

Cook Nuclear Plant Dry Cask Loading & Storage

Campaign Lessons Learned

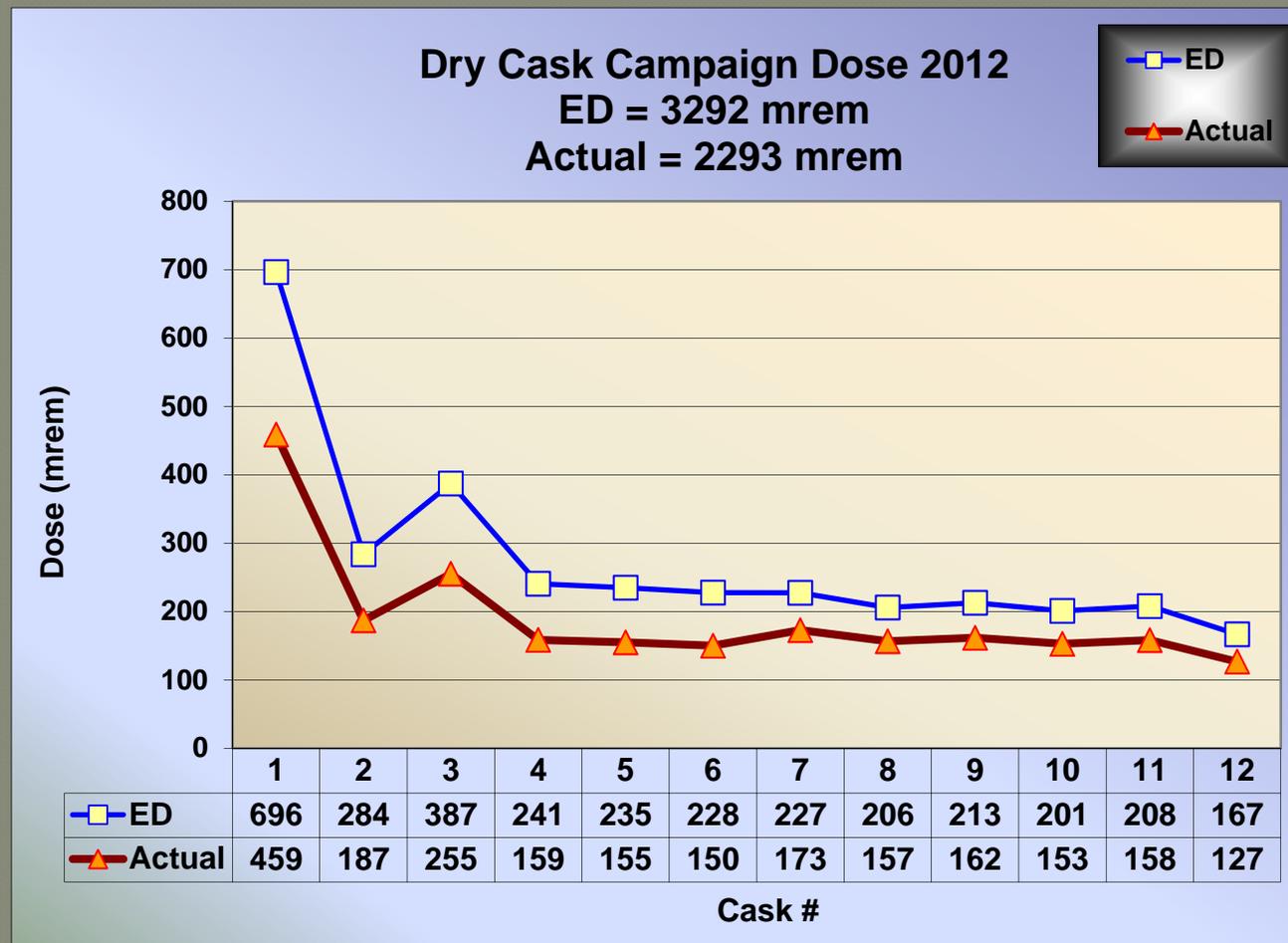
2012 Campaign Summary

- 0 Injuries
- 0 Percons
- 12 Casks, 384 Spent Fuel Assemblies safely loaded/stored in 15 Weeks
- 157% increase in Spent Fuel Pool Capacity
- 236.03 kw removed from SFP
- Highest Dose/Cask = 458.9 mr (TLD); Cask 1, stuck port cap
- Lowest Dose/Cask = 126.7 mr TLD); Cask 12
- Total Actual Dose (includes 4 Dry Runs, 12 Casks and demob.)
2.293 Rem of a 3.404 Rem Budget
- Over 23,000,000 lbs. rigged and lifted
- Sufficient SFP capacity to make it until 2015 and allow full core off-loads for each refueling in that timeframe.



ALARA Results

- Neutron Dose Estimates Skewed ED Dose.
- TLD Actuals were 1/3 of ED
- Looking at “Water Wall” Around Shield Cask to Further Reduce Dose



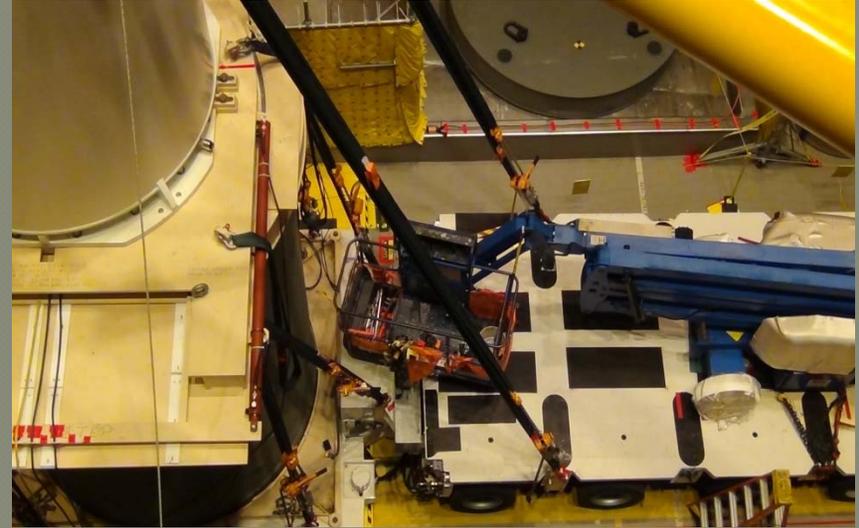
Goldhofer Transport Vehicle

- 80 Wheeled, Hydraulic Drive, Remotely Operated Cask Transporter
- Saved \$\$\$Millions Via Avoidance of Major Road Reinforcements
- Functioned as Seismic Stabilizer for Stack-Up



Goldhofer Transport Vehicle

- Provided for Simplified Seismic Restraint System
- Load Bed Height Adjustable to Allow Storage Cask Lid Installation and Still Remove from Aux Building.



Goldhofer Transport Vehicle

- Able to Level Cask When Moving Upgrade
- Travel Speed ~ 2 MPH and No Road Damage
- Mounted 2 Aerial Lifts to Assist in Seismic Stack-Up and Downloading Evolutions



Goldhofer Transport Vehicle

- Front Power Unit is Removable in ~30 minutes
- Remote Operation Saved Dose



Goldhofer Transport Vehicle

- Vertical Cask Transporter Clearance 2 – 3 Inches Each Side
- Aided in Vertical Cask Transporter Alignment to Storage Cask
- Does Not Enter ISFSI – Staged Just Outside Security Fence
- Allowed Minimal Turning of Vertical Cask Transporter.



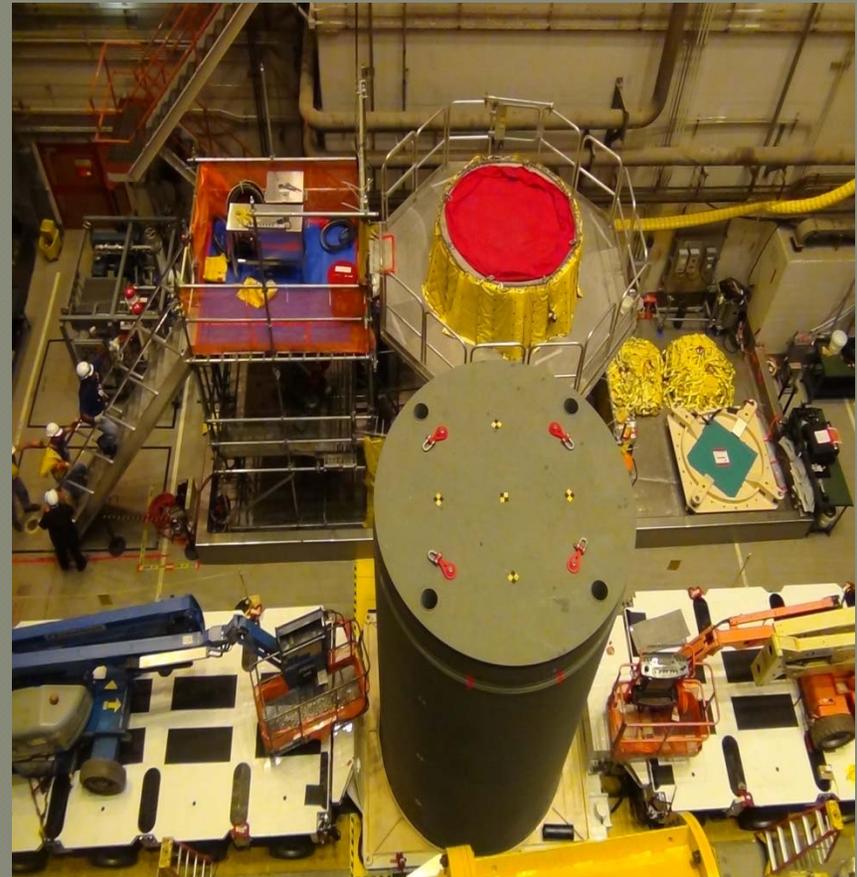
Work Area Staging

- Elevated Platform
 - 8' x 12' Scaffold
 - 2 Levels
- Able to Use Hanging Platform Stairway
- Forced Helium Dehydration Manifold Installed on Mid Level Deck

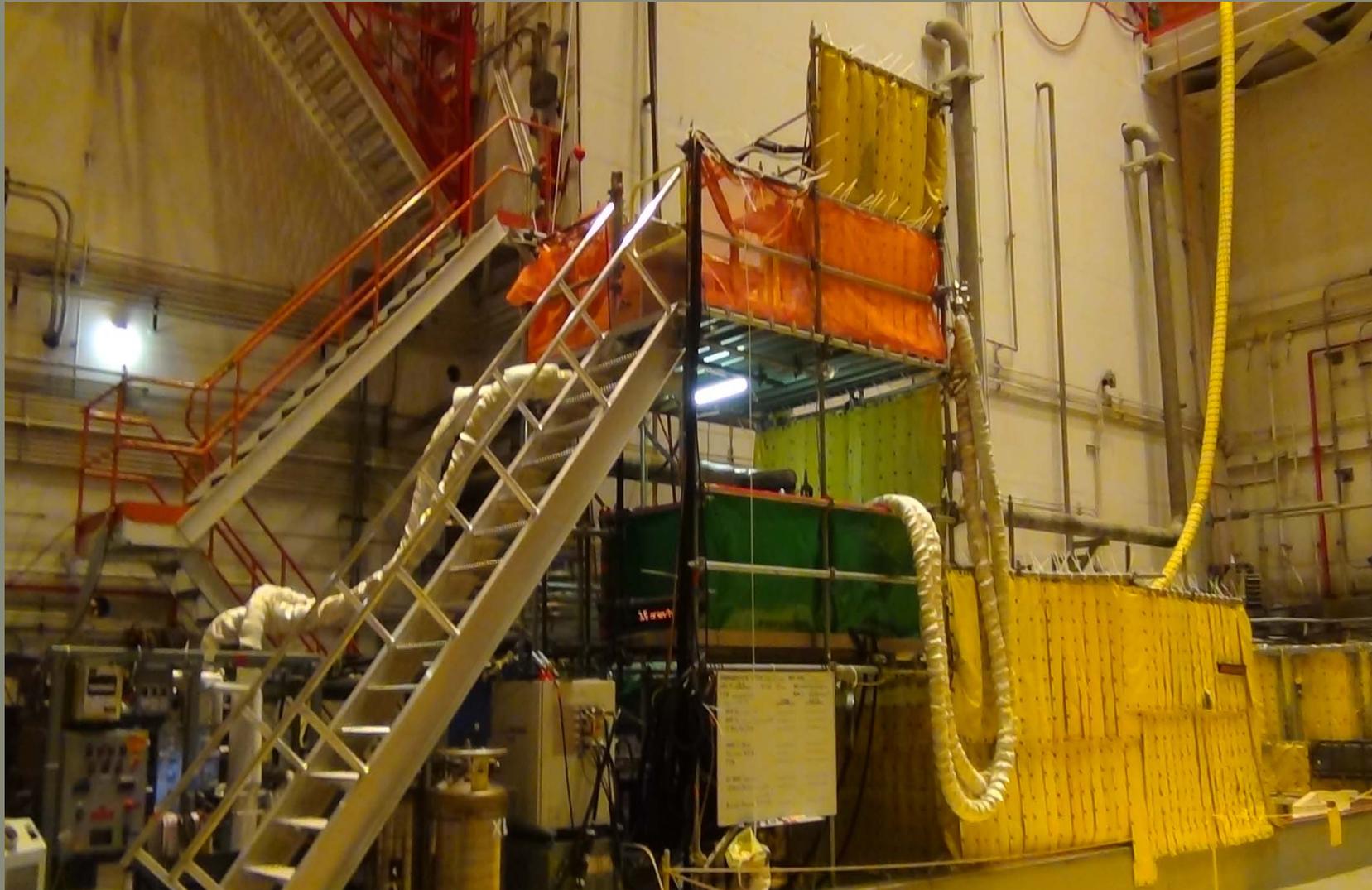


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Work Area Staging



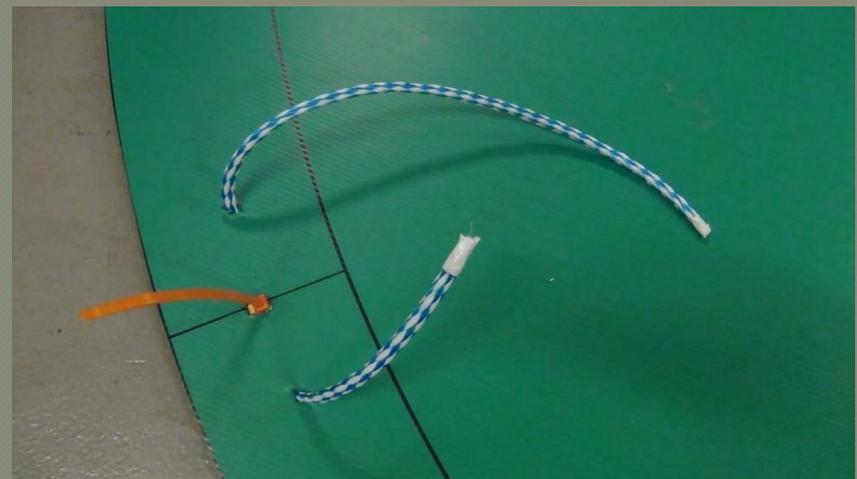
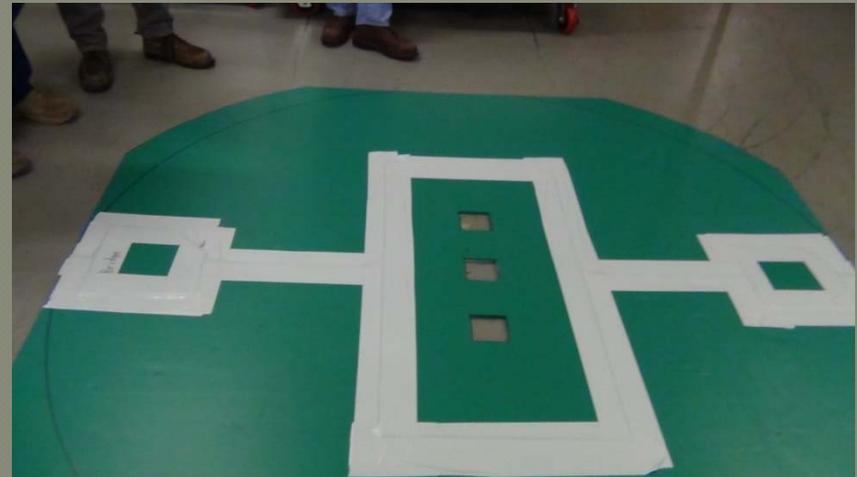
Shield Cask Bottom Cover

- Green Board
 - Won't Compress or Tear
- Disposable
- Easy to Modify



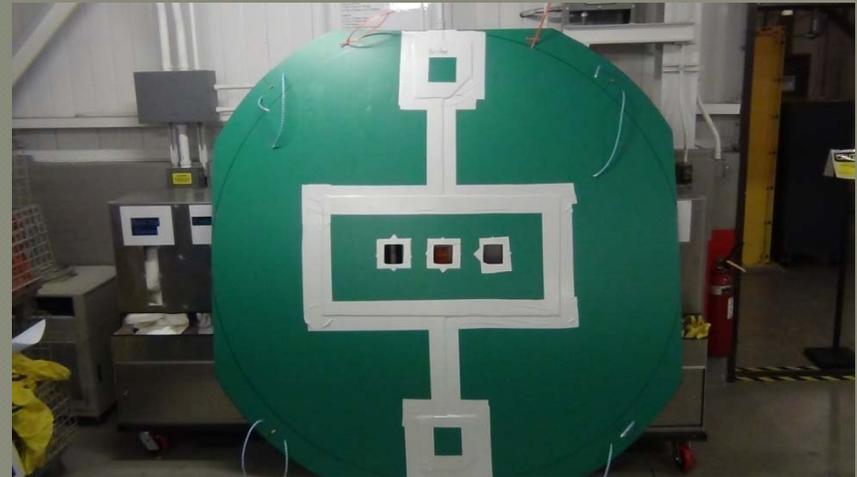
Shield Cask Bottom Cover

- Use Same Tape for MPC Shell to Shield Cask Sealing
- Drain Holes Installed to Allow Draining and Washdown/Decon
- Rope with Floating FME Restraints Secure it to the Shield Cask



Shield Cask Bottom Cover

- Floats
- Lightweight and Easy To Handle
- Easy To Remove
- Maintained Shield Cask Bottom Lid <1000 dpm



Lower Spacer Insert Tool

- Counter-Weighted Welded Bar
- Releases When Rope Goes Slack
- No Moving Parts



Lower Spacer Insert Tool

- Holds Firm When Being Lowered
- Avoids Rotation of the Spacer



MPC Lid Stand

- Stable Method to Installed Upper Fuel Spacers
- Good Height for Installing Rigging and Leveling



Hanging Platform Deck Mod



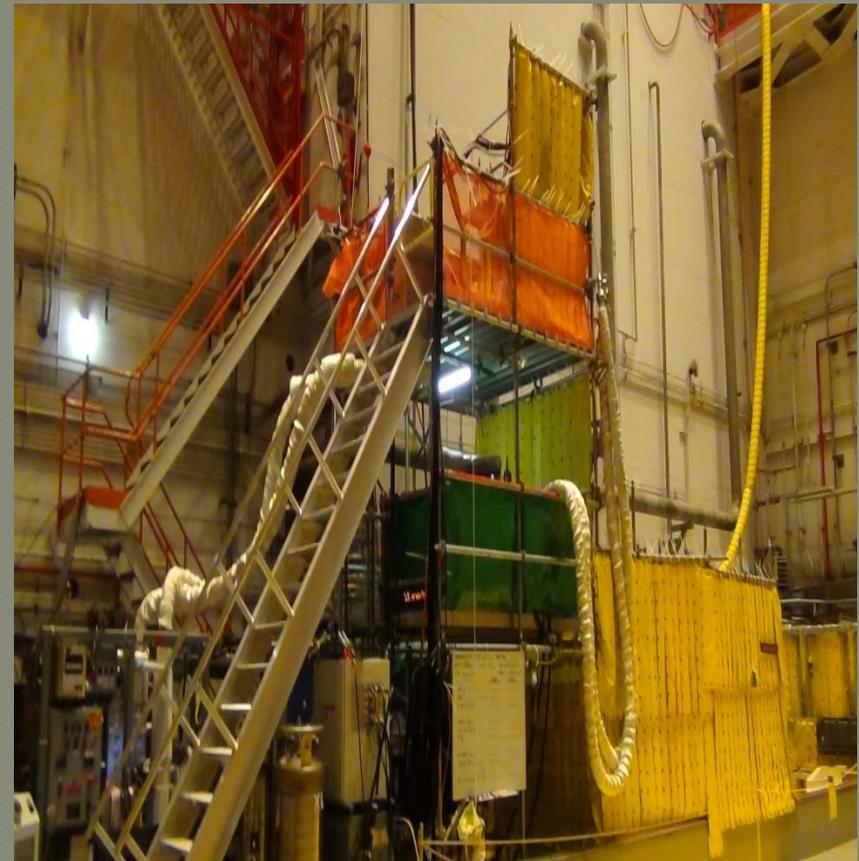
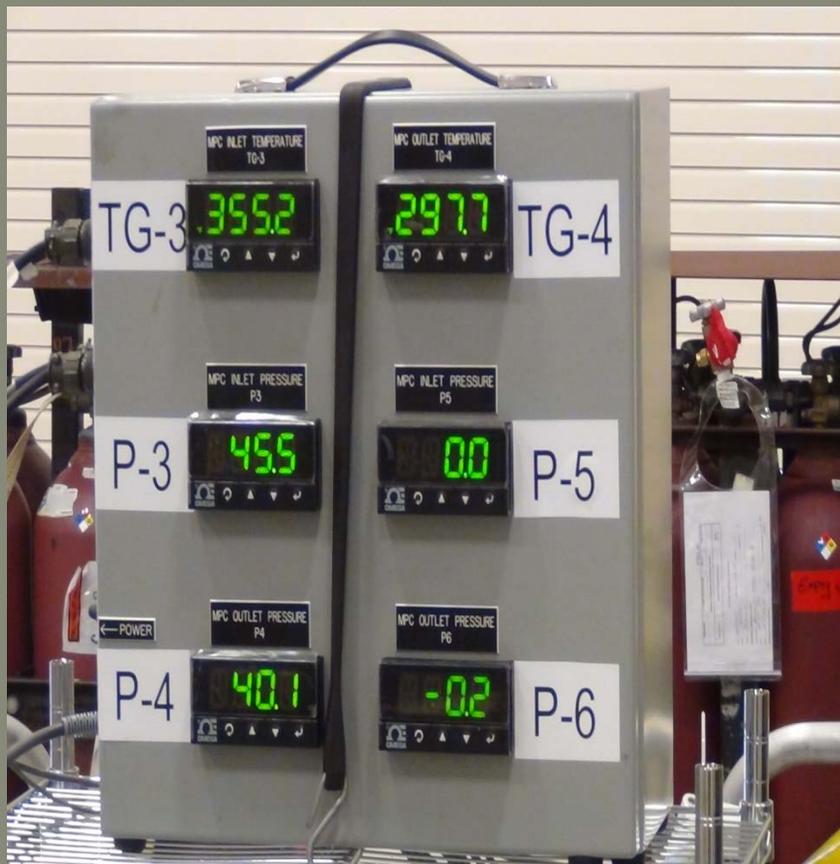
Hanging Platform Deck Mod



Forced Helium Dehydration



Forced Helium Dehydration



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