



Effective Nuclear Safety Culture Practices at the University of Utah Nuclear Engineering Program

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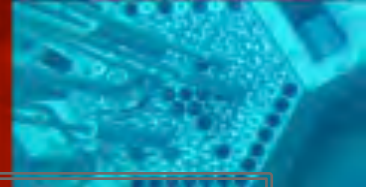


UNEPs Actions

- WHY?
- Dynamic Learning Activity (DLA)
- Social Media
- Corrective Action Program Example
- Licensed Operator Fundamental Training



Mount Timpanogos



Adjusting the Development of Nuclear Education to New Technical and Social Realities – UNEP

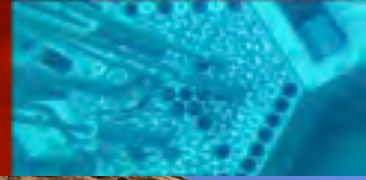
2009: Facility cleanup/renovation & new SRO training

2010: New education curricula & new lab protocols establishing safety culture elements/ Started the process of relicensing TRIGA

2011: Relicensed TRIGA for the next 20 years

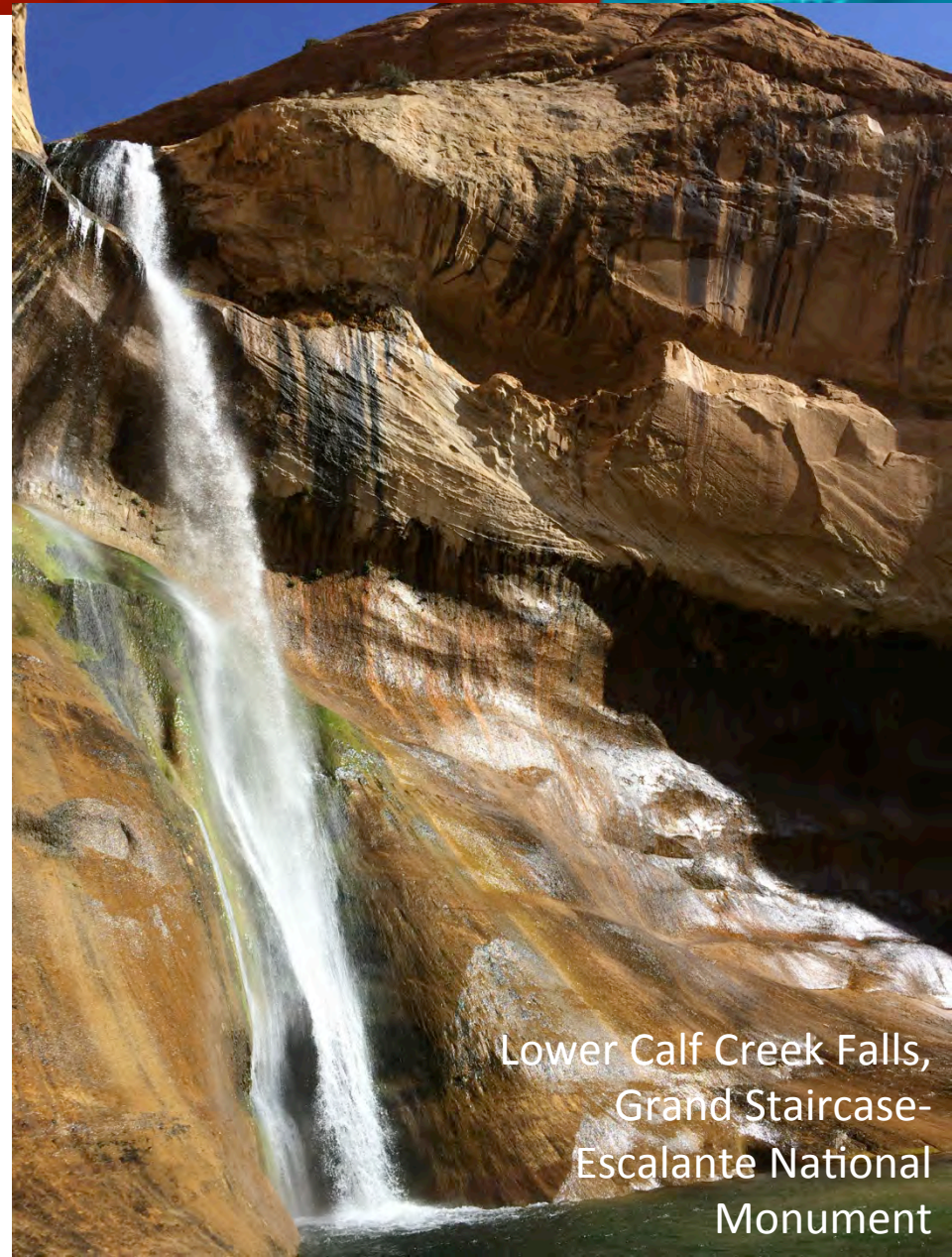
2012: Operation under DevonWay CAP system

2013: Renovation/ New staff/ “Measuring” our framework of nuclear safety improvement; innovations; training and education ; nuclear knowledge management framework; workforce development

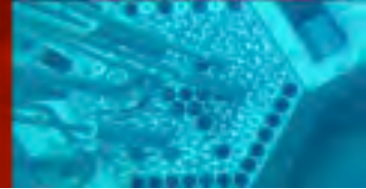


Why?

- NRC IN 2013-15
 - Willful Misconduct & Record Falsification
- Three Mile Island
- Chernobyl
- Davis-Besse
- Fukushima



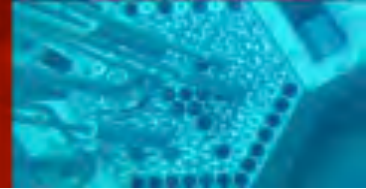
Lower Calf Creek Falls,
Grand Staircase-
Escalante National
Monument



NRC Information Notice 2013-15

- Willful Misconduct & Record Falsification
- Records Falsified
 - Design/Field Drawings
 - Micrometer Readings on a Work Order
 - Fire Drill Forms
 - Shiftly Check Forms
 - Hourly Fire Watch Patrols
 - Radiation Training Examinations
- Misrepresentation of Steam Leak Monitor Serial Numbers

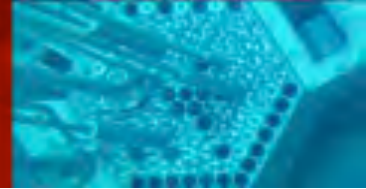




UNEP Applicability of IN 2013-15

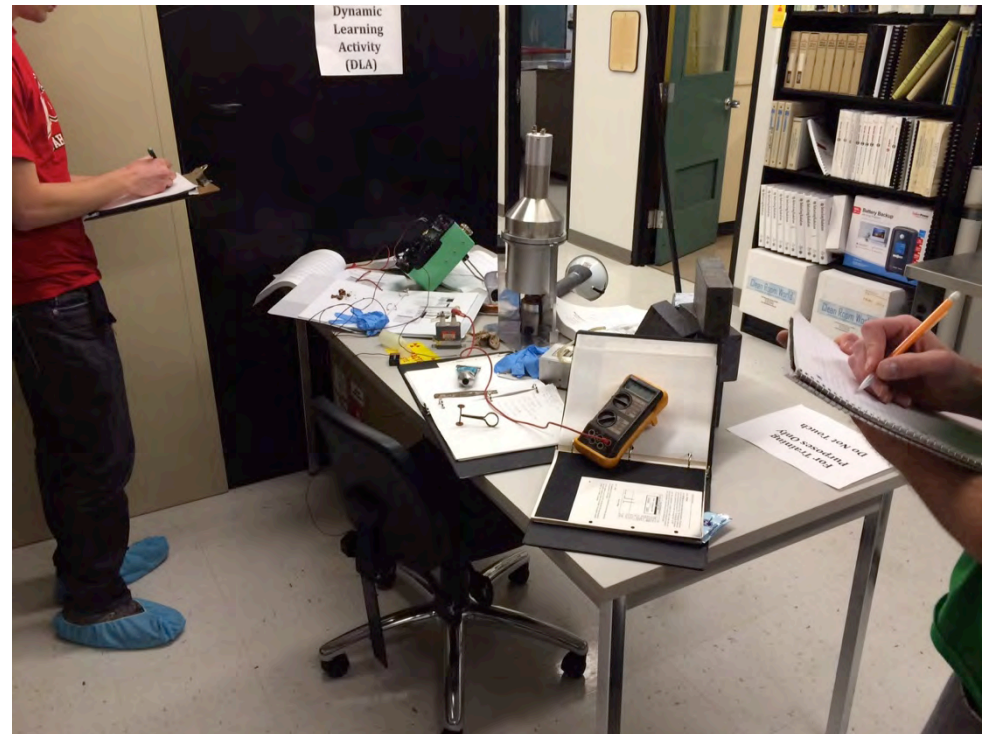
- Importance of
 - Establishing an Effective Safety-Culture
 - Maintaining an Effective Safety-Culture
- New Students / Student SROs
 - Lack Familiarity with Nuclear Safety-Culture
 - Require Extra Guidance
 - May not Understand Significance of Signatures as they relate to Federal Regulations
 - Believe they can interpret certain work steps or deviate from procedural guidance

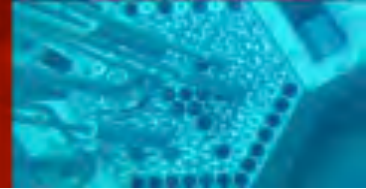




Dynamic Learning Activity (DLA)

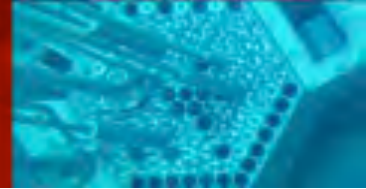
- Human Performance Tools
- Coaching
- Hazard Identification
- Practical Exercise





Human Performance Tools

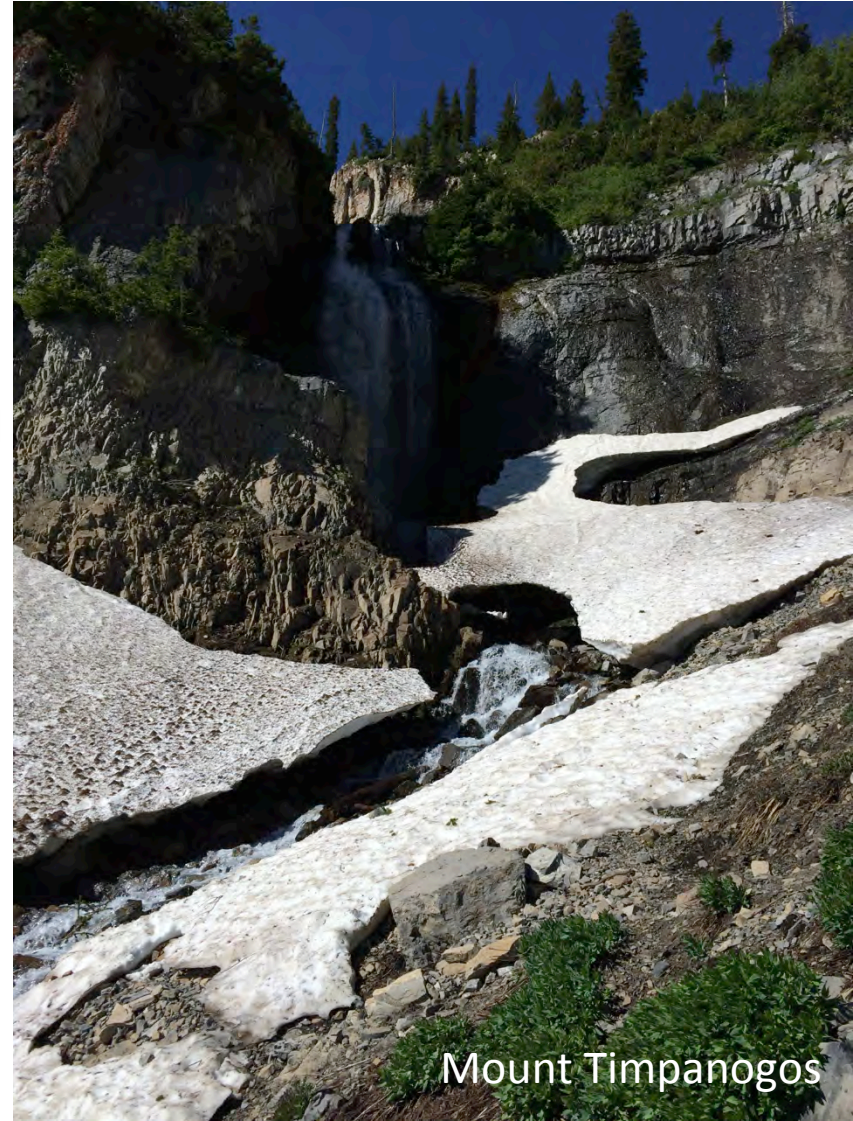
- Job Briefings
- Self-Checking
 - STAR
 - Flagging
- Peer Check
 - Concurrent Verification
 - Independent Verification
- Procedure Use and Adherence
- Communicate Effectively
 - Three-Way Comm.
 - Phonetic Alphabet
- Questioning Attitude
 - Two-Minute Rule
 - QV & V
 - Stop When Uncertain
- SAFER



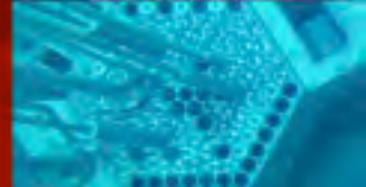
UNEP Coaching

Use the 4 C's for giving effective Feedback and Coaching

- 1) Communicate the behavior you saw
- 2) Check for understanding of the job
- 3) Coach for improved performance
- 4) Contract for safe behavior

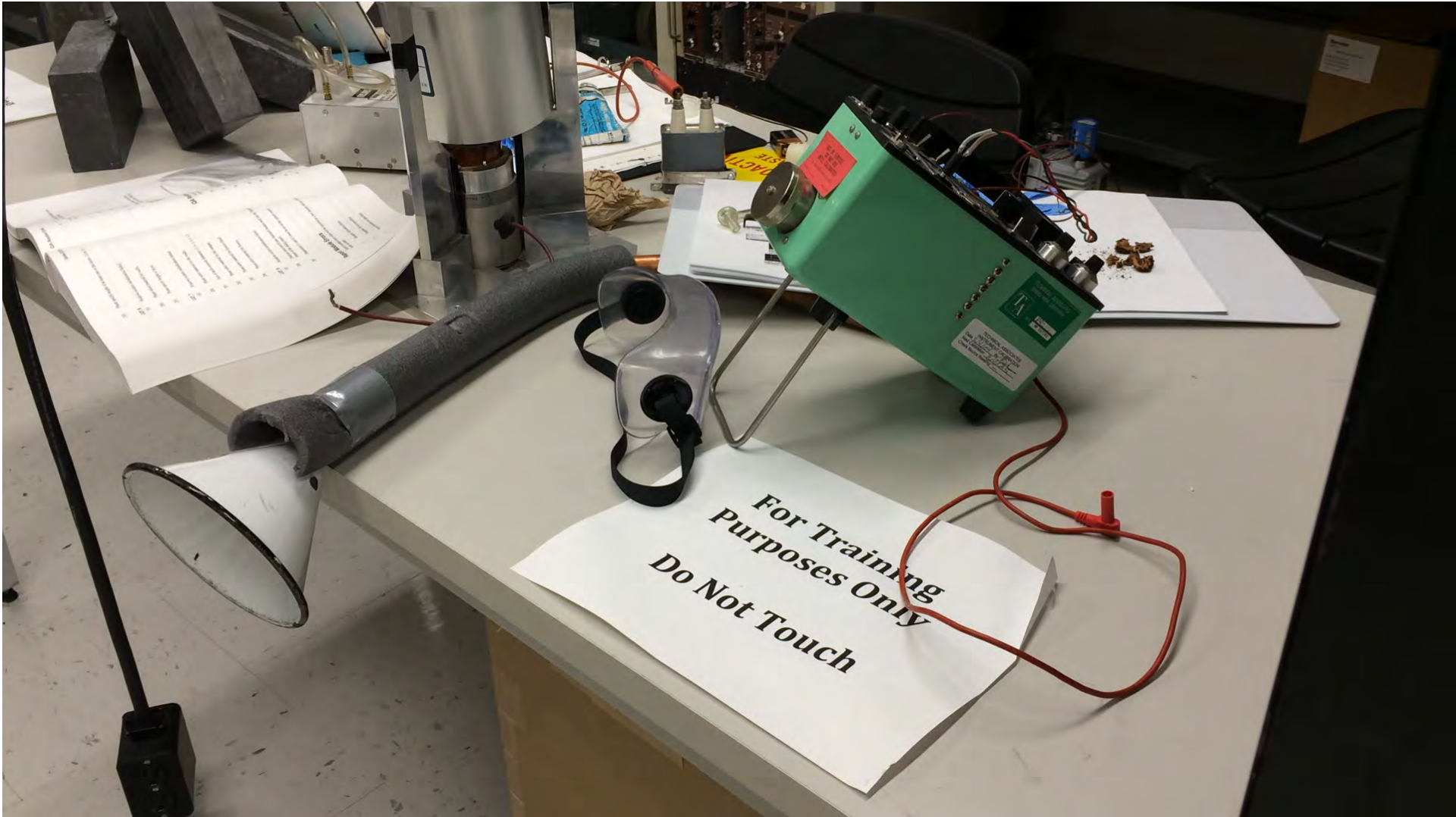
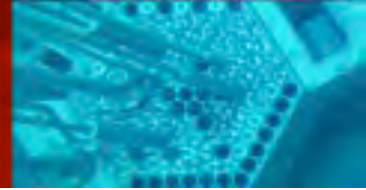


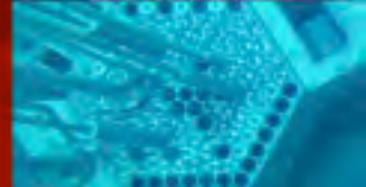
Mount Timpanogos



Hazard Identification

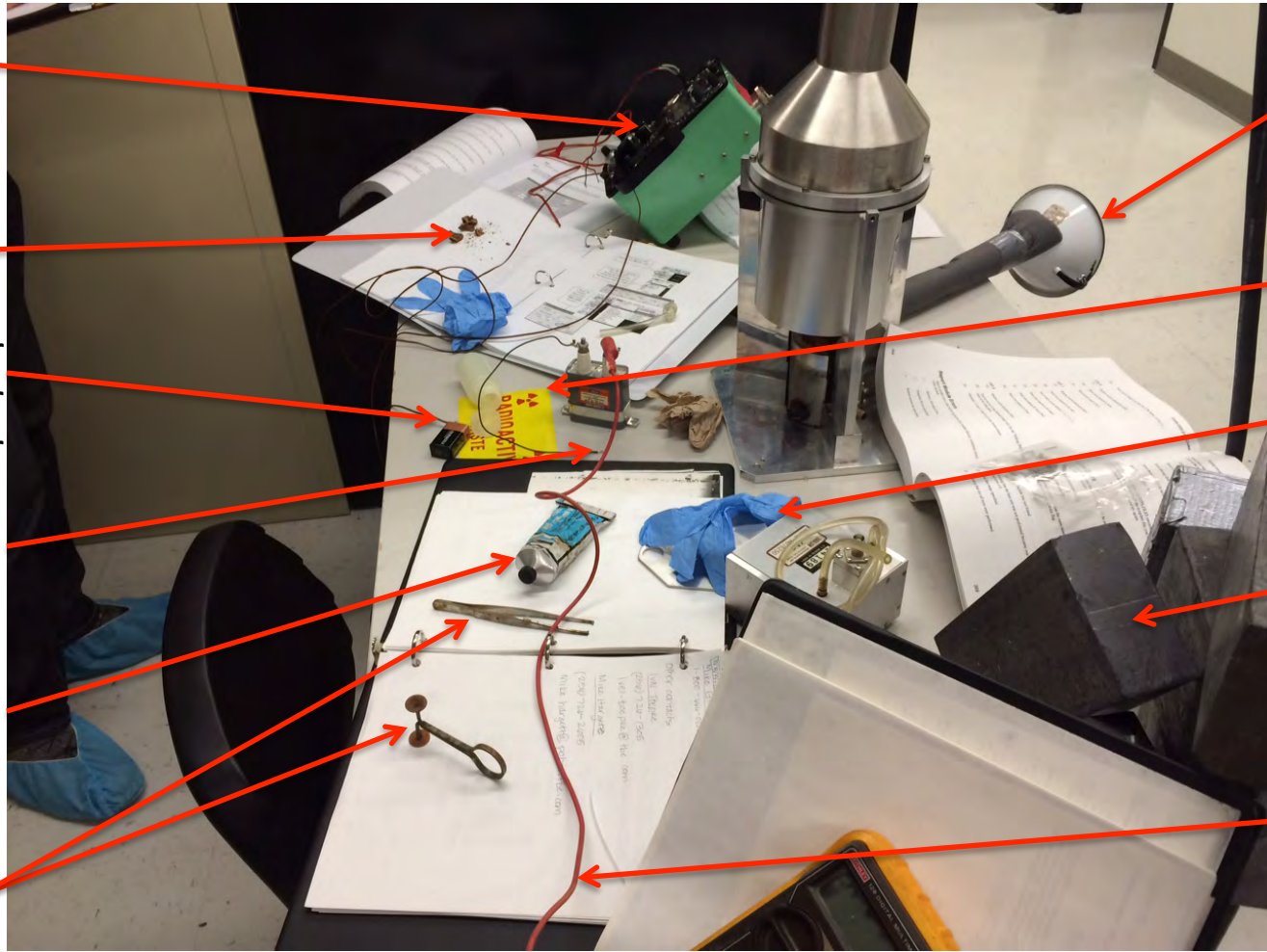






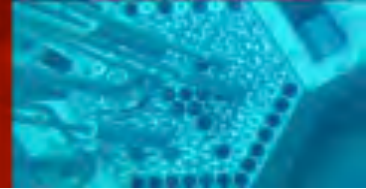
Safety DLA Practical Exercise

- Out of Service Detector
- Unknown Food Debris
- Battery near tipped over Liquid Container
- Damaged Wire
- Improperly Labeled Chemical Tube
- Rusted Tools



- Item Hanging off Desk
- Improper Rad Sign
- Used Gloves
- Lead Bricks Leaning on Each Other
- Improper Wire Connections

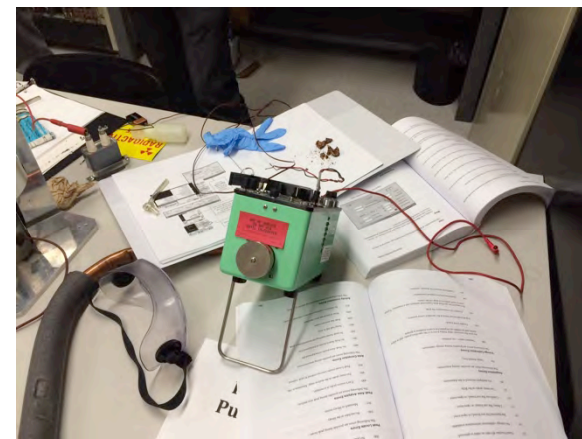
Overall Cleanliness and Organization of Workspace

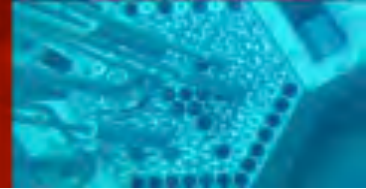


Safety DLA Practical Results

15 Students during Spring 2014 Semester

- Beginning of Semester
 - 8 Discrepancies Inserted
 - Average Time to Identify
 - 8 min. 29 sec.
 - Accuracy (percentage of discrepancies identified)
 - 70%
- End of Semester
 - 15 Discrepancies Inserted
 - Average Time to Identify
 - 4 min. 32 sec.
 - Accuracy (percentage of discrepancies identified)
 - 84%





Nuclear Safety Culture & Social Media

- Facebook
 - <http://www.facebook.com/Utah.UNEP>
- Twitter
 - https://twitter.com/Utah_UNEP





Nuclear Safety Culture & Social Media



← → ↻ <https://www.facebook.com/Utah.UNEP?ref=hl> ☆ 📄 📧 ☰

Apps University of Utah Sun The University of Ut. iGoogle Devonway Sun The University of Ut. >> Other Bookmarks



Utah Nuclear Engineering Program
17 likes

Update Page Info * ▾

College & University
Nuclear Engineering Program at the University of Utah, UNEP, is once again growing and more opportunities for studies are becoming available.

About Photos Likes Map Events

Highlights ▾

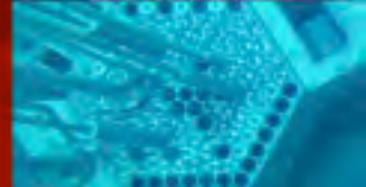


Nuclear Safety Culture & Social Media

Follow us on
Twitter



The screenshot shows the Twitter profile page for the University of Utah Nuclear Engineering Program (@Utah_UNEP). The browser address bar shows the URL https://twitter.com/Utah_UNEP. The profile header includes the name "UNEP @Utah_UNEP" and the bio "University of Utah Nuclear Engineering Program Salt Lake City, UT · nuclear.utah.edu". The profile statistics are 5 tweets, 40 following, and 8 followers. A recent tweet from Nuclear Energy Inst. (@N_E_I) is visible, dated 7 Nov, with the text "WATCH TONIGHT: Is everything you know about #nuclear energy wrong? #PandorasPromise|9:00 pm EST|CNN pic.twitter.com/pUL6fMtDSE". The tweet is retweeted by UNEP. The left sidebar shows navigation options: Tweets, Following, Followers, Favorites, Lists, Who to follow (including LAY'S, Utah.gov, and TalkNUclear), and Trends (including #DealReveal, #UtahWantsWWATour, #MentionATrueFriend, Jabari Parker, and #MentionSomeoneBeautiful).



The screenshot shows a web browser window with the URL https://go.devonway.com/DWAYProd/dwayweb.dll?Session=App3_DWAYProd*8d35e62ba545a67cabe1d.... The page title is "DWAY Prod - Release 2.28". The interface includes a search bar, navigation links for "Requests", "Help", and "Sign off", and a user profile for "Ryan". The main content area is divided into three colored tiles: "Developer" (yellow-green), "Engineering" (light green), and "Admin" (light blue). Each tile contains a list of tasks or reports. The left sidebar contains a navigation menu with categories like "Recent", "Bookmarks", "Assignments", "Items", "Reports & Charts", and "Application Administration".

Developer

- New Foundation - Types
- Built Types (Test Area)
- Built Types (Prod Area)

Engineering

- New Track and Trace
- My Assignments (17)

Admin

- Persons
- New Foundation Person
- Teams
- New Foundation Organization

Recent

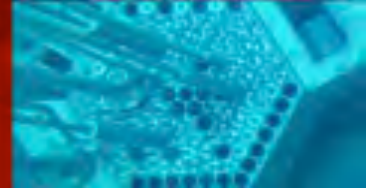
- FNDTT 2013-0029
- FNDTT 2013-0034
- FNDTT 2013-0039
- FNDTT 2014-0101
- FNDTT 2014-0056
- FNDTT 2014-0100
- FNDTT 2014-0070
- FNDTT 2014-0099
- FNDTT 2014-0093
- FNDTT 2014-0097

Assignments

- My Assignments (17)
- Assists
- Change Requests
- Review Open Assignments

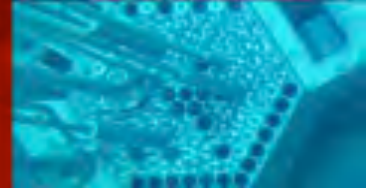
Reports & Charts

- My Reports
- My Charts
- My Analysis Matrices
- My Report Books




Licensed Operator Fundamental Training

- **Monitoring**
 - Monitor Reactor Indications and Conditions Closely
- **Control**
 - Controlling the Reactor and Experiments Precisely
- **Conservatism**
 - Operating the Reactor with a Conservative Bias
- **Knowledge**
 - Having a Solid understanding of reactor design, engineering principles, and sciences

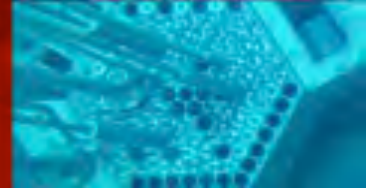


Acknowledgement

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- Dr. Tatjana Jevremovic



Havasupai Falls, AZ



THANK YOU!