



Enhancing Nuclear Safety Culture Training through Knowledge Management and Emergency Response Exercises

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Utah Nuclear Engineering Program's (UNEP) Safety Culture Training

- ☢ Dynamic Learning Activity
(DLA) - Safety Culture Training
- ☢ Emergency Response Training
- ☢ Innovative Nuclear Knowledge
Management Program



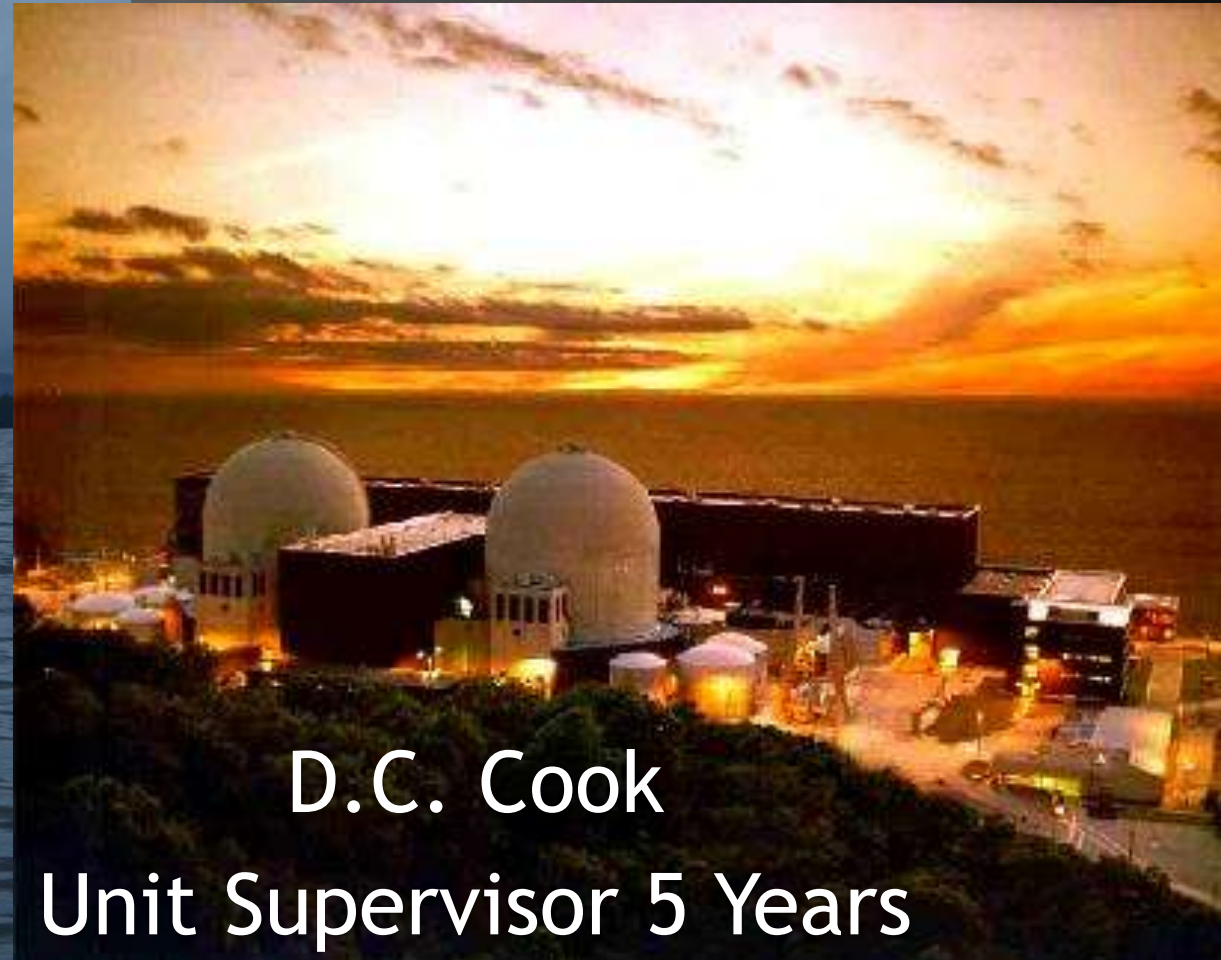
University of Utah Campus, Salt Lake City, Utah, USA



My Experience



Engineering Submarine Officer
U.S. Navy for 8 Years



D.C. Cook
Unit Supervisor 5 Years



Dynamic Learning Activity (DLA)

- ☢ Intro for all Incoming/New Students
- ☢ Establishes Nuclear Safety Culture
- ☢ Human Performance Error Reduction Techniques
- ☢ 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





Safety DLA Practical

Used Gloves

Safety Glasses Face Down

Trash

Out of Service Detector

Tipped Over Beaker

Unknown White Chemical

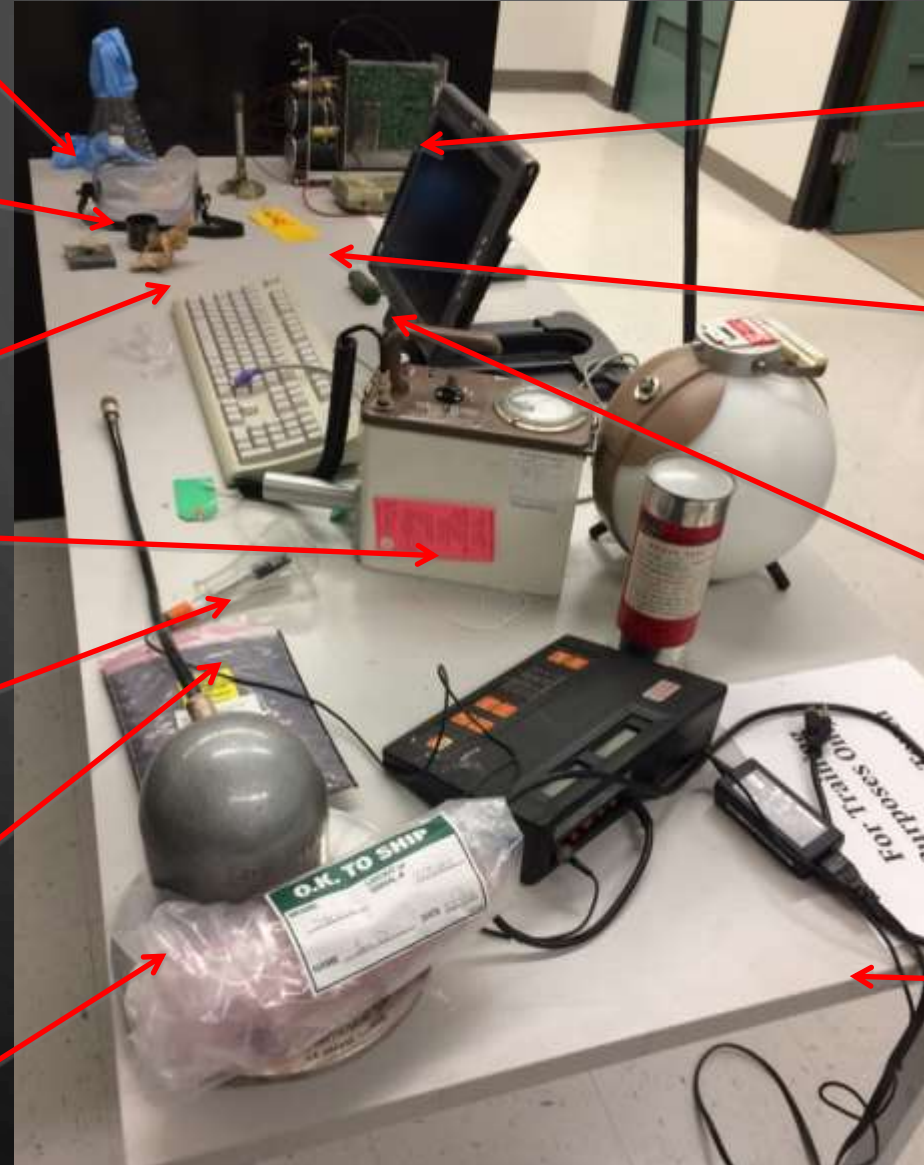
Heavy Unstable Object
Near Edge of Table

Exposed Electrical
Circuits Connections

Improper Rad Sign

Improper Tools Storage

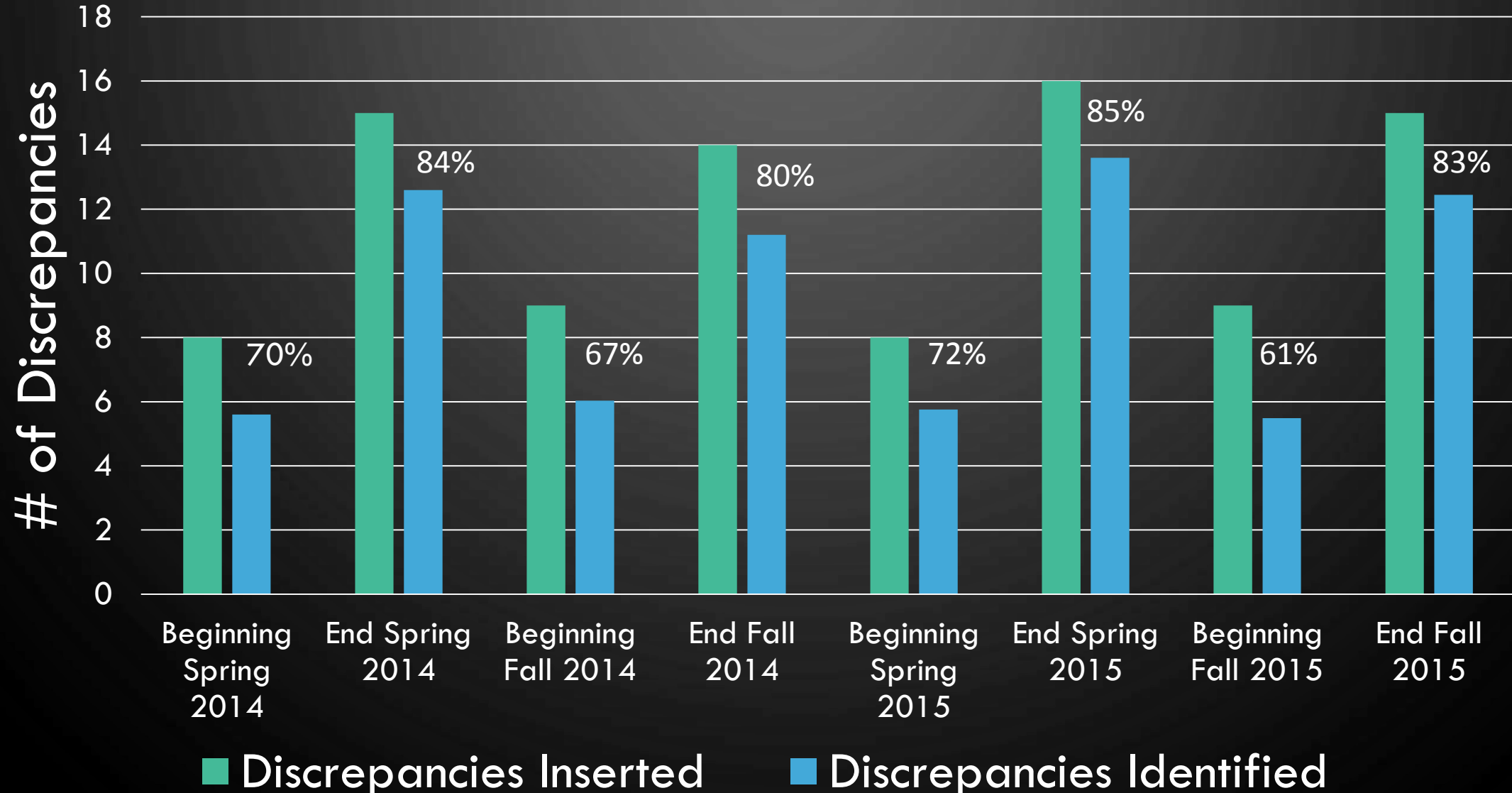
Cords Hanging off Desk



Overall cleanliness and organization

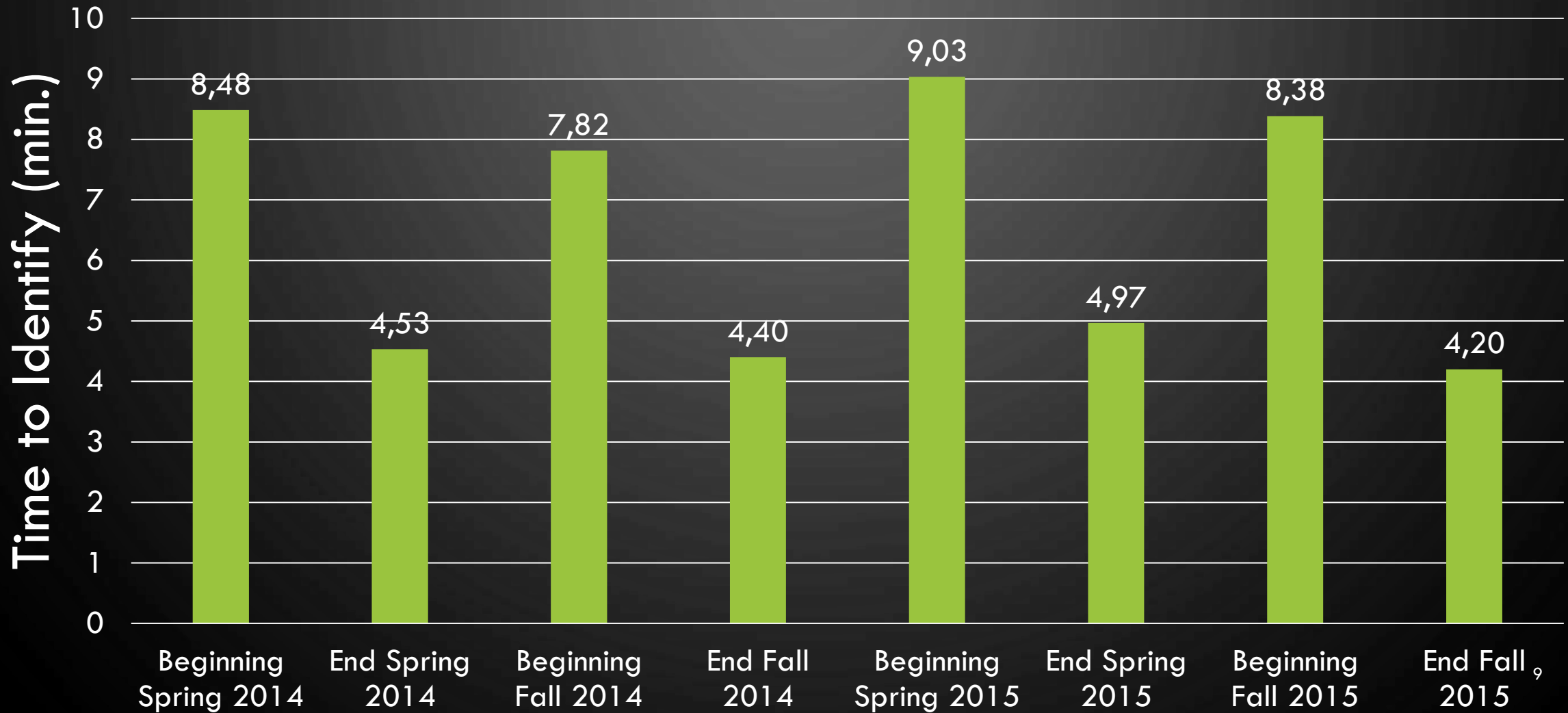


Safety DLA Discrepancy Identification





Safety DLA Time to Identify Discrepancies





Emergency Response Training

- ❖ Required by U.S. Nuclear Regulator Commission (NRC) to conduct emergency drills each year.
- ❖ Student Operators in training are tasked with developing drill scenarios.
- ❖ Students become experts instead of passively listening to lectures on emergencies.





Emergency Response Training

☢ Emergency Drill Guide student developed scenarios include:

☢ Initial Drill Conditions

☢ Pre-Drill Notifications

☢ Precautions and Limitations

☢ Operational Limits

☢ Technical Safety Requirements

☢ Drill Team Duties

☢ Restoration

☢ Evaluators

☢ Safety Monitors

☢ Drill Initiation

☢ Expected Response

☢ Evaluation Criteria

☢ Termination and Restoration



Knowledge Management



- ☢ DevonWay Track & Trace
- ☢ Searchable Database
- ☢ High Turnover Rate
 - ☢ Graduating Students Knowledge Retained
- ☢ Searchable Maintenance Records



Nuclear Safety Culture Future

- ❖ Nuclear Safety Culture can never be achieved
- ❖ It is always a work in progress
- ❖ Must continually be evaluated and monitored
- ❖ Always striving for excellence





Questions?

