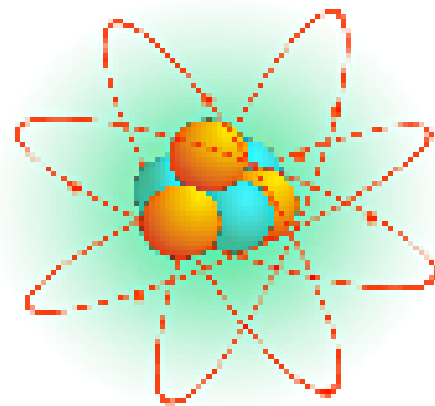




# *Dresden Station*

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## Team Dresden's Performance Improvement



*Radiation Protection is committed to industry excellence in protecting the workers and the public by demonstrating the highest standards of performance.*



# *Dresden Station at a Glance*

- 3 Plant Site

- ☉ Dresden U1 is the nations first privately funded commercial nuclear plant
  - ❖ Online in 1960 was capable of producing 210 MWe
  - ❖ Retired in 1978 and is currently in Safestore
- ☉ Dresden U2 and U3
  - ❖ Online 1970 and 1971 respectively (with 20 year license extension to 2029 and 2031)
  - ❖ U2 and U3 are capable of producing 933 and 913 MWe respectively
  - ❖ General Electric Reactors
  - ❖ BWR Type 3
  - ❖ Containment Type Mark 1
  - ❖ Dose reduction through water chemistry management
    - ♦ Hydrogen Addition
    - ♦ Noble Metals
    - ♦ Zinc Injections



# *Excellence Model*

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## What does good look like:

- **RP Dept**

- ☛ Benchmark external and internal
- ☛ Technician engagement/ownership
- ☛ Team alignment
- ☛ Knowledge transfer
- ☛ Diverse skills

- **Station**

- ☛ RP is in the food chain
- ☛ Senior Management ownership and trickle effect through work groups
- ☛ Positive RP perception

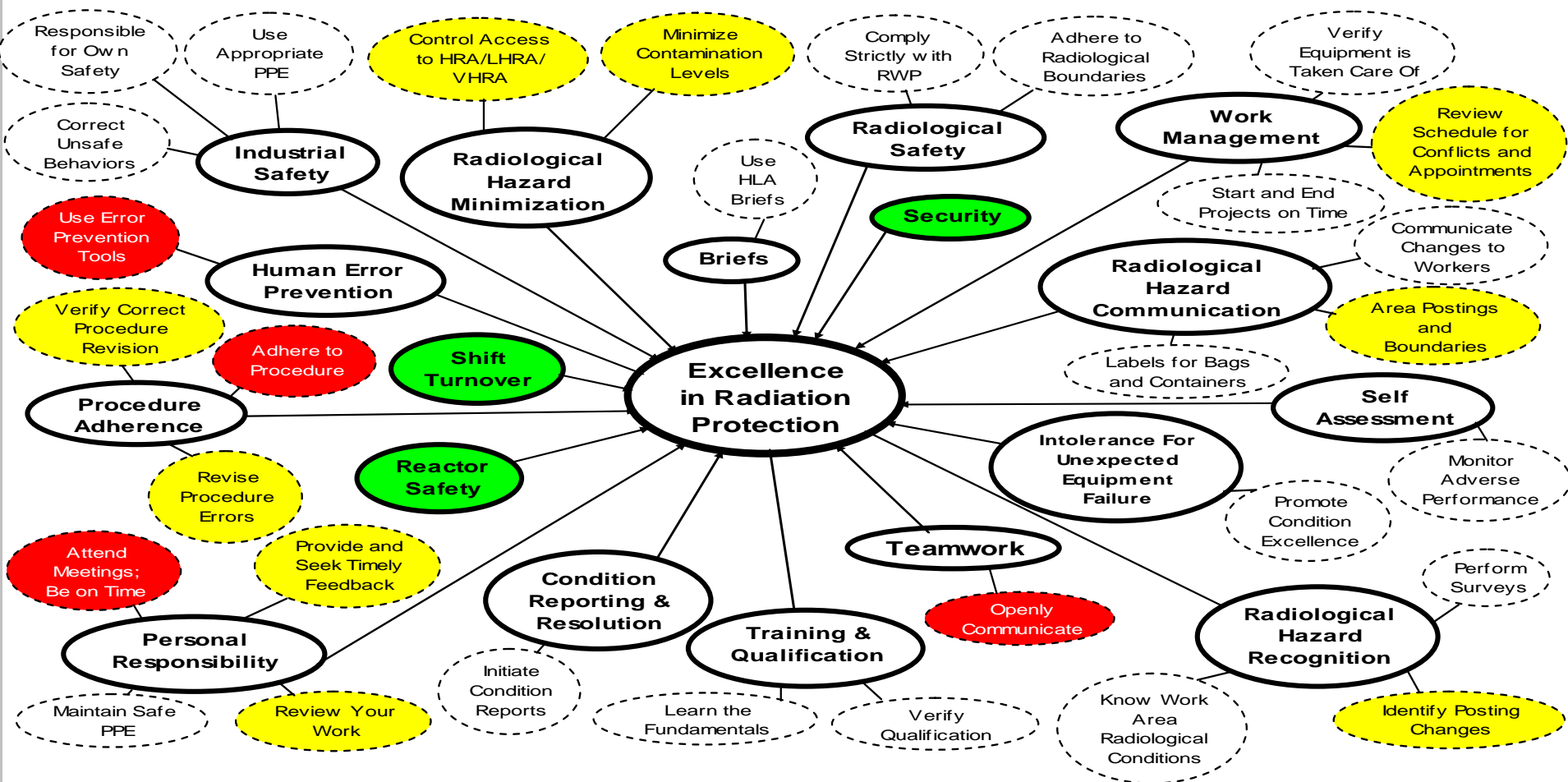
- **Industry**

- ☛ INPO
- ☛ NEI
- ☛ ISOE
- ☛ NATC



# *Excellence Model for RP*

## RP Department Performance Improvement Model





# *Attributes of an ALARA Program*

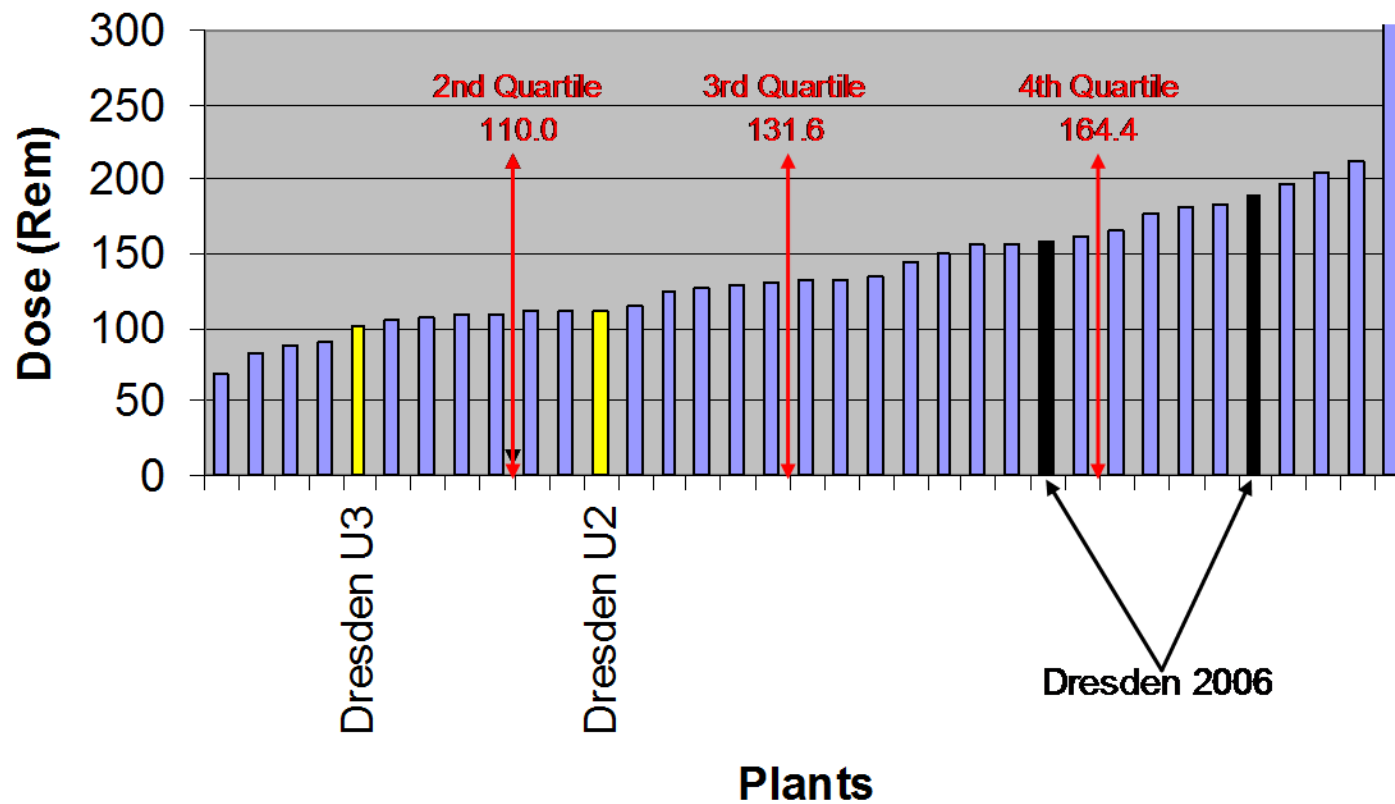




# *Driving to Excellence*

## BWR-Single Fuel Cycle CRE

3rd Quarter 2010





# *Draining the U1 Fuel Pool*



- Utilizing DOE technology to coat and seal the concrete walls in the U1 FP prior to draining
- Utilized underwater divers to mitigate the hazards
- Major radiological hazards were dose rates and contamination levels (including Am-241)



# *Innovative Shielding*

- Designed concrete shield walls 27 feet tall and 13 feet wide with worker platforms for installing piping for condensate prefilters while operating
- The shield walls reduced exposure levels from 50-70 mrem down to 1-8 mrem with general area dose rates being 2 mrem
- The shield walls resulted in 72 Rem savings during the installation process for both units





## *Innovative Shielding cont.*

- By utilizing these shield blocks, the dose rate did not increase for general areas during all online activities





# *Innovative Shielding cont.*





# *Benchmarking Outside of Nuclear*

Utilized coal  
mining  
technology to  
clean out legacy  
waste in vaults





# *Benchmarking Outside of Nuclear*

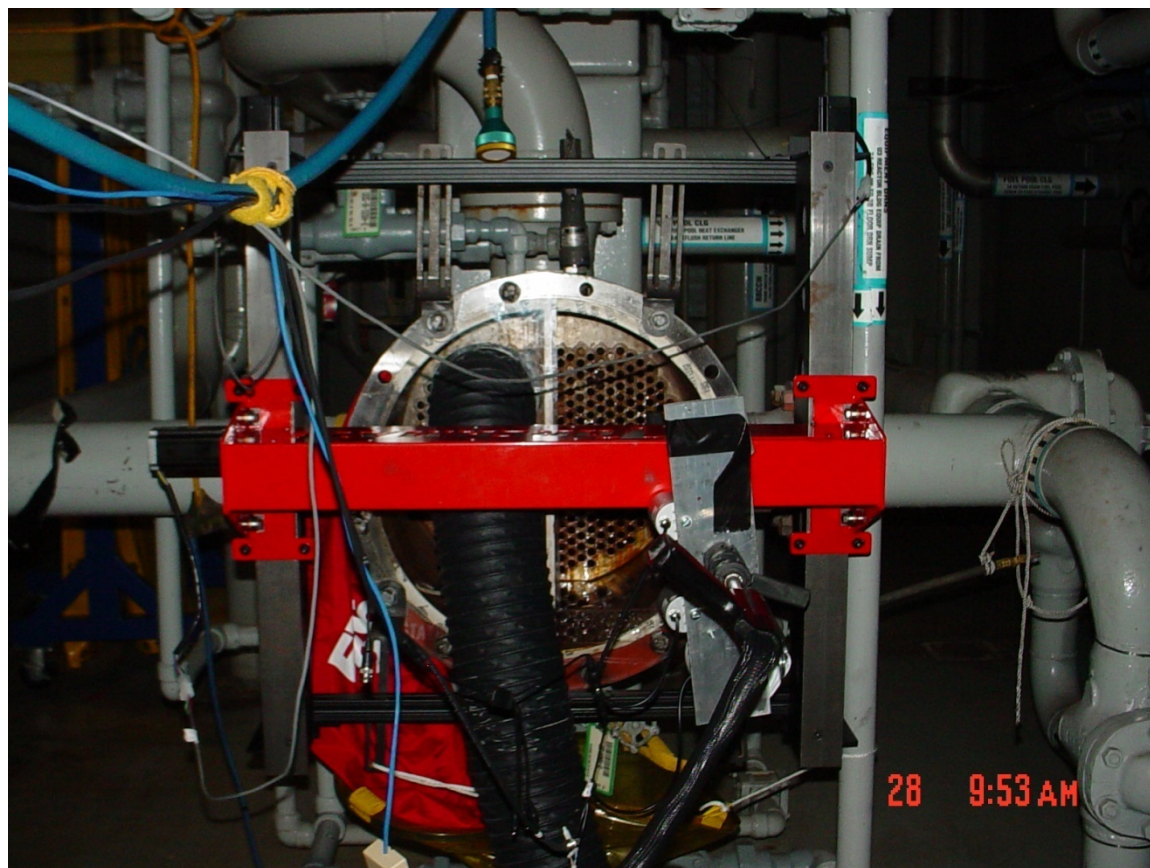
Utilizing a meat shaker





# *Benchmarking Outside of Nuclear*

- Developed a heat exchanger indexer for eddy current testing and tube cleaning with basic technology
- The largest expense was the XY Table





# *Mockup run on tube sheet and Implement on SDC Heat Exchanger*





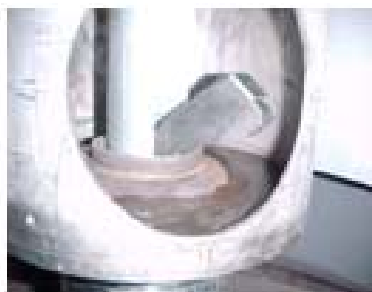
# *Benchmarking Outside of Nuclear*



Utilized  
cameras and  
hydraulics from  
the aircraft  
industry



## *Industry First- CRD Guide Tube*



(CRGT flush tool  
partial inserted)



(CRGT flush tool 95%  
inserted with Nozzle  
deploying)



(CRGT flush tool 95%  
inserted with Nozzle  
deploying)

- Partnered with GE with the utilization of the vortex flush tool to remove source term from the core during CRD exchanges
- This process has already removed approximately 60 Ci of Co-60 from the vessel



# *Industry First- Remote LPRM Manifold*

- Partnered with GE and was the first site to utilize the LPRM manifold
- After setup, personnel can perform this activity remotely





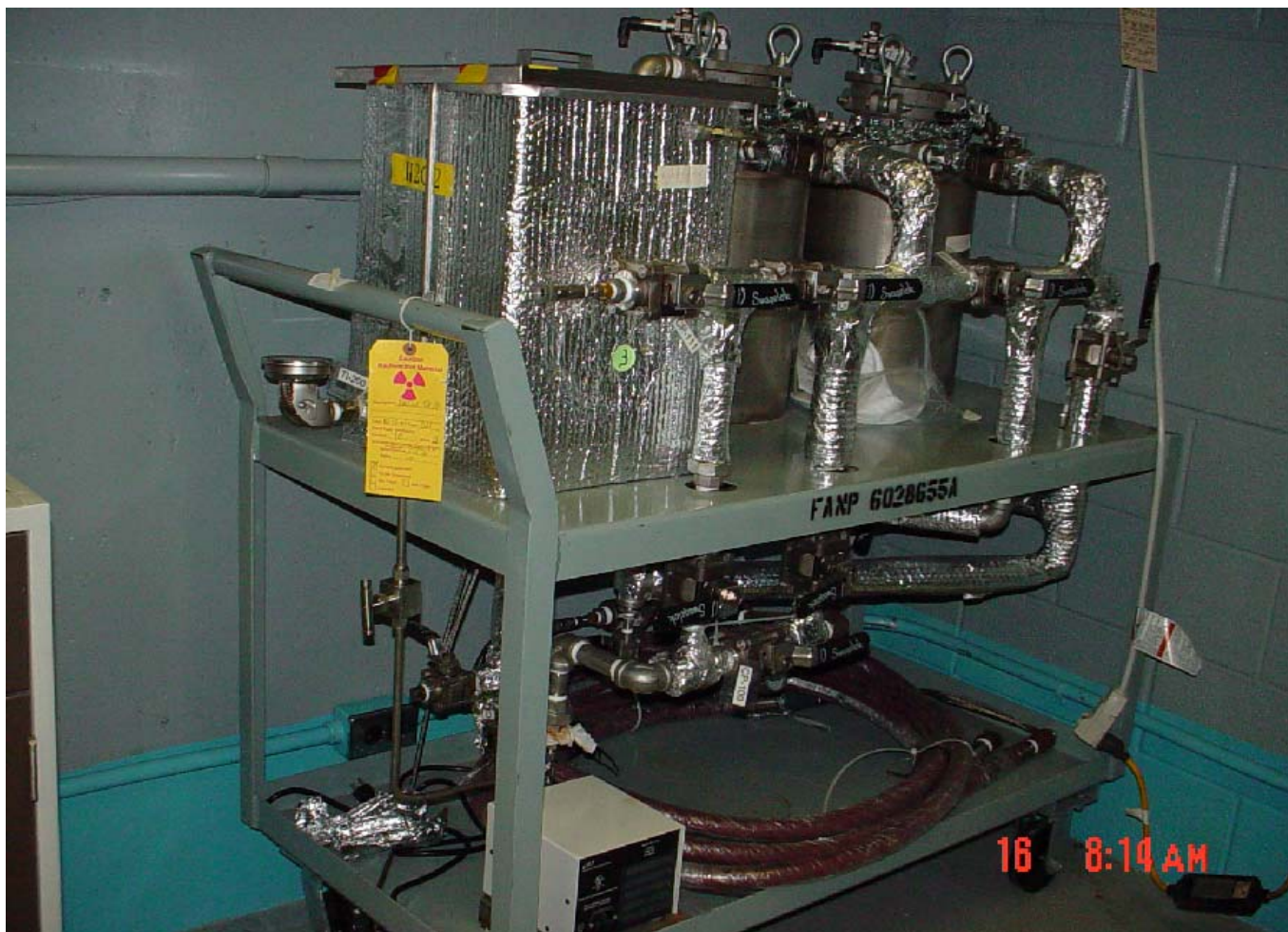
## *First Time Development and Use*

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- Remote fill rig
  - Allows you to monitor and fill the main steam line remotely
- Utilizing carbon fiber wrapping from a CRE perspective
- Developing a process to complete one leg system cleaning while operating the unit



# *Chem Decon System*





# *Supporting Data*

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- [X-Y indexer SDC \(2\).wmv](#)
- [Vortex.wmv](#)