |
| Chapter 6 - Mechanical | Reference | Link: UMC and UPC (read only) from IAPMO website (LANL can use IHS) | – | Includes all recent editions. |
| Chapter 14 - Sustainable Design | Attachment 1 | Environmentally Preferable Products for Design Agency Created Specifications | 2/3/2022 | Updated, thanks to Dee Bangert in UI. |
| | Reference | Design Review for Sustainability DOR and Scope (NEW) | 2/23/2022 | New; thanks to originator Michael Ladach and the SD improvement team. |
| Chapter 17 - Pressure Safety | NASME | Reference: When listed components cannot be used, reputable manufacturers as discussed in NASME-1-a, b, etc. (xls) (LANL only) | 2/7/2022 | Thanks to POC Ari Swartz. |

Master Specs STD-342-200

| Section Number | Rev. | Spec Title | Effective | Summary of Latest Revision |
|--|------|--------------------------|-----------|---|
| 23 3300 | 2 | Air Duct Accessories | 2/28/2022 | Added paragraph to address insulated outside air dampers, updated sustainable design submittals, other minor updates. Thanks to Mechanical Stds POC Michael Ladach. |
| 28 4600 | 3 | Fire Detection and Alarm | 2/1/2022 | See below. Thanks to Fire Stds POC Keenan Dotson. |
| <p>28 4600 r3 changes (also noted in Section itself):</p> <ol style="list-style-type: none"> Made minor editorial changes and used consistent references to “LANL Fire Protection Group” in lieu of other terms previously used. Part 1.1.C: Changed required code and standard editions to be what is listed in the design documents rather than currently adopted or latest edition. Part 1.2.B: Clarified expectation for alarm-initiating devices to operate associated emergency control function, if present. Corrected reference to elevator recall and shunt trip to activate for associated alarm initiations, and added fire hat visual signal. | | | | |

4. Part 1.5: Referenced Appendix A as a required timeline process. Noted that each design must be initially marked as 60% for first design submittal.
5. Part 1.5 (throughout): Changed “submittal” to “design” to reinforce following LBO design process, not construction submittal process.
6. Part 1.5.A: Added requirement to calculate conductor size for notification appliance circuits, and additional note to calculate for loop resistance (e.g. for audio or signaling-line circuits). Moved circuit classes here from Part 2.3. Indicated to provide visual-only signaling in area of fire alarm control panel. Noted that stairways and elevator cars do not require visual signaling.
7. Part 1.5.B: Changed “Delegated Design Submittal” to “Deferred Detailed Design Documents” to reflect current understanding. Repeated that first design package shall be marked as 60% and that revisions are to be marked with numbers followed by a letter for each draft.
8. Part 1.5.B.2.b: Inserted requirement for hardcopy drawings from Appendix A.
9. Part 2.13: Rewrote to include audible, visual, and combination audible-visual devices and removed unnecessary details.
10. Part 2.19: Updated SPDs to current LANL standard.
11. Part 3.2: Put power requirements in separate subpart. Provided options for more flexibility regarding height of notification appliances.
12. Part 3.2.H: Removed visual appliance design guidance. Already covered in Part 1.
13. Part 3.2.I.7: Added labeling requirements at manual transfer switch.
14. Part 3.8.B: Inserted timeline for providing fire alarm control panel program prior to pre-final acceptance testing.
15. Part 3.9: Removed requirement for preliminary record of completion to be provided at the final acceptance test.
16. Parts 3.8, 3.9, and App. A: Revised and reorganized to clarify deliverables and each stage of testing.



ENGINEERING PROCESSES NEWS

From CoE Eng Process Manager Sarah Murdock:

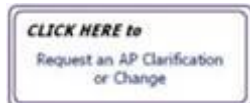
The following Administrative Procedures have been revised and posted to the COE Administrative Procedures SharePoint site. If you have been identified as requiring additional training on this AP you will see an assignment on your UTrain “to do” list. [Might not be any on these two.]

Always ensure you are working to the latest version of all Engineering Administrative Procedures.

| AP-341-401 R6, COE Program Administrative Procedure and Work Instruction Management | |
|--|--|
| Issued 1/10/2022 | Adjusted title to cover full scope of procedure. <ul style="list-style-type: none"> ▪ Added scope, instructions and template for Work Instruction document. ▪ Adjusted order of sections to be clearer. |
| Effective 2/9/2022 | |
| AP-341-901, Performing Vital Safety System Assessments, Revision 5 | |
| Issued 2/1/2022 | Issued CIR-21-001.0, Vital Safety System Assessments (VSSA) on Design Features (DFs) with an active component(s) https://coe.lanl.gov/APs/AllAPs/CIR-2021-001.0.pdf Conclusion: VSSAs not required for DFs. Thanks to requestor Jorge Ruiz-Navarro. |
| Effective 2/1/2022 | |

For questions or concerns regarding this email or the content of the APs, please contact Sarah at 667-7788.

Please enter issues with APs in the SharePoint issues database. Use the live button below, same one that’s found in the upper right of the Processes SharePoint homepage.





...and if you don't get it but want to: https://en.wikipedia.org/wiki/Milli_Vanilli#Lip-syncing_exposure_and_media_backlash,_1989%E2%80%931991

It was scandalous at the time but nowadays

But...with the Ukraine war now, the Spotify boycott by Neil Young et al. doesn't seem quite as important to me.

MSS DOCUMENT CHANGES

Below are recent changes issued by Maintenance and Site Services Division per Jeremy vonHarders.

Operation and Maintenance Criterion and related Preventative Maintenance Instructions (PMI) are standards about which system 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.

O&M 405 Rev6: Water Heaters

- Reviewed NFPA 54 references as per 2021 version, included recommendation as per UPC 2021 for inspection of gas venting systems, accessibility and safety devices.
- Added operations requirement of Accessibility for Service
- Added maintenance requirements of over-temperature safety protection and ventilation inspection/maintenance
- Added operations recommendation regarding negative air pressure
- Added maintenance recommendation regarding the NMRLD for LP Gas Bureau
- Updated references and basis statements to most current publications of codes and standards
- Updated to newest O&M criterion template, added hyperlinks to all internal LANL referenced documents
- Updated PMI frequencies: Monthly, Semiannual, Annual

Direct:

<https://logistics.lanl.gov/MSS/layouts/15/WopiFrame.aspx?sourcedoc=/MSS/Policy%20%20Procedures/405.pdf&action=default>

O&M 601 Rev 5: Overhead Cranes, Hoists, And Lifting Devices

- Clarified scope: criterion does not address repairs or mobile cranes, below-hook devices, rigging/slings, or scrap/material handlers
- Updated Crane Inspector, Critical Lift, Critical Lift Plan, Girder, Hoist, Hoisting, Incidental Crane Operator, Inspection (Initial, Frequent, and Periodic), Jib Crane, Overhead Crane, PIC, Qualified Crane Operator, and Qualified Person definitions
- Updated operation and training requirements for crane inspectors and operators
- Added Frequent Inspection requirement
- Added Wire Rope Lubrication recommendation
- Updated to current references, acronyms, and criterion template. Added hyperlinks to internal references.

Direct:

<https://logistics.lanl.gov/MSS/layouts/15/WopiFrame.aspx?sourcedoc=/MSS/Policy%20%20Procedures/601.pdf&action=default>

Access to all such documents anytime:

<https://logistics.lanl.gov/MSS/layouts/15/start.aspx#/Policy%20%20Procedures/Forms/Public.aspx>

If you have issues with SharePoint site use Internet Explorer to access them.

DOE TECHNICAL STANDARDS ACTION

Tech Stds Program postings in the past month:

This is more relevant to the filter test facility that DOE uses than LANL, but:
DOE-STD-3025-2022, Quality Assurance Inspection and Performance Testing of High Efficiency Particulate Air (HEPA) and Ultra Low Penetrating Air (ULPA) Filters

NATIONAL STANDARDS ACTION

LANL's IHS Eng Workbench online codes & standards subscription news.

Note: ESM Ch. 5 Structural allows P-I adhesive anchors (Hilti V3 only in nuclear); this reaffirmation doesn't affect that (but it's reassuring).

Document number: ACI 355.4 (IN-LB), **Qualification of Post-Installed Adhesive Anchors in Concrete (ACI 355.4-19) and Commentary**

Publication Date: **2019**; Reaffirmed/Reapproved Date: **(R 2021)**

For the next two IEEEs: LANL has to access only via IEEEExplore, not Eng Workbench!
https://ieeexplore.ieee.org/browse/standards/collection/ieee_____

Document number: IEEE C57.12.00, **General Requirements for Liquid-Immersed Distribution, Power, and Regulating Transformers**

Publication Date: **11/9/2021**

Type of Change: Complete Revision

Document number: IEEE C57.12.90, **Test Code for Liquid-Immersed Distribution, Power, and Regulating Transformers**

Publication Date: **11/9/2021**

Type of Change: Complete Revision

Also, these were updated sometime recently:

- **API STD 594, 9th Edition**
Check Valves: flanged, lug, wafer, and butt-welding
- **ASME B30.9, 2021 Edition**
Slings
- **ASME PTB-4, 2021 Edition**
Section VIII - Division 1 Example Problem Manual
- **ASTM A370, 2021 Edition**
Standard Test Methods And Definitions For Mechanical Testing Of Steel Products
- **TIA-942, Revision B, Addendum 1**
Telecommunications Infrastructure Standard for Data Centers Addendum 1: Edge Data Centers

WHEN GOOD CONDUCT OF ENGINEERING ISN'T FOLLOWED

These are mostly just stories about bad conduct period, and why we can't have nice things. At LANL, suspect/counterfeit is also a concern and IQPA leads our efforts with all others keeping vigilant as well. Also, LANL's inspection efforts are now independent of the performing organization to avoid any conflict of interest on holding to spec.



Aerial view of nuclear power plant.

Dobresum/Stock

US Office of the Inspector General issues scary warning about country's nuclear plants

The plants could contain counterfeit, fraudulent, and suspect items.

Read in Interesting Engineering: <https://interestingengineering.com/us-nuclear-plants>

The original story in The Verge:

US nuclear power plants contain dangerous counterfeit parts, report finds

The findings come as countries weigh turning to nuclear energy as an alternative to fossil fuels

<https://www.theverge.com/2022/2/11/22929255/us-nuclear-power-plants-dangerous-counterfeit-parts-nrc-report>

In the below -- Croon was a Senior Engineer. For shame!

Former U.S. NRC Senior Resident Inspector Found Guilty of Making False Statements (NRC.gov, 12/13/21)

CHARLOTTESVILLE, VA—As a result of a joint investigation between the U.S. Nuclear Regulatory Commission (NRC) Office of the Inspector General (OIG) and the U.S. Department of Justice (DOJ) Public Integrity Section, a former NRC Senior Resident Inspector pleaded guilty today in U.S. District Court for the Western District of Virginia, before the Honorable Norman K. Moon, to making false statements on NRC inspection reports. Such false statements violate 18 U.S.C. § 1001, a federal crime that carries a maximum penalty of 5 years in prison.

The former employee, Gregory Croon, 60, of Clarksville, Tennessee, produced intentionally falsified inspection reports when he worked as the NRC's senior resident inspector at the North

Anna Power Station in Mineral, Virginia, between 2016 and 2018; he retired from the NRC in 2020.

“The accuracy of NRC inspection reports is critical to the NRC’s oversight of licensees’ safe operation of nuclear power plants around the nation,” said NRC Inspector General Robert J. Feitel. “Croon’s false statements could have jeopardized that safety oversight function.”

NRC OIG Special Agent Adam Tierney, Assistant Special Agent in Charge Todd Walter, Technical Advisor Terri Spicher, and DOJ trial attorneys conducted the extensive investigation, which included numerous interviews of both NRC and licensee personnel, and the comprehensive review of NRC and licensee records. Sentencing in the case is scheduled for March 7, 2022.

“The combined efforts of the NRC OIG special agents and our law enforcement partners yielded an appropriate and just result in this case. Nonetheless, it is vital to remember that we must all remain vigilant, watch for fraudulent activity, and report it promptly,” said Feitel.

The OIG has a responsibility to independently and objectively conduct audits and investigations to help improve the efficiency and effectiveness of the NRC’s programs and operations.

LAST MONTH'S UPDATE TOPICS

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

- **Standards Program Welcomes Christine Honey!!!!!!!!!!!!!!**
- **ES Div Reorg Beginning**
- **Engineers Week**
- **Training & Qualification**
- **LANL Standards Issued in January or so**
- **Engineering Processes News**
- **MSS Document Changes**
- **When Good Conduct of Engineering Is Followed**

The views expressed in this email are not necessarily those of my employer. To request a change to this newsletter's distribution, please contact me.

Tobin Oruch, Engineering Standards Mgr
Los Alamos Nat'l Lab, Conduct of Eng Program Office
(505) 665-8475 oruch@lanl.gov <http://engstandards.lanl.gov/>
Please consider the environment before printing this or any email