

# Engineering Standards Update



News from Engineering Standards Program

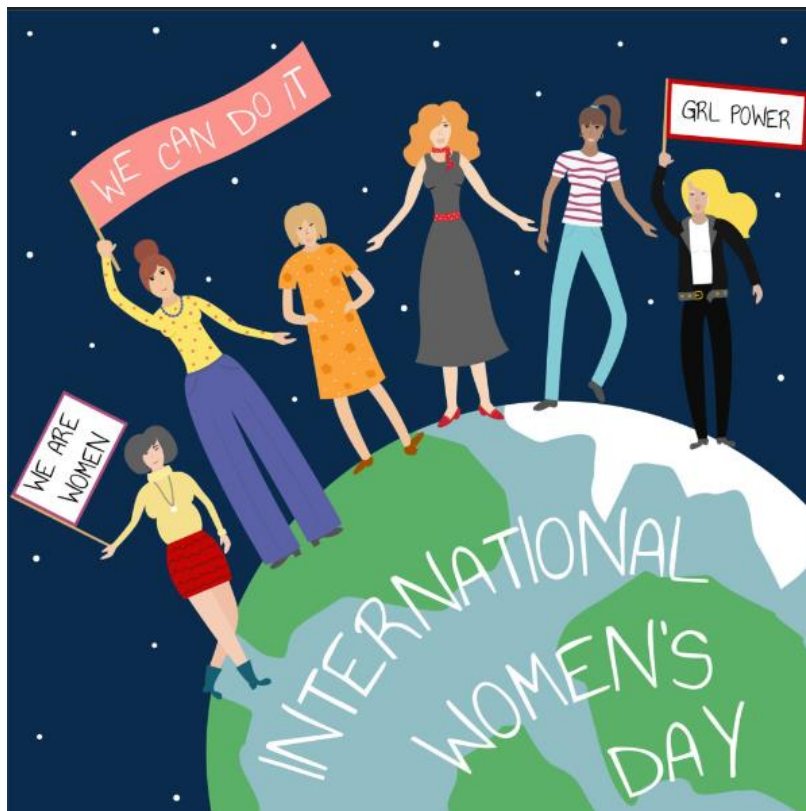
Mar. 5, 2024

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

## Topics this month:

- ESM Chapter 14 New Revision Release!
- Miramar, Devonway Platform's New User Interface
- Training & Qualification
- LANL Engineering Standards Issued in February
- LANL Engineering Processes Changes
- National Standards Action
- DOE Technical Standards Action
- MSS Document Action
- When Good Conduct of Engineering Isn't Followed

Here is a shoutout to all the incredible Women at LANL!



In honor of Women's History Month, DOE Interlaboratory Women's Collective Presents: *The Woman in the Arena* with Kate Maxwell (Mar 21st from 12 - 1 pm). For those interested, register [here](#).



## ESM CHAPTER 14 NEW REVISION RELEASE!

ESM Chapter 14 has been recently updated to reflect changes to DOE Orders 436.1A, Departmental Sustainability, and 413.3B, Program and Project Management for the Acquisition of Capital Assets.

The most notable changes are:

- An increase to the threshold for requiring Guiding Principles for Sustainable Federal Buildings Certification;
- Eliminating the use of the IECC for building modifications in favor of ASHRAE 90.1-2019; and
- Net-Zero (carbon) emissions for buildings over 25,000 gross square feet.

For more information, please contact the POC, Dee Bangert, to schedule a presentation of the detailed sustainability requirements or ask about a specific project. Remember, nearly EVERY project requires some level of sustainability, from equipment efficiencies to net-zero carbon emissions.

## MIRAMAR, DEVONWAY PLATFORM'S NEW USER INTERFACE

The DevonWay platform, which includes iLINK (conditions/issues management, assessments, ECHO, and Rail Task Tracker) will transition to a new modern user interface, Miramar, in April. In addition, Operating Experience (OPEX) will be joining the DevonWay platform (read a basic overview [here](#)).

To get to know the new user interface, see [iLINK web page](#) for a schedule of ongoing demos:

- March demos will use the Miramar and “classic” user interfaces side by side.
- April demos will use only the Miramar interface.
- In addition, Q&A sessions with subject matter experts will start in April.

## TRAINING & QUALIFICATION

### Courses, Seminars, Programs

#### **CoE Commercial Grade Dedication (CGD) - Preparers Course #30727 - Mar 7, 8:00 am - 4:00 pm, Teams**

For those of you who will serve as LANL CGD Preparers including Procurement engineers, select CSEs and Quality SMEs, Course #30727 is required (#30726 is a prerequisite). **NOTE: Historically, this course is only offered twice a year, so plan accordingly!**

For any questions, contact instructor John Lamendola.

#### **CoE Safety Basis Overview for Engineers #39564 – Mar 11, 2:00-4:00 am, Teams**

If you have this course in your training plan, or just want to learn about safety basis for 2 hours, then you can take this course taught by Heath McLaughlin.

#### **Intro to LANL Engineering Standards, #24140 – Mar 11-14 (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**.

#### **CoE: Design Engineer Over-Current Protection Duty Area 9, #58192 – Mar 14, 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 - ASME B31.9, #56239, Mar 18 - 21, 25-28, 2:00-3:30 pm, Teams**

Ari Swartz is leading this instructor-led course to familiarize participants with ASME B31.9 code and its real application as related to the duties of a Pressure Safety Officer.

**CoE Design Engineer Conductor Sizing Duty Area 9, #58408 – Mar 28, 9:00-10:00 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 – Apr 1 - 4, 8-11 (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.

**CoE: LANL Engineering Standards Overview #52693 – Apr 8, 2:00-4:00 pm, Teams**

If you're new, don't have 8-hour Course #24140 Intro to LANL Engineering Standards (see below) in your training plan, or just want to learn about the standards for 2 hours, then you can take this shortened course taught by Neha Gidwani.

**CoE Design Engineer Transformers Duty Area 9, #58417 – Apr 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).

**CoE Design Engineer Raceway and Box Fill Duty Area 9, #58419 – Apr 25, 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).

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

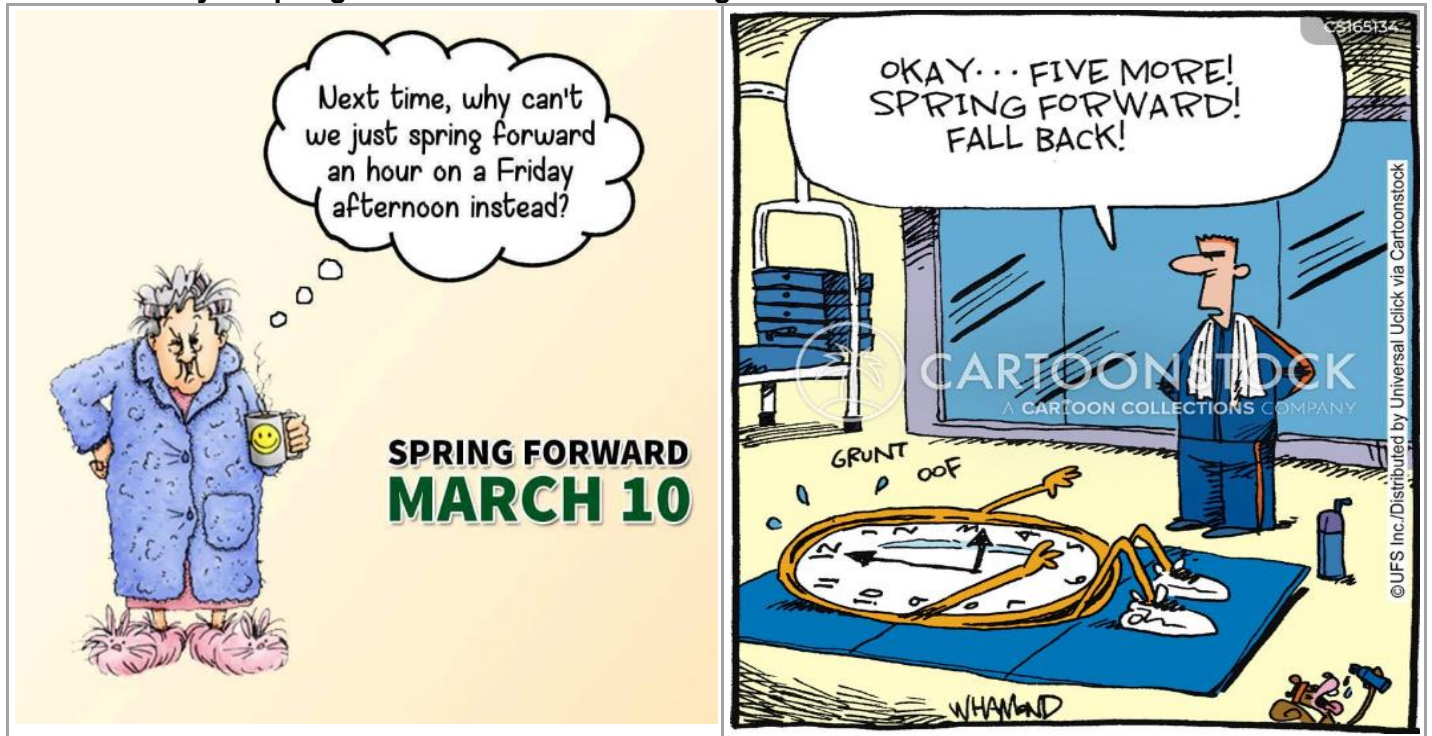
- COE Quality Assurance Overview for Engineers #53523, Mar 13, 8 - 9 am
- COE Engineering Initial Onboarding #54864, Mar 20, Apr 3, Apr 17, 10 - 10.30 am.

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). 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).

**Engineering WorkBench Training by Research Library, Standards at LANL, Mar 13, 11:00 am - 12:00 pm, Webex**

For those of you who would like to learn about standards and how to find them on the Engineering Workbench and other resources, this training will be helpful. Register by clicking the link: [Standards At LANL: Accessing, Downloading, Purchasing, And More - LibCal - Los Alamos National Laboratory Research Library](#)

Get ready to spring forward.....is it that time again?



## 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 FEBRUARY

### Engineering Standards Manual ESM [STD-342-100](#)

Chapter	Section	Title	Rev.	Date	Comments
Chapter 14 - Sustainable Design	-	<a href="#">Sustainable Design of Facilities</a>	12	2/9/2024	Thanks to Sustainable Design POC Dalinda Bangert, Adam Collins, Mechanical POC Michael Ladach, Electrical POC Eric Stromberg, Engineering Stds Manager Tobin Oruch, ES-DO Division Leader Mike Richardson, ES-UI Management et. al.
Chapter 14 - Sustainable Design	Attachment 1	<a href="#">Environmentally Preferable Products for Specifications</a>	-	2/9/2024	Thanks to Sustainable Design POC Dalinda Bangert and Adam Collins
Chapter 14 - Sustainable Design	Resource	<a href="#">Decision Tree (High-level)</a>	-	2/9/2024	Thanks to Sustainable Design POC Dalinda Bangert and Adam Collins
Chapter 14 - Sustainable Design	Reference	<a href="#">Chapter Requirements ID Log (xls) (e.g., 14-0XXX)</a> (LANL only)	-	-	Thanks to Sustainable Design POC Dalinda Bangert and Adam Collins
Chapter 14 - Sustainable Design	Resource	<a href="#">Chapter 14 Major Changes of Rev.12</a> (LANL only)	-	2/9/2024	Thanks to Sustainable Design POC Dalinda Bangert and Adam Collins
Chapter 16 - Building Code Program	IBC-GEN, Att. A	<a href="#">LANL Building Code (LBC)</a>	15	2/9/2024	Thanks to Chapter POC Tobin Oruch

### 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](#).



## LANL ENGINEERING PROCESSES CHANGES

Document	Title	Rev.	Date	Comments
AP-341-402	Engineering Document Management in Operating Facilities	2	2/12/2024	Thanks to Sarah Murdock, Tobin Oruch et. al.
AP-341-517, Design Change Form	Posted Variance: <a href="#">VAR 10616</a> , Project Technical Baseline Document List (AP-341-517 FM11) Modified for ALDWP FODs	2.2	2/12/2024	Applicable to PFE only
AP-341-519 Design Revision Control	<a href="#">Form 2178-LIP</a> , ALDPI Line Item Project (LIP) - specific, Subcontractor Deviation Disposition Request (SDDR) (authorized by VAR 10645)	0	2/14/2024	This 2178 variant is applicable to LIP-EI (30B) and LIP-LI (30R & PEI2 Subset) only. Latest Word file is posted to Standards homepage.

### 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 Sarah Murdock, Tobin Oruch, Beau Portillo, and Christina Salazar-Barnes. Alternatively, visit the [CoE](#) or [Engineering Procedures](#) webpage and click on the email under the Engineering Processes team.

Facts on Daylight savings....

# DAYLIGHT SAVING TIME By the Numbers

Benjamin Franklin may have been the first to suggest reordering our daylight hours back in **1784**.  
- National Geographic, November 2018.

Approximately **1.6 BILLION** people worldwide are affected each year by daylight saving time.  
- National Bureau of Economic Research, 2008.

If we're all tired, it may be because during the **20TH CENTURY**, sleep patterns in the United States dropped from **9 HOURS TO 7.5 HOURS** a night.  
- ScienceDaily, July 2006, "New Study Shows People Sleep Even Less Than They Think."

Who's sleeping the most? White women at **6.7 HOURS**, white men at **6.1 HOURS**, black women at **5.9 HOURS** and black men at **5.1 HOURS**. Today's average night's sleep is only **6.1 HOURS** of actual time asleep. Wealthy people sleep more than those in poverty.  
- ScienceDaily, July 2006, "New Study Shows People Sleep Even Less Than They Think."

Fall's time change increases unipolar depressive episodes by **11%**, although they will gradually dissipate over the following weeks.  
- Journal of Epidemiology, May 2017.



Clocks are set one hour forward  
SPRING



Clocks are set one hour back  
AUTUMN

## NATIONAL STANDARDS ACTION

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

NOTE: **Information Handling Services (IHS)**, that some years ago became IHS Markit and in 2022 merged with S&P Global Engineering Solutions, **has now been rebranded as Accuris**. Regardless, the codes and standards are still in the same place and from the service called Engineering Workbench.

### **EWB Training by Research Library on Standards at LANL, Mar 13, 11:00 am - 12:00 pm, Webex**

For those of you who would like to learn about standards and how to find them on the Engineering Workbench and other resources, this training will be helpful. Register by clicking the link: [Standards At LANL: Accessing, Downloading, Purchasing, And More - LibCal - Los Alamos National Laboratory Research Library](#)

## ASHRAE HVAC APPLICATIONS

Publication Date: **2023**

Type of Change: **Complete Revision (most chapters)**

Note: Revision includes Ch 1 Residential Space Conditioning, Ch 2 Retail Facilities, Ch 3 Commercial and Public Buildings, Ch 4 Tall Buildings, Ch 5 Places of Assembly, Ch 6 Indoor Swimming Pools, Ch 7 Hospitality, Ch 8 Educational Facilities, Ch 9 Health Care Facilities, Ch 10 Justice Facilities, Ch 11 Automobiles, Ch 12 Mass Transit, Ch 13 Aircraft, Ch 15 Industrial Air Conditioning, Ch 16 Enclosed Vehicular Facilities, Ch 17 Laboratories, Ch 18 Engine Test Facilities, Ch 19 Clean Spaces, Ch 21 Printing Plants, Ch 22 Textile Processing Plants, Ch 23 Fire and EMT Stations and Training Academies, Ch 25 Environmental Control For Animals and Plants, Ch 26 Drying and Storage Selected Farm Crops, Ch 27 Air Conditioning of Wood And Paper Product Facilities, Ch 29 Nuclear Facilities, Ch 30 Mine Air Conditioning and Ventilation, Ch 31 Industrial Drying Systems, Ch 34 Kitchen Ventilation, Ch 35 Ground-Source Heat Pumps And Geothermal Energy, Ch 36 Solar Energy Use, Ch 37 Energy and Water Use and Management, Ch 38 Owning and Operating Costs, Ch 39 Testing, Adjusting, and Balancing, Ch 40 Operation and Maintenance Management, Ch 41 Computer Applications, Ch 44 HVAC Commissioning, Ch 46 Building Air Intake and Exhaust Design, Ch 47 Air Cleaners for Gaseous Contaminants, Ch 48 Design and Application of Controls, Ch 49 Noise and Vibration Control, Ch 50 Water Treatment, Ch 51 Service Water Heating, Ch 52 Snow Melting and Freeze Protection, and Ch 53 Evaporative Cooling.

**This is never ending!**



**Note on NFPA 13 below: These are amendments to the 2022 edition; LANL is using NFPA 13-2019 edition per ESM Ch 2, Att 1**

[NFPA 13-2022 AMD 5](#), Standard for the Installation of Sprinkler Systems

Publication Date: **8/12/2022**

Type of Change: **Amendment**

[NFPA 13-2022 AMD 7](#), Standard for the Installation of Sprinkler Systems

Publication Date: **3/21/2023**

Type of Change: **Amendment**

[NFPA 13-2022 AMD 8](#), Standard for the Installation of Sprinkler Systems

Publication Date: **11/30/2023**

Type of Change: **Amendment**

[NFPA 70-2023](#), National Electrical Code

Publication Date: **2023** (Note per ESM Ch 16, Att A, Rev 15, NFPA 70-2020 is the currently adopted code)

Type of Change: **Complete Revision**

## **DOE TECHNICAL STANDARDS ACTION**

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

[DOE-STD-1245-2024 Firearms Qualifications for Department of Energy \(DOE\) Protective Forces](#)

Publication Date: Jan 22 2024

## **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.

### **AP-WORK-002 R26: Work Planning**

- Removed section regarding Rendering Mechanical Systems Safe (Section 5.1, Overview) that covers lockout/tagout (P101-3, R11) as lockout/tagout is no longer addressed in P101-3.
- Removed Step 38 in Section 5.5, *Moderate and High Hazard Planning*, regarding WC Planner action for lockout/tagout
- Revised Section 4, Work Supporting Documentation, of Attachment 8 to include applicable lockout/tagout forms.

### **O&M 406 Rev 7: Cross-Connection Control for Potable Water Systems**

- Updated Sections 6.1, *Operations Requirements*, and 6.2, *Maintenance Requirements*, regarding the service of reduced pressure assemblies (weekly inspections) and backflow preventor valves (to be performed annually and on a 5-year basis), respectively.
- Incorporated National Fire Protection Association (NFPA) 25 standard requirements to Section 6.2.1, *Backflow Prevention Assemblies*, for annual testing and 5-year inspections.
- Added recommended testing frequency per the Uniform Plumbing Code (UPC).

### **O&M 412 Rev 3: Centrifugal Horizontal, Centrifugal Vertical, and Vertical Turbine Pumping Systems**

- This revision includes updating certain listed references to the most recent edition.
- Moved critical maintenance recommendations from Section 7.2 to requirements Section 6.3.3.
- Performed technical edit.



- Added Section 6.2.3, Six-Month Inspection
- Added Section 6.2.4, Monthly Maintenance
- Added Section 6.2.5, Quarterly Maintenance
- Added Section 6.2.6, Six-Month Maintenance
- Added Section 6.2.7, Annual Maintenance
- Removed Section 9.0, Required Documentation, at MSS's Deputy Division Leader's direction.

**PMI 431-A Rev 3: Automatic External Defibrillator (AED) Maintenance**

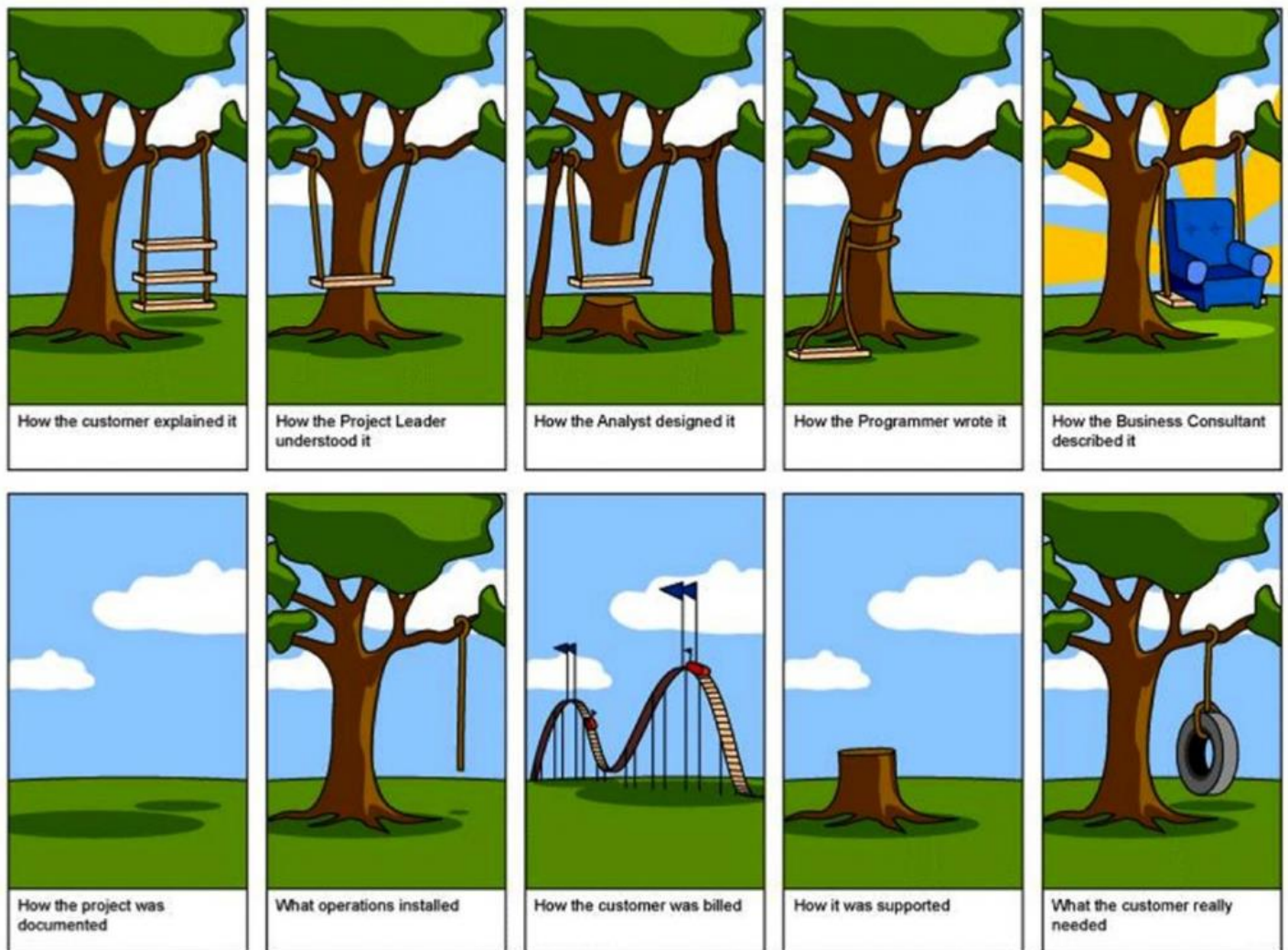
- Added steps for inspection of Stop the Bleed kit.

**PMI 601-A Rev 2: Overhead Crane Maintenance, Repair, and Testing**

- Substantial rewrite of individual checklists to reflect current maintenance, repair, and testing practices.
- Updated list of Required Documents.
- Removed Runway Tolerances checklist.
- Removed Rated Load Diagram datasheet.
- Added new checklist, 601-A.011, *Visual Only PMI for Cranes Located in a Hostile Environment*.

**WHEN GOOD CONDUCT OF ENGINEERING ISN'T FOLLOWED**

Here is an example of what could go wrong when expectations are not set clearly. Ensure that as a team member you have a clear understanding of your role, the expectations, and continue to communicate with your customer through the design and construction phases 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:](#)

- New Email for Engineering Processes Team
- New ES-IF and ES-IPD Acting Group Leads
- Commissioning POC Change
- Don Yardman Retiring
- Engineers: Funding Available to Gain Professional Development
- Training & Qualification
- LANL Engineering Standards Issued in January
- 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).

