

2016 ISOE ALARA
Symposium
Ft. Lauderdale, FL
January 10-13, 2016



Safe. Secure.

Dry Cask Storage • Cook Nuclear Plant

DC Cook NPP

- Two Westinghouse Ice Condenser PWRs
- Unit One 1100MWe – Online 1975
- Unit Two 1150 MWe – Online 1978

ISFSI Loading Plan

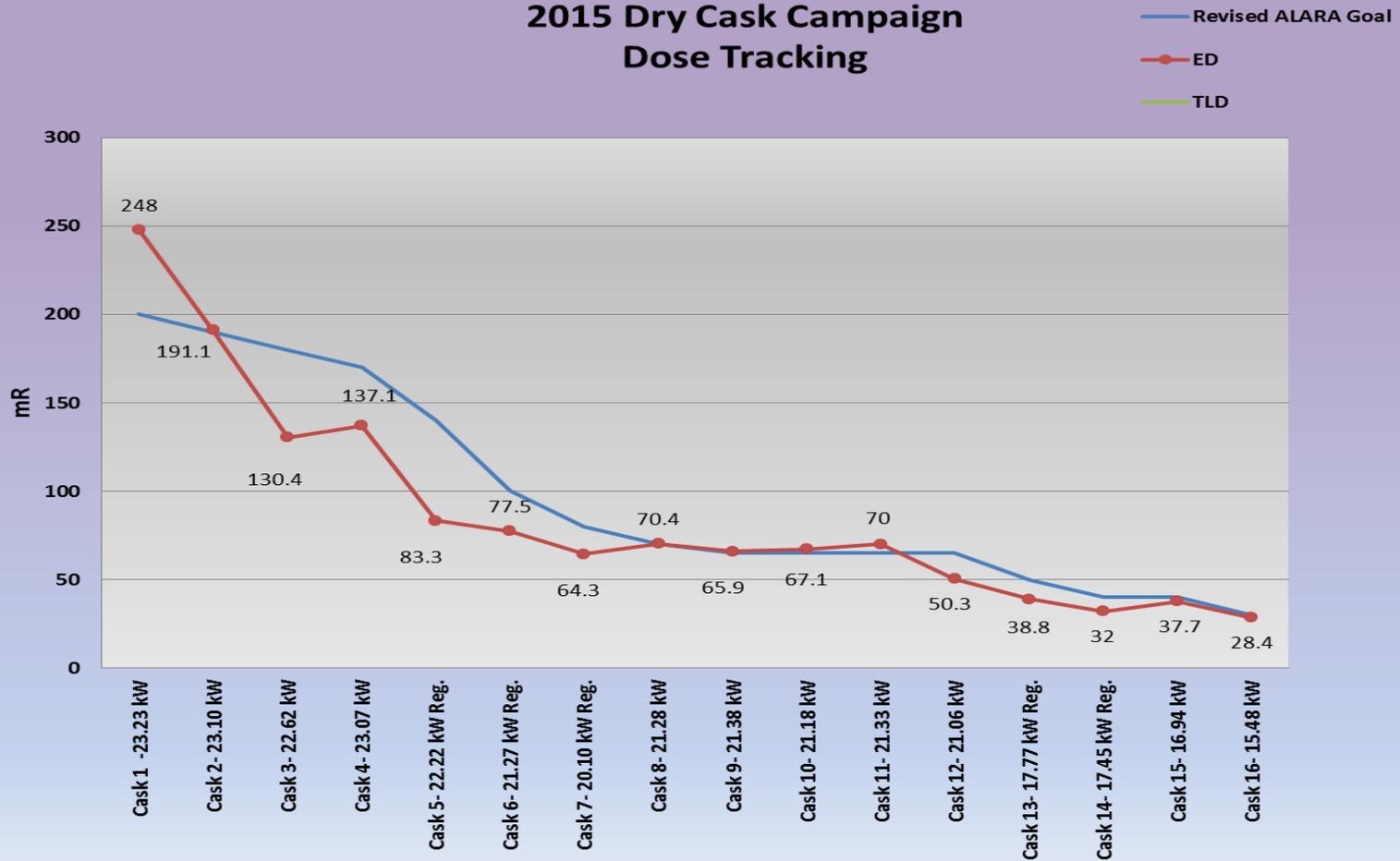
- Initial Loading:
 - 12 Systems in 2012
- 2015 Loading
 - 16 Systems
- ISFSI Capacity:
 - 94 Systems
- Loading Schedule
 - 2018: 16 Systems
 - 2021: 16 Systems
 - 2024: 12 Systems
 - 2027: 12 Systems
 - 2030: 10 Systems

Lessons Learned/Best Practices

- Forced Helium Dehydration (FHD)
 - Replaced FHD Blower oil after every MPC
 - Fill oil reservoirs to top during storage
 - Processed 28 MPCs with no Failures of Blower
- Shielding
 - Borotron: ~50% Neutron Dose Reduction
 - Custom Fit Silflex: Top of MPC
 - Lowest Dose Cask: 28.4 mR (15.5 kW)

2015 Campaign Highlights

2015 Dry Cask Campaign Dose Tracking





2015 Campaign Statistics

- 16 Casks Loaded in 18 Work Weeks
 - 0 Injuries
 - 0 Personnel Contaminations
 - 0 Dose/Unanticipated Dose Rate Alarms
 - 1392 mR Total (ED), 21,429 RWP Hours
 - Highest Dose Cask: (1st Cask) 248 mR
 - Lowest Dose Cask: (16th Cask) 28.4 mR
 - 0 FME Events
 - 0 Dropped Objects
 - 0 NRC Violations/Findings/Open Items
 - 36,355,800 lbs. Lifted/Set Safely

Lessons Learned/Best Practices

- Transformers
 - Installed New, Dedicated Transformers to Maintain 460 – 480 vAC for:
 - FHD Main Unit
 - FHD Chiller Unit
 - Welding Machines
- MPC Water Removal for Welding
 - Translucent 55 Gallon Drum
 - Repeatable Volume

Lessons Learned/Best Practices

- Vertical Cask Transporter Team Communications
 - Dedicated, On-Board Base Station and Antennas w/Battery back-up
 - Driver, Procedure Reader, Lift Bracket/ Restraint team and Signal Person all using noise cancelling head sets.
- Time Elapsed Photography
 - Time, motion and dose reduction
- Evaluation of seismic requirements for stackup-download

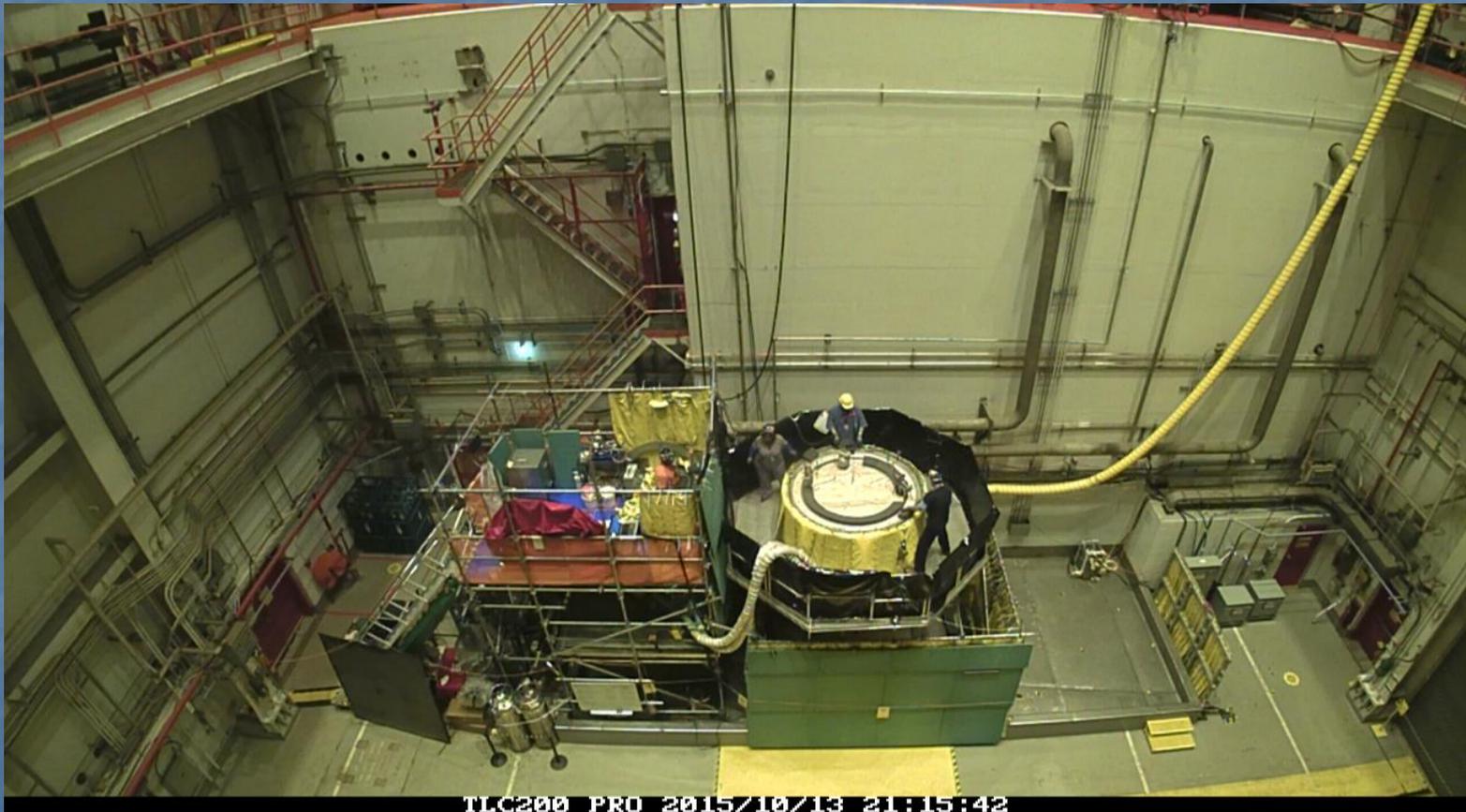
Organizational Learnings

- Planning and Execution
- Clear Expectations
- Accountability
- Teamwork
- INPO Attributes/Traits Documents
- Trust Permeates the Organization
- Pursuit of Excellence

Physical Layout



Physical Layout





Issues

- Chemistry Sampling
 - Sample Bomb Chain stuck between support plate and outer fuel basket
 - Remedy: Used PDP Suction Hose from Submerged MPC discharged back to SFP: In-Line Sampling From Discharge
- Aux Crane Failure
 - Main Hoist Pinion Gear
 - Replaced and Established Weekly Inspection
 - Load Cell Failure

Issues

- MPC Drain Line
 - Bent Drain Line: Discovered before Installation
 - Drain Line in Spare Parts Trailer Damaged
 - Drain Line from another Station too short
- Spare Parts Inventory
 - Need to Consider Inventory of Critical Spares

Go Tigers!

